

TENDER SPECIFICATION

NO: BHE/PW/PUR/UKT-CVL/1190

Balance civil work of ACW PH, Clarified water pump house, Raw water pump house, Compressor house, Fuel oil Pump House, Boiler to chimney grade slab, Fire trenches, Road & Drainage, Transformer yard grade slab, Carborundum tile at operating floor, Rain water pipe etc

AT

GUJARAT STATE ELECTRICITY CORPORATION LIMITED

(1X500MW UKAI, TPS)

(GUJARAT)

VOLUME :II – PRICE BID-1190



BHARAT HEAVY ELECTRICALS LIMITED

(A GOVERNMENT OF INDIA UNDERTAKING)

POWER SECTOR - WESTERN REGION

SHREEMOHINI COMPLEX

345, KINGSWAY - NAGPUR 440 001

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EARNEST MONEY DEPOSIT: Please see Notice Inviting Tender.

LAST DATE FOR: Please see Notice Inviting Tender.

TENDER SUBMISSION:

THESE TENDER SPECIFICATION DOCUMENTS CONTAINING VOLUME-I AND VOLUME- II-PRICE BID AND VOL-IBCD REV 01 AND SLANDERED TECHNICAL SPECIFICATIONS- VOL-II-B SECTION D ARE ISSUED TO:

M/s.

PLEASE NOTE:

THESE TENDER SPECS DOCUMENTS ARE NOT TRANSFERABLE.

For Bharat Heavy Electricals Limited

AGM (Purchase)

Place: Nagpur

Date:

BHEL PSWR NAGPUR
VOL-II-PRICE BID-1190 (Schedule of Rates and Quantities)
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SL. NO	DESCRIPTION	UNIT	QTY	Unit Rates in Figures (In Rs)	Unit Rates in Words (In Rs)	Total Amounts (In Rs)
100	EARTH WORK IN EXCAVATION, BACKFILLING AND DISPOSAL AS PER SPECIFICATION AND DRAWINGS AND AS DIRECTED BY ENGINEER FOR THE FOLLOWING:(Measurement shall be done as per IS 1200)					
101	Excavation with lift up to 2.0 meters including providing coffer dams, shoring, strutting, sheeting, bracing, draining and pumping out water other than water below ground water table, clearing all grass, vegetation etc. including trimming of excavation bottom, staking, levelling, grading etc. of excavated materials all complete as per specifications, drawings and instructions of the engineer including a lead up to 100 meters , loading and unloading etc:					
i)	In all types of soils including expansive soil, ash, morrum, laterite	CUM	6,941			
102	Extra over item 101 above, for all types of soil/rock, for additional lifts beyond the initial lift of 2 meters (included in item 1 above) all complete as per specifications, drawings and instructions of the engineer for the following lifts:					
i)	In all types of soils					
a	beyond initial lift of 2m and upto 4m (for qty. of excavation between 2m. to 4m. Depth)	CUM	385			
104	Extra over item 101 above for carriage (in/outside of Plant area earmarked by Customer) of all types of excavated materials beyond the initial lead of 100 m (initial lead, loading & unloading included in item 101 above) all complete as per specifications, drawings and instructions of the engineer for the following leads					
i)	Carriage beyond initial lead of 100 m but not exceeding 500 m	CUM	3,828			
105	Filling using selected excavated materials (from stock piles) in trenches, plinths, sides of foundations and other underground structures, levelling in layers not exceeding 250 mm thickness within a lead from 500M to 2.5KM and all lifts and including re-excavation, loading from stock pile, carting, unloading, filling, watering and compacting/ramming each layer, all complete as per specifications drawings and as directed by the engineer to achieve following densities: (Earth available in stock piles from 500m to 2.5km shall be used for this items)					
iii)	95% Standard Proctor density	CUM	5,680			
106	Filling using selected excavated materials <u>directly from excavation area</u> in trenches, plinths, sides of foundations and other underground structures, levelling etc. in layers not exceeding 250 mm thickness including all lifts, filling, watering, compacting/ramming each layer all complete as per specifications drawings and as directed by the engineer to achieve the following densities					
iii)	95% Standard Proctor density	CUM	2,214			

