	Annexure A to Corrigendum ref: BHE/PW/PUR/LRPT2 ENABLING Revised Chapter XI of Vol I TCC (Instructions to Bidder Remains)			
ST. NO	DESCRIPTION OF ITEM	UNIT	QTY	% Weightage
	EARTH WORK Earth work In excavation, backfilling and disposal including necessary men/women, materials, equipment, loading, transportation, unloading, dewatering etc as per specification, drawing and as directed by engineer- in-charge for the following.			
1	Earth work in stripping of top soil upto a maximum depth of 0.30m 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 lead upto 1km etc all complete as per specification, drawing and as directed by the engineer-in-charge.	SQM	192966	3.1575884665
2	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 1Km, 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	12270	0.9400012384
3	Earthwork in Back filling upto any depth below ground level around foundations, plinths, trenches, drains etc to proper grade and level in layers not exceeding 250 mm thickness using/with selected materials from compulsorily excavated earth available within a lead upto 1Km and compacted as specified including reexcavation 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 90% maximum dry density as per IS2720 (Part-VII)	CUM	14292	1.0098606043
4	Earthwork in Back filling upto any depth below ground level around foundations, plinths, trenches, drains etc to proper grade and level in layers not exceeding 250 mm thickness using/with selected materials directly from excavation within a lead upto 1Km and compacted as specified including reexcavation 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 90% maximum dry density as per IS-2720 (Part-VII)	CUM	884	0.0295871737
5	Extra over ST No. 1, 2, 3 and 4 for carriage of excavated earth/selected materials for every 500m or part thereof beyond an initial lead of 1Km.	CUM	54098	0.4023772090
6	Earthwork in backfilling upto any depth below ground level around foundations, plinths, trenches, drains etc to proper grade and level in layers not exceeding 250 mm thickness so as to achieve required compaction with approved borrowed soil (borrowed soil to be arranged by the bidder) and compacted as specified including supplying boorowed soil, royalty/seignorage fee (if any), sorting, spreading, breaking clods, watering, ramming/compaction by manual/mechanical means, dressing, finishing to required lines, grades and slopes, tesing, all lead and lifts 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 90% maximum dry density as per IS-2720 (Part-VII)	CUM	5000	3.0718656386
7	Providing and Filling in trenches, plinths, area paving and other underground structures with graded stone aggregate of size range 63 mm to 45 mm in layers not exceeding 200 mm in thickness including breaking of stone boulders to required sizes, filling the interstices with selected sand/ Murram 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. 1.40% payment on supply of material prorata basis(with stack measurement) 2. Balance payment on completion of work	CUM	3337	4.3878504849
	CONCRETE WORKS			
	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.			
8	Concrete of grade M7.5 (1 part cement, 4 part sand, 8 parts of 40/20 mm graded aggregate by volume) as mass filling course, lean concrete, levelling course, mud mat under and around foundations/floors, at any depth below finished floor level etc. 1. 12% payment on supply of sand on prorata basis 2. 24% payment on supply of Aggregates on prorata basis 3. 20% payment on supply of Cement on prorata basis 4. Balance payment on completion of work on prorata basis	CUM	423	1.3288231871
9	Concrete of grade M10 (1 part cement, 3 part sand, 6 parts of 40 mm graded aggregate by volume) as lean concrete, levelling course, mud mat under and around foundations/floors at any depth below finished floor level etc. 1.12% payment on supply of sand on prorata basis 2.24% payment on supply of Aggregates on prorata basis 3.20% payment on supply of Cement on prorata basis	CUM	321	1.0562719596
10	4. Balance payment on completion of work on prorata basis Concrete of grade M15 (1 part cement, 2 part sand, 4 parts of 40mm / 20mm graded aggregate by volume) as lean concrete, levelling course, mud mat under and around foundations/floors at any depth below finished floor level etc. 1. 12% payment on supply of sand on prorata basis 2. 24% payment on supply of Aggregates on prorata basis 3. 20% payment on supply of Cement on prorata basis 4. Balance payment on completion of work on prorata basis	CUM	1997	7.1358697438
11	4. Balance payment on completion of work on prorata basis Concrete of grade M20 (1 part cement, 2 part sand, 4 parts of 20mm graded aggregate by volume) as foundation, raft, column, plinth beam & wherever required including 1. 12% payment on supply of sand on prorata basis 2. 24% payment on supply of Aggregates on prorata basis 3. 20% payment on supply of Cement on prorata basis 4. Balance payment on completion of work on prorata basis	CUM	950	3.4840497600

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ST. NO	DESCRIPTION OF ITEM	UNIT	QTY	% Weightage
12	Providing and laying Design Mix cement concrete as per IS:456 & IS 10262-2009 for reinforced concrete works using graded aggregate for Concrete in precast works like sleepers for stacking of materials etc. including formwork/moulds, curing, rendering the top exposed surface with cement sand mortar (1:3), handling, storing, transpoting to BHEL Store Yard with all leads etc.complete with graded aggregate (20/12.5/10 mm) and as per specification and drawing for following grades.) M-25 Grade 1. 12% payment on supply of sand on prorata basis 2. 24% payment on supply of Aggregates on prorata basis 3. 20% payment on supply of Cement on prorata basis 4. Balance payment on completion of work on prorata basis	CUM	413	2.1691583704
	FORM WORKS			
	Providing, fixing and removing formwork at any elevations for all structures, as per specifications and including all labour, material, scaffoldings and centereing complete including pockets etc. complete as per drawing, specifications and as per direction of engineer in charge for the following. Fairface form work with good quality water proof ply wood of minimum 12mm thickness and smooth			
13	surface below and above finished ground floor level for foundations, footings, base of columns, walls, columns, pilasters, beams, mass concrete, trenches etc.including chamfering of edges as per drawing, specification and instruction of engineer in charge.	SQM	5395	2.4879136500
	REINFORCEMENT			
