

BHARAT HEAVY ELECTRICALS LIMITED

BOILER AUXILIARIES PLANT

RANIPET - 632406

ESTIMATE

ESTIMATE REF NO : CF/C/10/12

NAME OF WORK : CONSTRUCTION OF TYPE "B" - 96 UNITS IN TOWNSHIP

CPWD 2007 REF	SLNO	DESCRIPTION	QTY	UNIT	RATE RS P	AMOUNT RS P
2.1	01	Earth work in surface excavation not exceeding 30 cm in depth but exceeding 1.5 m in width as well as 10 sqm on plan including disposal of excavated earth upto 50 m and lift upto 1.5 m, disposed soil to be levelled and neatly dressed :				
2.1.1	01A	In all kinds of soil	3000.000	CU.M.	20.74	62220.00
2.6.1	02	Earth work in excavation by mechanical means (Hydraulic excavator) / manual means over areas (exceeding 30 cm in depth, 1.5m in width as well as 10 sqm on plan) including disposal of excavated earth, lead upto 50 m and lift upto 1.5 m, disposed earth to be levelled and neatly dressed.All kinds of soil	120.000	CU.M.	101.85	12222.00
2.7	03	Earth work in excavation by mechanical means (Hydraulic excavator) / manual means over areas (exceeding 30 cm in depth, 1.5m in width as well as 10 sqm on plan) including disposal of excavated earth, lead upto 50 m and lift upto 1.5 m, disposed earth to be levelled and neatly dressed				
2.7.1	03A	Ordinary rock	120.000	CU.M	152.60	18312.00
2.8.1	04	Earth work in excavation by mechanical means (Hydraulic excavator) / manual means in foundation trenches or drains (not exceeding 1.5 m in width or 10 sqm on plan) including dressing of sides and ramming of bottoms, lift upto 1.5 m, including getting out the excavated soil and disposal of surplus excavated soil as directed, within a lead of 50 m. All kinds of soils	1440.000	CU.M.	103.40	148896.00
2.9	05	Excavation work by mechanical means (Hydraulic excavator)/manual means in foundation trenches or drains not exceeding 1.5 m in width or 10 sqm on plan including dressing of				

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		sides and ramming of bottoms lift upto 1.5 m, including getting out the excavated soil and disposal of surplus excavated soils as directed, within a lead of 50m.				
2.9.1	05A	In ordinary rock.	1500.000	CU.M.	162.65	243975.00
2.9.2	05B	Hard rock (requiring blasting)	120.000	CU.M	272.95	32754.00
2.9.3	05C	Hard rock (Blasting prohibited)	120.000	CU.M	332.45	39894.00
2.26.	06	Extra for every additional lift of 1.50m or part thereof in.				
2.26.1	06A	All kinds of soils	120.000	CU.M.	18.90	2268.00
2.26.2	06B	Ordinary or hard rock	120.000	CU.M.	33.85	4062.00
2.25	07	Filling available excavated earth (excluding rock) in trenches, plinth, sides of foundations etc. in layers not exceeding 20cm in depth, consolidating each deposited layer by ramming and watering, lead up to 50 m and lift upto 1.5 m.	1440.000	CU.M	45.70	65808.00
2.27	08	Supplying and filling in plinth with Jamuna sand under floors including, watering, ramming consolidating and dressing complete.	252.000	CU.M.	301.50	75978.00
2.28	09	Surface dressing of the ground including removing vegetation and in-equalities not exceeding 15 cm deep and disposal of rubbish, lead upto 50 m and lift upto 1.5 m In all kinds of soil.	4200.000	SQ.M	5.12	21504.00
2.31	10	Clearing jungle including uprooting of rank vegetation, grass, brush wood, trees and saplings of girth upto 30 cm measured at a height of 1 m above ground level and removal of rubbish upto a distance of 50 m outside the periphery of the area cleared.	480.000	SQ.M	2.64	1267.20
2.32	11	Clearing grass and removal of the rubbish upto a distance of 50 m outside the periphery of the area	1584.000	SQ.M.	1.36	2154.24

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		cleared.				
2.33	12	Felling trees of the girth (measured at a height of 1 m above ground level) including cutting of trunks and branches removing the roots and stacking of serviceable material and disposal of unserviceable material.				.00
2.33.1	12A	Beyond 30 cm girth upto and including 60 cm girth	10.000	EACH	81.70	817.00
2.33.2	12B	Beyond 60 cm girth upto and including 120 cm girth	10.000	EACH	359.80	3598.00
2.33.3	12C	Beyond 120 cm girth upto and including 240 cm girth	5.000	EACH	1658.85	8294.25
2.33.4	12D	Above 240 cm girth	5.000	EACH	3330.20	16651.00
2.34	13	Supplying chemical emulsion in sealed containers including delivery as specified. Chlorpyriphos / Lindane emulsifiable concentrate of 20%	6156.000	LITRE	174.30	1072990.80
DATA	14	Diluting and injecting chemical emulsion (to be supplied free of cost at site of work) for PRE-CONSTRUCTIONAL Anti-termite treatment and creating a continuous barrier under and alround the column pits, wall trenches, basement excavation, top surface of plinth filling, junction of wall and floor, along the external perimeter of building expansion joints, over the top surface of consolidated earth of which apron is to be laid, surroundings of pipes and conduits etc. complete as per specification. (Plinth area of the building at ground floor only shall be measured for payment).	3240.000	SQ.M	83.27	269794.80
4.1	15	Providing and laying in position cement concrete of specified grade excluding the cost of centering and shuttering - All work up to plinth level : Cement alone issued free of cost at BHEL stores.				
4.1.3	15A	1:2:4 (1 cement: 2 coarse sand : 4 graded stone aggregate 20 mm nominal size)	5.000	CU.M.	1599.85	7999.25

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4.1.9	15B	1:4:8 (1 cement: 4 fine sand : 8 graded stone aggregate 40 mm nominal size)	48.000	CU.M.	1415.55	67946.40
4.1.10	15C	1:5:10 (1 cement : 5 coarse sand : 10 graded stone aggregate 40 mm nominal size)	780.000	CU.M.	1564.35	1220193.00
4.5.1	16	Providing and fixing up to floor five level precast cement concrete string or lacing courses, copings, bed plates, anchor blocks, plain window sills, shelves, louvers, steps, stair cases, etc. including hoisting and setting in position with cement mortar 1:3 (1 Cement: 3 coarse sand), cost of required centering, shuttering and finishing smooth with 6mm thick cement plaster 1:3 (1 Cement : 3 fine sand) on exposed surfaces complete in 1:2:4 (1 cement : 2 coarse sand: 4 graded stone). Cement only will be issued free of cost at BHEL stores.	12.000	CU.M.	2845.95	34151.40
4.11	17	4.11 Providing and laying damp-proof course 50mm thick with cement concrete 1:2:4 (1 cement : 2 coarse sand : 4 graded stone aggregate 20mm nominal size). Cement alone will be issued free of cost at BHEL stores.	1200.000	CU.M	95.17	114204.00
4.12	18	4.12 Extra for providing and mixing water proofing material in cement concrete work @ 1 kg per 50kg of cement.	30.000	KG.	27.45	823.50
5.9	19	Centering and shuttering including strutting, propping etc. and removal of form for:				
5.9.3	19A	Suspended floors, roofs, landings, balconies and access platform.	5280.000	SQ.M	187.35	989208.00
5.9.5	19B	Lintels, beams, plinth beams, girders, bressumers and cantilevers.	120.000	SQ.M	162.65	19518.00
5.9.7	19C	Stair cases (except landing & spiral staircases)	600.000	SQ.M	204.00	122400.00

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5.9.15	19D	Small lintels not exceeding 1.5m clear span, moulding as in cornices, window sills, string courses, bands, copings, bed plates, anchor blocks and the like.	2400.000	SQ.M	119.25	286200.00
5.9.19	19E	Weather shade, chajjas, corbels, edges etc.	1020.000	SQ.M	258.60	263772.00
DATA	20	Providing vertical drops, fins, facias etc., for ann overall thickness of 75mm with 1:2:4 cement concrete using 6mm gauge granite stone chips for 50mm thick inner core applied on chickenmesh and neatly plastered with cement mortar 1:4, 12mm thick on both faces, finishing, curing etc., complete. Rate to include cost of all materials and labour but excluding fabrication charges for reinforcement as per standard specifications. Cement & reinforcement steel alone will be issued free of cost at BHEL stores.	600.000	SQ.M	409.61	245768.64
5.22.3	21	Reinforcement for R.C.C. work including straightening, cutting, bending, placing in position and binding all complete. Cold twisted bars. Reinforcement will be issued free of cost at BHEL stores.	102000.000	KG.	6.19	631380.00
5.33	22	5.33 Providing and laying in position machine batched, machine mixed and machine vibrated design mix cement concrete of specified grade for reinforced cement concrete work including pumping of concrete to site of laying but excluding the cost of centering, shuttering, finishing and reinforcement, including Admixtures in recommended proportions as per IS 9103 to accelerate, retard setting of concrete, improve workability without impairing strength and durability as per direction of Engineer-in-charge. M-25 grade reinforced cement concrete by using 410kg. of cement per cum	180.000	CU.M.	2023.60	364248.00

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		of concrete. All work up to floor V level. Cement alone will be issued free of cost at BHEL stores.				
5.37	23	Providing and laying in position ready mixed concrete manufactured in fully automatic batching plant and transported to site of work in transit mixer for a lead up to 10kms having continuous agitated mixer, manufactured as per mix design of specified grade for reinforced cement concrete work including pumping of R.M.C. from transit mixer to site of laying , excluding the cost of centering, shuttering finishing and reinforcement including cost of admixtures in recommended proportions as per IS : 9103 to accelerate/ retard setting of concrete, improve workability without impairing strength and durability as per direction of the Engineer - in - charge. M-25 grade Reinforced cement concrete by using 410kg of cement per cum of concrete. All works up to floor V level. (No cement well be issued from BHEL stores for this item)	840.000	CU.M.	4356.50	3659460.00
5.39	24	Extra for R.M.C. beyond the initial lead of 10 KM.	16800.000	CUM/KM	20.90	

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					351120.00	
6.1.2	25	Brick work with F.P.S. bricks of class designation 75 in foundation and plinth in: Cement mortar 1:6 (1 cement: 6 coarse sand) Cement alone will be issued free of cost at BHEL stores.	120.000	CU.M.	1798.00	215760.00
6.4.2	26	Brick work with F.P.S. bricks of class designation 75 in superstructure above plinth level up to floor V level in all shapes and sizes in Cement mortar 1:6 (1 cement: 6 coarse sand). Cement alone will be issued free of cost at BHEL stores.	2520.000	CU.M	2033.65	5124798.00
6.12.2	27	Half brick masonry with F.P.S. brick of class designation 75 in foundations and plinth in Cement mortar 1:4 (1 cement :4 coarse sand). Cement alone will be issued free of cost at BHEL stores.	60.000	SQ.M	215.23	12913.80
6.13.2	28	Half brick masonry with F.P.S. bricks of class designation 75 in superstructure above plinth level up to floor V level. Cement mortar 1:4 (1 cement :4 coarse sand) Cement alone will be issued free of cost at BHEL stores.	3000.000	SQ.M	247.68	743040.00
7.1.1	29	Random rubble masonry with hard stone in foundation and plinth including levelling up with cement concrete 1:6:12 (1 cement : 6 coarse sand : 12 graded stone aggregate 20mm nominal size) at plinth level with : Cement mortar 1:6 (1 cement: 6 coarse sand). Cement alone will be issued free of cost at BHEL stores.	1320.000	CU.M	1411.55	1863246.00
AGT.TS/35/01	30	Providing and fixing 40mm thick granite of Hassan green colour gang	300.000	SQ.M	2033.39	610017.00