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107	Filling using selected materials in trenches, plinths, sides of foundations, in the space below the grade level slab and other under ground structures, in layers not exceeding 250 mm in thickness including all lifts and including excavating, loading , unloading , carting , filling , watering , compacting/ramming each layer all complete as per specifications drawings and as directed by the engineer to the following works including cost of material (means from contractor's own borrow area) for all leads, loading, unloading, royalty and transportation. (payment for solid measure of the consolidated filling).					
	with selected soil brought from borrow areas arranged by contractor, including royalties, fees etc. for all leads and compacted to following densities					
ii)	With selected sand brought from quarries/river bed arranged by contractor, and compacting to 80% relative density etc. for all leads	CUM	10			
108	Filling in trenches, plinths, area paving and other underground structures with stone (63 mm down graded), in layers not exceeding 225 mm thickness including breaking of boulders to required sizes, filling the interstices with selected sand and compacting to 85% of original volume of stone stack for all lifts complete as per instructions of engineer-in-charge	CUM	3,107			
109	Filling in transformer pits etc. , with clean 40 mm nominal size stone aggregate including all labour, materials, royalties, equipments etc. complete as per instructions of engineer in charge.	CUM	330			
110	Bulldozing earth for grading of ground including removal of vegetation complete including disposal of debris up to 5kms.	CUM	1,860			
200	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) COMPLETE AS PER DRAWING AND SPECIFICATIONS UNLESS SPECIFIED OTHERWISE FOR THE FOLLOWING : (Using Ordinary Port land Cement - 43 Grade)					
202	Concrete of grade M10 as lean concrete levelling course , mud mat under and around foundations/floors, mass dumps etc with 40 mm nominal size graded aggregate.	CUM	1,842			
205	Concrete of grade M-25 in underground structure like foundations, columns below finish floor level plinth beams slab on grade drains etc. complete with 20 mm nominal size graded aggregate including .	CUM	5,888			
206	Concrete of grade M-25 in superstructure from finished floor level complete at all heights with 20 mm nominal size graded aggregate	CUM	88			
210	Screed concrete 1:2:4 conforming to IS 456 with coarse sand and graded hard stone aggregate 12.5mm/6 mm nominal size on the roof at any level or thickness drains etc complete.	CUM	130			

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211	Concrete of grade M-25 in precast works like roof slabs/trench covers, fins, lintels, chajas, beams, columns, wall panels, facias etc.at all levels in all kinds of work including formwork/moulds, curing , rendering the top exposed surface with cement sand moratr(1:3) , handling, storing, transporting all leads erection without damage, setting in position with cement sand mortar (1:3) filling the gaps between adjacent precast units with M30concrete or cement sand mortar (1:3) and including making of holes for bolts for fixing , welding etc. complete with graded aggregate 20/12.5/10 mm	CUM	242			
213	Concrete of Grade M-15 (in plinth protection, pipe encasing etc. complete with 20 mm nominal size graded aggregate.	CUM	52			
214	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					
i)	Plain cement concrete of all grades	CUM	2			
ii)	Reinforced cement concrete of all grades	CUM	2			
300	SUPPLYING, FIXING AND REMOVING FORMWORK AT ANY ELEVATIONS FOR ALL STRUCTURES, AS PER SPECIFICATIONS AND INCLUDING ALL LABOUR MATERIAL, SCAFFOLDINGS AND CENTEREING COMPLETE INCLUDING POCKETS ETC. FOR THE FOLLOWING:					
301	Ordinary form work (reasonably good steel/plywood surface) below finished ground floor level for foundations, footings, bases of columns, walls, columns, pilasters, beams, mass concrete, trenches etc.	SQM	14,084			
303	Ordinary form work (reasonably good steel/plywood surface) above finished ground floor level for columns, beams, suspended floors, roofs, lintels, cantilevers, staircases, landings, balconies, domes, arches etc. for all heights.	SQM	251			
304	Fairface form work (using commercial laminated plywood with steel/wooden frame) above finished ground floor level for columns, beams, suspended floors, roofs, lintels, cantilevers, staircases, landings, balconies, domes, arches etc. for all heights	SQM	191			
306	Providing, fixing and removing formwork in block-outs/pockets and openings (below 0.1 sqm contact surface area with concrete) 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, drawings and instructions of engineer-in-charge					
i)	Upto 300 mm depth	Nos.	14			
ii)	From 301 mm upto 600 mm depth	Nos.	4			
400	REINFORCEMENTS (Reinforcement Steel is in BHEL's Scope of supply).					

