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## TENDER SPECIFICATION

**TENDER NO. BHEL/NR/SCT/ANPARA-D/STP-WORKS/977**

**FOR**

**“Civil Work for Construction of Sewage Treatment Plant (STP) at 2X500 MW  
Anpara-D Thermal Power Project”**

**PART II – PRICE BID**



**Bharat Heavy Electricals Limited**  
(A Govt. Of India Undertaking)  
**Power Sector – Northern Region,**  
**Plot No. 25 , Sector - 16A ,**  
**Distt. Gautam Budh Nagar, NOIDA – 201 301.**

TENDER NO. **BHEL/NR/SCT/ANPARA-D/STP-WORKS/977**



ISO 9001, ISO 14001,  
OHSAS 18001 & SA 8000  
certified company  
SubContract and Purchase Deptt.

**Bharat Heavy Electricals Limited**  
(A Govt. Of India Undertaking)  
**Power Sector – Northern Region,**  
**Plot No. 25 , Sector - 16A ,**  
**Distt. Gautam Budh Nagar, NOIDA – 201 301(INDIA)**  
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**TENDER NO. BHEL/NR/SCT/ANPARA-D/STP-WORKS/977**

### **IMPORTANT NOTE**

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THIS TENDER SPECIFICATION ISSUED TO:

M/S-----  
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<b><u>RATE SCHEDULE</u></b>		
Tender No.-: BHEL/NR/SCT/ ANPARA-D/STP-WORKS/977		
Job-: "Civil work for Construction of Sewage Treatment Plant (STP) at 2X500 MW ANPARA D Site."		
<b>ITEM NUM</b>	<b>DESCRIPTION OF WORK</b>	<b>TOTAL VALUE 'A' IN INR (IN FIGURES AND WORDS)</b>
<b>1.0</b>	<b>TOTAL LUMSUM PRICE FOR "Civil work of Sewage Treatment Plant (STP) at 2X500 MW ANPARA D Site."</b>	
<b>Notes:-</b>		
<p><b>1. The rates of individual item for the entire scope of work as define in BOQ shall be arrived as per Calulation defined in Annexure- 'D'</b></p> <p><b>2. The derived item rate will remain firm through out the contract period.</b></p>		
Name -:		
Place -:		
Date-:		
Signature of the Bidder With Stamp		

		Rate Schedule FOR STP CIVIL WORKS			Annexure - D	
		2x500MW ANPARA D TPP				
ST. NO	DESCRIPTION OF ITEM	UNIT	TOTAL QUANTITY	Factor ( F )	Per Unit Rate =(A*F)/100000	Amount ( Rs.)
<b>PART - A</b>						
<b>100 EARTH WORK</b>						
Earth work in excavation, backfilling and disposal including necessary men/women, materials, equipment, loading, transportation, unloading, dewatering etc as per specification, drawing and as directed by engineer- in-charge for the following.						
101	Earth work in excavation in all types of soil including ash which can be excavated by any means including setting out, leveling, 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 up to 500 m, spreading/leveling of disposed materials etc all complete for following depths below ground level.					
a	Depth from ground level but not exceeding 2 m	CUM	900	3.38		
107	Back filling up to any depth below ground level around foundations, plinths, trenches, drains etc to proper grade and level in layers not exceeding 250 mm thickness using/with <b>selected materials from compulsorily excavated soil</b> available within a lead up to 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.					
c	Each layer compacted so as to achieve at least 85% maximum dry density as per IS-2720 (Part-VII)	CUM	260	2.60		
109	Extra over ST No. 101 and 107 for carriage of excavated earth/selected materials for every 1 km or part thereof beyond an initial lead of 500m.	CUM	640	1.22		
110	Back filling up to any depth below ground level around foundations, plinths, trenches, drains etc to proper grade and level in layers not exceeding 250 mm thickness using/with <b>approved borrowed soil</b> (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.					
b	Each layer compacted so as to achieve at least 90% maximum dry density as per IS-2720 (Part-VII)	CUM	50	9.49		
111	Supplying and filling sand up to any depth under floors, around foundations, plinths etc. in layers not exceeding 250 mm thickness and compacted so as to achieve at least 80% relative density as per IS-2720 (Part-XIV) including spreading, watering, ramming/compaction by manual / mechanical means, dressing, royalty (if any) etc. all complete.	CUM	12	20.14		
<b>200 CONCRETE WORKS ( OPC &amp; PPC Cement will be issued as FOC item)</b>						
Providing and placing concrete work including cost of labour, materials and equipment for handling, transportation, batching, mixing, placing, vibrating and curing, (excluding cost of centering, shuttering and reinforcement) with mechanised equipments like batching plant, transit mixer, concrete pump etc. complete as per drawing, specifications and as per direction of engineer in charge for the following.						
201	Concrete of grade M7.5 (1 part cement, 4 part sand, 8 parts of 40 mm graded aggregate by volume) as filling course at any depth below finished floor level, under and around foundations/floors, mass fill etc.	CUM	2	75.55		
202	Concrete of grade M10 (1 part cement, 3 part sand, 6 parts of 40 mm graded aggregate by volume) as lean concrete, leveling course, mud mat under and around foundations/floors at any depth below finished floor level etc.	CUM	30	83.77		
204	Concrete under floors, paving, plinth protection, pipe encasing etc complete with 20 mm nominal size graded aggregate at any depth below finished floor level for the following grades.					
a	M15 Grade	CUM	10	92.32		
b	M20 Grade	CUM	25	89.03		
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 in foundations/substructure, grade slab, paving, drains, under floors etc at any level below finished floor level, any shape, position or thickness etc complete including use of plasticizer/ super plasticizer conforming to IS:9103 (latest) to achieve required slump in concrete all complete as per specification & drawing for the following.					
a	M25 Grade	CUM	40	114.72		
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 in superstructure at any level above finished floor level, any shape, position or thickness etc complete including use of plasticizer/ super plasticizer conforming to IS:9103 (latest) to achieve required slump in concrete all complete as per specification & drawing for the following.					
a	M25 Grade	CUM	50	121.92		
212	Screed concrete 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	5	112.56		