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		saw cut mirror polished premoulded and prepolished) machine cut for kitchen platforms, vanity counters, window sills , facias and similar locations of required size of approved shade, colour and texture laid over 20mm thick base cement mortar 1:4 (1 cement : 4 coarse sand) with joints treated with white cement, mixed with matching pigment, epoxy touch ups, including rubbing, curing, moulding and polishing to edge to give high gloss finish etc. complete at all levels.Granite of any colour and shade-(Area of slab over 0.50 sqm.) Cement alone will be issued free of cost at BHEL stores.				
DATA	31	Providing wood work in frames of doors, windows, clerestory windows and other frames, wrought framed and fixed in position : Australian Vengai:	27.000	CU.M	79099.10	2135675.70
9.6	32	Providing and fixing 35 mm thick factory made laminated veneer lumber door shutter conforming to IS : 14616 and TADS 15:2001 (Part B) including ISI marked black enameled M.S. butt hinges with necessary screws as per directions of Engineer-in-charge and panelling with panels of:				
9.6.1	32A	12mm thick plain grade - 1, medium density flat pressed three layer particle board FPT - I or graded wood particle board FPT - I IS : 3087 marked bonded with BWP type synthetic resin adhesive as per IS : 848 :	720.000	SQ.M	1877.20	1351584.00
BUDGET QUOTI	33	Supplying and fixing of UPVC windows (single / double leaf shutter)/Fixed louvered Ventilators. The profiles are hollow, multi-chambered and steel reinforced with an outer wall thickness of 2.5mm. The window unit is	540.000	SQ.M	3753.97	2027143.80

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		designed with all corners, transom/mullion joints mitred and fusion welded. The outer frame should hold appropriate EPDM gaskets. The entire window is steel reinforced. The window unit should be designed such that water drainage does not pass through the reinforcement chamber and the unit is free from sharp edges and blurs, including providing and fixing all accessories confirming to IS standard like stainless steel friction hinges, Handles of powder coated or polyurethane coated with Single Glazing glass of 5mm thick (pin headed). Installation of frames to be carried with suitable Anchor Fastners & Proper Silicone Sealing works to be carried out in exterior & Interior Crevices.				
9.21.3	34	Providing and fixing ISI marked flush door shutters conforming to IS: 2202 (Part I) non-decorative type, core of block board construction with frame of 1st class hard wood and well matched commercial 3 ply veneering with vertical grains or cross bands and face veneers on both faces of shutters : 25mm thick (for cupboard) including ISI marked nickel plated bright finished M.S. piano hinges with necessary screws	384.000	SQ.M	853.05	327571.20
9.40.1.1	35	Providing and fixing wooden moulded beading to door and window frames with iron screws, plugs and priming coat on unexposed surface etc. complete : 2nd class teak wood 50 x 12mm	100.000	R.M.	53.85	5385.00
9.46.2	36	Providing and fixing curtain rods of 1.25 mm thick chromium plated brass plate, with two chromium plated brass brackets fixed with C.P. brass screws and wooden plugs, etc., wherever necessary complete : 20mm dia	300.000	R.M.	187.80	56340.00

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9.48.2	37	Providing and fixing M.S. grills of required pattern in frames of windows etc. with M.S. flats, square or round bars etc. all complete. Fixed to openings /wooden frames with rawl plugs screws etc	14256.000	KG	64.40	918086.40
9.53	38	Providing 40x5 mm flat iron hold fast 40 cm long including fixing to frame with 10 mm diameter bolts, nuts and wooden plugs and embeddings in cement concrete block 30x10x15cm 1:3:6 mix (1 cement: 3 coarse sand : 6 graded stone aggregate 20mm nominal size). Cement alone will be issued free of cost at BHEL stores.	6000.000	EACH	55.80	334800.00
9.79.4	39	Providing and fixing special quality bright finished brass cupboard or ward robe locks with four levers including necessary screws etc. complete (best make of approved quality) : 75 mm lock	192.000	EACH	115.45	22166.40
9.96-100	40	Providing and fixing aluminium fittings ISI marked anodised (anodic coating not less than grade AC 10 as per IS:1868) transparent or dyed to the required colour or shade with nuts and screws etc complete.				
9.96.2	40A	250 x 16 mm sliding door bolts	672.000	EACH	134.10	90115.20
9.97.3	40B	200 x 10mm tower bolts	480.000	EACH	52.00	24960.00
9.97.5	40C	100 x 10mm tower bolts	2880.000	EACH	32.15	92592.00
9.100.2	40D	100 mm handle	720.000	EACH	35.30	25416.00
9.100.3	40E	75 mm handle	2880.000	EACH	28.35	81648.00
L.S.	40F	Nylon buffer for doors & windows	2880.000	EACH	10.00	28800.00
L.S.	40G	Hook & eye 150 mm x 3mm	2880.000	EACH	10.00	28800.00
11.6.1	41	Cement plaster skirting (up to 30 cm height) with cement mortar 1:3 (1 cement: 3 coarse sand) finished with a floating coat of neat cement.	60.000	SQ.M	95.98	5758.80

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		Cement will be issued free of cost at BHEL stores.				
11.16.1	42	Precast terrazo tiles 22mm thick with graded marble chips of size upto 12mm laid in floors, and landings, jointed with neat cement slurry mixed with pigment to match the shade of the tiles including rubbing and polishing complete with precast tiles on 20mm thick bed of cement mortar 1:4 (1 cement :4 coarse sand) : Light shade using white cement. Cement alone will be issued free of cost at BHEL stores.	1.000	SQ.M	520.59	520.59
11.36	43	Providing and fixing 1st quality ceramic glazed wall tiles conforming to IS : 15622 (thickness to be specified by the manufacture) of approved make in all colours, shades except bergundy, bottle green, black of any size as approved by Engineer-in-Charge in skirting, risers of steps and dados over 12 mm thick bed of cement Mortar 1:3 (1 cement : 3 coarse sand) and jointing with grey cement slurry @ 3.3kg per sqm including pointing in white cement mixed with pigment of matching shade complete. Cement will be issued free of cost at BHEL stores.	1500.000	SQ.M	492.26	738390.00
11.37	44	Providing and laying Ceramic glazed floor tiles 300x300 mm (thickness to be specified by the manufacturer) of 1st quality conforming to IS : 15622 of approved make in colours such as White, Ivory, Grey, Fume Red Brown, laid on 20 mm thick Cement Mortar 1:4 (1 Cement : 4 Coarse sand) including pointing the joints with white cement and matching pigment etc., complete. Cement alone will be issued free of cost at BHEL stores.	6360.000	SQ.M	534.31	3398211.60

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DATA	45	Providing and laying weathering course on top of roof slab with brick jelly of size 20mm and pure lime (no sand) in the proportion of 32:12.5 to an average thickness of 75mm concrete well beaten with wooden battens so as to secure a minimum slope of 1 in 48 and top finished with two courses of ressed tiles of size 25 cm x 25cm x 1.2 cm set in cement mortar 1:3 mixed with crude oil at 10% by weight of cement and pointing with the same oiled mortar etc. complete as per standard specifications. Cement only will be issued free of cost at BHEL stores.	3120.000	SQ.M.	583.50	1820532.48
12.41	46	Providing and fixing on wall face unplasticised Rigid PVC rain water pipes conforming to IS : 13592 Type A including jointing with seal ring conforming to IS : 5382 leaving 10 mm gap for thermal expansion.(i) Single socketed pipes including clamping to wall.				.00
12.41.1	46A	75 mm dia pipe	600.000	R.M	95.00	57000.00
12.41.2	46B	110mm dia pipe	1800.000	R.M.	163.40	294120.00
12.42	47	Providing and fixing on wall face unplasticised - PVC moulded fittings/ accessories for unplasticised Rigid PVC rain water pipes conforming to IS : 13592 Type A including jointing with seal ring conforming to IS : 5382 leaving 10 mm gap for thermal expansion.				
12.42.1.1	47A	Coupler 75mm	60.000	EACH	81.40	4884.00
12.42.1.2	47B	110 mm dia coupler	144.000	EACH	101.65	14637.60
12.42.5.1	47C	75mm Bend 87.5 degree	288.000	EACH	88.40	25459.20
12.42.5.2	47D	110 mm dia Bend	192.000	EACH	134.20	25766.40
12.42.6.1	47E	75mm dia shoe	48.000	EACH	152.25	7308.00

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12.42.6.2	47F	110mm shoe	96.000	EACH	263.10	25257.60
12.42.3.1	47G	Single tee with door 75 x 75 x 75mm	96.000	EACH	177.45	17035.20
12.42.3.2	47H	Single tee with door 110 x 110 x 110mm	96.000	EACH	260.70	25027.20
12.38	48	Providing and fixing M.S. holder bat clamps of approved design or C.I. or S.C.I. rain water pipes embeded in and including cement concrete blocks 10x10x10 cm of 1:2:4 (1 cement : 2 coarse sand :4 graded stone aggregate 20mm nominal size) and cost of cutting holes and making good the walls etc. Cement will be issued free of cost at BHEL stores.				
12.38.1	48A	100MM Diameter	240.000	EACH	39.45	9468.00
13.1.2	49	Plastering in cement mortar 1:6 (1 cement: 6 fine sand) , 12 mm thick Cement alone will be issued free of cost at BHEL stores.	15780.000	SQ.M	49.00	773220.00
13.2.1	50	Plastering in cement mortar 1:4 (1 cement :6 fine sand), 15mm thick. Cement only will be issued free of cost at BHEL stores.	192.000	SQ.M	56.47	10842.24
13.2.2	51	Plastering in cement mortar 1:6 (1 cement :6 fine sand), 15mm thick. Cement alone will be issued free of cost at BHEL stores.	12000.000	SQ.M	56.28	675360.00
13.3.1	52	20 mm cement plaster of mix 1:4 (1 cement: 4 fine sand) cement alone will be issued free of cost at BHEL stores.	600.000	SQ.M	66.37	39822.00
13.16	53	6mm cement plaster of mix 1:3 (1 cement :3 fine sand) for ceiling , RCC / CC exposed surfaces. Cement will be issued free of cost at BHEL stores.	3240.000	SQ.M	43.14	139773.60
13.28	54	12mm thick plain cement mortar bands in cement motar 1:4 (1cement : 4 fine sand). Raised band. Cement alone will be issued free of cost at BHEL stores.	540.000	SQ.M	137.55	74277.00
13.37.1	55	White washing with lime to give an even shade -three or more coats on new	31800.000	SQ.M	6.75	214650.00

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		work.				
13.42.1	56	Distempering with 1st quality acrylic washable distemper (ready mixed) of approved manufacturer and of required shade and colour complete, as per manufacturer's specification two or more coats on new work.	3600.000	SQ.M	23.55	84780.00
13.46	57	Finishing walls with Acrylic Smooth exterior paint of required shade : New work (Two or more coat applied @ 1.67 ltr/10 sqm over and including base coat of water proofing cement paint applied @ 2.20 kg/10 sqm).	13200.000	SQ.M	50.40	665280.00
13.50.1	58	Applying priming coat:With ready mixed pink or Grey primer of approved brand and manufacture on wood work (hard and soft wood)	1200.000	SQ.M	16.55	19860.00
13.61.1	59	Painting with synthetic enamel paint of approved brand and manufacture to give an even shade : Two or more coats on new work	480.000	SQ.M	33.35	16008.00
13.62.1	60	Painting with synthetic enamel paint of approved brand and manufacture of required colour to give an even shade: Two or more coats on new work over an under coat of suitable shade with ordinary paint of approved brand and manufacture.	4800.000	SQ.M	51.30	246240.00
13.33	61	Pointing on stone work with cement mortar 1:3 (1 cement: 3 fine sand) :Flush/Ruled pointing. Cement will be issued free of cost at BHEL stores.	720.000	SQ.M	56.44	40636.80
17.1	62	Providing and fixing water closet squatting pan (Indian type W.C. pan) with 100mm sand cast Iron P or S trap, 10 litre low level white P.V.C. flushing cistern with manually controlled device (handle lever)	96.000	EACH	2252.85	216273.60

