

OTHER EQUIPMENT FOUNDATIONS, TRENCHES, TANKS, GTG HALL, AUXILIARY PLANT BUILDINGS, BALANCE OF PLANT (BOP) CIVIL WORKS, PAVING, ROADS, DRAINS, CULVERTS, SEWAGE SYSTEMS, ELECTRICAL EARTHING ETC. INCLUDING RCC BORED CAST IN SITU PILING.						
FOR						
1X30 MW GTG + 125T/HR HRSG COGEN. PLANT AT IOCL BARODA, GUJARAT						
PART A	MAIN CIVIL					
ST. NO	DESCRIPTION OF ITEM	UNIT	QTY	RATE		AMOUNT
				(IN FIGURES)	(IN WORDS)	
100	EARTH WORK					
Earth work In excavation, backfilling and disposal including necessary men/women, materials, equipment, loading, transportation, unloading, dewatering etc as per specification ( A-311 & A-340 of section 6 in volume 3), drawing and as directed by engineer- in-charge for the following.						
101	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.					
a	Depth from ground level but not exceeding 2 m	CUM	8500			
b	Depth exceeding 2 m but not exceeding 4 m	CUM	3100			
c	Depth exceeding 4 m but not exceeding 6 m	CUM	50			
103	Earth work in excavation in soft rock (rock without any recovery of exacavated materials in the form of hard stone/boulder) including weathered rock which can be excavated by means of crow bar, pick axe, pneumatic rock breaker attachment with excavator machine etc but does not require chiselling or blasting including setting out, levelling, dewatering (wherever required), 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.					
a	Depth from ground level but not exceeding 2 m	CUM	50			
b	Depth exceeding 2 m but not exceeding 4 m	CUM	50			
107	Back filling upto any depth below ground level around foundations, plinths, trenches, drains etc to proper grade and level in layers not exceeding 200 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.					
a	Each layer compacted so as to achieve at least 95% maximum dry density as per IS-2720 (Part-VII)	CUM	4000			

ST. NO	DESCRIPTION OF ITEM	UNIT	QTY	RATE		AMOUNT
				(IN FIGURES)	(IN WORDS)	
108	<b>Back filling</b> upto any depth below ground level around foundations, plinths, trenches, drains etc to proper grade and level in layers not exceeding 200 mm thickness using/with selected materials <b>directly from excavation</b> with in a lead upto 500m and compacted as specified including watering, ramming/compaction by manual/mechanical means, dressing etc all complete for the following.					
a	Each layer compacted so as to achieve at least 95% maximum dry density as per IS-2720 (Part-VII)	CUM	1500			
109	<b>Extra over ST No. 101 and 103 to 107</b> for carriage of excavated earth/selected materials for every 1 km or part thereof beyond an initial lead of 500m.	CUM	3650			
110	<b>Back filling</b> upto any depth below ground level <b>around foundations, plinths, trenches, drains etc</b> to proper grade and level in layers <b>not exceeding 150 mm thickness</b> using/with approved borrowed soil (borrowed soil to be arranged by the bidder) and compacted as specified including supplying borrowed soil, royalty (if any), watering, ramming/compaction by manual/mechanical means, dressing etc all complete for the following.					
a	Each layer compacted so as to achieve at least 95% maximum dry density as per IS-2720 (Part-VII)	CUM	2000			
111	<b>Supplying and filling sand</b> upto any depth under floors, around foundations, plinths etc. in layers not exceeding <b>200 mm</b> thickness and compacted so as to achieve at least <b>90% relative density</b> as per IS-2720 (Part-XIV) including spreading, watering, ramming/compaction by manual / mechanical means, dressing, royalty (if any) etc. all complete as per specification.	CUM	1500			
112	Supplying and filling <b>CNS (Cohesive non swelling) soil</b> upto the required depth under floors, around foundations, plinths etc. in layers ramming/compaction by manual / mechanical means, dressing, royalty (if any) etc. all complete.	CUM	500			
<b>200 CONCRETE WORKS</b>						
Providing and placing <b>Ready Mix Concrete (RMC)</b> to be purchased from approved concrete Manufacturer outside of the Plant) of required grade including cost of designing Concrete Mix, all labour, materials and equipment for batching, mixing, handling, transportation by means of transit mixer, placing by means of concrete pumps/boom placer, vibrating, curing, Quality control (excluding cost of centering, shuttering and reinforcement) etc. complete as per drawing, specifications (A-318 of section 6 in volume 3 & Doc A-6235-110-002-R1) and as per direction of engineer in charge for the following.						
<b>Note:</b> 1) Cement for all concrete works shall be ordinary Portland Cement, 43 grade conforming to IS: 8112. The engineer in charge may permit the use of ordinary Portland cement (53 grade) or Portland puzzolana cement (fly ash/calced based) confirming to is: 1489 or Portland slag cement conforming to is: 455 or sulphate resisting Portland cement conforming to IS: 12330 or high alumina cement conforming to is: 6452 without any extra cost. 2) The consumption of cement (per cum. of concrete) shall be as per recommended/approved concrete design mix subject to minimum requirement of <b>IS 456/IOCL Specifications/ Approved drawing (whichever is higher)</b> . However no extra claim shall be entertained on account of excess cement consumption as per the actual design mix to achieve required target strength & other parameters. 3) All grade of concrete including PCC, Screed concrete shall be Ready Mix Concrete ( <b>RMC</b> )						
201.a	Concrete of <b>grade M5</b> (1 part cement, 5 part coarse sand, 10 parts of 40 mm graded aggregate by volume of approved quality confirming to IS: 383) as filling course at any depth below finished floor level, under and around foundations/floors, mass fill etc.	CUM	10			
201.b	Concrete of <b>grade M7.5</b> (1 part cement, 4 part coarse sand, 8 parts of 40 mm graded aggregate by volume of approved quality confirming to IS: 383) as filling course at any depth below the storm water drains.	CUM	10			

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RATE SCHEDULE

ST. NO	DESCRIPTION OF ITEM	UNIT	QTY	RATE		AMOUNT
				(IN FIGURES)	(IN WORDS)	
202.a	Providing and laying of Concrete of <b>grade M10</b> (1 part cement, 3 part coarse sand, 6 parts of 40 mm graded aggregate by volume of approved quality confirming to IS: 383) as lean concrete, levelling course, mud mat under and around foundations/floors at any depth below finished floor level etc.	CUM	10			
202.b	Providing and laying of Concrete of <b>grade M5</b> mix (1 part cement, 5 part sand, 10 parts of 20 mm graded aggregate by volume of approved quality confirming to IS: 383) as lean concrete, levelling course, mud mat under and around foundations/floors at any depth below finished floor level etc.	CUM	480			
203.a	Providing and laying of Concrete of <b>grade M15</b> (1 part cement, 2 part sand, 4 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.	CUM	10			
203.b	Providing and laying of Concrete of <b>grade M20</b> (1 part cement, 1.5 part sand, 3 parts of 40 mm graded aggregate by volume) as paving under pipr rack etc.	CUM	40			
204	Concrete <b>under floors, paving, plinth protection, pipe encasing etc</b> complete with 20 mm nominal size graded aggregate in grade slab, trenches etc at any depth below finished floor level for the following grades.					
a	M15 Grade	CUM	50			
b	M20 Grade	CUM	50			
c	M30 Grade	CUM	500			
205	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 <b>in foundations/substructure, grade slab, paving, drains, under floors etc</b> 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.					
a	M20 Grade	CUM	565			
b	M25 Grade	CUM	3800			
c	M30 Grade	CUM	100			
206	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 <b>in superstructure</b> 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.					
a	M25 Grade	CUM	500			
b	M30 Grade	CUM	100			

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ST. NO	DESCRIPTION OF ITEM	UNIT	QTY	RATE		AMOUNT
				(IN FIGURES)	(IN WORDS)	
207	Providing and laying Design Mix cement concrete confirming to IS:456 & IS 10262-2009 for reinforced concrete works of grade <b>M-25 Grade</b> in machine foundations for TG, Gas Turbine, ID/FD/PA fans, BFP, Coal mills at all elevations below/above finished floor level <b>except TG deck and top decks</b> 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.					
a	<b>M25 Grade</b>	CUM	425			
209	<b>Extra over St. No. 205 to 207 for controlling of temperature</b> of fresh concrete to less than 23 degree centigrade using ice, including all related arrangements for providing, storing and mixing of ice with water, cooling of aggregates etc. All complete as per specification, drawing and instruction of engineer in charge.	CUM	425			
210	<b>Extra over ST Nos. 205 to 207 for conducting UPV test</b> for concrete at all levels including all equipments, making necessary arrangements, staging, submission of report etc. all complete as directed by engineer in charge and as per specification.	CUM	500			
211	<b>Providing and encasing of structural steel member</b> with concrete using nominal aggregate size of 12.5mm down. Encased member shall be wrapped with welded wire mesh/chicken wire mesh with proper lap etc. complete as per specification for the following grades. <b>(Payment of welded wire mesh, chicken wire mesh shall be made separately)</b>					
a	M20 Grade	CUM	50			
b	M25 Grade	CUM	50			
212	<b>Screed concrete</b> 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 as per following.					
a	1:2:4 (1 part cement, 2 part sand, 4 parts of aggregate by volume)	CUM	50			
b	1:1.5:3 (1 part cement, 1.5 part sand, 3 parts of aggregate by volume)	CUM	50			
213	Providing and laying Design Mix cement concrete as per IS:456 & IS 10262-2009 for reinforced concrete works using graded aggregate for Concrete <b>in precast works like roof slabs/trench covers, fins, lintels, chajas, beams, columns, wall panels, facias etc.</b> at all levels in all kinds of work including formwork/moulds, curing, rendering the top exposed surface with cement sand mortar (1:3), handling, storing, transpoting, all leads, erection without damage, setting in position with cement sand mortar (1:3), filling the gaps between adjacent precast units with M30 grade concrete 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) and as per specification and drawing for following grades.					
a	M 25 grade	CUM	200			