14	Providing, straightening, cutting, bending, placing in position at all level, binding in position of steel reinforcements of TMT steel of grade Fe500D or 500EQR confirming to IS:1786 including cost of reinforcement steel, binding wire, labour, scaffolding, transportation to & from stores etc complete all as per specifications, drawings and as directed by Engineer. 1. 60% Payement of supply of material (TMT) on prorata basis 2. Balance payment of completion of work on prorata basis	МТ	30	1.7622541937
15	Supply & fixing of bamboo splint reinforcement as per IS 15192 (2018) for footing, beam, column and slab including supply, loading, transportation, unloading & making it in shape and size as per drawing & fixing with binding wire etc. all complete as per drawing specifications.	KG	10000	0.1358910054
16	Transportation, straightening, cutting, bending, placing in position at all 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. (BHEL to supply steel free of cost either from scrap in cut pieces or fresh steel)	MT	41	0.3782969063
17	MS EMBEDMENTS Supply, fabricating and fixing of mild steel embedments, inserts, pipe sleeves, foundation bolts, angle pieces, rungs of various diameters, plates of dimensions as required etc. including welding, bolting, cutting, drilling, scaffolding, buffing 1coat of primer, 2coat of paint etc. all complete. (Same item may be used for small structural, supply, fabrication, painting & erection including all) 1. 60% Payement of supply of material (TMT) on prorata basis 2.Balance payment of completion of work on prorata basis	MT	15	1.1083191407
18	Mild steel foundation bolt assembly conforming to IS:2062 and grade 1 of IS:432 in concrete along with nuts, lock nuts (as per IS:1363, 1364 and IS:3138), washers, anchor plates, stiffner plates, protective tape, pipe sleeves, templates etc. 1. 60% Payement of supply of material (TMT) on prorata basis 2.Balance payment of completion of work on prorata basis	MT	3	0.0520223793
19	Providing, fitting and fixing solid core flush door shutter as per IS 2202 part II, 35mm thick homogenous particle board bonded with BWP type phenolformaldihyde synthetic resin, partical board core conforming to IS 3087 type I, 35x12 mm thick teakwood beading all around including preparation of working drawings. godrej or equivalent make mortice lock with handels on both sides,approved ISI mark anodised fittings like door stopper,300mm long tower bolts,16x300mm long aldrops,125mm long handles on both sides etc. butt hinges, sliding bolt, knobs, (all fittings shall be anoidised aluminium color dyed), finish synthetic paint over primer, screws etc. all complete as per drawing, specification and instruction of engineer in charge. with commercial faces and teak wood edges. (Finish painting paid separately) 1. 60% Payement of supply of material (including all accesories) on prorata basis 2. Balance payment of completion of work on prorata basis	Sqm	35	0.1079838870
20	Providing and fixing teak wood frame panel door shutter as per IS 1003 with 35 mm x 150 mm vertical rail as 35mm x 125 mm horizontal rail and 12 mm thick interlocked panels of teakwood with proper wood joinery including beading, preperation of working drawings,godrej or equivalent make mortice lock with handels on both sides,approved ISI mark anodised fittings like door stopper,300mm long tower bolts,16x300mm long aldrops ,125mm long handles on both sides etc. butt hinges, sliding bolt ,knobs, (all fitting shall be anodised aluminium color dyed), screws, primer and finish painting / polishing etc. all complet 1. 60% Payement of supply of material (including all accesories) on prorata basis 2 Balance payment of completion of work on prorata basis	Sqm	10	0.0373532911
21	Providing and fixing of openable type steel windows/ventilator with steel sections as per IS:1038, IS:1361 & IS:7452 latest revision including all fittings, metal beadings, hold fasts, shop and final painting, glazing etc. all complete. (Glazing shall be paid separately) (Glazing shall be paid separately). Openable Type 1. 60% Payement of supply of material (including all accesories) on prorata basis 2. Balance payment of completion of work on prorata basis	Sqm	59	0.1182668271

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ST. NO	DESCRIPTION OF ITEM	UNIT	QTY	% Weightage
22	Providing and fixing anodised aluminium work of Jindal, Hindalco or other equivalent approved make for door frames, windows, ventillators, partitions, railing etc with extruded standard tubular and other sections including all fittings & fixtures and accessories of approved make conforming to IS733 and IS1285, anodised and electro color dyed to required shade according to IS 1868 (minimum anodic coating of grade AC15), fixed with rawl plugs, expansion fasteners, SS screws or with fixing clips, including necessary filling of gaps at junctions, at top, bottom and sides with required PVC/neoprene felt for bimetalic protection etc. including preperation of working drawings, aluminium cleat angle, aluminium snap-on-beading for glazing/panelling, stair case tread nosing, with all fittings and fixtures (like tower bolts, handles, door stopper with rubber shoes, 'L' drops, stays, floor springs, hydraulic door closures etc.), CP brass/stailess steel screws, providing and fixing hinges/pivots, and making provision for fixing of fitting wherever required including cost of PVC/neoprene gasket, all complete as per drawing, specification and instructions of engineer in charge (Glazing and panelling shall be paid seperately). Weight of aluminium section only shall be measure. 1. 60% Payement of supply of material (including all accesories) on prorata basis	Kg	100	0.0408342430
23	Providing, fixing and fitting of 4mm thick clear float glass glazing of first grade class in steel/aluminium/wooden frames, where ever required, cleaning after fixing including hardware, gaskets, clips, beadings etc. all complete. 1. 60% Payement of supply of material (including all accessories) on prorata basis 2. Balance payment of completion of work on prorata basis	Sqm	100	0.1124615217
24	Providing and fixing of door closers as per specification ,of approved make & quality all complete of following type:			
a 25	Over head hydraulic door closures as per IS 3564 Providing and fixing PVC doors (25 thk double skin) of sintex or equivalent make including all fitting & fixtures as per specification, drawing and instructions of engineer in charge.	Nos Sqm	8 6	0.0122101081 0.0113532584
	BRICKWORK 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.			