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402	Taking delivery from BHEL stores/store yard, loading, transporting and unloading at site,, straightening, cutting, bending, placing in position at any level, binding in position Fe-500 high yield strength steel reinforcements in concrete including cost of binding wire, labour etc. complete all as per specifications & drawings.	MT	196			
500	WATER PROOFING AS PER SPECIFICATIONS. (Contractor has to furnish a guarantee for material and workmanship for a minimum period of 10 years.)					
501	Providing, laying and fixing PU based roof water proofing treatment using two successive liquid coatings of high solid content urethane pre-polymers to form elasomeric membrane having overall dry film thickness of min. 1.5mm subject to min. 750gm/sq.m/coat application rate including primer coat consisting of polyurethane or any other equivalent materials, finishing coat and surface finish complete laid over cement plaster (1:6) grading on screed concrete (cement plaster and screed shall be paid seperately under relevant items) mix all complete including all labour, materials, equipment, handling,scaffolding,transporting, testing etc complete as per specification, drawings and instructions of engineer	SQM	1,683			
600	SUPPLYING & INSTALLATION OF JOINT FILLER AND SEALING COMPOUND:					
601	Supplying & installation of bitumin 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, labour, material, equipments etc. all complete at all levels as per specification, drawing and instruction of engineer-in-charge					
c	25mm thick joints.	SQM	1,596			
602	Supplying and filling in position hot applied bitumin sealing compound(Grade A) conforming to IS 1834 including cleaning, mixing, heating, pouring/injecting sealing compmpound in gaps in joints at all levels including application of primer, labour, material, equipment etc. all complete as per specification/drawing and instruction of engineer-in-charge	Kg	113			
700	M.S. EMBEDMENTS					
702	Transportation from stores, delivery at work spot, fixing of embedments, MS inserts, pipe sleeves, rails, guide rails angle pieces, anchor bolts of various diameters, plates of dimensions as required including cost of all labour, materials/ameplates and equipment for fixing in position, scaffolding and setting in position , tarnsportation from stores within the plant boundary to work spot , loading , unloading , etc complete as per specification and drawing	MT	16			
900	DOORS, WINDOWS, VENTILATORS, LOUVERS, ROOF VENTILATORS, ROLLING SHUTTERS, PARTIONS ETC. COMPLETE AT ALL ELEVATION INCLUDING FRAMING, KICK PLATES, STOPPERS AS PER SPECIFICATION AND DRAWINGS (all steel doors, windows and rolling shutters etc. shall be blast cleaned to near white metal surface (Sa 2 1/2), painted with two coat of red oxide zinc primer and finished with two coats of synthetic enamel paint confirming to IS 2074)					

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905	Providing and fixing steel single or double door shutters. Shutters shall be 45mm thk flush design comprising of two outer sheets of 18 gauge steel sheets rigidly connected and reinforced inside with continuous vertical 20 gauge stiffeners, spot welded in position at not more than 150mm c/c, side, top, bottom edges of shutter shall be of pressed steel channels of 1.2mm thk voids to be filled with mineral wool (48 kg/cum density) including all fittings like tower bolts, handles, stoppers, aldrops etc. and painting with minimum 2 coats of synthetic enamel paint on primer complete.	SQM	19			
906	Providing and fixing fire proof steel doors (single or double shutter) with panic devices shall be 45mm thk flush design comprising of two outer sheets of 18 gauge steel sheets rigidly connected and reinforced inside with continuous vertical 20 gauge stiffeners, spot welded in position at not more than 150mm on centers including all fittings, shop painting with approved post office/signal red color fire resistant paint and mineral wool insulation (64 kg/cum density) complete and shall be fire proof as per IS:3614, Doors shall as per IS specification & shall meet TAC requirements. Minimum ratings shall be 2 Hrs.	SQM	5			
907	Providing and fixing anodised aluminium work of INDAL/HINDALCO/ JINDAL for doors, windows, ventilators and partitions, railing etc with extruded standard tubular and other sections including all fittings & fixtures and accessories of approved make conforming to IS733 and IS1285, anodised and electro color dyed to required shade according to IS 1868 (minimum anodic coating of grade AC15), fixed with rawl plugs, expansion fasteners, screws or with fixing clips, including necessary filling of gaps at junctions, at top, bottom and sides with required PVC /neoprene felt for bi-metallc protection etc. including preparation of	KG	409			
	working drawings, aluminium cleat angle, aluminium snap-on-beading for glazing/panelling, stair case tread nosing, with all fittings and fixtures (like tower bolts, handles, door stopper with rubber shoes, 'L' drops, stays, floor springs, hydraulic door closures etc.), CP brass/stainless steel screws, providing and fixing hinges/pivots, and making provision for fixing of fitting wherever required including cost of PVC/neoprene gasket, all complete as per drawing, specification and instructions of engineer in charge(Glazing and panelling shall be paid seperately).					
908	Providing and fixing of over head hydraulic door closers of approved make & quality as directed by Engineer.	Nos	14			
909	Providing and fixing floor mounted Hydraulic door closer of approved make & quality as directed by engineer	Nos	5			
911	Providing and fixing in position rolling shutters of approved make as per IS 6248, made of 75x1.2mm, hot rolled double dipped galvanized steel laths interlocked together through their entire length and jointed together at the end by end locks mounted on specially designed pipe shaft with brackets, side guides and arrangements for inside and outside locking with push and pull operation including wire springs top cover, 3coats of approved enamel paint etc., all complete as per specification- Mechanically operated.	SQM	14			
914	Providing, fitting and fixing of glazing including poly carbonate sheet of superior (selected) quality, first grade class, at various elevations, where required, cleaning after fixing, gaskets, clips, hardware with all labour and material etc. complete as per specification, drawing and instructions of engineer in charge.					