ST. NO	DESCRIPTION OF ITEM	UNIT	TOTAL QUANTITY	Factor ( F )	Per Unit Rate =(A*F)/100000	Amount ( Rs.)
213	Providing and laying Design Mix cement concrete as per IS:456 & IS 10262-2009 for reinforced concrete works using graded aggregate for Concrete in <b>precast works</b> 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 mortar (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 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	2	203.58		
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 plasticizers cum waterproofing cement additives conforming 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	80	118.71		
<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 and as per direction of engineer in charge for the following.</b>					
301	<b>Fairface form work</b> with good quality water proof ply wood of required thickness and smooth surface <b>below finished ground floor level</b> for foundations, footings, base of columns, walls, columns, pilasters, beams, mass concrete, trenches etc.	SQM	400	10.47		
302	<b>Fairface form work</b> with good quality water proof ply wood of required thickness and smooth surface <b>above finished ground floor level</b> for columns, beams, suspended floors, roofs, lintels, cantilevers, staircases, landings, balconies, domes, arches, circular overhead tanks etc. for all heights.	SQM	750	13.28		
<b>400 REINFORCEMENT ( TMT will be issued as FOC item).</b>						
402	Providing, straightening, cutting, bending, placing in position at any level, binding in position of <b>steel reinforcements of TMT steel of grade Fe-500</b> conforming to <b>IS:1786</b> including cost of binding wire, labour, scaffolding, transportation to & from stores etc complete all as per specifications, drawings and as directed by Engineer.	MT	20	479.24		
<b>500 WATER PROOFING WORKS</b>						
	<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.</b>					
506	<b>Providing and applying PU based water proofing treatment with one coat of polyurethane</b> or any other equivalent material based primer with an application rate of minimum 6 sq.m per liter and <b>two successive liquid coatings of high solids content urethane pre-polymers</b> or equivalent material based finish coats as per relevant IS/ASTM standards to form an elastomeric membrane with overall dry film thickness 1.5 mm subject to minimum 500 gm/sqm/coat application rate. Item includes surface preparation, polyscrim cloth /fabric for edges, joints & vulnerable points etc all complete as per specifications and directions of engineer in charge.	SQM	55	23.95		
507	<b>Providing and laying wearing course</b> consisting of <b>25mm thick plain cement concrete</b> of grade M15 (1:2:4) with graded aggregate of 12.5mm size cast in panels of maximum size 1.2mx1.2m and reinforced with 0.56 mm dia. galvanised chicken wire mesh and sealing of joints (in grooves of 6mm X 6mm) using silicon /elastomeric compound etc all complete.	SQM	55	8.96		
508	Providing and laying <b>cement concrete chequered flooring tiles</b> of 22 mm thickness and size 250x250 mm / 300x300 mm conforming to IS 13801 with 8 mm thick 1:4 cement mortar over the top most layer of roofing treatment in pathway and entire equipment area with fine joints including sealing of joints (silicon/elastomeric sealant) etc all complete. (Water proofing paid elsewhere)	SQM	17	18.48		
509	<b>Providing and applying two coats of bitumen grade 85/25</b> as per IS 702 ( @ 1.7kg/sqm)with 1% antistripping compound conforming to IS 6241 in foundation, wall, column etc on concrete surfaces exposed to soil / ash including surface preparation etc. all complete.	SQM	180	5.00		
511	<b>Providing and mixing water proofing compound</b> conforming to IS:2645 in concrete or cement mortar all complete.	KG	1150	1.45		
<b>600 JOINTS AND FILLERS</b>						
	<b>Joints &amp; fillers including all labour, material, equipment, transportation, handling etc at any level as per specification, drawings and as directed by engineer - in - charge.</b>					
601	Supplying & installation of <b>bitumen impregnated fibre board</b> conforming to IS 1838 as joint filler at joints in concrete including nailing, coating of both faces with coal tar pitch/bitumin etc. all complete.					
b	20 mm wide joints.	SQM	1	44.19		
604	Supplying and filling in position hot applied <b>bitumin sealing compound</b> (Grade B) conforming to IS 1834 including cleaning, mixing, heating, pouring/injecting sealing compound in gaps in joints including application of primer etc. all complete.					
c	20mmX25mm	RM	150	0.44		
<b>700 MS EMBEDMENTS</b>						