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				(IN FIGURES)	(IN WORDS)	
214	Providing and laying Design Mix cement concrete as per IS:456, IS 3370 & IS 10262-2009 for reinforced concrete works using graded aggregate for Concrete in <b>water retaining/conveying structures</b> including addition of suitable plastisizer cum waterproofing cement additives confirming to IS 9103 latest to achieve a slump more than 125 mm in concrete as per manufacturers recommendation and conforming to limits of permeability as per IS 2545 and specification with 20 mm nominal size graded aggregate for following grades.					
a	M 25 grade	CUM	100			
215	<b>Dismantling concrete work</b> 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.					
a	Plain cement concrete of all grades	CUM	5			
b	Reinforced cement concrete of all grades	CUM	10			
216	<b>Chipping of concrete</b> 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 .( Doc A-342 of Sec-06,vol 3 )	CUDM	5			
217	<b>Extra over and above St No 216 for cutting of reinforcement</b> , 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.( Doc A-342 of Sec-06,vol 3 )	SQCM	50			
218	<b>Cutting Reinforced concrete</b> 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.( Doc A-342 of Sec-06,vol 3 )	CUDM	50			
<b>300 FORM WORKS</b>						
<b>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(A-316,section 6 of vol.3) and as per direction of engineer in charge for the following.</b>						
301	<b>Providing &amp; Fixing</b> Fairface form work with good quality water proof ply wood / steel 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	11500			
302	<b>Providing &amp; Fixing</b> Fairface form work with good quality water proof ply wood / steel 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	3800			

ST. NO	DESCRIPTION OF ITEM	UNIT	QTY	RATE		AMOUNT
				(IN FIGURES)	(IN WORDS)	
304	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.					
a	Upto 150 mm depth	Each	20			
b	Pockets of depths more than 150mm and upto 300 mm depth	Each	150			
c	Pockets of depths more than 300mm and upto 600 mm depth	Each	25			
d	Pockets of depths more than 600mm and upto 1000 mm depth	Each	10			
e	Pockets of depths more than 1000mm and upto 1500 mm depth	Each	5			
305	Fairface plywood with filmface/laminated formwork 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 where ever specifically mentioned in the drawing.	SQM	500			
400	<b>REINFORCEMENT FOR STRUCTURES, FOUNDATIONS AND PILING</b>					
401	Taking delivery from BHEL stores/ store yard, loading, transportation, unloading at site, straightening, cutting, bending, placing in position at any level, binding of mild steel reinforcements conforming to grade 1 of IS:432 part 1 in concrete including cost of reinforcement and binding wire, labour, scaffolding, transportation to & from stores etc. all complete as per specifications & drawings. (DocNo. A-314 of Sec-06,vol 3 ) (Reinforcement shall be provided by BHEL Free of cost)	MT	0.5			
402	Taking delivery from BHEL stores/ store yard, loading, transportation, unloading at site, straightening, cutting, bending, placing in position at any level, binding in position of steel reinforcements of TMT steel of grade Fe-415 confirming 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. (DocNo. A-314 of Sec-06,vol 3 ) (Reinforcement shall be provided by BHEL Free of cost)	MT	700			
403	Taking delivery from BHEL stores/ store yard, loading, transportation, unloading at site, straightening, cutting, bending, placing in position at any level, binding in position of steel reinforcements of TMT steel of grade Fe-500D or 500EQR confirming 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 shall be provided by BHEL Free of cost)	MT	5			

ST. NO	DESCRIPTION OF ITEM	UNIT	QTY	RATE		AMOUNT
				(IN FIGURES)	(IN WORDS)	
406	Taking delivery from BHEL stores/ store yard, loading, transportation, unloading at site, straightening cutting, bending, placing in position at any level, binding of mild steel reinforcements in brickwork including cost of reinforcement and binding wire, labour, scaffolding etc. complete all as per specifications & drawings. (DocNo. A-324 of Sec-06,vol 3 ) (Reinforcement shall be provided by BHEL Free of cost)	MT	2			
<b>500 WATER PROOFING WORKS</b>						
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. (DocNo. A-331 of Sec-06,vol 3 )						
507	Providing and laying <b>wearing course consisting of 25mm thick plain cement concrete of grade M15</b> (1:2:4) with graded aggregate in panels with galvanised chicken wire mesh and sealing of joints (with bitumen sealing compound Grade A) etc. all complete as per the vendor recommendations for item no.516. (Rate of sealing shall be included in this item)	SQM	700			
512	<b>Anti termite chemical treatment of soil</b> with Chloropyrifos emulsifiable concentrates (1%) conforming to IS :8944 all complete.	SQM	950			
516	Providing, applying and laying <b>atactic polypropylene membrane 3 mm thick</b> with a layer of geotextile product with 10 years warranty/defect liability including making fillets, cleaning, preparation of surface etc all complete as per Doc.No. A-6235-110-004-Rev01, approved vendor recommendations and as directed by Engineer-in-charge.	SQM	700			
<b>600 JOINTS AND FILLERS</b>						
Joints & fillers including all labour, material, equipment, transportation, handling etc at any level as per specification, drawings and as directed by engineer - in - charge.						
601	Supplying & installation of <b>bitumen impregnated fibre board</b> confirming to IS 1838 (referred to as shalitex board) as joint filler at joints in concrete including nailing, coating of both faces with coal tar pitch/bitumin etc. all complete.					
b	20 mm wide joints.	SQM	100			
603	Supplying and filling in position hot applied <b>bitumin sealing compound (Grade A)</b> confirming to IS 1834 including cleaning, mixing, heating, pouring/injecting sealing compound in gaps in joints including application of primer etc. all complete.					
a	10mm X 40mm	RM	1000			
c	20mmX25mm	RM	1500			
606	Providing and fixing <b>PVC water stops</b> in joints conforming to IS 12200 & IS 15058 all complete for the following.					
b	230 mm wide and 5 mm thick	RM	300			

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				(IN FIGURES)	(IN WORDS)	
608	Providing 20 mm wide <b>Isolation joint around equipment foundations</b> , pedestals and columns within paved area. The joint shall be filled with sand and the top 25mm will be filled with flexible bituminous joint sealing compound.	Sqm.	10			
<b>700 MS EMBEDMENTS</b>						
<b>Embedments including all labour, material, equipment, transportation, handling etc. at any level as per specification, drawings and as directed by engineer - in - charge.</b>						
701	<b>Supply, fabricating and fixing of mild steel</b> 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.	MT	4			
702	<b>Same as above with BHEL supplied material</b> free of cost including loading, transportation, unloading etc. all complete from BHEL store to plant site.	MT	2			
703	<b>Fixing of</b> embedments, inserts, pipe sleeves, angle pieces, anchor bolts of various diameters, plates of dimensions as required etc.(supplied by BHEL) including scaffolding, setting in position, <b>transportation from BHEL site stores to work spot</b> etc. all complete.	MT	5			
704	<b>Supply</b> , Fabrication, transportation, delivery at site and erection, installation and alignment of <b>mild steel foundation bolt assembly</b> 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.	MT	10			
705	<b>Supplying</b> , 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.					
a	MS pipes of all diameters	Quintal	1			
b	PVC pipes / conduits of all diameters	Quintal	0.5			
c	UPVC pipes / conduits of all diameters	Quintal	5			
d	<b>Expansion fasteners (mechanical galvanised)</b> of HILTI make or equivalent of safe tensile capacity as specified below for brick work with expansion sleeve of A6 polyamide:					
i	Upto 250 kg	Each	20			
ii	Beyond 250 Kg and upto 500 kg	Each	20			
iii	Beyond 500 Kg and upto 1000 kg	Each	20			
iv	Beyond 1000 kg	Each	20			
e	<b>Expansion fasteners (mechanical galvanised)</b> of HILTI make or equivalent of safe tensile capacity as specified below for concrete work with expansion sleeve of stainless steel:					