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iii)	6 mm clear float glass	SQM	94			
iv)	6 mm wired glass	SQM	93			
915	Providing, fitting and fixing heavy duty minimum six lever mortised lock of godrej or equivalent make with handles or knobs to single and double leaf door (wooden/steel/aluminium) with duplicate set of keys and masterkeyed locks, openable from one side by the key and from the other side by the handle etc. all complete as per drawing, specification and instruction of engineer in charge.	Each	19			
916	Providing and fixing PVC doors of sintex or equivalent make including all fitting & fixtures as per specification, drawing and instructions of engineer in charge.	SQM	2			
918	Providing and fixing steel openable or fixed windows/ventilators with steel sections as per IS:1038, IS:1361 & IS:7452 latest revision. Glazing shall be of 6.0mm thick wired glass panes including all fittings, metal beadings, hold fasts, primer painting as per specification all complete. Glazing shall be paid separately under item no. 914 above.	SQM	67			
1000	BRICKWORK MASONRY INCLUDING SUPPLY OF MATERIAL, COST OF LABOUR ETC. COMPLETE, AS PER SPECIFICATIONS.					
1001	Providing brick work in cement mortar 1:5 (1 part cement & 5 parts coarse sand) in walls, chambers etc. in thickness varying from 250mm to 500mm at all depths, places and positions below plinth including raking out joints, curing, scaffolding etc. complete excluding plastering and painting.					
i)	Using fly ash lime bricks confirming to IS 12894 with crushing strength of 75 kg/cm2	CUM	31			
1002	Providing brick work in cement mortar 1:5 (1 cement 5 coarse sand) in walls, chambers etc. in thickness 230mm at all heights, places and position above plinth including raking out joints, curing, scaffolding etc complete excluding plastering and painting.					
i)	Using fly ash lime bricks confirming to IS 12894 with crushing strength of 75 kg/cm2	CUM	298			
1004	Providing brick work in cement mortar 1:4 (1 cement 4 coarse sand) in partition walls , chambers etc. in thickness 115mm at all heights, places and position above or below plinth/graded level including providing H.B. wetting at every third layer, raking out joints, curing, scaffolding etc complete Using fly ash lime bricks confirming to IS 12894 with crushing strength of 75 kg/cm2 Using clay ash bricks shall be as per IS 13757 minimum percentage of fly ash shall be 25%excluding plastering and painting as per specification.					
i)	Using fly ash lime bricks confirming to IS 12894 with crushing strength of 75 kg/cm2	SQM	5			
1010	Providing and filling brick bats in soak pits, below plinth protection etc. complete.	CUM	31			
	DAMP PROOF COURSE INCLUDING ALL MATERIALS LABOUR, SHUTTERING, CENTERING, CURING ETC., COMPLETE WITH THICKNESS AS SPECIFIED/SHOWN ON DRAWINGS.					

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1101	Damp Proof Course 40mm thk. 1:1.5:3 concrete (10mm down aggregate) with 2% of approved admixture of water proofing compound. Hot bitumen of grade 85/25 @ 1.7Kg./sqm shall be applied before & after the DPC as per specification.	SQM	2			
1200	CEMENT MORTAR PLASTER INCLUDING ALL MATERIALS SCAFFOLDING, CURING ETC. COMPLETE AS PER SPECIFICATION					
1201	Providing 12 mm thick plaster in cement mortar 1:6 on walls, finished to a smooth finish as per specification.	SQM	1,190			
1203	Providing 12 mm thick plaster in cement mortar 1:6 on walls with a paste of neat cement @1kg/sqm and rubbed smooth with trowel as per specification.	SQM	45			
1204	Providing 18 mm thick (12mm + 6mm) plaster in two layers in cement mortar 1:6 on walls finished to a wooden float/smooth/rough finish as per specification.	SQM	1,638			
1205	Providing 6mm thick plaster in cement mortar 1:4 on ceilings finished to a smooth finish as per specification.	SQM	457			
ST NO 13	Providing Plaster of Paris/ white putty (birla white) 2 mm thick punning over finished plaster surface and finished with smooth surface as per specification.	SQM	4,659			
1208	Providing screed/grading plaster of average 20 mm thickness in ratio 1:6 nominal by volume including finishing smooth and even etc. all complete at all levels above or below grade level.	SQM	1,317			
1211	Providing drip coarse on plastered surface at all elevations for all type of work such as chajjas, parapet, projections etc. including scaffolding, finishing etc. complete with all labour, tools and plants as per specification, drawing and instructions of engineer in charge.	RM	151			
1300	FINISHES, PAINTING TO CONCRETE, PLASTERED SURFACES, SURFACE PREPARATION INCLUDING ALL MATERIALS, LABOUR, SCAFFOLDING ETC. ALL COMPLETE (paints of reputed brand of reputed manufacturer like ici/burger/asian paints or equivalent)					
1301	Providing and applying two or more coats of oil bound destemper as per IS 428 of approved brand, shade and manufacture to give smooth, hard, durable & glossy finish over a coat of primer over prepared plaster surface with POP as per manufacturers guideline but excluding cost of plaster of paris punning minimum 2 mm. which shall be paid under item no. 1207	SQM	6,054			
1306	Providing and applying two or more coats of acrylic emulsion paint as per IS 5411 of approved brand, shade and manufacture to give smooth, hard, durable & glossy finish over a coat of primer over prepared plaster surface with POP as per manufacturers guideline but excluding cost of plaster of paris punning minimum 2 mm. which shall be paid under item no. 1207	SQM	432			
1307	Providing & applying two or more coats of exterior emulsion paint of approved brand, shade and manufacture complete as per specifications.	SQM	5,215			