26	Providing brick work 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 below plinth including raking out joints, curing, scaffolding etc. complete excluding plastering and painting.			
a	Using fly ash lime bricks confirming to IS 12894 with crushing strength of 50 kg/cm2 1. 50% Payement of supply of bricks on prorata basis 2. 50% payment of completion of work on prorata basis	CUM	1801	6.9829684502
27	Providing and filling brick bats in soak pits all complete Damp Proof Course	Cum	22	0.0198979539
28	Providing Damp Proof Course 40mm thick 1:1.5:3 concrete (6 mm and down graded stone chips) with 1% of approved admixture of water proofing compound all complete. Then hot bitumen (residual petroleum bitumen of penetration 80/100 of approved quality) shall be applied over the prepared surface in two coats at the rate of 1.7kg per sq. meter per coat and dry sand spread over it before starting of masonry work. PLASTERING:	SQM	616	0.1431245537
29	Providing 18mm thick plaster in two layers outside the building/boundary wall/rough surface of internal 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	1568	0.3114420037
30	Providing 12mm thick plaster inside the building/boundary wall in cement mortar 1:6 on walls finished to a smooth finish as per specification all complete.	Sqm	3067	0.3992255258
31	Providing 12mm thick plaster inside the Walls, drains walls with paste of neat cement @ 1kg/Sqm and rubbed smooth with trowel etc. all complete.	Sqm	7200	0.8738541389
32	Providing 6mm thick plaster on ceiling in cement mortar 1:4 finished to a smooth all complete.	Sqm	186	0.0251984043
	FINISHES TO CONCRETE / PLASTERED SURFACES: Two or more coats of white wash/colour wash as per IS 627 of approved brand and manufacture to give			
33	an even shade including a priming coat as per specifications. Providing and applying two or more coats of oil bound destemper as per IS 428 of approved brand, shade	Sqm	1200	0.0315070771
34	and manufacture to give smooth, hard, durable & glossy finish over a coat of primer over prepared plaster surface as per manufacturers guideline.	Sqm	327	0.0240544931
35	Providing and applying 2 mm thick plaster of paris punning on walls including preparation of surface, staging, etc. to achieve a smooth even surface all complete as per specification and as directed by Engineer.	Sqm	327	0.0256354254
36	Providing and applying two or more coats of Acrylic based weather coat paint of approved brand and manufacture and required shade over one coat of primer after necessary cleaning/washing, preparing the surface using coir brush/wire brush, sand paper, including filling of cracks with putty wherever required etc. all complete to give smooth, hard, durable & glossy finish over a coat of primer over prepared plaster surface as per manufacturers guidelines. The final finished coating shall be fungus resistant, UV resistant, water repellant and extremely durable with color fastness as per specification	Sqm	150	0.0124510970
37	Providing and laying 50 mm thick heavy duty cement concrete in flooring with metallic hardener pigmented topping 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 12.5 mm 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	500	0.2412103186
38	Providing and laying 14 to 16mm thick polished Granite stone of approved color and texture in flooring with brass/ stainless steel strips. Under bed shall average 35mm 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 @3.3kg/sqm spread over the surface with fine joint finished including pigments, curing, grinding, granite polishing etc. all complete.	Sqm	16	0.0363379541

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ST. NO	DESCRIPTION OF ITEM	UNIT	QTY	% Weightage
39	Providing and laying Heavy Duty dust pressed Ceramic Tiles of 7mm thick Designer glazed/matt/ Anti Skid finish of reputed manufacturer Simpolo,varmora or equivalent of approved finish shade and colour on walls, skirting etc.including underbed of cement mortar 1:3 with neat cement slurry etc. all complete. All tiles to be used should be with appropriate % of recycled content. 1. 50% Payement of supply of tiles on prorata basis 2. Balance payment of completion of work on prorata basis			
a	flooring/ Dado -300mm x300mm	Sqm	61	0.0440260289
b	flooring-600mm x600mm ROOFING / SIDE CLADDING	Sqm	1116	0.8901272675
40	Providing and fixing 1 mm thick colour coated corrugated/semicorrugated G.I. sheet in roofs, cladding of minimum galvanisation of 275 gsm total on both sides with minimum 150mm overlapping, 8 dia G.I. hook bolts or 'I' Bolts and nuts @305 mm c/c along with G.I. and bitumen washers including cutting of sheets for opening etc. all complete. FALSE CEILING	Sqm	50	0.0480862260
41	Providing and fixing glass fibre reinforced gypsum plaster board (GRG) ceiling (having gypsum core mixed with glass fibre) system consisting of metal supporting grid system forming panels of specified size, suspended from RCC slab/structural steel or catwalkway grid above with 4 mm (minimum) galvanised wires (rods) with special height adjustment clips, including preperation of working drawing, providing openings for AC ducts, return air grills, light fixtures etc (but excluding the cost of catwalkway grid) all complete as per drawings, specification and instructions of the engineer. 1. 60% Payement of supply of material (including all accesories) on prorata basis 2. Balance payment of completion of work on prorata basis			
	12 mm thick GRG board with galvanised light gauge steel load bearing supporting GI frame and finished	SQM	300	0.1765021104
	flat (seamless). 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.			