ST. NO	DESCRIPTION OF ITEM	UNIT	TOTAL QUANTITY	Factor ( F )	Per Unit Rate =(A*F)/100000	Amount ( Rs.)
	<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	Supply, fabricating and fixing of mild steel embedments, inserts, pipe sleeves, angle pieces, rungs of various diameters, plates of dimensions as required etc. including welding, bolting, cutting, drilling, scaffolding, setting etc. all complete.	MT	1	2,333.57		
<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.</b>					
801	Providing & grouting with <b>cement slurry mix</b> of approved ratio using <b>pressure pump</b> 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	2	15.71		
<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.</b>					
911	Providing and fixing of door closers as per IS 3564 ,of approved make & quality all complete of following type :					
a	Over head hydraulic door closures	Each	1	51.63		
913	Providing and fixing in position <b>rolling shutter of hot rolled double dipped galvanised steel</b> lath section of <b>18 SWG tested mild steel strips</b> at 75mm rolling centres 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, primer & shop coats of approved enamel paint etc, all complete as per IS 6248 and specification of approved make of following types: The bottom lath shall be coupled to a lock plate fabricated from 3mm thick galvanised steel plate and securely rivetted with stiffening angles.(partly coiled and lath/full lath).					
a	<b>Hand Operated</b>	SQM	6	105.15		
914	Providing and fixing <b>PVC doors(25 thk double skin)</b> of sintex or equivalent make including all fitting & fixtures as per specification, drawing and instructions of engineer in charge.	SQM	2	89.57		
<b>1000 BRICKWORK ( OPC &amp; PPC Cement will be issued as FOC item)</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.</b>					
1001	Providing <b>brick work</b> in cement mortar 1:6 (1 part cement 6 parts coarse sand) in walls, chambers etc. in thickness varying from 230mm to 460mm at all depths, places and positions <b>below plinth</b> including raking out joints, curing, scaffolding etc. complete excluding plastering and painting.					
c	Using <b>burnt clay bricks</b> of class designation 7.5 of nominal dimension	CUM	40	111.22		
1002	Providing <b>brick work</b> in cement mortar 1:6 (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.					
c	Using <b>burnt clay bricks</b> of class designation 7.5 of nominal dimension	CUM	30	122.06		
1003	Providing <b>brick work</b> in cement mortar 1:4 (1 cement 4 coarse sand) in <b>partition walls</b> , chambers etc. 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 third layer, raking out joints, curing, scaffolding etc complete excluding plastering and painting as per specification.					
a	Using <b>fly ash lime bricks</b> conforming to IS 12894 with crushing strength of 75 kg/cm <sup>2</sup>	SQM	118	16.49		
1005	Providing <b>brick soling</b> including spreading of earth, ramming, watering including 25mm thick cushion of sand complete but excluding excavation and disposal of surplus earth (excavation and disposal of surplus earth shall be measured under applicable item).- <b>Using flat bricks.</b>					
a	Using <b>fly ash lime bricks</b> conforming to IS 12894 with crushing strength of 75 kg/cm <sup>2</sup>	SQM	116	8.48		
<b>1100 DAMP PROOF COURSE ( OPC &amp; PPC Cement will be issued as FOC item)</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.</b>					
1101	<b>Providing Damp Proof Course 40mm 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 @ 1.7Kg./sqm shall be applied one before & one after the DPC.	SQM	8	11.06		
<b>1200 CEMENT MORTAR PLASTER ( OPC &amp; PPC Cement will be issued as FOC item)</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.</b>					