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ACCEPTING OFFICER

BHARAT HEAVY ELECTRICALS LIMITED

BOILER AUXILIARIES PLANT

RANIPET - 632406

ESTIMATE

ESTIMATE REF NO : CF/C/10/12

NAME OF WORK : CONSTRUCTION OF TYPE "B" - 96 UNITS IN TOWNSHIP

CPWD 2007 REF	SLNO	DESCRIPTION	QTY	UNIT	RATE RS P	AMOUNT RS P
		conforming to IS : 7231, with all fittings and fixtures complete including cutting and making good the walls and floors wherever required : White Vitreous china Orissa pattern W.C. pan of size 580x440mm with integral type foot rests. Cement alone will be issued free of cost at BHEL stores.				
17.7.2	63	Providing and fixing wash basin with S.S. bolt set, 15 mm C.P. brass pillar taps, 32 mm C.P. brass waste of standard pattern, including painting of fittings and brackets, cutting and making good the walls wherever require : White Vitreous China Wash basin size 630x450 mm with a single 15 mm C.P. brass pillar tap. Cement alone will be issued free of cost at BHEL stores.	96.000	EACH	1319.95	126715.20
17.28.2.2	64	Providing and fixing P.V.C. waste pipe for sink or wash basin including P.V.C. waste fittings complete. Flexible pipe of 40mm dia	96.000	EACH	49.10	4713.60
17.31	65	Providing and fixing 600x450 mm beveled edge mirror of superior glass (of approved quality) complete with 6 mm thick hard board ground fixed to wooden cleats with C.P. brass screws and washers complete.	96.000	EACH	493.65	47390.40
17.33	66	Providing and fixing 600x120x5mm glass shelf with edges round of supported on anodised aluminium angle frame with C.P. brass brackets and guard rail complete fixed with 40 mm long screws, rawl plugs etc., complete	96.000	EACH	218.80	21004.80
AGT.TS/35/01	67	Supplying at site of work, carrying and fixing in position of granite (Hassan Green) kitchen sink of more than 50mm thick made from solid	96.000	EACH	4066.09	390344.64

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ESTIMATE

ESTIMATE REF NO : CF/C/10/12

NAME OF WORK : CONSTRUCTION OF TYPE "B" - 96 UNITS IN TOWNSHIP

CPWD 2007 REF	SLNO	DESCRIPTION	QTY	UNIT	RATE RS P	AMOUNT RS P
		granite (carving with machine and jointless of size 0.60 x 0.60 x 0.23 (2' x 2' x 9") on either side of sink should be made to suit 40mm thick granite slab (the 40mm thick granite shall be selted on either side of sink and top level shall b;e same) the front face of the sink to be semi polished and edges to be moulded (nosing). Providing one number of CP waste coupling with waste pipe etc. complete. Rate to include cost of all materials labour charges and making good all damages, to the wall floor etc. complete all as per standard specification and instructions of Engineer-in-charge. Cement for fixing will be issued free of cost at BHEL stores.				
18.7	68	Providing and fixing Chlorinated Polyvinyl Chloride (CPVC) pipes, having thermal stability for hot & cold water supply including all CPVC plain & brass threaded fittings including fixing the pipe with clamps at 1.00 m spacing. This includes jointing of pipes & fittings with one step CPVC solvent cement and testing of joints complete as per direction of Engineer in Charge.				
18.7.1	68A	15 mm nominal outer dia pipes	300.000	R.M.	97.95	29385.00
18.7.2	68B	20mm dia nominal outer dia pipes	600.000	R.M.	115.65	69390.00
18.7.3	68C	25 mm nominal outer dia pipes.	2400.000	R.M.	150.40	360960.00
18.9	69	Providing and fixing Chlorinated Polyvinyl Chloride (CPVC) pipes, having thermal stability for hot & cold water supply including all CPVC plain & brass threaded fittings This includes jointing of pipes & fittings with one step CPVC solvent cement .trenching .refilling & testing of				

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ESTIMATE

ESTIMATE REF NO : CF/C/10/12

NAME OF WORK : CONSTRUCTION OF TYPE "B" - 96 UNITS IN TOWNSHIP

CPWD 2007 REF	SLNO	DESCRIPTION	QTY	UNIT	RATE RS P	AMOUNT RS P
		joints complete as per direction of Engineer in Charge.				
18.9.3	69A	25mm nominal outer dia. jpipes.	600.000	R.M.	144.55	86730.00
18.15.1	70	Providing and fixing brass bib cock of approved quality : 15mm dia. nominal bore.	288.000	EACH	191.70	55209.60
18.16.1	71	Providing and fixing brass stop cock of approved quality - 15mm nominal bore.	288.000	EACH	191.70	55209.60
18.17.1	72	Providing and fixing gun meal gate valve with C.I. wheel of approved quality (Screwed end): 25mm nominal bore.	192.000	EACH	285.50	54816.00
18.22.1	73	Providing and fixing C.P. brass shower rose with 15 or 20 mm inlet: 100 mm diameter	96.000	EACH	40.40	3878.40
19.1.2	74	Providing, laying and jointing glazed stoneware pipes grade 'A' with stiff mixture of cement mortar in the proportion of 1:1 (1 cement : 1 fine sand) including testing of joints etc. complete :150 mm diameter Cement will be issued free of cost at BHEL stores.	1200.000	R.M.	134.92	161904.00
1.1.1	75	Carriage of materials by mechanical transport including loading, unloading & stacking - excavated earth, debris etc.				
1.1.2 (I)	75A	1 K.M. lead	1200.000	CU.M	49.42	59304.00
1.1.2 (II)	75B	2 K.M. lead	100.000	CU.M	56.41	5641.00
1.1.2 (III)	75C	3 K.M. lead	100.000	CU.M	63.32	6332.00
1.1.2 (IV)	75D	4 K.M. lead	50.000	CU.M	69.99	3499.50
19.30	76	Constructing brick masonry chamber for underground C.I. inspection chamber and bends with 75 class designation bricks in cement mortar 1:4 (1 cement : 4 coarse sand) C.I. cover with frame (light duty) 455x610 mm internal dimensions, total weight of cover with				

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BOILER AUXILIARIES PLANT

RANIPET - 632406

ESTIMATE

ESTIMATE REF NO : CF/C/10/12

NAME OF WORK : CONSTRUCTION OF TYPE "B" - 96 UNITS IN TOWNSHIP

CPWD 2007 REF	SLNO	DESCRIPTION	QTY	UNIT	RATE RS P	AMOUNT RS P
		frame to be not less than 38 kg (weight of cover 23 kg and weight of frame 15 kg) R.C.C. top slab with 1:2:4 mix (1 cement :2 coarse sand : 4 graded stone aggregate 20 mm nominal size) foundation concrete 1:5:10 (1 cement : 5 fine sand : 10 graded stone aggregate 40 mm nominal size), inside plastering 12 mm thick with cement mortar 1:3 (1 cement : 3 coarse sand) finished smooth with a floating coat of neat cement on walls and bed concrete etc. complete as per standard design : Cement will be issued free of cost at BHEL stores.				
19.30.2.1	76A	Inside dimensions 500x700 mm and 45 cm deep for pipe line with one or two inlets : with F.P.S bricks.	96.000	EACH	3062.59	294008.64
5.18	77	Providing precast cement concrete Jali 1:2:4 (1 cement : 2 coarse sand : 4 graded stone aggregate 6mm nominal size) reinforced with 1.6 mm dia mild steel wire including centering and shuttering, roughening cleaning, fixing and finishing in cement mortar 1:3 (1 cement: 3 fine sand) etc. complete excluding plastering of the jambs, sills and soffits. Cement for fixing alone will be issued free of cost at BHEL stores.				
5.18.1	77A	50 mm thick	200.000	SQ.M.	350.70	70140.00
18.18.3	78	Providing and fixing ball valve (brass) of approved quality, High or low pressure, with plastic floats complete. 25mm nominal bore	96.000	EACH	385.90	37046.40
18.65	79	Providing and fixing PTMT soap Dish Holder having length of 138mm, breadth 102mm, height of 75mm with concealed fitting arrangements. Weighing not less than 106 gms.	96.000	EACH	133.30	12796.80

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ESTIMATE

ESTIMATE REF NO : CF/C/10/12

NAME OF WORK : CONSTRUCTION OF TYPE "B" - 96 UNITS IN TOWNSHIP

CPWD 2007 REF	SLNO	DESCRIPTION	QTY	UNIT	RATE RS P	AMOUNT RS P
DATA	80	Providing, suplling and fixing in position of ferro cement water tank of singel compartment of 800 litres, capacity of inner dimension 1300mm x 900mm x 800mm in cement mortar 1:2, with 40mm thick bottom finished wall thickness, 32mm wall thickness sides alround, & 25mm thick pre-cast cover slab using 10G x 10G weld mesh & two layers of chickenmesh 28 gauge. Rate to include cost of weldmesh, chickenmesh, fabrication, casting, finishing, carrying and fixing in position, curing etc., complete and cost of 25mm dia G.i. inlet, outlet, scour, overflow pipes & air vent ipes including supplying and fixing of 1 No. of 25mm dia automatic float arrangement of approved make with all necessary fittings etc., labour & incidental etc. complete. All as per drawaings and standard specifications. The rate shall exclude cost of reinforcement & Cement which will be issued free of cost at BHEL Stores. (Ref. Drg. No. BHE-BAP-C-30-127/R1)	96.000	EACH	3936.04	377859.84
17.73.2	81	Providing and fixing PTMT towel rail complete with brackets fixed to wooden cleats with CP brass screws with concealed fitting arrangement of approved quality and colour. 600mm long towel rail with total length of 645mm, width 78mm and effective height of 88mm, weighing not less than 190gms.	192.000	EACH	329.50	63264.00
19.4.2	82	Providing and fixing square-mouth S.W. gully trap grade 'A' complete with C.I. grating brick masonry chamber with water tight C.I. cover with frame of 300 x300 mm size (inside) the weight of cover to be not less than 4.50 kg and frame to be not less than 2.70 kg as per standard design :	132.000	EACH	827.27	109199.64