ST. NO	DESCRIPTION OF ITEM	UNIT	QTY	RATE		AMOUNT
				(IN FIGURES)	(IN WORDS)	
i	Upto 250 kg	Each	50			
ii	Beyond 250 Kg and upto 500 kg	Each	50			
iii	Beyond 500 Kg and upto 1000 kg	Each	50			
<b>800 GROUTING</b>						
<b>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. (DocNo. A-318 of Sec-06,vol 3 )</b>						
801	<b>Providing &amp; grouting</b> with cement slurry mix of approved ratio using pressure pump for water retaining concrete structures as per approved procedure including cost of nipples/ nozzles, cement, admixture, curing, pressure pumps, slurry agitator etc. all complete. Cost shall include fixing of nipples at minimum 500 mm centre to centre spacing, cutting of nipples after completing of grouting, making good of the nipple hole with appropriate non-shrink cement paste, water tightness test etc. all complete wherever specified in the drawing.	SQM	100			
803	<b>Providing &amp; grouting of pocket holes, pipe sleeves and under base plate</b> of structural steel work/ machinery/ pipe supporting structures including roughening of surface, cleaning, ramming, curing etc. all complete with <b>mix 1:1:2</b> (1 cement : 1 coarse sand : 2 aggregate of 6 mm down graded stonechips ) using non shrink admixture. (Cost of all material and cleaning the pocket by compressed air shall be in the scope of the contractor).	CUM	2			
804	<b>Providing &amp; grouting of pocket holes, pipe sleeves and under base plates</b> of structural steel work/ machinery/ pipe supporting structures including roughening of surface, cleaning, ramming, curing etc. all complete with <b>Conbextra GP-1 or equivalent</b> . (Cost of all material and cleaning of the pockets by compressed air shall be in the scope of the contractor).	CUM	10			
805	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 <b>Conbextra GP-2 or equivalent</b> . (Cost of all material and cleaning of the pockets by compressed air shall be in the scope of the contractor).	CUM	20			
<b>900 DOORS, WINDOWS, VENTILATORS, LOUVERS</b>						
<b>Doors, windows, ventilators, louvers, roof ventilators, rolling shutters, partitions including all labour, material, equipments, transportation, handling, preparation of working drawings etc. at any level as per specification, drawings and as directed by engineer - in - charge.(DocNo. A-6235-110-004-R01 &amp; A-329 of Sec-06,vol 3 )</b>						
905	<b>Providing and fixing single or double hollow steel door shutters with 18 gauge M.S. sheets shutter</b> presenting a flush surface on the outside and inside stiffened with semitubular edge and central stiffening rail which shall convey the lock including fixtures, Godrej or equivalent make mortice lock with handle on both sides, shop and final painting etc all complete. <b>(Door frame shall be paid separatly under item no. 912)</b>	SQM	20			

ST. NO	DESCRIPTION OF ITEM	UNIT	QTY	RATE		AMOUNT
				(IN FIGURES)	(IN WORDS)	
906	<b>Providing and fixing anodized extruded aluminium door shutters</b> (single or double shutter) conforming to IS:1948, IS:1949. Including glazing, beading, concealed GI screws, fixtures, Godrej or equivalent make Mortice lock with handle on both sides, etc all complete as per specification. Glazing shall be 5.5mm toughened glass, aluminium section shall be smooth, free of stains, straight, mitred & jointed mechanically wherever required. <b>(Glazing &amp; framing shall be paid separately).</b>	SQM	60			
907.b	<b>Providing and fixing fire check door (steel plate doors)</b> including all fittings, shop painting with approved post office/signal red color fire resistant paint. Doors shall be fire proof as per IS:3614, TAC requirements and as per specification. Minimum ratings shall be 2 Hrs etc all complete as per the specifications as per Doc.No. A-329	SQM	18			
908.A	<b>Providing and fixing anodized extruded aluminium windows</b> as per specification. Glazing shall be 5.5 mm thick toughned glass including beading, concealed screws, fixtures, etc all complete as per specification. Aluminium section shall be smooth, free of stains, straight, mitred & jointed mechanically wherever required. <b>(Glazing &amp; frames shall be paid separately).</b>					
a	Openable type	SQM	50			
b	Fixed type	SQM	30			
908.B	<b>Providing and fixing steel windows</b> as per specification. Glazing shall be 5.5 mm thick toughned glass including beading, concealed screws, fixtures, etc all complete as per specification. Section shall be smooth, free of stains, straight, mitred & jointed mechanically wherever required. <b>(Glazing shall be paid separately).</b>					
a	Openable type	SQM	20			
b	Fixed type	SQM	200			
909	<b>Providing and fixing anodised aluminium door frames, windows, ventillators, partitions, railing etc</b> with extruded standard tubular and other sections including all fittings, fasteners, beadings, fixtures and accessories etc all complete of approved make as per specification <b>(Glazing and panelling shall be paid separately).</b> Weight of only aluminium sections shall be measured.	Kg	650			
911	Providing and fixing of <b>door closers</b> as per IS 3564 ,of approved make & quality all complete as per specification of following type :					
a	Over head hydraulic door closures	Each	10			
b	Floor mounted Hydraulic door closers	Each	10			
912	<b>Providing and fixing hollow metal pressed steel frames</b> fabricated from M.S sheet mortised, reinforced drilled and tapped for hinges and locks bolts strikes, hold fasts adjustable floor anchors, floor tiles/weather bars ,paintings etc all complete as per specifications.	Kg	150			
913	Providing and fixing in position <b>rolling shutter</b> all complete as specification and approved make.					

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				(IN FIGURES)	(IN WORDS)	
b	Mechanically Operated	SQM	10			
c	Electrically operated	SQM	20			
914	Providing and fixing <b>PVC doors(25 thk double skin) of sintex or equivalent</b> make including all fitting & fixtures as per specification, drawing and instructions of engineer in charge.	SQM	12			
915	<b>Providing, fixing and fitting of glazing of first grade class</b> in steel/aluminium/wooden frames, where ever required, cleaning after fixing including hardware, gaskets, clips, beadings etc. all complete.					
m	5.5mm thk. Toughened glass	SQM	450			
916	<b>Supplying and fixing weather stripping</b> of approved make and quality to doors as per instructions of engineer in charge and specification complete.	RM	50			
918	Providing and fixing <b>steel louvered window with ISMC 100 frame</b> all round including verticals with 18G pressed steel louvers, painting etc. all complete.	SQM	70			
920	<b>Providing and fixing</b> Translucent sheets shall be of clear translucent variety with light transmission coefficient 70% minimum and shall be made from <b>fiberglass reinforced polyester "KRISTALITE" or equivalent makes</b> conforming to equivalent IS Code. The sheets shall be corrugated, matching with Asbestos cement corrugated sheets as per IS: 459. All complete as per Doc. no. A-330 of sec-6 Vol III of specification.	SQM	50			
924	<b>Providing and fixing of ultra safety &amp; security film</b> like Birla 3M SCLARL 150 having thickness of 0.51mm for glass etc. all complete as per Doc. no.A-6235-110-004-Rev 1 of sec-4 Vol III of specification.	SQM	250			
925	<b>Vertical Vanishing blinds</b> All complete as per Doc. no.A-6235-110-004-Rev 1 of sec-4 Vol III of specification.	SQM	30			
926	Supplying, fitting and fixing <b>12 mm thick twin laminated Medium Density Fibre(MDF) boards</b> (manufactured from agrobased lignocellulosic fibres conforming to IS:12406, exterior grade with synthetic resin conforming to IS:848, BWP type) , categorised as Class-I for Surfaces of very low flame spread as per BS:476 and twin laminated with 1.0 mm thick melamine of approved make and shade at various elevations to aluminium windows, doors & partitions, including supplying rubber gaskets, cost of all materials etc. complete as per drawings and specifications.	SQM	30			
<b>1000 BRICKWORK</b>						
<b>Brickwork masonry including all labour, material, equipment, transportation, handling, scaffolding etc. at all levels as per specification, drawings and as directed by engineer - in - charge. All complete as per Doc. no.A-324 &amp; A-318 of sec-6 Vol III of specification.</b>						
1001	Providing <b>brick work in cement mortar 1:6</b> (1 part cement 6 parts coarse sand) in walls, chambers, drains etc. in thickness varying from 230mm to 460mm at all depths, places and positions below plinth including raking out joints, curing, scaffolding etc. complete excluding plastering and painting.					