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1400	FLOORING AND SKIRTING INCLUDING ALL MATERIALS, LABOUR, CURING, POLISHING, FINISHING, EXPANSION JOINTS, GROOVES, ETC. COMPLETE IN ALL RESPECTS AS SHOWN ON DRAWINGS AND DESCRIBED IN SPECIFICATIONS FOR THE FOLLOWING:.					
1401	Providing and laying 50 mm thick heavy duty cement concrete flooring with metallic hardener pigmented topping of 12 mm thick uniform graded treated iron particles over underbed of 1 part cement, 1.5 part sand and 3 parts chips (10mm down, well graded) by volume (only sufficient water added to give workable consistency) in flooring complete as per specification.	SQM	624			
1405	Providing and laying polished Kota stone 20 mm thk in flooring, staircase over min. 20mm thick underbed of 1 part lime, 1 part surkhi and 2 parts coarse sand by weight mixed with sufficient water to form a stiff workable mass. The kota stone slab shall be min. size 600mmx600mm and laid over under-bed, pressed and tapped down with wooden mallet to the proper level, lifted and pressed again with thick cement slurry spread over the surface with fine joint finished including pigments, curing, grinding, making corners, granite polishing etc. complete.	SQM	80			
1407	Providing polished Kota stone 20 mm thk in skirting projecting 6mm from adjacent plaster all complete.	SQM	13			
1412	Providing and laying glazed ceramic tiles of approved color and design in dado of approved size of reputed manufacturer topped with 50mm wide matching ceramic trims complete as per specification including all materials labour etc.					
ii)	7mm thick	SQM	824			
1413	Providing and fixing dividing strips in joints of cast in situ floorings at various elevations, finishing, all labour, material etc. complete as per drawing, specification and instructions of engineer in					
i)	Glass strips 40 mm wide and minimum 6 mm thick.	RM	300			
1417	Providing and laying 50mm thick anti skid precast interlocking concrete paver (M30 grade concrete) of approved shape as per the approval of engineer in charge specification complete including min. 40mm thick sand underbed.	SQM	500			
1427	Providing and laying precast polished heavy duty cement concrete tiles (Carborundum) of size 300X300X25 thick of approved shade as per IS 1237, laid in floors and landings, jointed with neat cement slurry with pigment to match the shade of the tiles including rubbing and polishing complete with laying as per IS 1443.	SQM	2,010			
1506	Providing & fixing 50mm thick insulation of rock wool (rockloyd-300 or equivalent) of density 48kg/cum. conforming to IS 8183 including wrapping in black polythene back supported over welded mesh 75x75x1.6mm dia. to hold in position as per manufacture recommendation including all labours materials scaffolding, equipment etc. all complete as per specification, drawing and instruction of Engineer Incharge.	SQM	2,600			