ST. NO	DESCRIPTION OF ITEM	UNIT	TOTAL QUANTITY	Factor ( F )	Per Unit Rate =(A*F)/100000	Amount ( Rs.)
1201	Providing <b>18mm thick plaster</b> in two layers <b>outside</b> the building/boundary wall in cement mortar 1:6 on walls, finished to a smooth finish including providing 3mmx3mm size grooves at junctions of two dissimilar materials all complete.	SQM	100	4.36		
1202	Providing <b>12mm thick plaster inside</b> the building/boundary wall in cement mortar 1:6 on walls finished to a smooth finish as per specification all complete.	SQM	35	3.38		
1203	Providing <b>12mm thick plaster</b> in cement mortar 1:6 on walls with rough finish all complete.	SQM	120	3.22		
1204	Providing <b>6mm thick plaster on ceiling</b> in cement mortar 1:4 finished to a smooth all complete.	SQM	55	3.10		
1208	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	15	0.81		
<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.</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	60	0.54		
1302	Two or more coats of <b>Exterior masonry paint</b> (water or solvent base) of special resins, adhesives and additives mixed with fine, hard stone aggregate and suitable pigment. The paint shall be applied on a coat of primer over dried, prepared plaster surface as manufacturers guidelines. The final finished coating shall be fungus resistant, UV resistant, water repellent, alkali resistant and extremely durable with color fastness as per specification.	SQM	80	3.65		
1303	Providing and applying two or more coats of <b>oil bound destemper</b> 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 as per manufacturers guideline.	SQM	75	2.53		
1311	Providing and applying <b>resin bonded granular textured finish, for external applications</b> shall consist of crushed stone/quartz chips of .5 mm to 2.5 mm size and of approved natural color/shade and bonded with synthetic resins, adhesives and additives altogether in a single pack mix, applied on cured and dried plaster surface with a dry film thickness of minimum 2 mm. The final finish shall have UV resistance, fungus, bacterial resistance properties all complete with grooves filled with poly sulfide sealant of matching color and shade as per specification/drawing/approval of engineer in charge.	SQM	30	15.00		
<b>1400 FLOORING AND SKIRTING ( OPC &amp; PPC Cement will be issued as FOC item)</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.</b>					
1401	Providing and laying 50 mm thick <b>heavy duty cement concrete in flooring</b> with <b>metallic hardener pigmented topping</b> 12mm thick uniform graded treated iron particles in flooring. Under layer of 38mm thick cement concrete mix 1:2:4 (1 cement: 2 sand : 4 stone aggregates 12.5mm well graded) and top layer of 12mm thick metallic concrete of mix 1:2 (1 cement hardner mix with approved quality metallic hardening compound :2 stone aggregate 6mm nominal size) by volume including cement slurry, rounding off edges, aluminium strips etc. all complete for following (Quoted item rate shall be inclusive of providing glass joint strips):	SQM	15	10.03		
1404	Providing and laying <b>interlocking M30 Grade concrete blocks</b> in paving with approved colour and pattern and should be laid on the subbase and bedding as per specifications and recommendations of manufacturer.					
a	<b>60mm</b>	SQM	20	18.99		
1417	Providing and laying <b>vitrified ceramic tiles of matt finish</b> of size 600x600mm from reputed / approved manufacturer including underbed of cement mortar 1:3 with neat cement slurry etc. all complete for following.					
a	<b>7mm thick tiles in flooring</b>	SQM	3	37.70		
1427	Providing and fixing <b>glazed ceramic tiles of approved color and design of size 200x300mm / 300x300mm in dado of approved size</b> , 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 for following thicknesses:					
b	<b>7mm thick</b>	SQM	12	26.14		
<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>					
1706	Providing and fixing <b>UPVC down take pipes of 160mm diameter- Class 3</b> as per IS:4985 all complete.	RM	12	28.14		
<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	Providing and Filling in trenches, plinths, area paving and other <b>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	44.84		