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ST. NO	DESCRIPTION OF ITEM	UNIT	QTY	RATE		AMOUNT
				(IN FIGURES)	(IN WORDS)	
d	Using <b>burnt clay bricks</b> of class designation 5.0 / (Strength not less than 3.5 N/mm2 if locally available bricks) of nominal dimension	CUM	20			
1002	Providing <b>brick work in cement mortar 1:6</b> (1 cement 6 coarse sand) in walls, chambers etc. in thickness 230mm at all heights, places and position <b>above plinth</b> including raking out joints, curing, scaffolding etc complete excluding plastering and painting.					
d	Using <b>burnt clay bricks</b> of class designation 5.0 / (Strength not less than 3.5 N/mm2 if locally available bricks) of nominal dimension	CUM	350			
1003	Providing <b>brick work in cement mortar 1:4</b> (1 cement 4 coarse sand) in <b>partition walls, chambers etc.</b> in thickness 115mm at all heights, places and position above or below plinth/graded level including providing two nos. 6 mm diameter MS bars at every fourth layer, raking out joints, curing, scaffolding etc complete excluding plastering and painting as per specification.					
d	Using <b>burnt clay bricks</b> of class designation 5 / (Strength not less than 3.5 N/mm2 if locally available bricks) of nominal dimension	SQM	200			
1006	<b>Breaking of existing brick work</b> at all levels including plastering, removing the rubbish up to a distance of 500 m including transportation, loading, unloading etc. all complete as directed by the engineer.(Doc.No.A-342 of Sec-06)	CUM	20			
1007	<b>Providing and encasing of structural steel member</b> with masonry work around flanges, webs etc. and filling the gap between steel and masonry by minimum 12mm thick mortar. Encased member shall be wrapped with chicken wire mesh with 50mm lap etc. complete as per specification. <b>(Chicken wire mesh to paid separately)</b>	CUM	50			
1009	<b>Making openings</b> in existing brick wall or partition wall including making good the broken edges/surface with cement mortar etc. complete.	CUM	2			
1010	Supply and placing in position <b>mild steel wire fabric</b> of square mesh 25 mm size and wire diameter of 2 mm for encasing of steel sections in concrete including cutting, bending, fixing etc. complete.	SQM	100			
1011	<b>Filling existing brick wall/ partition wall opening</b> at all level including making good the broken edges/surface with cement mortar, painting, finishing to match with existing finishing, scaffolding/supporting at any level, removal of debris upto a lead of 1 km including loading, unloading, transportation etc. all complete.	SQM	50			
1012	Providing and filling <b>brick bats in soak pits</b> all complete.	CUM	10			
<b>1100 DAMP PROOF COURSE</b>						
<b>Damp proof course including all labour, material, equipment, transportation, handling, shuttering, centering, curing etc at any level as per specification, drawings and as directed by engineer - in - charge. ( Doc No. A-318 of Sec 6 of Volume III of customer spec)</b>						
1101	Providing <b>Damp Proof Course 40 mm thick 1:1.5:3 concrete</b> (10mm and down graded aggregate) with 2% of approved admixture of water proofing compound all complete. Two layers of hot bitumen coating 85/25 grade as per IS:702 @ 2Kg./sqm & 1.6kg/sqm shall be applied one before & one after the DPC. All complete as per Doc no.A-6235-110-004-Rev 1 of sec-4 & A-331 of Sec-6 of Vol III of specification.	SQM	160			

ST. NO	DESCRIPTION OF ITEM	UNIT	QTY	RATE		AMOUNT
				(IN FIGURES)	(IN WORDS)	
<b>1200 CEMENT MORTAR PLASTER</b>						
<b>Cement mortar plaster including making grooves wherever required including all labour, material, scaffolding, curing etc at any level as per specification, drawings and as directed by engineer - in - charge. All complete as per Doc. no.A-6235-110-004-Rev 1 of sec-4 &amp; A- 326 of sec -6 of Vol III of specification.</b>						
1201	Providing <b>12mm thick plain cement plaster</b> with heritage surface coating outside the building in <b>cement mortar 1:6</b> on walls, finished to a smooth finish including providing 3mmx3mm size grooves at junctions of two dissimilar materials all complete.	SQM	1350			
1202	Providing <b>20mm thick plaster</b> in two layers outside the building/boundary wall in <b>cement mortar 1:4</b> on walls, finished to a smooth finish including providing 3mmx3mm size grooves at junctions of two dissimilar materials all complete.	SQM	150			
1203	Providing <b>12mm thick plaster</b> inside the building/boundary wall in <b>cement mortar 1:6</b> on walls finished to a smooth finish as per specification all complete	SQM	1650			
1207	Providing <b>6mm thick plaster on ceiling</b> in cement mortar <b>1:6</b> finished to a smooth all complete.	SQM	900			
1210	<b>Forming groove of uniform size</b> from 12X12 mm upto 20X15 mm in plastered surface as per approved pattern, using wooden battens nailed to the under layer, including removal of wooden battons, repair of the edges of plaster panel and finishing the groove etc. complete as per specification, drawing and the instructions of engineer in charge.	RM	150			
1211	Providing <b>drip coarse</b> 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	150			
1214	Supplying, laying and fixing of <b>std. chicken wire mesh IRCS-6(6 x 6 x 6/6)</b> in positions at junctions of concrete & masonry works etc. all complete as per specification, drawing and instructions of enginner in charge.	SQM	20			
<b>1300 FINISHES TO CONCRETE / PLASTERED SURFACES</b>						
<b>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. All complete as per Doc. no.A-6235-110-004-Rev 1 of sec-4 Vol III &amp; A-327 Sec -6 Vol III of specification.</b>						
1301	Two or more coats of <b>white wash/ colour wash</b> as per IS 627 of approved brand and manufacture to give an even shade including a priming coat as per specifications.	SQM	100			
1305	<b>Providing and applying two or more coats of acrylic emulsion paint</b> as per IS 5411 of approved brand, shade and manufacture to give smooth, hard, durable finish over the primer over prepared plaster surface with POP (POP shall be paid separately under relevant items 1312) as per manufacturers guideline all complete including scaffolding etc.	SQM	500			
1310	<b>Providing and applying 2 or more coats of water proof cement paint</b> of approved make and color on exterior surface at all heights including material, labour, scaffolding, curing etc including primer coat complete as per specification.	SQM	1100			

ST. NO	DESCRIPTION OF ITEM	UNIT	QTY	RATE		AMOUNT
				(IN FIGURES)	(IN WORDS)	
1312	Providing and applying 2 mm thick <b>plaster of paris punning on walls</b> including preparation of surface, staging, etc. to achieve a smooth even surface all complete as per specification and as directed by Engineer.	SQM	1600			
1316	Providing and applying two coats of <b>Plastic emulsion paint</b> confirming to IS : 5411 , of approve shade, over primer as per manufacturer's recommendation , including cost of paint on prepared plastered surface with POP (POP shall be paid separately under relevant items 1312), scaffolding etc. all complete including scraping / removing of old paints, making the surface good with plaster of paris wherever required, all complete as per specification and to the satisfaction of engineer / architect incharge.	SQM	1100			
<b>1400 FLOORING AND SKIRTING</b>						
<b>Flooring and skirting at any level including base layer, labour, material, equipments, transportation, handling, curing, polishing etc. at any level as per specification, drawings and as directed by engineer - in - charge. All complete as per Doc. no.A-6235-110-004-Rev 1 of sec-4 Vol III &amp; A-328 of Sec -6 Vol III of specification.</b>						
1406	<b>Providing and laying polished Kota stone 18mm to 20mm thk in flooring.</b> Under bed shall average 30mm thk of 1 cement : 2 sand : 4 stone aggregates by volume and brought to proper level. The kota stone slabs/tiles 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, granite polishing etc. all complete.	SQM	20			
1408	<b>Providing polished Kota stone 18mm to 20mm thk in skirting projecting 6mm from adjacent plaster</b> including cutting brickwall upto the required depth, edging, finishing etc. all complete.	SQM	5			
1410	<b>Marble stone Flooring laid in 50mm overall thickness with 18-20mm thick marble slabs (grade -1)</b> with minium 30mm thick underbed of 1 cement : 2 sand : 4 stone aggregate by volume and brought to proper level.The marbel slabs/tiles laid over underbed with mortar 1:3, 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, granite polishing etc. all complete.(Table No. 4 of Doc.No. A-6235-110-004-Rev01; Project Design Basis of Sec 04 & Doc.No A-328)	SQM	100			
1412	<b>Providing and laying 18-20mm thick polished Granite stone</b> of approved color and texture in flooring with brass/ stainless steel strips. Under bed shall average 30mm thk of 1 cement : 2 sand : 4 stone aggregate by volume and brought to proper level. The granite stone slabs/tiles 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, granite polishing etc. all complete.(Table No. 4 of Doc.No. A-6235-110-004-Rev01; Project Design Basis of Sec 04 & Doc.No A-328)	SQM	20			
1414	<b>Providing and laying polished Granite stone 18-20mm thk in skirting and dado with 6mm thick projection from adjacent plaster</b> including mortar ,cement slurry ,pigments, curing, grinding,moulding, granite polishing etc. all complete.(Table No. 7 of Doc.No. A-6235-110-004-Rev01; Project Design Basis of Sec 04 & Doc.No A-328)	SQM	5			