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1508	Providing and installing under deck insulation using minimum 0.05 mm thick aluminium foil on exposed surface followed by 0.56 mm dia and 25 mm mesh GI wire netting, fixed at various elevations with rawl plugs including clips, all labour, material, scaffolding, equipment etc (but excluding cost of insulation which shall be paid under item no. 1507) all complete as per specification, drawing and instructions of engineer in charge.	SQM	38			
1600	PROVIDING AND FIXING FALSE CEILING INCLUDING SUPPLY OF CEILING MATERIAL, WORKING LAYOUT DRAWINGS AND DETAILS, SUSPENSION SYSTEM AND ALL OTHER MATERIALS REQUIRED FOR THE WORK INCLUDING MAKING RECESS FOR LIGHT FIXTURES, ALUMINIUM DIFUSERS, FIRE ALARMS ETC., POLISHING/PAINTINGS, LABOUR ETC., ALL COMPLETE AS PER SPECIFICATION.					
1602	Providing, fixing & laying permanently colour coated aluminium false ceiling of approved colour with stove enamel finish and Luxalon of hunter douglas make or equivalent with corrosion resistance aluminium alloys panels of min. thickness 0.5mm including 50mm thick mineral wool insulation (as per IS 8183) bound in polythene bags on top of panels. Additional hangers and height adjustment clips shall be provided for return air grills, light fixture, A.C. ducts etc. Suitable MS channel (min.MC 75) grid 1200 c/c max. shall also be provided above the false ceiling level for movement of personnel to facilitate maintenance of lighting fixture, AC duct etc. The work to be completed as per specifications drawings, and direction of engineer. Material for structure plateform/ grid made up of MS channels/ Beams/ Angles shall be supplied by BHEL free of cost and shall be paid under SI item no. 2301)	SQM	38			
1700	PROVIDING AND FIXING RAIN WATER DOWN TAKE PIPES INCLUDING 2 COATS OF APPROVED PAINT OVER A PRIMARY COAT, ALL SPECIALS AND ACCESSORIES ETC. COMPLETE AS PER SPECIFICATION.					
1701	GI down take pipes conforming to IS 1239 / IS 3589 as per specification of following dia.					
ii)	150 mm dia	RM	279			
iii)	200 mm dia	RM	912			
1800	MISCELLANEOUS					
1806	Taking delivery of materials from BHEL stores/store yard, loading, transporting, unloading at site and fixing transformer rails including guide rails in concrete including jointing of rails, anchoring lugs etc complete as per specification. (Rails & Guide channel shall be supplied by BHEL free of cost)	MT	3			
1807	Providing and fixing weep holes in Drains/retaining wall etc. consisting of 100 mm dia LDPE pipe sleeves along with single side covering for the pipe mouth with galvanised welded wire fabric of 20 mm sq. opening along with 300 X 300 mm sq., 300 mm deep, 40 mm aggregates to cover fabric mesh mouth complete as directed by engineer in charge.	Nos.	130			

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1808	Laying of earthing mats/rods including transportation from yard stores, loading, unloading, cutting to length, welding etc complete as per specification and as directed by Engineer. Earthwork excavation & backfilling shall be paid separately under relevant items.	MT	30			
1811	Providing and fixing GI rungs in concrete/brick walls at all elevations including zinc coating of min. 900 g/sqm all complete.	KG	332			
1813	Providing and fixing LDPE pipes (medium duty with wall thk. 3mm) in cable duct banks, openings in RCC work at all elevations of following sizes including cutting, fixing and levelling in position as per drawings, specifications all complete.					
	iii) 200 mm dia	RM	85			
2000	FENCING AND GATES.					
2001	Supplying and erecting in position 2.4m high PVC coated galvanised chain linked fencing of minimum 8gauge (including PVC coating) of mesh size 50mm. The diameter of the steel wire for chain link fencing excluding PVC coating shall not be less than 12gauge. GI barbed wire fencing conforming to IS 298 at top of chain link fencing shall be provided with 4 strands of height of 600 mm including all accessories as per specification all complete. Earthwork & concrete for post foundation, structural fabrication etc. shall be paid separately under relevant item and MS angle/channel for post shall be supplied by BHEL free of charge.	SQM	398			
2002	Supplying and fixing G.I. barbed (2 ply) wire in fencing @ 150mm c/c (specing between the runs) and two diagonal ties between the post with mild steel Angle posts, clips, anchors, one coat of redoxide zinc chromate primer and two coats of approved aluminium paint etc complete as per specification, drawing and as directed by the Engineer. Earthwork & concrete for post foundation, structural fabrication etc. shall be paid separately under relevant item and MS angle shall be supplied by BHEL free of charge. For further details of barbed wire ref. Section D, Sub-sec. D17	SQM	100			
2003	Supply, fabrication and installing in position and testing galvanised MS Gates out of channels, joists, angles, flats, plates, pipes & sheets including stiffners, bracings, fabricated hinges, MS Aldrops with locking arrangement, tempered steel pivot, guide track of MS Tee, ball bearing arrangements, castor wheels, anti corrosive synthetic enamel painting over two coats of primer etc. all complete as per drawing, specification and as directed by Engineer-in-charge with 600mm high GI barbed wire fencing at top all complete.	MT	4			
2100	WATER SUPPLY					
2101	Providing and fixing in position tested heavy duty type chromium plated brass long neck bib cocks including sockets, union, nut etc. complete 15mm nominal bore.	NO.	4			
2102	Providing and fixing in position heavy duty brass stop cock of approved quality including all specials etc. complete as directed by Engineer 15mm nominal bore.	NO.	4			
2103	Providing and fixing in position heavy duty brass full way valve with wheel of approved quality 25mm nominal bore.	NO.	5			
2104	Providing and fixing in position heavy duty brass full way valve with wheel of approved quality 50mm nominal bore.	NO.	2			