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RANIPET - 632406

ESTIMATE

ESTIMATE REF NO : CF/C/10/12

NAME OF WORK : CONSTRUCTION OF TYPE "B" - 96 UNITS IN TOWNSHIP

CPWD 2007 REF	SLNO	DESCRIPTION	QTY	UNIT	RATE RS P	AMOUNT RS P
		150 x 100 mm size P type. With F.P.S. bricks class designation 75				
PO 1592403	83	Providing solid door frame of size 50 x 47mm with a wall thickness of 5mm made out of 5mm rigid PVC foam sheet, miter cut at two corners and joined with 2 Nos. of MS 'L' brackets of 15mm square in the size of 150 x 150mm. The PVC door frame is reinforced with 19 x 19mm MS square tube of 19 gauge and it will be reinforced by country wood. The door frame shall be fixed to the wall by drilling 100mm long MS screws by using PVC fasteners. Solid PVC door made on a structure of M.S. tubular frame 19 gauge of 19mm x 19mm for (styles) and 15 x 15mm (top & bottom rails) M.S. frame to be covered with 5mm thick het moulded PVC "C" channel of size 50 x 30mm for styles with 5mm thick PVC sheet,)75mm wide for lock rail top rail and bottom rail on either side) panelling of 5mm thick PVC sheet to be fitted in the M.S. frame sealed to the styles and rails with 30 x 5mm thick PVC sheet bedding on either side and joined together with cement solvent adhesive etc.				
PO 1592403	83A	Supplying and fixing of solid PVC doors of size 750mm x 1850mm of Rajshri solid panel PVC door or "Quote" solid panel PVC door with the following furniture fittings: 1) 4" Al. hinges-3 Nos., 2)150 x 10mm Al. Aldrop set (Sliding bolt) - 1 No. outside, 3) 6" Al. tower bolt set (150mm long) - 2 Nos inside & 4)4" Al. handle - 2 Nos. one on each side with necessary screws depending upon the opening (left / right side). Fixing will be done at site.	240.000	EACH	1893.05	454332.00
DATA	84	Providing vertical drops, fins, facias etc., for ann overall thickness of 50mm with 1:2:4 cement concrete using	300.000	SQ.M	388.61	116583.54

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BOILER AUXILIARIES PLANT

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ESTIMATE

ESTIMATE REF NO : CF/C/10/12

NAME OF WORK : CONSTRUCTION OF TYPE "B" - 96 UNITS IN TOWNSHIP

CPWD 2007 REF	SLNO	DESCRIPTION	QTY	UNIT	RATE RS P	AMOUNT RS P
		6mm gauge granite stone chips for 25mm thick inner core applied on chickenmesh and neatly plastered with cement mortar 1:4, 12mm thick on both faces, finishing, curing etc., complete. Rate to include cost of all materials and labour but excluding fabrication charges for reinforcement as per standard specifications. Cement & reinforcement steel alone will be issued free of cost at BHEL stores.				
DATA	85	Providing balustrade for an overall thickness of 100 mm with 1:2:4 cement concrete using 12 to 20mm gauge granite stone chips for 75mm thick inner core applied on chickenmesh and neatly plastered with cement mortar 1:4, 12mm thick on both faces and hand rails plastered in cement mortar 1:4 with an admixture of red oxide including finishing, polishing, curing etc., complete. Rate to include cost of all materials and labour but excluding fabrication charges for reinforcement steel. Cement & reinforcement steel alone will be issued free of cost at BHEL stores.	360.000	SQ.M	487.53	175510.08
5.17	86	Providing, hoisting and fixing up to floor five level precast reinforced cement concrete in vertical & horizontal fins individually or forming box louvers setting in cement mortar 1:2 (1 cement : 2 coarse sand) including the cost of required centering, shuttering and finishing smooth with 6mm thick cement plaster 1:3 (1 cement : 3 fine sand) on exposed surfaces complete but excluding the cost of reinforcement with 1:2:4 (1 cement : 2 coarse sand : 4 graded stone aggregate 20 mm nominal size). Cement alone will be issued free of cost at BHEL stores.	35.000	CU.M	4295.36	150337.60

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BHARAT HEAVY ELECTRICALS LIMITED
BOILER AUXILIARIES PLANT
RANIPET - 632406

ESTIMATE

STIMATE REF NO : CF/C/10/12
AME OF WORK : CONSTRUCTION OF TYPE "B" - 96 UNITS IN TOWNSHIP

ESCALATION @ 26.00 %	(A)	39692617.17
TOTAL ESTIMATED VALUE	(B)	10320080.46
		50012697.63

BHARAT HEAVY ELECTRICALS LIMITED

BOILER AUXILIARIES PLANT

RANIPET - 632406

ESTIMATE

ESTIMATE REF NO : CF/C/10/13

NAME OF WORK : CONSTRUCTION OF TYPE "C" - 144 UNITS IN TOWNSHIP

CPWD 2007 REF	SLNO	DESCRIPTION	QTY	UNIT	RATE RS P	AMOUNT RS P
2.1	01	Earth work in surface excavation not exceeding 30 cm in depth but exceeding 1.5 m in width as well as 10 sqm on plan including disposal of excavated earth upto 50 m and lift upto 1.5 m, disposed soil to be levelled and neatly dressed :				
2.1.1	01A	In all kinds of soil	9000.000	CU.M.	20.74	186660.00
2.6.1	02	Earth work in excavation by mechanical means (Hydraulic excavator) / manual means over areas (exceeding 30 cm in depth, 1.5m in width as well as 10 sqm on plan) including disposal of excavated earth, lead upto 50 m and lift upto 1.5 m, disposed earth to be levelled and neatly dressed.All kinds of soil	10.000	CU.M.	101.85	1018.50
2.7	03	Earth work in excavation by mechanical means (Hydraulic excavator) / manual means over areas (exceeding 30 cm in depth, 1.5m in width as well as 10 sqm on plan) including disposal of excavated earth, lead upto 50 m and lift upto 1.5 m, disposed earth to be levelled and neatly dressed				
2.7.1	03A	Ordinary rock	10.000	CU.M	152.60	1526.00
2.8.1	04	Earth work in excavation by mechanical means (Hydraulic excavator) / manual means in foundation trenches or drains (not exceeding 1.5 m in width or 10 sqm on plan) including dressing of sides and ramming of bottoms, lift upto 1.5 m, including getting out the excavated soil and disposal of surplus excavated soil as directed, within a lead of 50 m. All kinds of soils	3960.000	CU.M.	103.40	409464.00
2.9	05	Excavation work by mechanical means (Hydraulic excavator)/manual means in foundation trenches or drains not exceeding 1.5 m in width or 10 sqm on plan including dressing of				

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BOILER AUXILIARIES PLANT

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ESTIMATE

ESTIMATE REF NO : CF/C/10/13

NAME OF WORK : CONSTRUCTION OF TYPE "C" - 144 UNITS IN TOWNSHIP

CPWD 2007 REF	SLNO	DESCRIPTION	QTY	UNIT	RATE RS P	AMOUNT RS P
		sides and ramming of bottoms lift upto 1.5 m, including getting out the excavated soil and disposal of surplus excavated soils as directed, within a lead of 50m.				
2.9.1	05A	In ordinary rock.	720.000	CU.M.	162.65	117108.00
2.9.2	05B	Hard rock (requiring blasting)	50.000	CU.M	272.95	13647.50
2.9.3	05C	Hard rock (Blasting prohibited)	50.000	CU.M	332.45	16622.50
2.26.	06	Extra for every additional lift of 1.50m or part thereof in.				
2.26.1	06A	All kinds of soils	100.000	CU.M.	18.90	1890.00
2.26.2	06B	Ordinary or hard rock	100.000	CU.M.	33.85	3385.00
2.25	07	Filling available excavated earth (excluding rock) in trenches, plinth, sides of foundations etc. in layers not exceeding 20cm in depth, consolidating each deposited layer by ramming and watering, lead up to 50 m and lift upto 1.5 m.	1476.000	CU.M	45.70	67453.20
2.27	08	Supplying and filling in plinth with Jamuna sand under floors including, watering, ramming consolidating and dressing complete.	760.000	CU.M.	301.50	229140.00
2.28	09	Surface dressing of the ground including removing vegetation and in-equalities not exceeding 15 cm deep and disposal of rubbish, lead upto 50 m and lift upto 1.5 m In all kinds of soil.	3600.000	SQ.M	5.12	18432.00
2.31	10	Clearing jungle including uprooting of rank vegetation, grass, brush wood, trees and saplings of girth upto 30 cm measured at a height of 1 m above ground level and removal of rubbish upto a distance of 50 m outside the periphery of the area cleared.	1000.000	SQ.M	2.64	2640.00
2.32	11	Clearing grass and removal of the rubbish upto a distance of 50 m outside the periphery of the area	1000.000	SQ.M.	1.36	1360.00

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ESTIMATE

ESTIMATE REF NO : CF/C/10/13

NAME OF WORK : CONSTRUCTION OF TYPE "C" - 144 UNITS IN TOWNSHIP

CPWD 2007 REF	SLNO	DESCRIPTION	QTY	UNIT	RATE RS P	AMOUNT RS P
		cleared.				
2.33	12	Felling trees of the girth (measured at a height of 1 m above ground level) including cutting of trunks and branches removing the roots and stacking of serviceable material and disposal of unserviceable material.				
2.33.1	12A	Beyond 30 cm girth upto and including 60 cm girth	12.000	EACH	81.70	980.40
2.33.2	12B	Beyond 60 cm girth upto and including 120 cm girth	10.000	EACH	359.80	3598.00
2.33.3	12C	Beyond 120 cm girth upto and including 240 cm girth	3.000	EACH	1658.85	4976.55
2.33.4	12D	Above 240 cm girth	2.000	EACH	3330.20	6660.40
2.34	13	Supplying chemical emulsion in sealed containers including delivery as specified. Chlorpyriphos / Lindane emulsifiable concentrate of 20%	12996.000	LITRE	174.30	2265202.80
DATA	14	Diluting and injecting chemical emulsion (to be supplied free of cost at site of work) for PRE-CONSTRUCTIONAL Anti-termite treatment and creating a continuous barrier under and around the column pits, wall trenches, basement excavation, top surface of plinth filling, junction of wall and floor, along the external perimeter of building expansion joints, over the top surface of consolidated earth of which apron is to be laid, surroundings of pipes and conduits etc. complete as per specification. (Plinth area of the building at ground floor only shall be measured for payment).	6840.000	SQ.M	83.27	569566.80
4.1	15	Providing and laying in position cement concrete of specified grade excluding the cost of centering and shuttering - All work up to plinth level : Cement alone issued free of cost at BHEL stores.				
4.1.3	15A	1:2:4 (1 cement: 2 coarse sand : 4 graded stone aggregate 20 mm nominal size)	1.000	CU.M.	1599.85	1599.85

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ESTIMATE

ESTIMATE REF NO : CF/C/10/13

NAME OF WORK : CONSTRUCTION OF TYPE "C" - 144 UNITS IN TOWNSHIP

CPWD 2007 REF	SLNO	DESCRIPTION	QTY	UNIT	RATE RS P	AMOUNT RS P
4.1.9	15B	1:4:8 (1 cement: 4 fine sand : 8 graded stone aggregate 40 mm nominal size)	50.000	CU.M.	1415.55	70777.50
4.1.10	15C	1:5:10 (1 cement : 5 coarse sand : 10 graded stone aggregate 40 mm nominal size)	1260.000	CU.M.	1564.35	1971081.00
4.5.1	16	Providing and fixing up to floor five level precast cement concrete string or lacing courses, copings, bed plates, anchor blocks, plain window sills, shelves, louvers, steps, stair cases, etc. including hoisting and setting in position with cement mortar 1:3 (1 Cement: 3 coarse sand), cost of required centering, shuttering and finishing smooth with 6mm thick cement plaster 1:3 (1 Cement : 3 fine sand) on exposed surfaces complete in 1:2:4 (1 cement : 2 coarse sand: 4 graded stone). Cement only will be issued free of cost at BHEL stores.	5.000	CU.M.	2845.95	14229.75
4.11	17	4.11 Providing and laying damp-proof course 50mm thick with cement concrete 1:2:4 (1 cement : 2 coarse sand : 4 graded stone aggregate 20mm nominal size). Cement alone will be issued free of cost at BHEL stores.	2340.000	SQ.M	95.17	222697.80
4.12	18	4.12 Extra for providing and mixing water proofing material in cement concrete work @ 1 kg per 50kg of cement.	750.000	KG.	27.45	20587.50
5.33	19	5.33 Providing and laying in position machine batched, machine mixed and machine vibrated design mix cement concrete of specified grade for reinforced cement concrete work including pumping of concrete to site of laying but excluding the cost of centering, shuttering, finishing and reinforcement, including Admixtures in recommended proportions as per IS 9103 to accelerate, retard setting of concrete, improve	324.000	CU.M.	2023.60	655646.40