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ST. NO	DESCRIPTION OF ITEM	UNIT	QTY	RATE		AMOUNT
				(IN FIGURES)	(IN WORDS)	
1420	<b>Providing and laying anti-skid pressed Ceramic Tiles</b> of 7mm thick of reputed manufacturer of approved finish shade and colour including underbed of cement mortar 1:3 with neat cement slurry etc. all complete as per specification.					
a	300X300 mm	SQM	50			
1421	Providing and laying <b>Heavy Duty dust pressed (grade-5) Ceramic Tiles (Matt Finish) of size 600x600mm(approved size) and 7mm thick</b> of reputed / approved manufacturer (Kajaria,jhonson, Spartek or equivalent) of approved finish, shade and colour. The tiles shall be scratch resistance of minimum 5 on Mohr's scale and shall have a bending strength of 350 Kg./sqm,with Under bed shall average 43mm thk of 1 cement : 2 sand : 4 stone aggregates by volume and brought to proper level including cement mortar all complete as per specification.	SQM	20			
1423	<b>Supplying, laying acid resistant tiled floor / DADO as per IS:4457</b> with approved manufacturer's make at various elevations including preparation of base laying underbed of 6mm thick acid proof mortar over 3layers of bitumen grade 85/25(total 3mm thick) as per IS:702 over 12mm thick CM(1:3), pointing of size 6mm x 18 mm deep with CSNL mortar or equivalent including curing of the joints with dilute hydrochloric acid(25 %) as per manufacture's specifications , with all materials complete as per drawing and specifications.					
a	20mm thick	SQM	150			
1427	<b>Providing and fixing anti-skid ceramic tiles</b> of approved color and design of size 200x300mm / 300x300mm in dado of approved size, projecting 6mm uniformly from adjacent plaster or wall finish. The mix for underbed plaster shall consist of 1part cement and 3 parts sand by weight. fairly moist but firm, tiles shall be pressed over under bed by applying cement slurry including pigments, curing etc all complete as per specification.					
b	7mm thick	SQM	40			
1428	<b>Providing and laying 2mm thick antistatic PVC flooring / skirting</b> of approved shade,as per IS:3462 and laying as per IS:5318 all complete as per specification.	SQM	50			
1429	Providing and fixing <b>removable type flooring system</b> (up to depth/height of 1000mm) consisting of Floor panel of 610 mm x 610 mm in general 35 mm thickness make of unviniaard three layer flat pressed teak wood particle board. Finished on the underneath side with 0.05 mm aluminium foil finished on the top with at least 2mm thick antistatic type PVC tile (high pressure laminate) etc. all complete as per specification Doc.No. A-332-II.	SQM	100			
1433.a	Providing & laying of <b>APS Flooring with ironite topping</b> . Flooring shall be laid in overall thickness of 50mm over sub base and shall conforming to IS: 5491 in workmanship. All complete as per specification.	SQM	890			
1433.b	Providing & laying of <b>APS skirting with ironite topping</b> . Skirting shall conforming to IS: 5491 in workmanship. All complete as per specification.	SQM	30			
<b>1500 ROOFING / SIDE CLADDING</b>						
<b>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.</b>						

ST. NO	DESCRIPTION OF ITEM	UNIT	QTY	RATE		AMOUNT
				(IN FIGURES)	(IN WORDS)	
1507.b	<b>Providing Phenolic Foam under deck insulation</b> on the ceiling system (at soffit of the slab) consisting of 25 mm and approx. 1000 mm X 500 mm size conforming to IS:13204 (having a density of 32 kg/m3 and K value of 0.016 KCal/hr M C as per BS 4370, Part-2) faced with alluminium foil , as non-combustible as per BS:476, part - 5 including fixing the insulation to soffit / sides of beams by means of approved quality adhesive and providing & fixing 3 mm thick 190 x 25 mm L-shaped M.S. slotted cleats to the soffit of the slab with dash fasteners @ 600 mm c / c, both ways securing the insulation with chicken wire netting stretched tightly over the insulation and held by 14 SWG G.I. wire tied diagonally through the slots of cleats etc., all complete as per drawings and specifications.	SQM	150			
1509.b	<b>Providing and fixing 2mm thk. Polycarbonate lexam sheets (translucent)</b> for roofing & side cladding or equivalent including all fixing accessories.All complete as per Doc.No. A-6235-110-004-Rev01; Project Design Basis of Sec 04 & Doc.No A-330	SQM	200			
1511	Supplying, installing and fixing in position <b>pre-coated galvanized steel sheeting of minimum 0.65 mm overall thickness</b> with all necessary nuts, bolts and washers and all accessories like ridge, gutter, north light, curves, barge boards etc.other fixing material etc. All complete as per Doc.No. A-6235-110-004-Rev01; Project Design Basis of Sec 04 & Doc.No A-330	SQM	2300			
<b>1600 FALSE CEILING</b>						
<b>False ceiling including all labour, material, equipment, transportation, handling, suspension system etc at any level as per specification, drawings and as directed by engineer - in - charge.</b>						
1607	Providing and fixing <b>aluminum linear false ceiling system "LUXALON" by Hunter Douglas</b> comprising of 84mm wide 16mm deep roll formed panels consisting of length upto 6 m, coil coated on both sides, rolled formed from stove enamelled corrosion resistant 0.5mm thick aluminium alloy AA-5050 or 3005 and perforated panels for return air as per air conditioning requirements including 32mm wide & 39mm deep panel carriers made of roll formed coated steel with 0.95mm thick aluminium alloy with cutouts to hold the panels in the module of 90/100mm , including suspending carries from roof by 4mm dia galvanised steel hanger with steel by "j" hooks & nylon inserts, height adjustment clips made of spring steel at .max 1.2 m c/c including providing profiles gap closure strips etc., slit openings for fixing supply/ return air grill, lighting fixtres, AC diffusers etc. all complete as per drawings and specifications.	SQM	150			
<b>1700 RAIN WATER DOWN TAKE PIPES</b>						
<b>Rain water down take pipes including all labour, material, transportation, 2 coats of approved paint over one primary coat, fixtures, accessories etc at any level as per specification, drawings and as directed by engineer - in - charge.</b>						
1705	Providing and fixing <b>PVC down take pipes of the following diameter-</b> Class 1 as per IS:4985. All complete as per Doc.No. A-6235-110-004-Rev01 of Sec-4 Vol -III of specifications.					
a	100 mm Dia	RM	350			
b	160 mm Dia	RM	300			



ST. NO	DESCRIPTION OF ITEM	UNIT	QTY	RATE		AMOUNT
				(IN FIGURES)	(IN WORDS)	
1709	Supplying, fitting and fixing <b>Roof drain heads with high domed gratings</b> as per drawings at various elevations, including connecting to roof drain pipes, caulking with lead supports / fixing with adhesive for PVC pipes, hangers etc, prime coat of painting with anti - corrosive paint with all materials as per drawings and specifications.					
a	110 mm Dia	NOS.	15			
b	160 mm Dia	NOS.	15			
<b>1800 MISCELLANEOUS WORKS</b>						
<b>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.</b>						
1801	<b>Providing and Filling in trenches, plinths, area paving and other underground structures with graded stone aggregate of size range 63 mm to 45 mm</b> 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	130			
1810	Providing, laying and fixing <b>rails and guide rails</b> in concrete for transformer, rail track including cutting of rails, joining of rails, anchoring lugs etc all complete.	MT	3			
1811	Providing and fixing <b>weep holes in Drains</b> consisting of <b>100 mm dia HDPE pipe sleeves</b> with single side covering for the pipe mouth with galvanised welded wire fabric of 20 mm sq. opening covered with 40 mm downgraded aggregates in 300 X 300 mm sq. and 300 mm deep size all complete.	EACH	50			
1812	<b>Taking delivery from BHEL stores/ store yard</b> , loading, transportation, unloading at site, laying of earthing mats/rods including risers, transportation from yard stores, loading, unloading, cutting to length, welding, protective painting of joints etc. all complete. <b>(Excavation &amp; Back filling shall be paid separately under respective item of earth work. Earthing mats/rods shall be supplied by BHEL free of cost)</b>	MT	50			
1813	Providing <b>Earthing pit</b> as per drawing with charcoal & salt, GI pipes, GI earth electrodes, GI wire, GI strips, brick chamber with covers including associated earthwork etc. all complete.	EACH	2			
1814	Construction of below <b>ground earthing system</b> test pits as per drawing/ sketches including brickwork, plaster, concreting, reinforcement, formwork, providing & fixing GI strips/pipes, GI wires, covers etc as per drawing & specification including associated earthwork.	EACH	15			
1815	Providing and fixing <b>GI rungs</b> in concrete/brick walls having zinc coating of minimum 900 g/sqm etc. all complete.	Kg	200			
1817	Providing and fixing <b>HDPE pipes</b> in concrete/ brick work of following sizes including cutting, fixing and levelling in position etc. all complete.					
a	Upto 75 mm dia	RM	10			
b	100/110 mm dia	RM	10			

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ST. NO	DESCRIPTION OF ITEM	UNIT	QTY	RATE		AMOUNT
				(IN FIGURES)	(IN WORDS)	
c	150/160 mm dia	RM	10			
d	200 mm dia	RM	10			
1823	Fire proofing of steel structures with <b>VERMICULITE</b> cementitious coating including supply of all materials for vermiculite materials, galvanized mesh (3mm thick wire, 50x50 size mesh) , nuts, tie wires, flats, sealing of exposed joints weldings, surface preparation, curing, staging, compatible paintings etc. All complete as per Doc.No. A-6235-110-003-Rev02 of Sec-4; Doc.No A-328 of sec-6 of Vol - III of specification.	CUM	300			
1826	Supply and laying <b>approved quality rounded pebbles / gravels</b> of 40mm size in transformer yards.	CUM	200			
1828	<b>Dismantling old existing reinforced/non-reinforced brickwork/blockwork/stone masonry work in mud/lime/ cement mortar</b> at any level including clearing/cleaning, stacking the serviceable materials at plant site and disposal of unserviceable materials within a lead upto1km all complete.	CUM	5			
1829	<b>Dismantling old existing plain/re-inforced concrete work</b> at any level including clearing/cleaning, stacking the serviceable materials at plant site and disposal of unserviceable materials within a lead upto 1km all complete.	CUM	3			
1830	<b>Dismantling old existing structural steel work</b> at any level including plates, bolts, cutting rivets, welding, dismembering and stacking the dismantled materials within a lead upto 1km etc all complete.	MT	5			
1831	Sprinkling of water by <b>water tanker</b> fitted with perforated GI pipe (portable tanker minimum 3000 litre capacity) for roads and miscellaneous area within plant boundary, for dust suppression 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	100			
<b>1835</b>	<b>ROAD</b>					
i	<b>Consolidating sub-base</b> before providing stone soling/WBM with road roller including watering, if required to <b>obtain 95% proctor density</b> including making good undulation etc. all complete as per drawing and specifications Doc.No. A-340	SQM	8000			
ii	<b>Supplying and laying WBM in 150 mm</b> consolidated thickness in two layers with dry and wet rolling etc complete as per drgs and specifications Doc.No. A-340	SQM	2400			
vi	Supplying, laying and setting <b>precast concrete edging blocks 300 x 150 mm</b> ( at base) and a min.length of 450 mm (except at curves) in M 20 grade concrete including cutting of trench and packing exterior face of blocks with stone chips and murrum including pointing the joints with CM 1:4 etc. all complete as per drawings and specifications	RM	200			
vii	Supplying and laying of <b>1200 guage polyethelene sheet</b> etc complete as per drgs and specifications Doc.No. A-340	SQM	8000			