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SL. NO	DESCRIPTION	UNIT	QTY	Unit Rates in Figures (In Rs)	Unit Rates in Words (In Rs)	Total Amounts (In Rs)
2105	Providing and fixing GI pipes of class B-Medium complete with GI sockets, unions, elbows, tees, nipples etc. and clamps including cutting and making good the walls etc. complete (internal work) 15 mm nominal bore.	RM	150			
2106	Providing and fixing GI pipes of class B-Medium complete with GI fittings a clamps including cutting and making good the walls etc. complete (internal work) 20 mm nominal bore.	RM	80			
2107	Providing and fixing GI pipes of class B-Medium complete with GI sockets, unions, elbows, tees, nipples etc. and clamps including cutting and making good the walls etc.complete (internal work) 25 mm nominal bore (N.B).	RM	70			
2108	Providing and fixing GI pipes of class B-Medium complete with GI sockets, unions, elbows, tees, nipples etc. including trenching & refilling anti-corrosive paint etc. complete (external work) 15mm nominal bore (N.B).	RM	40			
2109	Providing and fixing GI pipes of class B-Medium complete with GI sockets, unions, elbows, tees, nipples etc. including trenching & refilling anti-corrosive paint etc.complete (external work) 20mm nominal bore (N.B).	RM	30			
2110	Providing and fixing GI pipes of class B-Medium complete with GI sockets, unions, elbows, tees, nipples etc. including trenching & refilling anti-corrosive paint etc.complete (external work) 25mm nominal bore (N.B).	RM	50			
2112	Providing and fixing 610mmx453mmx6mm thk mirror from reputed mirror manufacturer. Mirror shall be mounted with glass adjustable revolving CP brackets etc. complete with CP screws as per specification.	NO.	3			
2113	Providing and fixing 610mmx127mmx6mm thk clear glass with C.P Guard rails and mounted on C.P. brackets etc. complete as per specification.	NO.	3			
2114	Providing and fixing 20mm dia chromium plated M.S. pipes wall mounted towel rod (1.00m long) with C.P. brackets etc. all complete as per specification.	NO.	3			
2115	Providing and fixing C.P. soap holder mounted with C.P. screws etc.complete as per specification.	NO.	5			
2116	Providing and fixing C.P. liquid soap dispenser. Dispenser shall be round and easily revolving with removable threaded nozzle and mounted on C.P. brackets etc.complete as per specification.	NO.	3			
2117	Providing and fixing glazed vitreous wall mounted paper holder with suitable cover cum cutter fitted with CP screws etc. complete as per specification	NO.	4			
2119	Providing & fixing P.V.C. water tank (Syntex or equivalent) in position . The work to including making all necessary inlet & outlet pipes, fixture, ball cocks, valves etc. all complete as per specification at all heights and levels					
i)	2000 Litres Capacity	NO.	2			
2200	SANITARY WORKS					
2201	Supply and fixing vitreous china wash basin size 600x450 with R.S. or C.I. brackets painted white, 15mm chromium plated brass hot & cold faucets with nylon washers, chromium plated brass chain with rubber plug 32mm chromium plated brass bottle trap and waste of standard pattern, 32mm dia chromium plated brass trap unions, plastic connection pipe with chromium plated nuts, cutting and making good the walls where required etc. complete as per specifications	NO.	3			

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SL. NO	DESCRIPTION	UNIT	QTY	Unit Rates in Figures (In Rs)	Unit Rates in Words (In Rs)	Total Amounts (In Rs)
2203	Providing and fixing colour European type water closet with siphon, open front solid plastic seat and plastic cover, low level 12.5 litre glazed stone water flushing cistern with valveless fittings, necessary C.P connections etc. complete as per specification.	NO.	3			
2204	Providing and fixing glazed vitreous china pan with foot rests and high level 12.5 litre C.I flushing cistern with valveless fittings, necessary C.P connections, foot rests shall be made of white glazed vitreous china with chequered surface allcomplete with cistern painting, C.I brackets etc. as per specification.	NO.	1			
2205	Providing and fixing wall type glazed vitreous china sensor type urinals with flush pipes,sensors, lead pipes, gratings, CP bottle traps and necessary C.P fittings all complete as per specifications.	NO.	3			
2206	Supply, laying and jointing 75mm dia heavy duty cast iron pipes including bends, branches and all other necessary fittings, lead cocking, a coat of bitumenous paint, M.S holder bats/clamps, cutting and making good the walls and floors, jointing, testing etc. all complete and as per specifications.	RM	30			
2207	Supply, laying and jointing 100mm dia heavy duty cast iron pipes including bends, branches and all other necessary fittings, lead caulking, a coat of bitumenous paint, M.S holder bats/clamps, cutting and making good the walls and floors, jointing, testing etc. all complete and as per specifications.	RM	55			
2208	Supply, laying and jointing 150mm dia heavy duty cast iron pipes including bends, branches and all other necessary fittings, a coat of bitumenous paint, M.S holder bats/clam lead caulking, a coat of bitumenous paint, M.S holder bats/clamps, cutting and making good the walls and floors, jointing, testing etc. all complete and as per specifications.	RM	55			
2209	Providing, laying light duty non pressure NP3 class RCC pipes with collars jointed with stiff mixture of cement mortar 1:2 including testing of joints etc. complete, as per specifications. for dia.					
i)	150 mm	RM	250			
ii)	200 mm	RM	265			
iv)	300 mm	RM	180			
vi)	600 mm	RM	250			
2210	Providing, laying light duty non pressure NP2 class RCC pipes with collars jointed with stiff mixture of cement mortar 1:2 including testing of joints etc. as per specifications for dia:					
i)	150mm	RM	100			
iii)	300mm	RM	70			
vi)	600mm	RM	120			