42	Supplying and erecting in position 2.4 m high PVC coated gavanised chain linked fencing of minimum 8 gauge (including PVC coating) of mesh size 75mm x 75mm. The diameter of the hot dip galvanised steel wire for chain link fencing excluding PVC coating shall not be less than 12 gauge. GI barbed wire fencing of height of 600 mm confirming to IS 298 at top of chain link fencing shall be provided with 4 strands of barbed wire hot dip galvanised wire of 12G comprising of 2 ply of wires with barbs of 16G spaced at 100mm. Cost to include for GI hook bolts, rings & washers, hot dip galvanised tension wires, 25X6 mm GI flat stretcher bar at end posts, accessories etc. all complete. (Structural post shall be separately under item 2007) 1. 60% Payement of supply of material (including all accesories) on prorata basis	RM	1800	3.2091698509
	Balance payment of completion of work on prorata basis Supply, fabrication and fixing of mild steel posts for fencing including painting etc all complete.			
43	1. 60% Payement of supply of material on prorata basis 2. Balance payment of completion of work on prorata basis	MT	8	0.6276483475
44	Supply, fabrication and installing in position and testing MS Gates out of channels, joists, angles, flats, plates, pipes, welded steel wire mesh & sheets including stiffners, 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. all complete. 1. 60% Payement of supply of material on prorata basis 2. Balance payment of completion of work on prorata basis	MT	8	0.7000580966
45	WATER SUPPLY Providing and fixing in position tested heavy duty type chromium plated (CP) brass long neck bib cocks with flow rate less than 5 LPM (litres per minute) at 45 psi, including sockets, union, nuts etc all complete -15mm nominal bore.(Note: Flow rate of all faucets at 45 psi should be less than 5 lpm. The contractor should submit the cutsheets/ declaration from the manufacturers mentioning the same to Engineer in charge.)	Nos	8	0.0047007726
46	Providing and fixing in position heavy duty brass stop cock of approved quality including all specials etc	Nos	8	0.0028978180
47	all complete - 15mm nominal bore. Providing and fixing in position heavy duty brass full way valve with wheel of approved quality			
a a	including all specials etc all complete for following sizes: 25mm nominal bore.	Nos	6	0.0028026125
b	50mm nominal bore.	Nos	8	0.0078306541
48	Providing and fixing GI pipes class B complete for external work with GI sockets, unions, elbows, tees, nipples etc including trenching & refilling, anti-corrosive paint etc all complete for following sizes:			
a	15 mm nominal bore.	Mtr	250	0.0678711234
b c	20 mm nominal bore. 25 mm nominal bore.	Mtr Mtr	125 75	0.0380264239 0.0262187079
d	50 mm nominal bore.	Mtr	65	0.0348578652
49	Providing and fixing 610mmx453mmx6mm thk mirror from reputed mirror manufacturer. Mirror shall be mounted with glass adjustable revolving CP brackets with CP screws etc all complete.	Nos	4	0.0036118595
50	Providing and fixing 20mm dia chromium plated M.S. pipes wall mounted towel rod with C.P. Brackets	Nos	3	0.0018185742
51	etc all complete. Providing and fixing C.P. Soap holder mounted with C.P. screws etc all complete.	Nos	5	0.0023727001
52	Providing & fixing in position P.V.C. water tank of Syntex or approved equivalent conforming to IS:12701 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.			0.00204
a b	500 litres capacity 1000 litres capacity	Nos Nos	3	0.0030428577 0.0182571462
	SANITARY WORKS			
	Sanitary work including all labour, material (unless otherwise specified in BOQ/contract specification), equipment etc. at all level as per specification, drawings and as directed by engineer - in - charge.			

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ST. NO	DESCRIPTION OF ITEM	UNIT	QTY	% Weightage
53	Supply and fixing glazed vitreous china Wash Basin of approved make 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.			
a	White/Colored	Nos	4	0.0300700688
54	Providing and fixing stainless steel kitchen sink of size 610x510x200mm conforming to IS: 13983 including all fittings etc. all complete.	Nos	3	0.0124778736
55	Providing and fixing colour glazed vitreous china European type water closet conforming to IS:2556 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. Floor Mounted	Nos	4	0.0191630863
56	Providing and fixing white flat back glazed vitreous china urinals of size 440x265x355 mm with photo voltaic control flushing system as per IS:2556 (part 6, section 1) with flush pipes, lead pipes, gratings, traps and necessary C.P. fittings etc. all complete.	Nos	4	0.0415631603
57	Supply, laying and jointing UPVC pipes of class 3 as per IS:4985 including bends, branches and all other necessary fittings, M.S holder bats/clamps, cutting and making good the walls and floors, jointing,			
a	testing etc all complete for following. 110mm dia pipes	Mtr	150	0.0524374159
b	160mm dia pipes	Mtr	150	0.0813337791
58	Providing, laying light duty non pressure NP2 class RCC pipes with collars jointed with stiff mixture of cement mortar 1:2 including testing of joints etc complete for following.			
a	450mm dia	RM	167	0.1579995124
59	600mm dia Providing and fixing C.I Manhole heavy duty cover of size 600mmx600mm including frame from reputed	RM	19	0.0210991798
60	manufacture confirming to IS:4111 etc all complete as per specification.	Nos	5	0.0401425154
61	Providing and fixing circular heavy duty C.I. manhole cover of 600 mm dia with frame etc. all complete.	Nos	7	0.0558663022
62	Providing and fixing square mouth S.W Gully trap grade 'A' complete with CI grating, brick masonry chamber(Clay Brickwork in 1:6 mortar, 12mm plaster in 1:6 mortar & 1:2:4 Cement Concrete) and water tight CI cover with 300x300mm (inside). The weight of cover to be not less than 4.53 Kg and frame to be not less than 2.72 Kg etc all complete for following sizes:			
a	150x100mm P or S Type.	Nos	6	0.0083765983
63	Providing and fixing 100mm heavy duty UPVC floor traps with 100 mm inlet and 100 mm outlet & C.P jalli all complete.	Nos	20	0.0228790768
	ROAD WORKS Road works including all labour, material (unless otherwise specified in BOQ/contract specification), equipment etc. as per specification, drawings and as directed by engineer - in - charge.			