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BOILER AUXILIARIES PLANT

RANIPET - 632406

ESTIMATE

ESTIMATE REF NO : CF/C/10/13

NAME OF WORK : CONSTRUCTION OF TYPE "C" - 144 UNITS IN TOWNSHIP

CPWD 2007 REF	SLNO	DESCRIPTION	QTY	UNIT	RATE RS P	AMOUNT RS P
		workability without impairing strength and durability as per direction of Engineer-in-charge. M-25 grade reinforced cement concrete by using 410kg. of cement per cum of concrete. All work up to floor V level. Cement alone will be issued free of cost at BHEL stores.				
5.37	20	Providing and laying in position ready mixed concrete manufactured in fully automatic batching plant and transported to site of work in transit mixer for a lead up to 10kms having continuous agitated mixer, manufactured as per mix design of specified grade for reinforced cement concrete work including pumping of R.M.C. from transit mixer to site of laying , excluding the cost of centering, shuttering finishing and reinforcement including cost of admixtures in recommended proportions as per IS : 9103 to accelerate/ retard setting of concrete, improve workability without impairing strength and durability as per direction of the Engineer - in - charge. M-25 grade Reinforced cement concrete by using 410kg of cement per cum of concrete. All works up to floor V level. (No cement well be issued from BHEL stores for this item)	1620.000	CU.M.	4356.50	7057530.00
5.39	21	Extra for R.M.C. beyond the initial lead of 10 KM.	16200.000	CUM/KM	20.99	

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ESTIMATE

ESTIMATE REF NO : CF/C/10/13

NAME OF WORK : CONSTRUCTION OF TYPE "C" - 144 UNITS IN TOWNSHIP

CPWD 2007 REF	SLNO	DESCRIPTION	QTY	UNIT	RATE RS P	AMOUNT RS P
					338580.00	
5.17	22	Providing, hoisting and fixing up to floor five level precast reinforced cement concrete in vertical & horizontal fins individually or forming box louvers setting in cement mortar 1:2 (1 cement : 2 coarse sand) including the cost of required centering, shuttering and finishing smooth with 6mm thick cement plaster 1:3 (1 cement : 3 fine sand) on exposed surfaces complete but excluding the cost of reinforcement with 1:2:4 (1 cement : 2 coarse sand : 4 graded stone aggregate 20 mm nominal size). Cement alone will be issued free of cost at BHEL stores	12.000	CU.M	4295.36	51544.32
5.9	23	Centering and shuttering including strutting, propping etc. and removal of form for:				
5.9.3	23A	Suspended floors, roofs, landings, balconies and access platform.	10850.000	SQ.M	187.35	2032747.50
5.9.7	23B	Stair cases (except landing & spiral staircases)	162.000	SQ.M	204.00	33048.00
5.9.5	23C	Lintels, beams, plinth beams, girders, bressumers and cantilevers.	100.000	SQ.M	162.65	16265.00
5.9.15	23D	Small lintels not exceeding 1.5m clear span, moulding as in cornices, window sills, string courses, bands, copings, bed plates, anchor blocks and the like.	1872.000	SQ.M	119.25	223236.00
5.9.19	23E	Weather shade, chajjas, corbels, edges etc.	360.000	SQ.M	258.60	93096.00
5.22	24	Reinforcement for R.C.C. work including straightening, cutting, bending, placing in position and binding all complete.				
5.22.3	24A	CTD bars. Reinforcement steel will be issued free of cost at BHEL stores.	194400.000	KG.	6.19	1203336.00
6.1.2	25	Brick work with F.P.S. bricks of class designation 75 in	150.000	CU.M.	1798.00	269700.00

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BOILER AUXILIARIES PLANT

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ESTIMATE

ESTIMATE REF NO : CF/C/10/13

NAME OF WORK : CONSTRUCTION OF TYPE "C" - 144 UNITS IN TOWNSHIP

CPWD 2007 REF	SLNO	DESCRIPTION	QTY	UNIT	RATE RS P	AMOUNT RS P
		foundation and plinth in: Cement mortar 1:6 (1 cement: 6 coarse sand) Cement alone will be issued free of cost at BHEL stores.				
6.4.2	26	Brick work with F.P.S. bricks of class designation 75 in superstructure above plinth level up to floor V level in all shapes and sizes in Cement mortar 1:6 (1 cement: 6 coarse sand). Cement alone will be issued free of cost at BHEL stores.	6000.000	CU.M	2106.50	12639000.00
6.12.2	27A	Half brick masonry with F.P.S. brick of class designation 75 in foundations and plinth in Cement mortar 1:4 (1 cement : 4 coarse sand). Cement alone will be issued free of cost at BHEL stores.	72.000	SQ.M	215.23	15496.91
6.13.2	27B	Half brick masonry with F.P.S. bricks of class designation 75 in superstructure above plinth level up to floor V level. Cement mortar 1:4 (1 cement :4 coarse sand) Cement alone will be issued free of cost at BHEL stores.	8310.000	SQ.M	247.68	2058220.80
7.1.1	28	Random rubble masonry with hard stone in foundation and plinth including levelling up with cement concrete 1:6:12 (1 cement : 6 coarse sand : 12 graded stone aggregate 20mm nominal size) at plinth level with : Cement mortar 1:6 (1 cement: 6 coarse sand). Cement alone will be issued free of cost at BHEL stores.	3060.000	CU.M	1411.55	4319343.00
AGT.TS/35/01	29	Providing and fixing 40mm thick granite of Hassan green colour gang saw cut mirror polished premoulded and prepolished) machine cut for kitchen platforms, vanity counters, window sills , facias and similar locations	432.000	SQ.M	2033.39	878426.21

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NAME OF WORK : CONSTRUCTION OF TYPE "C" - 144 UNITS IN TOWNSHIP

CPWD 2007 REF	SLNO	DESCRIPTION	QTY	UNIT	RATE RS P	AMOUNT RS P
		of required size of approved shade, colour and texture laid over 20mm thick base cement mortar 1:4 (1 cement : 4 coarse sand) with joints treated with white cement, mixed with matching pigment, epoxy touch ups, including rubbing, curing, moulding and polishing to edge to give high gloss finish etc. complete at all levels. Granite of any colour and shade-(Area of slab over 0.50 sqm.) Cement alone will be issued free of cost at BHEL stores.				
11.36	30	Providing and fixing 1st quality ceramic glazed wall tiles conforming to IS : 15622 (thickness to be specified by the manufacture) of approved make in all colours, shades except bergundy, bottle green, black of any size as approved by Engineer-in-Charge in skirting, risers of steps and dados over 12 mm thick bed of cement Mortar 1:3 (1 cement : 3 coarse sand) and jointing with grey cement slurry @ 3.3kg per sqm including pointing in white cement mixed with pigment of matching shade complete. Cement will be issued free of cost at BHEL stores.	4680.000	SQ.M	492.26	2303776.80
11.37	31	Providing and laying Ceramic glazed floor tiles 300x300 mm (thickness to be specified by the manufacturer) of 1st quality conforming to IS : 15622 of approved make in colours such as White, Ivory, Grey, Fume Red Brown, laid on 20 mm thick Cement Mortar 1:4 (1 Cement : 4 Coarse sand) including pointing the joints with white cement and matching pigment etc., complete. Cement alone will be issued free of cost at BHEL stores.	10800.000	SQ.M	534.31	5770548.00
DATA	32	Providing wood work in frames of doors, windows, clerestory windows and				

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NAME OF WORK : CONSTRUCTION OF TYPE "C" - 144 UNITS IN TOWNSHIP

CPWD 2007 REF	SLNO	DESCRIPTION	QTY	UNIT	RATE RS P	AMOUNT RS P
		other frames, wrought framed and fixed in position. (Australian Vengai)				
DATA	32A	Australian vengai	43.000	CU.M	79099.10	3401261.30
9.53	33	Providing 40x5 mm flat iron hold fast 40 cm long including fixing to frame with 10 mm diameter bolts, nuts and wooden plugs and embeddings in cement concrete block 30x10x15cm 1:3:6 mix (1 cement: 3 coarse sand : 6 graded stone aggregate 20mm nominal size). Cement alone will be issued free of cost at BHEL stores.	11880.000	EACH	55.80	662904.00
9.6	34	Providing and fixing 35 mm thick factory made laminated veneer lumber door shutter conforming to IS : 14616 and TADS 15:2001 (Part B) including ISI marked black enameled M.S. butt hinges with necessary screws as per directions of Engineer-in-charge and panelling with panels of:				
9.6.1	34A	12mm thick plain grade - 1, medium density flat pressed three layer particle board FPT - I or graded wood particle board FPT - I IS : 3087 marked bonded with BWP type synthetic resin adhesive as per IS : 848 :	1224.000	SQ.M	1877.20	2297692.80
BUDGETORY QI	35	Supplying and fixing of UPVC windows (single / double leaf shutter)/Fixed louvered Ventilators. The profiles are hollow, multi-chambered and steel reinforced with an outer wall thickness of 2.5mm. The window unit is designed with all corners, transom/mullion joints mitred and fusion welded. The outer frame should hold appropriate EPDM gaskets. The entire window is steel reinforced. The window unit should be designed such that water drainage does not pass through the reinforcement chamber and the unit is free from sharp edges and blurs, including providing and fixing	1091.000	SQ.M	3753.97	4095581.27

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NAME OF WORK : CONSTRUCTION OF TYPE "C" - 144 UNITS IN TOWNSHIP

CPWD 2007 REF	SLNO	DESCRIPTION	QTY	UNIT	RATE RS P	AMOUNT RS P
		all accesories confirming to IS standard like stainless steel friction hinges, Handles of powder coated or polyurethane coated with Single Glazing glass of 5mm thick (pin headed). Installation of frames to be carried with suitable Anchor Fastners & Proper Silicone Sealing works to be carried out in exterior & Intereior Crevices.				
9.40.1.1	36	Providing and fixing wooden moulded beading to door and window frames with iron screws, plugs and priming coat on unexposed surface etc. complete : 2nd class teak wood 50 x 12mm	150.000	R.M.	53.85	8077.50
9.48.2	37	Providing and fixing M.S. grills of required pattern in frames of windows etc. with M.S. flats, square or round bars etc. all complete. Fixed to openings /wooden frames with rawl plugs screws etc	28512.000	KG	64.40	1836172.80
9.96-100	38	Providing and fixing aluminium fittings ISI marked anodised (anoidc coating not less than grade AC 10 as per IS:1868) transparent or dyed to the required colour or shade with nuts and screws etc complete.				
9.96.2	38A	250 x 16 mm sliding door bolts	1008.000	EACH	134.10	135172.80
9.97.3	38B	200 x 10mm tower bolts	720.000	EACH	52.00	37440.00
9.97.5	38C	100 x 10mm tower bolts	112.000	EACH	32.15	3600.80
9.100.2	38D	100 mm handle	80.000	EACH	35.30	2824.00
9.100.3	38E	75 mm handle	4320.000	EACH	28.35	122472.00
L.S.	38F	Nylon buffer for doors & windows	4320.000	EACH	10.00	43200.00
L.S.	38G	Hook & eye 150 mm x 3mm	4320.000	EACH	10.00	43200.00
9.79.4	39	Providing and fixing special quality bright finished brass cupboard or ward robe locks with four levers including necessary screws etc. complete (best	288.000	EACH	115.45	33249.60