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ST. NO	DESCRIPTION OF ITEM	UNIT	QTY	RATE		AMOUNT
				(IN FIGURES)	(IN WORDS)	
1836	Supplying and fixing of <b>HDG grating</b> (made with ISA & Flats confirming to IS:2062 grade A over the storm drains including all necessary acessories and fitting etc all complete as per specification.	MT	5			
1837	<b>Dismantling and removal</b> before modification of the following items in the existing structures with all labour, tools, transport etc. all complete including disposal at designated place within 2KM inside the plant as directed by Engineer.					
a	Doors, windows, ventilators, partitions etc	SQM	100			
b	False floor	SQM	100			
c	False ceiling including electrical fixtures, any other works pertaing to the dismantling of the same.	SQM	100			
d	MS ducting	KG	100			
e	Pipe Hand rail	RM	20			
f	G.I sheeting	SQM	50			
g	WBM/Soling for roads or paving	CUM	25			
1838	Removal, making good and Reuse of the following items during modification in the existing structures with all labour, tools, transport etc. all complete including delivering as directed by Engineer.					
a	False ceiling	SQM	50			
b	False floor (up to depth of 1000mm)	SQM	50			
c	Al. Doors including glazing	SQM	10			
d	Al. partitions with glazing & MDF boards.	SQM	30			
2000	FENCING AND GATES					
Fencing and gates including all labour, material, equipment etc at any level as per specification, drawings and as directed by engineer - in - charge etc. all complete as per Doc.NO. A-333 of specification.						

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ST. NO	DESCRIPTION OF ITEM	UNIT	QTY	RATE		AMOUNT
				(IN FIGURES)	(IN WORDS)	
2001	Supplying and erecting in position <b>2 m high chain link fencing</b> woven from 3.15mm diameter wire with mesh size of 50mm. The diameter of the hot dip galvanised steel wire for chain link fencing over the galvanization shall not be less than 3.15mm. The stirrup wire for securing the line wires to the concrete intermediate posts shall be 2.5mm diameter mild steel. The coating on the wire shall be smooth and relatively free of lumps, globes or points. Wire with excessive roughness blisters, salammoniac spots shall be rejected. All complete as per Doc no. A-333 of Sec-6 of Vol III of specification. Rate shall be inclusive of precast concrete post.	RM	50			
2009	Supply, fabrication and installing in position and testing <b>galvanised MS Gates</b> out of channels, joists, angles, flats, plates, pipes, welded steel wire mesh & sheets including stiffeners, bracings, fabricated hinges, MS Aldrops with locking arrangement, tempered steel pivot, guide track of MS Tee, bronze aluminium ball bearing arrangements, castor wheels, paintings etc.II. All complete as per Doc no. A-6235-110-005-Rev 2 of Sec-4; A-333 of Sec-6 of Vol III of specification.	MT	0.5			
<b>2100 WATER SUPPLY</b>						
<b>Water supply work including men, material, equipment etc. at any level as per specification, drawings and as directed by engineer - in - charge etc. all complete as per Doc.NO. A-334 of specification.</b>						
2101	Providing and fixing in position tested heavy duty type <b>chromium plated (CP) brass long neck bib cocks</b> including sockets, union, nuts etc all complete - 15mm nominal bore. All complete as per specification.	EACH	10			
2102	Providing and fixing in position <b>heavy duty brass stop cock</b> of approved quality including all specials etc all complete - 15mm nominal bore.	EACH	10			
2103	Providing and fixing in position heavy duty <b>brass full way valve</b> with wheel of approved quality including all specials etc. All complete as per Doc no. A-334 of Sec-6 of Vol III of spec for following sizes:					
a	25mm nominal bore.	EACH	5			
b	50mm nominal bore.	EACH	5			
2105	Providing and fixing <b>GI pipes of medium grade complete for external work</b> with GI sockets, unions, elbows, tees, nipples etc including trenching & refilling, anti-corrosive paint etc All complete as per specifications for following sizes:					
a	15 mm nominal bore.	RM	50			
b	20 mm nominal bore.	RM	50			
c	25 mm nominal bore.	RM	50			
d	50 mm nominal bore.	RM	50			

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RATE SCHEDULE

ST. NO	DESCRIPTION OF ITEM	UNIT	QTY	RATE		AMOUNT
				(IN FIGURES)	(IN WORDS)	
2106	Providing and fixing <b>600mm x 650mm x 5.5mm thk mirror</b> from reputed mirror manufacturer. Mirror shall be mounted with glass adjustable revolving CP brackets with CP screws etc all complete as per specification.	EACH	2			
2107	Providing and fixing <b>600mm x 120mm x 4mm thk clear glass shelf</b> with C.P Guard rails and mounted on C.P. brackets etc all complete as per specification.	EACH	2			
2108	Providing and fixing 25 mm diameter <b>stainless steel towel rails</b> (600mm X 25mm) all complete.	EACH	4			
2109.b	Providing and fixing 20mm dia <b>chromium plated Al. pipes wall mounted towel rod</b> with C.P. Brackets etc all complete as per specification.	EACH	6			
2110	Providing and fixing <b>C.P. brass soap holder</b> mounted with C.P. screws etc all complete as per specification.	EACH	5			
2111	Providing and fixing <b>stainless steel / C.P. liquid soap dispenser</b> . Dispenser shall be round and easily revolving with removable threaded nozzle and mounted on C.P. brackets etc all complete as per specifications.	EACH	4			
2112	Providing and fixing glazed vitreous <b>wall mounted paper holder</b> with suitable cover cum cutter fitted with CP screws etc. sll complete.	EACH	4			
2113	Providing and fixing <b>chromium plated brass shower rose</b> with 15 or 20 mm inlet all complete as per specifications.	EACH	2			
2114	Providing & fixing in position <b>P.V.C. water tank</b> of Syntex or approved equivalent including making all necessary inlet & outlet pipes, fixture, ball cocks, valves etc all complete for following capacities. <b>(GI pipes shall be paid separately under ST No. 2105)</b>					
a	1000 litres capacity	EACH	2			
b	2000 litres capacity	EACH	1			
c	5000 litres capacity	EACH	1			
2115	Providing and fixing approved <b>stainless steel sink</b> with integrated drainboard as per IS:13983 of size 915x460x178mm with CI brackets, stainless steel chain with rubber plug 40mm, cp brass waste trap with necessary union complete including painting the fittings, cutting and making good the wall where required etc.	EACH	2			
2116	Providing and fixing <b>CPVC pipes for internal work</b> with sockets, unions, elbows, tees, nipples etc including trenching & refilling etc All complete as per Doc no. A-6235-110-004-REV 01 of spec for following sizes:					
a	15 mm nominal bore.	RM	50			
b	20 mm nominal bore.	RM	50			

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ST. NO	DESCRIPTION OF ITEM	UNIT	QTY	RATE		AMOUNT
				(IN FIGURES)	(IN WORDS)	
c	25 mm nominal bore.	RM	50			
<b>2200 SANITARY WORKS</b>						
<b>Sanitary work including all labour, material, equipment etc. at any level as per specification, drawings and as directed by engineer - in - charge. All complete as per Doc.NO. A-334 of specification.</b>						
2201	Supply and fixing <b>glazed vitreous china Wash Basin</b> conforming to IS:2556 part 4 of oval shape 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, fittings, cutting and making good the walls where required etc. All complete as per Doc no. A-334 of Sec-6 of Vol III of specification.					
a	White	EACH	4			
2203	Providing and fixing <b>stainless steel kitchen sink</b> of size 610x510x200mm conforming to IS: 13983 including all fittings etc. all complete.	EACH	4			
2204	Providing and fixing <b>colour glazed vitreous china European type water closet</b> conforming to IS:2556 with siphon, open front solid plastic seat and plastic cover, low level 10litres flushing cistern (same colour as WC) with valveless fittings, necessary C.P connections etc all complete.					
a	Floor mounted	EACH	2			
b	Wall mounted	EACH	2			
2205	Providing and fixing <b>colour glazed vitreous indian type water closet</b> conforming to IS:2556 part 3 with all fittings including foot rests, low level 10 litre flushing cistern with valveless fittings, necessary C.P connections etc all complete.	EACH	2			
2206	Providing and fixing white <b>flat back glazed vitreous china urinals</b> of size 440x265x355 mm with <b>photo voltaic control flushing system</b> as per IS:2556 (part 6, section 1) with flush pipes, lead pipes, gratings, traps and necessary C.P. fittings etc. all complete.	EACH	4			
2207	Supply, laying and jointing <b>UPVC pipes (class 3)</b> including bends, branches and all other necessary fittings, M.S holder bats/clamps, cutting and making good the walls and floors, jointing, testing etc all complete for following. All complete as per Doc no. A-6235-110-005-Rev-02 of Sec-4 of Vol III of specification. for following.					
b	110mm dia pipes	RM	30			
c	160mm dia pipes	RM	30			