64	Preparation of sub grade by excavating earth to required depth for all types of soil/ rock, dressing to camber and consolidating the base including making good the undulation etc and disposal of surplus earth within a lead upto 1 km etc. all complete.	CUM	27926	1.3708970238
65	Providing & laying water bound macadam sub base course in layers of required thickness with crushed stone aggregates 90 to 40 mm down size (IRC 19 - grading -1), stone screening & blinding material including screening, sorting, spreading to template & consolidation with road roller including carriage, spreading & consolidation of blinding material moorum etc all complete.	CUM	19701	31.3000677813
66	Providing & laying water bound macadam base course in layers of required thickness with stone aggregate 63mm to 40mm size (IRC-19 grading-1), 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	2593	5.1021154060
67	Providing & Laying water bound macadam base course with stone aggregate 50mm to 20mm size stone(IRC 19-grading 1) 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	2485	4.8894368898
	ELECTRICALS AND ILLUMINATION Work of Yard			
68	Supplying, Installation & Commissioning of LED street light fitting 150 watt of crompton or similar philips make, complete with one piece of appropriate driver (integral/non-intigral) and suitable for directly slipping over light mounting bracket made out of 40 mm OD pipe and suitable for lamps, JB, cabling & termination of items supplied (to be mounted on 9 mtr pole - item no. 53). 1. 60% Payement of supply of material on prorata basis 2. Balance payment of completion of work on prorata basis	NOS.	220	0.6190167921
68a	Supplying of LED street light fitting 150 watt of crompton or similar philips make	Nos	180	0.3968285122
69	Supply and Erecting steel tubular swaged poles, 9 mtr long made of sheet steel having ultimate tensile strength 42 kg F/sq. mm conforming to BIS: 2713 (part-II) complete with 300x300x6 mm thick MS base plate for welding at site and size as per configuration given in BIS for 410 SP-28 (113 kg- pole weight) with 1.5 mtr deep exacavation, concreting in 1:4:8 ratio size 45 cms x 45 cms x 150 cms and pole plinth in 1:3:6 cement concreting having 300 mm height and 300 mm dia including double earthing of pole with suitable arrangement, duly painted with two coats of red oxide paint and one coat of aluminium paint to be applied after erection; the length of pole below ground to be painted with two coats of black bituminus paint. the pole shall be complete with JB, fuse and minor fabrication as below: i) driling 20 mm dia hole at about 2.5 mtr from ground level for wire leads from junction box to light fixture. ii) driling 15mm dia holes at about 0.7 and at 2.5 mtr from ground level and welding 12 mm nuts for using a 12 mm GI bolt for fastening earth conducters. iii) welding required holes for fixing pole cap of street light bracket. iv) welding diametrally 10 mm MS round 30 mm below pole top edge for clipping wire leads. 1. 60% Payement of supply of material on prorata basis 2. Balance payment of completion of work on prorata basis	NOS.	110	0.7060717271

	Annexure A to Corrigendum ref: BHE/PW/PUR/LRPT2 ENABLII						
	Revised Chapter XI of Vol I TCC (Instructions to Bidder Remains Unchanged)						
ST. NO	DESCRIPTION OF ITEM	UNIT	QTY	% Weightage			
70	Supply of weather proof flood light luminiaries of crompton make (FBD 1425/40 with high pressure sodium vapour lamp 1x 400 Watt along with non-integral type control gear box having adequate number of terminal connectors for terminating two cable of 3x 10 sqmm AL and suitable for out door application) or equivalent in Bajaj, Phillips only, including supply & fixing cables between the control gear box and light luminiaries and mounting fixture with hardware for mounting of light luminiaries and control gear box on pole type 410 SP-28. 1. 50% Payement of supply of material on prorata basis 2. 50% payment of completion of work on prorata basis	NOS.	7	0.0282767835			
71	Installation & commissioning of flood light luminiaries, control gear box, cabling & termination for Sl no.3 (Items supplied above)	NOS.	7	0.0027062157			