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NAME OF WORK : CONSTRUCTION OF TYPE "C" - 144 UNITS IN TOWNSHIP

CPWD 2007 REF	SLNO	DESCRIPTION	QTY	UNIT	RATE RS P	AMOUNT RS P
		make of approved quality) : 75 mm lock				
9.21.3	40	Providing and fixing ISI marked flush door shutters conforming to IS: 2202 (Part I) non-decorative type, core of block board construction with frame of 1st class hard wood and well matched commercial 3 ply veneering with vertical grains or cross bands and face veneers on both faces of shutters : 25mm thick (for cupboard) including ISI marked nickel plated bright finished M.S. piano hinges with necessary screws	288.000	SQ.M	853.05	245678.40
9.46.2	41	Providing and fixing curtain rods of 1.25mm thick chromium plated brass plate, with two chromium plated brass brackets fixed with C.P. brass screws and wooden plugs, etc., wherever necessary complete. 20mm dia.	576.000	R.M.	187.80	108172.80
DATA	42	Providing and laying weathering course on top of roof slab with brick jelly of size 20mm and pure lime (no sand) in the proportion of 32:12.5 to an average thickness of 75mm concrete well beaten with wooden battens so as to secure a minimum slope of 1 in 48 and top finished with two courses of pressed tiles of size 25 cm x 25cm x 1.2 cm set in cement mortar 1:3 mixed with crude oil at 10% by weight of cement and pointing with the same oiled mortar etc. complete as per standard specifications. Cement alone will be issued free of cost at BHEL stores.	6500.000	SQ.M.	583.50	3792776.00
12.41	43	Providing and fixing on wall face unplasticised Rigid PVC rain water pipes conforming to IS : 13592 Type A including jointing with seal ring conforming to IS : 5382 leaving 10 mm gap for thermal expansion.(i) Single socketed pipes.				.00

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NAME OF WORK : CONSTRUCTION OF TYPE "C" - 144 UNITS IN TOWNSHIP

CPWD 2007 REF	SLNO	DESCRIPTION	QTY	UNIT	RS RATE P	RS AMOUNT P
12.41.1	43A	75 mm dia pipe	1296.000	R.M	95.00	123120.00
12.41.2	43B	110mm dia pipe	1296.000	R.M.	163.40	211766.40
12.42	44	Providing and fixing on wall face unplasticised - PVC moulded fittings/ accessories for unplasticised Rigid PVC rain water pipes conforming to IS : 13592 Type A including jointing with seal ring conforming to IS : 5382 leaving 10 mm gap for thermal expansion.				
12.42.1.1	44A	Coupler 75mm	216.000	EACH	81.40	17582.40
12.42.1.2	44B	110 mm dia coupler	216.000	EACH	101.65	21956.40
12.42.5.1	44C	75mm Bend 87.5 degree	216.000	EACH	88.40	19094.40
12.42.5.2	44D	110 mm dia Bend	216.000	EACH	134.20	28987.20
12.42.6.1	44E	75mm dia shoe	50.000	EACH	152.25	7612.50
12.42.6.2	44F	110mm shoe	144.000	EACH	263.10	37886.40
12.42.3.1	44G	Single tee with door 75 x 75 x 75mm	144.000	EACH	177.45	25552.80
12.42.3.2	44H	Single tee with door 100 x 100 x 100mm	144.000	EACH	260.70	37540.80
12.38	45	Providing and fixing M.S. holder bat clamps of approved design or C.I. or S.C.I. rain water pipes embeded in and including cement concrete blocks 10x10x10 cm of 1:2:4 (1 cement : 2 coarse sand : 4 graded stone aggregate 20mm nominal size) and cost of cutting holes and making good the walls etc. Cement will be issued free of cost at BHEL stores.				
12.38.1	45A	100MM Diameter	864.000	EACH	39.45	34084.80
13.1.2	46	Plastering in cement mortar 1:6 (1 cement: 6 fine sand) , 12 mm thick Cement alone will be issued free of cost at BHEL stores.	9900.000	SQ.M	49.00	485100.00
13.2.1	47	Plastering in cement mortar 1:4 (1 cement :6 fine sand), 15mm thick.	1440.000	SQ.M	56.47	81316.80

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NAME OF WORK : CONSTRUCTION OF TYPE "C" - 144 UNITS IN TOWNSHIP

CPWD 2007 REF	SLNO	DESCRIPTION	QTY	UNIT	RATE RS P	AMOUNT RS P
		Cement only will be issued free of cost at BHEL stores.				
13.2.2	48	Plastering in cement mortar 1:6 (1 cement :6 fine sand), 15mm thick. Cement alone will be issued free of cost at BHEL stores.	31680.000	SQ.M	56.28	1782950.40
13.16	49	6mm cement plaster of mix 1:3 (1 cement :3 fine sand) for ceiling , RCC / CC exposed surfaces. Cement will be issued free of cost at BHEL stores.	12240.000	SQ.M	43.14	528033.60
13.28	50	12mm thick plain cement mortar bands in cement mortar 1:4 (1cement : 4 fine sand). Raised band. Cement alone will be issued free of cost at BHEL stores.	864.000	SQ.M	137.55	118843.20
13.42	51	Distempering with 1st quality acrylic washable distemper (ready mixed) of approved manufacturer and of required shade and colour complete, as per manufacturer's specification.	8640.000	SQ.M	23.55	203472.00
13.37	52	White washing with lime to give an even shade -three or more coats on new work.	36000.000	SQ.M	6.75	243000.00
13.46	53	Finishing walls with Acrylic Smooth exterior paint of required shade : New work (Two or more coat applied @ 1.67 ltr/10 sqm over and including base coat of water proofing cement paint applied @ 2.20 kg/10 sqm).	28800.000	SQ.M	50.40	1451520.00
13.61.1	54	Painting with synthetic enamel paint of approved brand and manufacture to give an even shade : Two or more coats on new work	7200.000	SQ.M	33.35	240120.00
13.62.1	55	Painting with synthetic enamel paint of approved brand and manufacture of required colour to give an even shade: Two or more coats on new work over an under coat of suitable shade with ordinary paint of approved brand and manufacture.	2520.000	SQ.M	51.30	129276.00

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NAME OF WORK : CONSTRUCTION OF TYPE "C" - 144 UNITS IN TOWNSHIP

CPWD 2007 REF	SLNO	DESCRIPTION	QTY	UNIT	RATE RS P	AMOUNT RS P
11.6.1	56	Cement plaster skirting (up to 30 cm height) with cement mortar 1:3 (1 cement: 3 coarse sand) finished with a floating coat of neat cement. Cement will be issued free of cost at BHEL stores.	1800.000	SQ.M	95.98	172764.00
11.16.1	57	Precast terrazzo tiles 22mm thick with graded marble chips of size upto 12mm laid in floors, and landings, jointed with neat cement slurry mixed with pigment to match the shade of the tiles including rubbing and polishing complete with precast tiles on 20mm thick bed of cement mortar 1:4 (1 cement :4 coarse sand) : Light shade using white cement. Cement alone will be issued free of cost at BHEL stores.	1260.000	SQ.M	520.59	655943.40
13.50.1	58	Applying priming coat:With ready mixed pink or Grey primer of approved brand and manufacture on wood work (hard and soft wood)	3600.000	SQ.M	16.55	59580.00
13.3.1	59	20 mm cement plaster of mix 1:4 (1 cement: 4 fine sand) cement alone will be issued free of cost at BHEL stores.	360.000	SQ.M	66.37	23893.20
13.33	60	Pointing on stone work with cement mortar 1:3 (1 cement: 3 fine sand) :Flush/Ruled pointing. Cement will be issued free of cost at BHEL stores.	1440.000	SQ.M	56.44	81273.60
AGT.TS/35/01	61	Supplying at site of work, carrying and fixing in position of granite (Hassan Green) kitchen sink of more than 50mm thick made from solid granite (carving with machine and jointless of size 0.60 x 0.60 x 0.23 (2' x 2' x 9") on either side of sink should be made to suit 40mm thick granite slab (the 40mm thick granite shall be set on either side of sink and top level shall be same) the front face of the sink to be semi polished and edges to be moulded (nosing). Providing one number of CP	144.000	EACH	4066.09	585516.96

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CPWD 2007 REF	SLNO	DESCRIPTION	QTY	UNIT	RATE RS P	AMOUNT RS P
		waste coupling with waste pipe etc. complete. Rate to include cost of all materials labour charges and making good all damages, to the wall floor etc. complete all as per standard specification and instructions of Engineer-in-charge. Cement for fixing will be issued free of cost at BHEL stores.				
17.31	62	Providing and fixing 600x450 mm beveled edge mirror of superior glass (of approved quality) complete with 6 mm thick hard board ground fixed to wooden cleats with C.P. brass screws and washers complete.	288.000	EACH	493.65	142171.20
17.33	63	Providing and fixing 600x120x5mm glass shelf with edges round of supported on anodised aluminium angle frame with C.P. brass brackets and guard rail complete fixed with 40 mm long screws, rawl plugs etc., complete	288.000	EACH	218.80	63014.40
17.1	64	Providing and fixing water closet squatting pan (Indian type W.C. pan) with 100mm sand cast Iron P or S trap, 10 litre low level white P.V.C. flushing cistern with manually controlled device (handle lever) conforming to IS : 7231, with all fittings and fixtures complete including cutting and making good the walls and floors wherever required : White Vitreous china Orissa pattern W.C. pan of size 580x440mm with integral type foot rests. Cement alone will be issued free of cost at BHEL stores.	144.000	EACH	2278.75	328140.00
17.7.2	65	Providing and fixing wash basin with Stainless steel bolt set, 15 mm C.P. brass pillar tap, 32 mm C.P. brass waste of standard pattern, including	144.000	EACH	1188.75	171180.00

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CPWD 2007 REF	SLNO	DESCRIPTION	QTY	UNIT	RATE RS P	AMOUNT RS P
		painting of fittings and brackets, cutting and making good the walls wherever require : White Vitreous China Wash basin size 630x450 mm with 15 mm C.P. brass pillar taps. Cement alone will be issued free of cost at BHEL stores.				
17.28.2.2	66	Providing and fixing P.V.C. waste pipe for sink or wash basin including P.V.C. waste fittings complete. Flexible pipe of 40mm dia	144.000	EACH	49.10	7070.40
18.15.1	67	Providing and fixing brass bib cock of approved quality : 15mm dia.	864.000	EACH	191.70	165628.80
18.16.1	68	Providing and fixing brass stop cock of approved quality - 15mm nominal bore.	864.000	EACH	191.70	165628.80
18.17.1	69	Providing and fixing gun meal gate valve with C.I. wheel of approved quality (Screwed end): 25mm nominal bore.	288.000	EACH	285.50	82224.00
18.22.1	70	Providing and fixing C.P. brass shower rose with 15 or 20 mm inlet: 100 mm diameter	288.000	EACH	40.40	11635.20
18.7	71	Providing and fixing Chlorinated Polyvinyl Chloride (CPVC) pipes, having thermal stability for hot & cold water supply including all CPVC plain & brass threaded fittings including fixing the pipe with clamps at 1.00 m spacing. This includes jointing of pipes & fittings with one step CPVC solvent cement and testing of joints complete as per direction of Engineer in Charge.				
18.7.1	71A	15 mm nominal outer dia pipes	1800.000	R.M.	97.95	176310.00
18.7.2	71B	20mm dia nominal outer dia pipes	3024.000	R.M.	115.65	349725.60
18.7.3	71C	25 mm nominal outer dia pipes.	1080.000	R.M.	150.40	162432.00
18.9	72	Providing and fixing Chlorinated Polyvinyl Chloride (CPVC) pipes, having thermal stability for hot &				