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ST. NO	DESCRIPTION OF ITEM	UNIT	QTY	RATE		AMOUNT
				(IN FIGURES)	(IN WORDS)	
d	200mm dia pipes	RM	30			
2208	Providing, laying light duty <b>non pressure NP3 class RCC pipes</b> with collars jointed with stiff mixture of cement mortar 1:2 including testing of joints etc All complete as per Doc no. A-6235-110-005-Rev-02 of Sec-4 of Vol III of specification. for following.					
a	200mm dia	RM	75			
b	300mm dia	RM	120			
d	600mm dia	RM	20			
2211	Providing and fixing <b>C.I Manhole heavy duty cover of size 600mmx450mm</b> including frame from reputed manufacture etc. all complete.	EACH	4			
2215	Providing and fixing <b>H.C.I. floor traps</b> with C.P jalli all complete.	EACH	10			
2219	Providing and fixing white vitreous <b>urinal partitions</b> of size 675x325x85mm all complete.	EACH	4			
2220	Providing and fixing <b>eye and face drinking water fountain</b> (combined unit with receptacle conforming to IS: 10592) all complete as per specification.	EACH	2			
2221	Providing and fixing <b>gully trap of 100 mm dia</b> conforming to IS 651 of specified and/or approved quality stoneware, complete including cast iron grating, CI frame and cover, brick masonry chamber etc. as per specification and approved by engineer incharge.	EACH	2			
2222	Supply, laying and jointing <b>C.I pipes</b> including bends, branches and all other necessary fittings, M.S holder bats/clamps, cutting and making good the walls and floors, jointing, testing etc as per IS:1729 etc. All complete as per specification for following.					
a	75mm dia pipes	RM	50			
b	110mm dia pipes	RM	50			
c	160mm dia pipes	RM	50			
d	200mm dia pipes	RM	50			
2223	Supplying, laying, jointing, testing and commissioning of <b>double coated and double wrapped Carbon Steel pipes</b> of the following diameter below GL including all material complete as per drawing and specifications					
a	100mm dia as per IS: 1239	R.M.	50			
b	150mm dia as per IS: 1239	R.M.	50			
c	200mm dia as per IS: 3589	R.M.	50			

ST. NO	DESCRIPTION OF ITEM	UNIT	QTY	RATE		AMOUNT
				(IN FIGURES)	(IN WORDS)	
2224	Supplying, fitting, fixing, <b>drain funnels</b> of following diameters below GL.					
a	150mmdia	R.M.	10			
b	250mm dia	R.M.	10			
2225	Supplying, laying, jointing, testing and commissioning of <b>double coated and double wrapped Carbon Steel pipe elbows below GL</b> including all material complete as per drawing and specifications					
a	45 deg. Elbow of for item 2223 a	EACH	10			
b	45 deg. Elbow of for item 2223 b	EACH	10			
c	45 deg. Elbow of for item 2223 c	EACH	10			
d	90 deg. Elbow of for item 2223 a	EACH	10			
e	90 deg. Elbow of for item 2223 b	EACH	10			
f	90 deg. Elbow of for item 2223 c	EACH	10			
2226	Providing and fixing SCI, S&S <b>slotted cowl</b> (Terminal guard) 100 mm diameter	EACH	1			
<b>2300</b>	<b>STRUCTURAL STEEL</b>					

**STRUCTURAL STEEL work including all labour, material, equipment, transportation, handling, PAINTING etc. at any level as per specification, drawings and as directed by engineer - in - charge. All complete as per Doc no. A-6235-110-003-Rev-02 of Sec-4; A-322; A-323 & O-301-A of Sec-06 of Vol III of specification.**

<b>2301</b>	<b>Taking delivery from BHEL stores/ store yard</b> , loading, transportation, unloading at site, 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 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 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, ..... <b>Contd.</b>					
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ST. NO	DESCRIPTION OF ITEM	UNIT	QTY	RATE		AMOUNT
				(IN FIGURES)	(IN WORDS)	
	<b>Contd.....</b> 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 Deg C for welding over 20 mm and upto 40 mm & 66 Deg C for welding over 40 mm and upto 63 mm & 110Deg 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.					
	Fabrication	MT	430			
	Erection	MT	430			
<b>2302.a</b>	<b>Extra over ST NO. 2301 for blast cleaning (shot blasting using copper slag, Aluminium Slag, Iron Slag as an abrasive material) of steel structures</b> to near white metal surface(Sa 2 1/2 ) and applying suitable epoxy based primer in coats at shop and after erection, instead of primer coat of red oxide zinc-chromate, including touch-up painting etc. All complete as per <b>Table 1A of O-301-A of Sec-06 of Vol III</b> of specification.	MT	400			
<b>2302.b</b>	<b>Extra over ST NO. 2301 for blast cleaning (shot blasting using copper slag, Aluminium Slag, Iron Slag as an abrasive material) of steel structures</b> to near white metal surface(Sa 2 1/2 ) and applying suitable epoxy based primer in coats at shop and after erection, instead of primer coat of red oxide zinc-chromate, including touch-up painting etc. All complete as per <b>Table 3 of O-301-A of Sec-06 of Vol III</b> of specification.	MT	30			
<b>2305.a</b>	<b>Extra over ST No. 2301 for providing and applying two coats of polyamide cured, catalysed epoxy resin</b> suitably pigmented (high build epoxy paint) finish paint with minimum 100 micron total dry film thickness (DFT) of approved make and shade to achieve an even shade over steel sections already having primer coats and keeping overall DFT with primer not less than 160 microns including protection and cleaning, scaffolding etc. All complete as per <b>Table 1A</b> of O-301-A of Sec-06 of Vol III of specification.	MT	400			
<b>2305.b</b>	<b>Extra over ST No. 2301 for Providing and applying two coats of Phenolic bitumen based High build bituminous black composition colour finish paint</b> with minimum 200 micron total dry film thickness (DFT) of approved make and shade to achieve an even shade over steel sections already having primer coats and keeping overall DFT with primer not less than 270 microns including protection and cleaning, scaffolding etc. All complete as per <b>Table 3</b> of O-301-A of Sec-06 of Vol III of specification.	MT	30			
<b>2306</b>	Providing, laying and clamping of <b>crane rails</b> over the crane girder at all elevations as per IS 3443 including all fixtures, clamps, testings etc. all complete as per drawing and specification.	MT	5			

ST. NO	DESCRIPTION OF ITEM	UNIT	QTY	RATE		AMOUNT
				(IN FIGURES)	(IN WORDS)	
2307	Supplying, fabrication, erection and alignment of <b>factory made electroforged galvanised grating units</b> with mild steel (having minimum galvanisation of 120micron thk.) 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 as per specification.	MT	40			
2308	Supplying, fabrication, erection and alignment of <b>factory made galvanised welded grating units with mild steel</b> 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 2 coats of redoxide zinc-chromate primer (one coat at shop and one coat after erection), fixing clamps, fittings, fixtures, all taxes, duties, packing, grinding, drilling, welding, edge preparation, etc. all complete.	MT	2			
2310	Providing and fixing in position of <b>permanent mild steel bolts</b> (class 4.6 as per IS : 1367 and grade 'C' as per IS: 1363) and nuts, washers etc. up to and inclusive of 39 mm diameter and upto 300mm long for structural steel work etc all complete.	Quintal	12			
2311	Providing and fixing in positing of <b>high strength structural bolts (of property class 8.8 and product grade 'C' as per IS: 1367)</b> and conforming to IS: 3757 and high strength structural hardened and tempered nuts (of property class '8' as per IS:1367) conforming to IS:6623 with hardened and tempered washers as per IS:6649 etc. up to and inclusive of 39 mm diameter and upto 300 mm long for structural steel work etc all complete.	Quintal	6			
2313	<b>Addition to, alterations in and/or modification of "Erection Marks"</b> 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:					
a	In erected position	MT	1			
b	In fabrication yard	MT	1			
2314	<b>Re-erection of dismantled fabricated structural steel members</b> including carriage of modified "Erection Marks" from the field fabrication shop to erection site, lifting to required posiiion, 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 dismanatled 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			
2320.b	<b>Supply, fabrication and fixing of MS pipe hand railing</b> of 32 mm dia (32NB(M)) including toe plate, cleat, rail posts, all other necessary accessories and fitting, transportation, loading/unloading, painting etc. all complete as per specification & DWG. NO. D-6235-108-004	MT	15			
<b>2500 PILING WORKS</b>						