72	Engineering, supply and installation of lattice type structural tower of height 15m. Tower shall be fabricated in three section of equal lenght of 5 meter each. Preparation of fabrication drawing & its approval from BHEL. Brief details are as given below: Tower shall be adequately strong to withstand heavy wind. No stay/guy ropes shall be tied with it. At top of the tower adequate size of platform shall be provided with railing around the platform for mounting of lighting luminiaries (tentatively 12 fitting on each tower) and maitenance purpose, floor of platform shall be covered with chequered plate. A ladder along with protective cage shall be provided along the height of tower. It should be painted with one coat red oxide primer and two coats of aluminium paint after installation. Each tower shall be provided with power distribution box out door type and should have provision of terminating one number incoming and eight out going cable. Erecting at site including all civil works like excavation, casting of foundation of required size and depth with concrete of grade 1:2:4 with base plates, grouting of lattice structure, one earth pit as per BIS standard is to be made near the tower and earthing of the tower including supply of material etc. complete. 1. 60% Payement of supply of material on prorata basis 2. Balance payment of completion of work on prorata basis	NOS.	7	0.6708473610			
73	Supply, installation & commissioning of 400W LED flood light luminiaries of Bajaj, Crompton, Phillips or equivalent, with appropriate JB integral/ non itegral type including cables for interconnection. (these fitting shall be mounted on lighting mast /tower, on each tower 8 such fitting shall be mounted). 1. 60% Payement of supply of material on prorata basis 2. Balance payment of completion of work on prorata basis	NOS.	56	0.3756705476			
73 a	Supply, installation & commissioning of 400W LED flood light luminiaries of Bajaj, Crompton, Phillips or equivalent	NOS.	40	0.2127248360			
74	Supply of cables $3-1/2$ core x 95 sqmm aluminium armoured PVC insulated cable (three and half core) confirming to IS 1554 (part-I) (to be used form sheds as well as open storage yard wherever required)	M	632	0.2068100921			
75	Installation of cables 3-1/2 core x 95 sqmm aluminium armoured PVC insulated cable confirming to IS 1554 (part-I) including laying of cable below ground, excavation of trench of 600 mm depth in all kind of soil, termination of cables cores with crimp type luggs, providing sand layer below/ above the cable, brick laying both side/above the above the cable and back filling etc complete. Cables are to be laid from 415 Volt AC distribution board to feeder pillar board, feeder pillar board to lighting mast / tower & for sheds.	М	632	0.0566841469			
76	Supply of cables 2 core x 10 sqmm aluminium armoured PVC insulated cable confirming to IS 1554 (Part-I)	M	1320	0.1169431905			
77	Installation of cables 2 core x 10 sqmm aluminium armoured PVC insulated cable confirming to IS 1554 (Part-I) including laying of cable below ground, excavation of trench of 600 mm depth in all kind of soil, termination of cables cores with crimp type luggs, providing sand layer below/ above the cable, brick laying both side /above the above the cable and back filling etc complete. Cables are to be laid from 415 Volt AC power feeder pillar board to lighting poles & pole to pole.	М	1320	0.0823802582			
78	Supply of cables $3-1/2$ corex 185 sqmm aluminium armoured PVC insulated cable (three and half core) confirming to IS 1554 (Part-I)	M	1605	0.6921036388			
79	Installation of cables 3-1/2 corex 185 sqmm aluminium armoured PVC insulated cable confirming to IS 1554 (Part-I) including laying of cable below ground, excavation of trench of 600 mm depth in all kind of soil, termination of cables cores with crimp type luggs, providing sand layer below/ above the cable, brick laying both side /above the above the cable and back filling etc. Cables are to be laid from transformer sub station to 415 Volt AC distribution board.	М	1605	0.1538064291			
80	Supply of cables 3 -1/2 corex 35 sqmm aluminium armoured PVC insulated cable (three and half core) confirming to IS 1554 (Part-I)	M	1107	0.1838507614			
81	Installation of cables 3 -1/2 corex 35 sqmm aluminium armoured PVC insulated cable confirming to IS 1554 (Part-I) including laying of cable below ground, excavation of trench of 600 mm depth in all kind of soil, termination of cables cores with crimp type luggs, providing sand layer below/ above the cable, brick laying both side /above the above the cable and back filling etc. Cables are to be laid from transformer sub station to 415 Volt AC distribution board to store yard & sheds.	M	1107	0.0992869471			

	Annexure A to Corrigendum ref: BHE/PW/PUR/LRPT2 ENABLII Revised Chapter XI of Vol I TCC (Instructions to Bidder Rema			
ST. NO	DESCRIPTION OF ITEM	UNIT	QTY	% Weightage