ST. NO	DESCRIPTION OF ITEM	UNIT	TOTAL QUANTITY	Factor ( F )	Per Unit Rate =(A*F)/100000	Amount ( Rs.)
1802	Supplying, stacking and laying 300mm Thk. coarse sand(in layer not exceeding 150mm) of approved quality in filter bed of <b>Sludge Dewatering Beds</b> including screening, washing (wherever required), watering, compaction, dressing, necessary trimming if any including all leads and lifts etc all complete as per specification and as directed by the engineer-in-charge.	CUM	28	23.43		
1803	Supplying, stacking and laying 150mm thick GRIT/Gravel 6mm to 3mm size in filter bed of Sludge Dewatering Bed of approved quality, including screening, washing (wherever required), watering, compaction, dressing, necessary trimming if any including all leads and lifts etc all complete as per specification and as directed by the engineer-in-charge.	CUM	14	30.82		
*1804	Supplying, stacking and laying 150mm thick Gravel 20mm to 6mm size in filter bed of Sludge Dewatering Bed of approved quality, including screening, washing (wherever required), watering, compaction, dressing, necessary trimming if any including all leads and lifts etc all complete as per specification and as directed by the engineer-in-charge.	CUM	14	25.02		
*1805	Providing and fixing approved 50 dia perforated UPVC Pipes in position in the base slab of water retaining structures.	RM	80	2.49		
*1806	Providing and fixing approved 80 dia perforated UPVC Pipes in position in the base slab of water retaining structures.	RM	50	4.41		
1807	Providing and fixing <b>G.I strips</b> minimum 1.5mm thk and 150mm wide including fixing accessories etc. all complete.	Kg	180	8.58		
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	100	9.76		
<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.</b>						
2102	Providing and fixing in position heavy duty <b>brass stop cock</b> of approved quality including all specials etc all complete - <b>15mm</b> nominal bore.	EACH	1	22.06		
2105	Providing and fixing <b>GI pipes class B complete for external work</b> with GI sockets, unions, elbows, tees, nipples etc including trenching & refilling, anti-corrosive paint etc all complete for following sizes:					
d	50 mm nominal bore.	RM	2	22.00		
2106	Providing and fixing <b>610mmx453mmx6mm thk mirror</b> from reputed mirror manufacturer. Mirror shall be mounted with glass adjustable revolving CP brackets with CP screws etc all complete.	EACH	1	31.73		
2107	Providing and fixing <b>610mmx127mmx6mm thk clear glass</b> with C. Guard rails and mounted on C.P. brackets etc all complete.	EACH	1	26.05		
2109	Providing and fixing 20mm dia <b>chromium plated</b> M.S. pipes wall mounted <b>towel rod</b> with C.P. Brackets etc all complete.	EACH	1	20.95		
2113	Providing and fixing <b>chromium plated brass shower</b> rose with 15 or 20 mm inlet all complete.	EACH	1	30.17		
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. GI pipes shall be paid separately under ST No. 2105.					
a	1000 litres capacity	EACH	1	270.46		
2115	Providing and fixing approved <b>stainless steel sink with integrated drainboard</b> 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. all complete.	EACH	1	158.90		
<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.</b>						
2204	Providing and fixing <b>colour glazed vitreous china European type water closet conforming to IS:2556</b> with siphon, open front solid plastic seat and plastic cover, low level 12.5 litre PVC flushing cistern (same colour as WC) with valveless fittings, necessary C.P connections etc all complete.					
a	Floor mounted	EACH	1	196.27		
<b>2300 STRUCTURAL STEEL ( Structural steel will be issued as FOC item)</b>						
<b>Structural steel works including all labour, material, equipments, transportation, handling etc. at any level as per specification, drawings and as directed by engineer - in - charge.</b>						
2301	Supply, fabrication and erection of <b>structural steel with mild steel rolled section / built up section / combination of both</b> conforming to IS:2062, pipes conforming to IS:1161/ IS:1239, chequered plate conforming to IS: 3052, mild steel rounds, monorails, stays, safety chains, ladders, MS grating etc. in columns, beams, gantry girders, bunkers, silos, hoppers, roof trusses, portals, laced purlins, space frames, hangers, struts, monorails, galleries, stiffeners, wall beams, sheeting runners, brackets, stub columns, bracings, cleats, trestles, base plates, splice plates, chequered plate flooring, decking and seal plates, steel frame grid over false ceiling, walkway platforms, ladders, stairs, bridges, roads, loading dock gates etc including 2 coats of red oxide paint.					