ST. NO	DESCRIPTION OF ITEM	UNIT	QTY	RATE		AMOUNT
				(IN FIGURES)	(IN WORDS)	
2501	Mobilisation of two sets of hydraulic rotary piling rigs and accessories capable of pile boring/drilling in all types of strata/installing various size of bored cast in situ RCC piles to project site and demobilisation of the same after completion of piling works etc all complete.	LS	1			
(b)	Extra over Item No. 2501 for mobilisation of every additional (single) hydraulic piling rig.	Each	1			
2502	Mobilisation of two sets of conventional DMC/RMC piling rigs and accessories capable of pile boring/drilling in all types of strata/installing various size of bored cast in situ RCC piles to project site and demobilisation of the same after completion of piling works etc all complete.	LS	1			
2503.A	<p>Installation of <b>Bored cast-in-situ RCC vertical pile</b> as per IS 2911 (Part 1 Sec 2) with diameter and length as specified (length to be measured from pile cut-off level to the bottom of pile) using <b>cement concrete grade M25</b> conforming to IS:456 with 20 mm nominal size stone aggregates with a minimum cement content of <b>400Kg per cum of concrete</b> including providing all materials (<b>but excluding reinforcement steel which shall be supplied by BHEL and cost of bending &amp; fixing of reinforcement steel for which measurement/payment shall be made separately under Item No. 402</b>), boring/drilling in all types of soil, providing bentonite slurry and/or casing for stabilization of pile bore, flushing of pile bore, cleaning, providing plasticizer wherever required, breaking pile head to cut off level and exposing pile reinforcement for embedment in pile cap etc <b>including empty boring (which shall be paid separately under item no. 2510) from ground level to pile cutoff level etc</b> all complete as per specification, drawing and as directed by the engineer-in-charge for the following.</p> <p><b>Note:</b> 1) No compensation shall be made towards additional qty. of cement beyond 400kg/Cum. for concrete mix design</p>					
a	Pile with <b>500 mm diameter</b> and <b>18 m length</b> below cut off level	Each	335			
2503.B	<p>Installation of <b>Bored cast-in-situ RCC vertical pile</b> as per IS 2911 (Part 1 Sec 2) with diameter and length as specified (length to be measured from pile cut-off level to the bottom of pile) using <b>cement concrete grade M25</b> conforming to IS:456 with 20 mm nominal size stone aggregates with a minimum cement content of <b>400Kg per cum of concrete</b> including providing all materials (<b>but excluding reinforcement steel which shall be supplied by BHEL and cost of bending &amp; fixing of reinforcement steel for which measurement/payment shall be made separately under Item No. 402</b>), boring/drilling in all types of soil, providing bentonite slurry and/or casing for stabilization of pile bore, flushing of pile bore, cleaning, providing plasticizer wherever required, breaking pile head to cut off level and exposing pile reinforcement for embedment in pile cap etc <b>including empty boring (which shall be paid separately under item no. 2510) from ground level to pile cutoff level etc</b> all complete as per specification, drawing and as directed by the engineer-in-charge for the following.</p> <p><b>Note:</b> 1) No compensation shall be made towards additional qty. of cement beyond 400kg/Cum. for concrete mix design</p>					

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ST. NO	DESCRIPTION OF ITEM	UNIT	QTY	RATE		AMOUNT
				(IN FIGURES)	(IN WORDS)	
a	Pile with 500 mm diameter and <b>15 m length</b> below cut off level	Each	100			
2504.A	Extra over ST. No. 2503.A for pile length <b>more than the specified length of 18m</b> below cut off level for the following.					
b	For 500 mm diameter pile	Rm	30			
2504.B	Extra over ST. No. 2503.B for pile length <b>more than the specified length of 15m</b> below cut off level for the following.					
b	For 500 mm diameter pile	Rm	30			
2505.A	Rebate on ST.No.2503.A for pile length <b>less than the specified length of 18m</b> below cut off level for the following.					
b	For 500 mm diameter pile	Rm	30			
2505.B	Rebate on ST.No.2503.B for pile length <b>less than the specified length of 15m</b> below cut off level for the following.					
b	For 500 mm diameter pile	Rm	30			
2506	Extra over ST.No.2503.A & 2503.B for <b>boring/drilling in rock for a length not exceeding 3 times the diameter of pile</b> , cleaning the pile hole, concreting etc all complete for the following.					
b	For 500 mm diameter pile	Rm	75			
2507	Conducting <b>initial load test</b> upto a maximum test load of 2.5 times the safe load capacity on single pile as specified in accordance with IS 2911 (Part-4) including preparation of pile head for testing, necessary excavation, all arrangements of loading, unloading, test equipments/accessories, jacks, recording of results, labour, submission of test report <b>but excluding the cost of installation of pile (installation of pile shall be paid seperately)</b> etc all complete as per specification, drawing and as directed by engineer in-charge for the following.					
a	<b>For vertical compression test by cyclic load method</b>					
ii	500 mm diameter pile	Each	2			
b	<b>For lateral load test</b>					
ii	500 mm diameter pile	Each	2			
c	<b>For tension/uplift test</b>					
ii	500 mm diameter pile	Each	2			
2508	Conducting <b>routine load test</b> on single job pile as specified in accordance with IS 2911 (Part-4) including preparation of pile head for testing, necessary excavation, providing all arrangements of loading, unloading, test equipments/accessories, jacks, recording of results, labour, submission of test report etc but excluding the cost of installation of job pile complete as per specification, drawing and as directed by the engineer-in-charge for the following.					

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ST. NO	DESCRIPTION OF ITEM	UNIT	QTY	RATE		AMOUNT
				(IN FIGURES)	(IN WORDS)	
<b>a</b>	<b>For vertical compression test by maintained load method</b>					
ii	500 mm diameter pile	Each	8			
<b>b</b>	<b>For lateral load test</b>					
ii	500 mm diameter pile	Each	8			
<b>2509</b>	Carrying out <b>pile integrity test</b> on 500mm diameter pile including all arrangements for test, equipments/accessories, materials, labour, submission of test report etc but excluding the cost of installation of job pile all complete as per specification and as directed by the engineer-in-charge.	Each	5			
<b>2510</b>	<b>Empty boring 500mm dia</b> in ordinary soil.	RM	800			
	<b>TOTAL (PART A)</b>					
<b>PART B</b>	<b>LEVELLING &amp; GRADING</b>					
SL NO.	DESCRIPTION	UNIT	QTY	RATE		AMOUNT
1	<b>Cutting of trees having girth more than 300 mm</b> measured at a height of 1m above ground level including removal of roots, stacking the seviceable material like trunks,branches etc at specified area within the plant boundary and disposal of unseviceable parts/materials withtin a lead upto 1km etc all complete.	EACH	10			
2	<b>Earth work in stripping</b> of top soil upto a maximum <b>depth of 0.30m</b> below ground level so as to exclude all debris, grass, vegetation, bushes, trees having girth upto 300mm including roots and organic materials etc for leveling and grading including dressing to specified levels & grades and compacting the graded/stripped surface by manual/mechanical means, disposal of stripped materials within a <b>lead upto 1km</b> etc all complete as per specification, drawing and as directed by the engineer-in-charge.	Sq.m	1000			
3	Earth work in excavation upto any <b>depth below ground level</b> in <b>all types of soil</b> including moorum, ash which can be excavated by any means for grading including setting out, levelling, dewatering (wherever required), dressing the sides & bottom, levelling to grade, all lifts, ramming/compacting the excavated bottom/graded surface, stacking/disposal of surplus excavated materials within a <b>lead upto 1km</b> , spreading/levelling of disposed materials etc all complete as per specification, drawing and as directed by the engineer-in-charge.	CUM	1920			

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ST. NO	DESCRIPTION OF ITEM	UNIT	QTY	RATE		AMOUNT
				(IN FIGURES)	(IN WORDS)	
8	Earth work in filling upto any depth below ground level for grading to proper grade and level in layers not exceeding 300mm loose thickness with selected approved soil directly from excavation within a lead upto1km and compacted as specified including dewatering if required, sorting, spreading, breaking clods, watering, ramming/compaction by manual/mechanical means, dressing, finishing to required lines, grades and slopes, tesing etc all complete as per specification, drawing and as directed by the engineer for the following.					
a	Each layer compacted so as to achieve at least 95% maximum dry density as per IS-2720 (Part-VII)	CUM	1500			
9	Cutting of thorney bushes / Grass, levelling, dressing and cleaing of existing BHEL storage yard and disposal of waste materials at a distance of approx. 2 KM (Measurement shall be done for cleaned suface)	Sqm.	20000			
10	Providing and laying soling 230 mm thick with 150-200 mm size boulder and filling the voids with hand broken metal of size 40-60 mm spreading murrum and rolling, compaction including watering, with 10-12 MT capacity road roller for building of existing WBM approach roads in storage yard: Volume about - 500 Cub.M	Cum.	500			
11	Providing and laying WBM in 150 mm consolidated thickness in two layers with dry and wet rolling etc complete as per drgs and specifications Doc.No. A-340	Sqm.	2100			
	TOTAL (PART B)					
	GRAND TOTAL (PART A+PART B)	Rs.				
	AMOUNT (IN WORDS) RUPEES.....ONLY					