82	Supply & installing 3 phase metering and power distribution board complete with: (1) incoming SFU TPN 400 Amps - 1no, (2) outgoing SFU TPN 200 amps -2nos. (3) outgoing SFU TPN 100 amps -2nos. (4) outgoing SFU TPN 32 amps -2nos. 3 phase electronic energy meter - BHEL / L&T / GEC make. ammeter, voltmeter and selector switches for both - AE and Kaycee make. Phase indication lamps, HRC fuses for IC and OG feeders, cable glands, power terminals for cables termination, cable lugs and provision for doubly earthing the panel enclosur. Panel enclosure shall be made of sheet metal thichnness not less than 1.6 mm and suitable for out door installation, modular construction, hinged door with locking arrangement, base frame, should have slopped canopy, duly painted with first coat of primer and two coats of synthetic enamel paint (interior with white paint and exterior with light grey as per shade 5, is 630) internal power distribution to devices shall be with al busbars or copper flexible single core PVC cables of 1.1 Kv grade, control wiring with 1.5 sqmm, suitable stool made out of MS structure of 1.2 meter high for mounting of panel with anchoring arragement at foundation, suitable for bottom entry of cables. 1. 60% Payement of supply of material on prorata basis 2. Balance payment of completion of work on prorata basis	NO	3	0.1735858299
83	Providing suitable foundation for mounting AC distribution board as specified in Sl. No. 15, installation & commissioning of panel.	NO	3	0.0107132496
84	Supply of 415 Volt AC, 3 phase /four wire power feeder pillar board, board shall be comprises of three number and one number aluminium bus bar for phase & neutral respectively. Bus bar rating shall be 200 amps and shall be mounted on epoxy insulator of 1.1 Kv grade, each bus bar shall have drilled hole for connecting incoming / out going cables, provision for earthing the panel enclosure. Panel enclosure shall be made of sheet metal thichnness not less than 1.6 mm and suitable for out door installation, hinged door with locking arragement, base frame, should have slopped canopy, duly painted with first coat with primer and two coats of synthetic enamel paint (interior with white paint and exterior with smoke grey as per IS), suitable stool made out of MS structure of 1.2 meter high for mounting of panel with anchoring arragement at foundation.	NO	7	0.0915762770
85	Providing suitable foundation for mounting 415 Volt AC power feeder pillar board as specified in Sl. No. 68, installation & commissioning of panel.	NO	7	0.0183133404
86	Supply and installation suitable electrical pump for minimum head of 10m (but not less than 2 HP) of reputed manufacturer like Suguna/ CRI/ Kiloskar/ Shakti/Sharp/ Crompton including all accessories, starter, DB, etc. and to be connected to over head tank from water storage tank below GL. Guarranty/warranty card to be submmitted to BHEL. Suction, discharge GI pipes shall be paid seperatly under relevant items.	NO	2	0.0164051770
	ELECTRICALS AND ILLUMINATION Work of 12 nos. PEB Shed, Toilet Complex, security cabin, first aid centre etc			
87	SUPPLYING & INSTALLING POWER DISTRIBUTION BOARD COMPLETE WITH: COMMON BOARD FOR ALL SHEDS. 1) INCOMING MCB TPH 100 AMPS 1 NO. 2) OUTGOING MCB TPH 32 AMPS 3NOS. 3) RCCB DP 25/20 AMPS 2NOS. 4) OUTGOING MCB SP 6 AMPS - 6NOS. All RCCBs, MCBs SHALL BE MDS/INDO KOPP MAKE. DISTRIBUTION BOARDS SHALL BE SIEMENS / MDS / INDO KOPP MAKE WITH INTERNAL BUSBARS, INTERNAL WIRING, 2 NOS. EARTHING TERMINALS, EARTH CONNECTIONS, INCLUDING GLANDS, LUGS.	Set	12	0.0673672350
88	SUPPLYING & FIXING WALL MOUNTING TYPE LIGHTING PANELS, EACH WITH: (1) INCOMING MCB TPN -32 AMPS - 1NO. (2) RCCB DP 32 AMPS - 2NOS (3) MCB SP 6AMPS - 30 NOS All RCCBS, MCBS SHALL BE MDS/INDO KOPP MAKE. LIGHTING PANEL SHALL BE SIEMENS/MDS/INDO KOPP MAKE WITH INTERNAL BUSBARS, 2 NOS. EARTHING TERMINALS, EARTH CONNECTIONS, INCLUDING GLANDS, LUGS & WIRING FROM MAIN DB	Set	12	0.0673672350
89	PROVIDING AND INSTALLING WIRING USING 2.5 SQ.MM COPPER CONDUCTOR THROUGH PVC CONDUIT OF REQUIRED SIZE WITH ACCESSORIES AND FIXTURES .WIRING SHALL BE CONCEALED TYPE FOR COMPUTER ROOM, OFFICE SHED & FOR REST OF SHEDS OPEN AND WHRERVER REQUIRED IN PVC CONDUIT OF REQUIRED SIZE.	PER POINT	768	0.3723617019
90	PROVIDING AND INSTALLING WIRING FOR USING 4.0 SQ.MMCOPPER CONDUCTOR THROUGH PVC CONDUIT OF REQUIRED SIZE WITH ACCESSORIES AND FIXTURES .WIRING SHALL BE CONCEALED TYPE FOR COMPUTER ROMM, OFFICE SHED & FOR REST OF SHEDS OPEN AND WHRERVER REQUIRED IN PVC CONDUIT OF REQUIRED SIZE.	PER POINT	36	0.0224405666
91	PROVIDING AND INSTALLING WIRING FOR MAINS USING 6.00 SQ.MM COPPER CONDUCTOR OF ISI MAKE. USING CONCEALED TYPE WIRING/PVC CONDUIT OF REQUIRED SIZE.	PER POINT	36	0.0299209824
92	PROVIDING AND INSTALLATION OF PLUG POINT OF 5A SOCKET (ANCHOR OR EQUV.) OUTLET INCLUDING WIRING TERMINATION. THIS INCLUDES TUBE LIGHT FITTINGS ETC. COMPLETE.	NO	36	0.0149603777
93	PROVIDING AND INSTALLATION OF PLUG POINT OF 15A SOCKET (ANCHOR OR EQUV.) OUTLET INCLUDING WIRING TERMINATION. THIS INCLUDES TUBE LIGHT FITTINGS.	NO	36	0.0236872647
94	PROVIDING AND FIXING 20 W LED TUBELIGHT WITH FRAME OF STANDARD MANUFACTURER LIKE PHILIPS/BAJAJ OR EQUIVALENT AS APPROVED BY BHEL. THIS INCLUDES TUBE LIGHT FITTINGS ETC. COMPLETE.	NO.	360	0.2244056659