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CPWD 2007 REF	SLNO	DESCRIPTION	QTY	UNIT	RATE RS P	AMOUNT RS P
		cold water supply including all CPVC plain & brass threaded fittings This includes jointing of pipes & fittings with one step CPVC solvent cement .trenching .refilling & testing of joints complete as per direction of Engineer in Charge.				
18.9.3	72A	25mm nominal outer dia. jpipes.	1800.000	R.M.	144.55	260190.00
19.1.2	73	Providing, laying and jointing glazed stoneware pipes grade 'A' with stiff mixture of cement mortar in the proportion of 1:1 (1 cement : 1 fine sand) including testing of joints etc. complete :150 mm diameter Cement will be issued free of cost at BHEL stores.	100.000	R.M.	134.92	13492.00
1.1.1	74	Carriage of materials by mechanical transport including loading, unloading & stacking - excavated earth, debris etc.				
1.1.1 (I)	74A	1 K.M. lead	1800.000	CU.M	49.42	88956.00
1.1.1 (II)	74B	2 K.M. lead	720.000	CU.M	56.41	40615.20
1.1.1 (III)	74C	3 K.M. lead	720.000	CU.M	63.32	45590.40
1.1.1 (IV)	74D	4 K.M. lead	720.000	CU.M.	69.99	50392.80
19.30	75	Constructing brick masonry chamber for underground C.I. inspection chamber and bends with 75 class designation bricks in cement mortar 1:4 (1 cement : 4 coarse sand) C.I. cover with frame (light duty) 455x610 mm internal dimensions, total weight of cover with frame to be not less than 38 kg (weight of cover 23 kg and weight of frame 15 kg) R.C.C. top slab with 1:2:4 mix (1 cement :2 coarse sand : 4 graded stone aggregate 20 mm nominal size) foundation concrete 1:5:10 (1 cement : 5 fine sand : 10 graded stone aggregate 40 mm nominal size), inside plastering 12 mm thick with cement				

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CPWD 2007 REF	SLNO	DESCRIPTION	QTY	UNIT	RATE RS P	AMOUNT RS P
		mortar 1:3 (1 cement : 3 coarse sand) finished smooth with a floating coat of neat cement on walls and bed concrete etc. complete as per standard design : Cement will be issued free of cost at BHEL stores.				
19.30.2	75A	Inside dimensions 500x700 mm and 45 cm deep for pipe line with one or two inlets : with F.P.S bricks.	288.000	EACH	3062.59	882025.92
19.4	76	Providing and fixing square-mouth S.W. gully trap grade 'A' complete with C.I. grating brick masonry chamber with water tight C.I. cover with frame of 300 x300 mm size (inside) the weight of cover to be not less than 4.50 kg and frame to be not less than 2.70 kg as per standard design : Cement will be issued free of cost at BHEL stores.				
19.4.3	76A	with F.P.S bricks class designation 75 of size 180x150mm	288.000	EACH	907.25	261288.00
17.2	77	Providing and fixing white vitreous china pedestal type water closet (European type W.C. pan) with seat and lid, 10 litre low level white P.V.C. flushing cistern with manually controlled device (handle lever), conforming to IS : 7231, with all fittings and fixtures complete including cutting and making good the walls and floors wherever required : Cement will be issued free of cost at BHEL stores.				
17.2.1	77A	W.C. pan with ISI marked white solid plastic seat and lid.	144.000	EACH	2126.60	306230.40
DATA	78	Providing vertical drops, fins, facias etc., for an overall thickness of 75mm with 1:2:4 cement concrete using 6mm gauge granite stone chips for 50mm thick inner core applied on chickenmesh and neatly plastered with	1080.000	SQ.M	409.61	442383.55

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NAME OF WORK : CONSTRUCTION OF TYPE "C" - 144 UNITS IN TOWNSHIP

CPWD 2007 REF	SLNO	DESCRIPTION	QTY	UNIT	RATE RS P	AMOUNT RS P
		cement mortar 1:4, 12mm thick on both faces, finishing, curing etc., complete. Rate to include cost of all materials and labour but excluding fabrication charges for reinforcement as per standard specifications. Cement & reinforcement steel alone will be issued free of cost at BHEL stores.				
DATA	79	Providing vertical drops, fins, facias etc., for an overall thickness of 50mm with 1:2:4 cement concrete using 6mm gauge granite stone chips for 25mm thick inner core applied on chickenmesh and neatly plastered with cement mortar 1:4, 12mm thick on both faces, finishing, curing etc., complete. Rate to include cost of all materials and labour but excluding fabrication charges for reinforcement as per standard specifications. Cement & reinforcement steel alone will be issued free of cost at BHEL stores.	360.000	SQ.M	388.61	139900.25
DATA	80	Providing balustrade for an overall thickness of 100 mm with 1:2:4 cement concrete using 12 to 20mm gauge granite stone chips for 75mm thick inner core applied on chickenmesh and neatly plastered with cement mortar 1:4, 12mm thick on both faces and hand rails plastered in cement mortar 1:4 with an admixture of red oxide including finishing, polishing, curing etc., complete. Rate to include cost of all materials and labour but excluding fabrication charges for reinforcement steel. Cement & reinforcement steel alone will be issued free of cost at BHEL stores.	432.000	SQ.M	487.53	210612.10
13.43	81	Applying one coat of cement primer of approved brand and manufacture on wall surface: Cement primer	8640.000	SQ.M	17.20	148608.00
PO 1592403	82	Providing solid door frame of size 50 x 47mm with a wall thickness of 5mm made out of 5mm rigid PVC foam sheet, miter cut at two corners and joined with 2 Nos. of MS 'L' brackets of 15mm				

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BHARAT HEAVY ELECTRICALS LIMITED

BOILER AUXILIARIES PLANT

RANIPET - 632406

ESTIMATE

ESTIMATE REF NO : CF/C/10/13

NAME OF WORK : CONSTRUCTION OF TYPE "C" - 144 UNITS IN TOWNSHIP

CPWD 2007 REF	SLNO	DESCRIPTION	QTY	UNIT	RATE RS P	AMOUNT RS P
		square in the size of 150 x 150mm. The PVC door frame is reinforced with 19 x 19mm MS square tube of 19 gauge and it will be reinforced by country wood. The door frame shall be fixed to the wall by drilling 100mm long MS screws by using PVC fasteners. Solid PVC door made on a structure of M.S. tubular frame 19 gauge of 19mm x 19mm for (styles) and 15 x 15mm (top & bottom rails) M.S. frame to be covered with 5mm thick het moulded PVC "C" channel of size 50 x 30mm for styles with 5mm thick PVC sheet,)75mm wide for lock rail top rail and bottom rail on either side) panelling of 5mm thick PVC sheet to be fitted in the M.S. frame sealed to the styles and rails with 30 x 5mm thick PVC sheet beeding on either side and joined together with cement solvent adhesive etc.				
PO 1592403	82A	Supplying and fixing of solid PVC doors of size 750mm x 1850mm of Rajshri solid panel PVC door or "Quote" solid panel PVC door with the following furniture fittings: 1) 4" Al. hinges-3 Nos., 2)150 x 10mm Al. Aldrop set (Sliding bolt) - 1 No. outside, 3) 6" Al. tower bolt set (150mm long) - 2 Nos inside & 4)4" Al. handle - 2 Nos. one on each side with necessary screws depending upon the opening (left / right side). Fixing will be done at site.	648.000	SQ.M	1893.05	1226696.40
18.53	83	Providing and fixing C.P. brass angle valve for basin mixer and geyser points of approved quality confirming to IS:8931 15mm nominal bore.	144.000	EACH	347.65	50061.60
DATA	84	Providing, suplying and fixing in position of ferro cement water tank of singel compartment of 800 litres, capacity of inner dimension 1300mm x 900mm x 800mm in cement mortar 1:2, with 40mm thick bottom finished wall thickness, 32mm wall thickness sides	144.000	EACH	3936.04	566789.76

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BHARAT HEAVY ELECTRICALS LIMITED
BOILER AUXILIARIES PLANT
RANIPET - 632406

ESTIMATE

STIMATE REF NO : CF/C/10/13
AME OF WORK : CONSTRUCTION OF TYPE "C" - 144 UNITS IN TOWNSHIP

CPWD 2007 REF	SLNO	DESCRIPTION	QTY	UNIT	RATE		AMOUNT	
					RS	P	RS	P
		alround, & 25mm thick pre-cast cover slab using 10G x 10G weld mesh & two layers of chickenmesh 28 gauge. Rate to include cost of weldmesh, chickenmesh, fabrication, casting, finishing, carrying and fixing in position, curing etc., complete and cost of 25mm dia G.i. inlet, outlet, scour, overflow pipes & air vent ipes including supplying and fixing of 1 No. of 25mm dia automatic float arrangement of approved make with all necessary fittings etc., labour & incidental etc. complete. All as per drawaings and standard specifications. The rate shall exclude cost of reinforcement & Cement which will be issued free of cost at BHEL Stores. (Ref. Drg. No. BHE-BAP-C-30-127/R1)						

77018102.10

ESCALATION @ 26.00 %

20024706.55

TOTAL ESTIMATED VALUE (A)

97042808.65

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BOILER AUXILIARIES PLANT

RANIPET - 632406

ESTIMATE

ESTIMATE REF NO : CF/C/10/16

NAME OF WORK : CONSTRUCTION OF TYPE "D" - 12 UNITS ALONG WITH SERVANT QUARTERS AND GARRAGE IN TOWNSHIP

CPWD 2007 REF	SLNO	DESCRIPTION	QTY	UNIT	RS RATE P	RS AMOUNT P
2.1	01	Earth work in surface excavation not exceeding 30 cm in depth but exceeding 1.5 m in width as well as 10 sqm on plan including disposal of excavated earth upto 50 m and lift upto 1.5 m, disposed soil to be levelled and neatly dressed :				
2.1.1	01A	In all kinds of soil	375.000	CU.M.	20.74	7777.50
5.16	02	Providing, hoisting and fixing up to floor five level precast reinforced cement concrete in shelves including setting in cement mortar 1:3 (1 cement: 3 coarse sand), cost of required centering, shuttering and finishing with neat cement punning on exposed surfaces but excluding the cost of reinforcement with 1:2:4 (1 cement : 2 coarse sand : 4 graded stone aggregate 12.5mm nominal size). Cement will be issued free of cost at BHEL stores.	6.000	CU.M.	4871.70	29230.20
5.18	03	Providing precast cement concrete Jali 1:2:4 (1 cement : 2 coarse sand : 4 graded stone aggregate 6mm nominal size) reinforced with 1.6 mm dia mild steel wire including centering and shuttering, roughening cleaning, fixing and finishing in cement mortar 1:3 (1 cement: 3 fine sand) etc. complete excluding plastering of the jambs, sills and soffits. Cement for fixing alone will be issued free of cost at BHEL stores.				
5.18.1	03A	50mm thick	6.000	CU.M	350.70	2104.23
2.8.1	04	Earth work in excavation by mechanical means (Hydraulic excavator) / manual means in foundation trenches or drains (not exceeding 1.5 m in width or 10 sqm on plan) including dressing of sides and ramming of bottoms, lift upto 1.5 m, including getting out the excavated soil and disposal of surplus excavated soil as directed, within a lead of 50 m. All kinds of soils	1260.000	CU.M.	103.40	130284.00