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SL. NO	DESCRIPTION	UNIT	QTY	Unit Rates in Figures (In Rs)	Unit Rates in Words (In Rs)	Total Amounts (In Rs)
2211	Providing and fixing C.I Manhole cover (Medium grade) of size 600mmx450mm including frame from reputed manufacture all complete as per specifications.	NO.	6			
2213	Providing and fixing square mouth S.W Gully trap grade 'A' complete with CI grating, brick masonry chamber and watertight CI grating, brick masonry chamber and water tight CI cover with 300x300mm (inside) the weight of cover to be not less than 4.53 Kg and frame to be not less than 2.72 Kg as per drawing and specifications etc. all complete size 100x100mm P or S Type.	NO.	4			
2214	Providing and fixing square mouth S.W Gully trap grade 'A' complete with CI grating, brick masonry chamber and watertight CI grating, brick masonry chamber and water tight CI cover with 300x300mm (inside) the weight of cover to be not less than 4.53 Kg and frame to be not less than 2.72 Kg as per drawing and specifications etc. all complete size 150x100mm P or S Type.	NO.	3			
2215	Providing and fixing square mouth S.W Gully trap grade 'A' complete with CI grating, brick masonry chamber and watertight CI grating, brick masonry chamber and water tight CI cover with 300x300mm (inside) the weight of cover to be not less than 4.53 Kg and frame to be not less than 2.72 Kg as per drawing and specifications etc. all complete size 150x150mm P or S Type.	NO.	2			

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SL. NO	DESCRIPTION	UNIT	QTY	Unit Rates in Figures (In Rs)	Unit Rates in Words (In Rs)	Total Amounts (In Rs)
2216	Providing and fixing C.I. floor traps with C.P jalli complete as per specification.	NO	10			
2217	Providing and installing approved brand single tap water cooler of 80 L cooling capacity complete in all respect.	NO	1			
2219	Providing and fixing white vitreous urinal partitions all complete as per specification.	NO.	1			
2322	Supply fabrication & delivery at site transportation, loading/unloading of various sizes GI hand railing 32 NB including painting (primer and finish) and fixing as per specification labour and materials complete for medium duty class. Rate shall be inclusive of cost of GI pipes.	MT	2			
2400	ROAD WORK INCLUDING SUPPLY OF MATERIAL, COST OF LABOUR, MACHINERY ETC ALL COMPLETE AS PER SPECIFICATION, DRAWING, RELEVANT IRC & IS CODES AND AS DIRECTED BY THE ENGINEER-IN-CHARGE FOR THE FOLLOWING.					
2401	Preparation of sub grade by excavating earth to required depth for all types of soil/rock, dressing to camber and consolidating the base including making good the undulation etc. and disposal of surplus earth within plant boundary all complete as per specification.	CUM	3,922			
2402	Providing, stacking and laying granular morrum for shoulder including watering, compaction with road roller to required camber etc. complete as per specification.	CUM	600			
2403	Providing & Laying water bound macadam sub base course in layers of required thickness with crushed stone aggregates 90 to 40 mm down size, stone screening and blinding material including screening sorting, spreading to template and consolidation with road roller including carriage, spreading and consolidation of binding material moorum etc. including cost of material labour all complete.	CUM	1,307			
2404	Providing & Laying water bound macadam base course in layers of required thickness with stone aggregate 63mm to 40mm size, stone screening and binding material including screening sorting, spreading to template and consolidation with road roller including carriage, spreading and consolidation of binding material moorum etc. including cost of material labour all complete.	CUM	490			
2410	Supply and laying (400mm x 150mm X 350mm deep) precast concrete kerb stone of grade M20 with 20 mm aggregate and of shape as per detailed drawing including fixing in 13mm thk. cement mortar 1:2 in joints, finishing of joints with neat cement paste, making drainage opening where required etc. complete as per specification.	RM	2,854			
2412	Dismantling of existing road consisting of premix carpet, curb stone/ brick on edge, bitumen macadem course, WBM, preparing subgrade to receive new WBM including camber consolidation including disposal of debris within a lead of 1Km etc. complete and as directed by Engineer.	SQM	100			
	Grand Total in figures (In Rs)					
	Grand Total in Words Rs.....					