95	PROVIDING AND FIXING CEILING FAN 48" DIAMETER OF APPROVED COMPANY SUCH AS CROMTAN GREEVES OR ANY OTHER STANDARD MANUFACTURER AS DIRECTED BY BHEL. THIS INCLUDES TUBE LIGHT FITTINGS ETC. COMPLETE.	NO	72	0.1745386478
96	PROVIDING AND FIXING Exhaust FAN 12" DIAMETER OF APPROVED COMPANY SUCH AS CROMTAN GREEVES OR ANY OTHER STANDARD MANUFACTURER AS DIRECTED BY BHEL. THIS INCLUDES TUBE LIGHT FITTINGS ETC. COMPLETE.	NO.	6	0.0124670193
97	SUPPLY OF CABLES 2 CORE X 10 SQMM ALUMINIUM ARMOURED PVC INSULATED CABLE CONFIRMING TO IS 1554 (PART -I)	RM	600	0.0531559957
98	INSTALLATION OF CABLES 2 CORE X 10 SQMM ALUMINIUM A RMOURED PVC INSULATED CABLE CONFIRMING TO IS 1554 (PART- I) INCLUDING LAYING OF CABLE BELOW GROUND, EXCAVATION OF TRENCH OF 600 MM DEPTH IN ALL KIND OF SOIL, TERMINATION OF CABLES CORES WITH CRIMP TYPE LUGGS, PROVIDING SAND LAYER BELOW/ ABOVE THE CABLE, BRICK LAYING BOTH SIDE /ABOVE THE ABOVE THE CABLE AND BACK FILLING ETC COMPLETE. CABLES ARE TO BE LAID FROM 415 VOLT AC POWER FEEDER PILLAR BOARD BOARD TO LIGHTING POLES & POLE TO POLE	RM	600	0.0374455719
	SUPPLY OF CABLES 3 -1/2 COREX 35 SQMM ALUMINIUM ARMOURED PVC INSULATED CABLE (THREE AND HALF CORE)	RM	360	0.0597888655

	Annexure A to Corrigendum ref: BHE/PW/PUR/LRPT2 ENABLING/2879/Corg-02				
	Revised Chapter XI of Vol I TCC (Instructions to Bidder Remains Unchanged)				
ST. NO	DESCRIPTION OF ITEM	UNIT	QTY	% Weightage	
100	INSTALLATION OF CABLES 3 -1/2 COREX 35 SQM M ALUMINIUM ARMOURED PVC INSULATED CABLE CONFIRMING TO IS 1554 (PART -I) INCLUDING LAYING OF CABLE BELOW GROUND , EXCAVATION OF TRENCH OF 600 MM DEPTH IN ALL KIND OF SOIL, TERMINATION OF CABLES CORES WITH CRIMP TYPE LUGGS, PROVIDING SAND LAYER BELOW/ ABOVE THE CABLE, BRICK LAYING BOTH SIDE /ABOVE THE ABOVE THE CABLE AND BACK FILLING ETC. CABLES ARE TO BE LAID FROM TRANSFORMER SUB STATION TO 415 VOLT AC DISTRIBUTION BOARD	RM	360	0.0322884381	
101	SUPPLY OF CABLES 3 -1/2 CORE X 95 SQMM ALUMINIUM ARMOURED PVC INSULATED CABLE (THREE AND HALF CORE) CONFIRMING TO IS 1554 (PART -I)	RM	240	0.0785354780	
102	INSTALLATION OF CABLES 3 -1/2 CORE X 95 SQM M ALUMINIUM ARMOURED PVC INSULATED CABLE CONFIRMING TO IS 1554 (PART -I) INCLUDING LAYING OF CABLE BELOW GROUND, EXCAVATION OF TRENCH OF 600 MM DEPTH IN ALL KIND OF SOIL, TERMINATION OF CABLES CORES WITH CRIMP TYPE LUGGS, PROVIDING SAND LAYER BELOW/ ABOVE THE CABLE, BRICK LAYING BOTH SIDE /ABOVE THE ABOVE THE CABLE AND BACK FILLING ETC COMPLETE. CABLES ARE TO BE LAID FROM 415 VOLT AC DISTRIBUTION BOARD TO FEEDER PILLAR BOARD, FEEDER PILLAR BOARD TO LIGHTING MAST / TOWER.	RM	240	0.0215256254	
103	Providing and Fixing 200W LED fitting of approved make including all necessary wiring in rigid conduit and providing 15/5A flush type switch all complete	No	240	0.2493411416	
104	Providing Earthing pit 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.	No	10	0.1980572354	
105	Providing, fixing, installation of 2 Ton Split AC of make Godrej/ Samsung/Hitachi/LG/Panasonic or equivalent with 3 years Warranty with heavy duty stand for outdoor unit and stabilizer of suitable capacity	No	4	0.1033477315	
106	Providing 6 " dia. boring upto depth of 150 ft. with truck mounted mechanical rig machine with yield test of water.	Each	2	0.0480469689	
107	Extra for boring over 150 ft. depth for every additional 10 ft. or part thereof.	Per ft	50	0.0192090880	
108	Supply & fixing 6" dia pvc heavy duty (8-10 kg pressure) casing pipe of standard make (kishan/kasta or equivalent) with approval of BHEL in both the borings.	Per ft.	120	0.0129737693	
109	Supply and installation of electrical submersible pump (minimum 3 HP) of standard make (Crompton Greaves/CRI pumps or equivalent) as per approval of BHEL with all accessories, console panel, pvc coated sling wire, submersible cable of required length & 1/4" dia HDPE suction pipe 120 ft. length.	Each	2	0.0236431666	
110	Extra over initial length of HDPE suction pipe beyond 120 ft.	Per ft.	30	0.0028459542	
	Concrete Mix Design & Material Testing from NIT or IIT as per direction of BHEL				
111	Evaluation of cement (Physical & chemical properties)	Sample	1	0.0091904466	
112	Petrographic analysis of fine & coarse aggregate and evaluation of aggregate as per IS 383	Nos	2	0.0183808932	
113	Evaluation of admixture (only chemical)	Sample	1	0.0061269644	
114	Concrete mix design of all grades (M10,M15,M20,M25, M30,M35) as per relevant IS Code with fly ash and without fly ash	Nos	12	0.1838088568	
115	Testing of water for construction purpose	Sample	1	0.0040186765	
116	Supply and installation of PTZ camera as per specification - 3MP Resolution	Nos	4	0.1329259662	
	Total estimated value (Excluding GST)			100.000	

Note: In Part Payment of any item, if purchase price of material is lesser than the % given in BOQ in such case only purchase price shall be paid by BHEL and balance payment will be done after completion of activity