ST. NO	DESCRIPTION OF ITEM	UNIT	TOTAL QUANTITY	Factor ( F )	Per Unit Rate =(A*F)/100000	Amount ( Rs.)
	heads, landings, handrails etc including 2 coats of redoxide zinc chromate primer (one coat at shop and one coat after erection), connection design & preparation of fabrication drgs, collection of steel from stores, fabrication, straightening, cutting, bending, rolling, grinding, machining, drilling, welding, electrodes and other consumables, alignment, erection bolts & nuts (weight of erection bolts, nuts and welds not payable), assembly, edge preparation, preheating (min preheat and interpass temperature of 20° C for welding over 20 mm and upto 40 mm & 66° C for welding over 40 mm and upto 63 mm & 110° C for thickness over 63 mm & use of low hydrogen/ radiogenic electrodes), post heating, testing of welders, inspection of welds, visual inspection, non destructive and special testing, rectification and correction of defective welding works, production test plate, inspection and testing, erection scheme, protection against damage in transit, stability of structures, installation of temporary structures, setting column bases, surface preparation by means of manual or mechanical power tools as per IS:1477 part 1, touch-up painting, rectification, dismantling and removal of all temporary structures (weight of temporary structures not payable), return of surplus / waste steel materials to store etc all complete. Including appointment of a seperate agency, approved by BHEL, for review and approval of fabrication drgs, in consultation with BHEL.	MT	1	896.50		
<b>Total Amount for PART- A</b>						
ST. NO	DESCRIPTION OF ITEM	UNIT	QUANTITY			
<b>PART - B</b>						
<b>2400 ROAD WORKS</b>						
<b>Providing Road Work including necessary material, labour, machinery, transportation etc as per specification, drawing, relevant IRC &amp; IS codes and as directed by the Engineer-in-charge for the following.</b>						
2401	<b>Preparation of sub grade</b> 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 a lead upto 1 km etc. all complete.	CUM	335	4.85		
2402	Supplying and filling with <b>selected good earth</b> of approved quality in layers not exceeding <b>300 mm loose thickness</b> using borrowed soil (borrowed soil to be arranged by the bidder) and compacted so as to achieve at least 95 % maximum dry density as per IS-2720 (Part-VII) including royalty/seigniorage fee (if any), sorting, spreading, breaking clods, watering, ramming/compaction by manual/mechanical means, dressing, finishing to required lines, grades and slopes, tesing etc all complete.	CUM	280	11.64		
2403	Providing, stacking & laying <b>granular morrum</b> for shoulder including watering, compaction with road roller to required camber etc all complete.	CUM	25	26.22		
2404	Providing & laying <b>water bound macadam sub base course</b> in layers of required thickness with crushed stone aggregates 90 to 40 mm down size, stone screening & blinding material including screening, sorting, spreading to template & consolidation with road roller including carriage, spreading & consolidation of binding material moorum etc all complete.	CUM	55	10.80		
2405	Providing & laying <b>water bound macadam base course</b> in layers of required thickness with stone aggregate 63mm to 40mm size, stone screening and blinding material including screening sorting, spreading to template and consolidation with road roller including carriage, spreading and consolidation of blinding material moorum etc all complete.	CUM	28	45.44		
2406	Laying <b>water bound macadam base course</b> with stone aggregate 50mm to 20mm size stone screening & binding material including screening, sorting, spreading to template & consolidation with road roller including carriage spreading & consolidation of blinding material moorum etc all complete.	CUM	14	44.94		
2407	Providing & applying <b>tack coat</b> of low viscosity liquid bitumen of grade 80/100 conforming to IS 73, 217 or 454 as applicable @10 kg/ 10 sqm for untreated WBM surface including scraping, cleaning with compressed air etc all complete.	SQM	185	1.21		
2414*	Supply and laying 300mm dia R.C.C <b>NP-3 type Hume pipe</b> conforming to IS458 in raised shoulders as rain water drains as per detailed drawing including fixing with cement mortar (1:2) in 13mm thick joints, finishing of joints with neat cement paste etc all complete.	RM	20	69.15		
<b>Total Amount for PART B</b>						
<b>GRAND TOTAL for (PART-A + PART-B)</b>						