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ESTIMATE

ESTIMATE REF NO : CF/C/10/16

NAME OF WORK : CONSTRUCTION OF TYPE "D" - 12 UNITS ALONG WITH SERVANT QUARTERS AND GARRAGE IN TOWNSHIP

CPWD 2007 REF	SLNO	DESCRIPTION	QTY	UNIT	RATE RS P	AMOUNT RS P
2.9	05	Excavation work by mechanical means (Hydraulic excavator)/manual means in foundation trenches or drains not exceeding 1.5 m in width or 10 sqm on plan including dressing of sides and ramming of bottoms lift upto 1.5 m, including getting out the excavated soil and disposal of surplus excavated soils as directed, within a lead of 50m.				
2.9.1	05A	In ordinary rock.	10.000	CU.M.	162.65	1626.50
2.9.2	05B	Hard rock (requiring blasting)	10.000	CU.M	272.95	2729.50
2.9.3	05C	Hard rock (Blasting prohibited)	10.000	CU.M	332.45	3324.50
2.26	06	Extra for every additional lift of 1.50m or part thereof in.				
2.26.1	06A	All kinds of soils	10.000	CU.M.	18.90	189.00
2.26.2	06B	Ordinary or hard rock	10.000	CU.M.	33.85	338.50
2.25	07	Filling available excavated earth (excluding rock) in trenches, plinth, sides of foundations etc. in layers not exceeding 20cm in depth, consolidating each deposited layer by ramming and watering, lead up to 50 m and lift upto 1.5 m.	870.000	CU.M	45.70	39759.00
2.27	08	Supplying and filling in plinth with Jamuna sand under floors including, watering, ramming consolidating and dressing complete.	126.000	CU.M.	301.50	37989.00
2.28	09	Surface dressing of the ground including removing vegetation and in-equalities not exceeding 15 cm deep and disposal of rubbish, lead upto 50 m and lift upto 1.5 m In all kinds of soil.	600.000	SQ.M	5.12	3072.00
2.31	10	Clearing jungle including uprooting of rank vegetation, grass, brush wood, trees and saplings of girth upto 30 cm	40.000	SQ.M	2.64	105.60

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ESTIMATE

ESTIMATE REF NO : CF/C/10/16

NAME OF WORK : CONSTRUCTION OF TYPE "D" - 12 UNITS ALONG WITH SERVANT QUARTERS AND GARRAGE IN TOWNSHIP

CPWD 2007 REF	SLNO	DESCRIPTION	QTY	UNIT	RATE RS P	AMOUNT RS P
		measured at a height of 1 m above ground level and removal of rubbish upto a distance of 50 m outside the periphery of the area cleared.				
2.32	11	Clearing grass and removal of the rubbish upto a distance of 50 m outside the periphery of the area cleared.	88.000	SQ.M.	1.36	119.68
2.33	12	Felling trees of the girth (measured at a height of 1 m above ground level) including cutting of trunks and branches removing the roots and stacking of serviceable material and disposal of unserviceable material.				
2.33.1	12A	Beyond 30 cm girth upto and including 60 cm girth	10.000	EACH	81.70	817.00
2.33.2	12B	Beyond 60 cm girth upto and including 120 cm girth	10.000	EACH	359.80	3598.00
2.33.3	12C	Beyond 120 cm girth upto and including 240 cm girth	2.000	EACH	1658.85	3317.70
2.33.4	12D	Above 240 cm girth	2.000	EACH	3330.20	6660.40
2.34	13	Supplying chemical emulsion in sealed containers including delivery as specified. Chlorpyriphos / Lindane emulsifiable concentrate of 20%	600.000	LITRE	174.30	104580.00
DATA	14	Diluting and injecting chemical emulsion (to be supplied free of cost at site of work) for PRE-CONSTRUCTIONAL Anti-termite treatment and creating a continuous barrier under and around the column pits, wall trenches, basement excavation, top surface of plinth filling, junction of wall and floor, along the external perimeter of building expansion joints, over the top surface of consolidated earth of which apron is to be laid, surroundings of pipes and conduits etc. complete as per specification. (Plinth area of the building at ground floor only shall be measured for payment).	1600.000	SQ.M	83.27	133232.00
4.1	15	Providing and laying in position cement concrete of specified grade excluding the cost of centering and				

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ESTIMATE

ESTIMATE REF NO : CF/C/10/16

NAME OF WORK : CONSTRUCTION OF TYPE "D" - 12 UNITS ALONG WITH SERVANT QUARTERS AND GARRAGE IN TOWNSHIP

CPWD 2007 REF	SLNO	DESCRIPTION	QTY	UNIT	RATE RS P	AMOUNT RS P
		shuttering - All work up to plinth level : Cement alone issued free of cost at BHEL stores.				
4.1.3	15A	1:2:4 (1 cement: 2 coarse sand : 4 graded stone aggregate 20 mm nominal size)	1.000	CU.M.	1599.85	1599.85
4.1.9	15B	1:4:8 (1 cement: 4 fine sand : 8 graded stone aggregate 40 mm nominal size)	4.000	CU.M.	1415.55	5662.20
4.1.10	15C	1:5:10 (1 cement : 5 coarse sand : 10 graded stone aggregate 40 mm nominal size)	405.000	CU.M.	1564.35	633561.75
4.5.1	16	Providing and fixing up to floor five level precast cement concrete string or lacing courses, copings, bed plates, anchor blocks, plain window sills, shelves, louvers, steps, stair cases, etc. including hoisting and setting in position with cement mortar 1:3 (1 Cement: 3 coarse sand), cost of required centering, shuttering and finishing smooth with 6mm thick cement plaster 1:3 (1 Cement : 3 fine sand) on exposed surfaces complete in 1:2:4 (1 cement : 2 coarse sand: 4 graded stone). Cement only will be issued free of cost at BHEL stores.	1.000	CU.M.	2845.95	2845.95
4.11	17	4.11 Providing and laying damp-proof course 50mm thick with cement concrete 1:2:4 (1 cement : 2 coarse sand : 4 graded stone aggregate 20mm nominal size). Cement alone will be issued free of cost at BHEL stores.	915.000	CU.M	95.17	87080.55
4.12	18	4.12 Extra for providing and mixing water proofing material in cement concrete work @ 1 kg per 50kg of cement.	300.000	KG.	27.45	8235.00
5.9	19	Centering and shuttering including strutting, propping etc. and removal of form for:				
5.9.1	19A	Foundations, footings, bases of coumns, etc. for mass concrete.	15.000	SQ.M	119.25	1788.75

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ESTIMATE REF NO : CF/C/10/16

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CPWD 2007 REF	SLNO	DESCRIPTION	QTY	UNIT	RS RATE P	RS AMOUNT P
5.9.3	19B	Suspended floors, roofs, landings, balconies and access platform.	2400.000	SQ.M	187.35	449640.00
5.9.7	19C	Stair cases (except landing & spiral staircases)	90.000	SQ.M	204.00	18360.00
5.9.5	19D	Lintels, beams, plinth beams, girders, bressumers and cantilevers.	60.000	SQ.M	162.65	9759.00
5.9.15	19F	Small lintels not exceeding 1.5m clear span, moulding as in cornices, window sills, string courses, bands, copings, bed plates, anchor blocks and the like.	342.000	SQ.M	119.25	40783.50
5.9.19	19G	Weather shade, chajjas, corbels, edges etc.	60.000	SQ.M	258.60	15516.00
5.17	20	Providing, hoisting and fixing up to floor five level precast reinforced cement concrete in vertical & horizontal fins individually or forming box louvers setting in cement mortar 1:2 (1 cement : 2 coarse sand) including the cost of required centering, shuttering and finishing smooth with 6mm thick cement plaster 1:3 (1 cement : 3 fine sand) on exposed surfaces complete but excluding the cost of reinforcement with 1:2:4 (1 cement : 2 coarse sand : 4 graded stone aggregate 20 mm nominal size). Cement alone will be issued free of cost at BHEL stores	4.000	CU.M	4295.36	17181.44
5.22.3	21	Reinforcement for R.C.C. work including straightening, cutting, bending, placing in position and binding all complete. Cold twisted bars. Reinforcement will be issued free of cost at BHEL stores.	33000.000	KG.	6.19	204270.00
5.33	22	5.33 Providing and laying in position machine batched, machine mixed and machine vibrated design mix cement concrete of specified grade for reinforced cement concrete work including pumping of concrete to site of laying but	90.000	CU.M.	2023.60	182124.00

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ESTIMATE

ESTIMATE REF NO : CF/C/10/16

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CPWD 2007 REF	SLNO	DESCRIPTION	QTY	UNIT	RATE RS P	AMOUNT RS P
		excluding the cost of centering, shuttering, finishing and reinforcement, including Admixtures in recommended proportions as per IS 9103 to accelerate, retard setting of concrete, improve workability without impairing strength and durability as per direction of Engineer-in-charge. M-25 grade reinforced cement concrete by using 410kg. of cement per cum of concrete. All work up to floor V level. Cement alone will be issued free of cost at BHEL stores.				
5.37	23	Providing and laying in position ready mixed concrete manufactured in fully automatic batching plant and transported to site of work in transit mixer for a lead up to 10kms having continuous agitated mixer, manufactured as per mix design of specified grade for reinforced cement concrete work including pumping of R.M.C. from transit mixer to site of laying , excluding the cost of centering, shuttering finishing and reinforcement including cost of admixtures in recommended proportions as per IS : 9103 to accelerate/ retard setting of concrete, improve workability without impairing strength and durability as per direction of the Engineer - in - charge. M-25 grade Reinforced cement concrete by using 410kg of cement per cum of concrete. All works up to floor V level. (No cement well be issued from BHEL stores for this item)	240.000	CU.M.	4356.50	1045560.00
5.39	24	Extra for R.M.C. beyond the initial lead of 10 KM.	1440.000	CUM/KM	20.90	

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ESTIMATE

ESTIMATE REF NO : CF/C/10/16

NAME OF WORK : CONSTRUCTION OF TYPE "D" - 12 UNITS ALONG WITH SERVANT QUARTERS AND GARRAGE IN TOWNSHIP

CPWD 2007 REF	SLNO	DESCRIPTION	QTY	UNIT	RATE RS P	AMOUNT RS P
					30096.00	
6.1.2	25	Brick work with F.P.S. bricks of class designation 75 in foundation and plinth in: Cement mortar 1:6 (1 cement: 6 coarse sand) Cement alone will be issued free of cost at BHEL stores.	66.000	CU.M.	1798.00	118668.00
6.4.2	26	Brick work with F.P.S. bricks of class designation 75 in superstructure above plinth level up to floor V level in all shapes and sizes in Cement mortar 1:6 (1 cement: 6 coarse sand). Cement alone will be issued free of cost at BHEL stores.	780.000	CU.M	2106.50	1643070.00
6.12.2	27A	Half brick masonry with F.P.S. bricks of class designation 75 in foundations and plinth in cement mortar 1:4 (1cement : 4 coarse sand). Cement alone will be issued free of cost at BHEL stores.	100.000	SQ.M	215.23	21523.00
6.13.2	27B	Half brick masonry with F.P.S. bricks of class designation 75 in superstructure above plinth level up to floor V level. Cement mortar 1:4 (1 cement :4 coarse sand) Cement alone will be issued free of cost at BHEL stores.	600.000	SQ.M	247.68	148608.00
7.1.1	28	Random rubble masonry with hard stone in foundation and plinth including levelling up with cement concrete 1:6:12 (1 cement : 6 coarse sand : 12 graded stone aggregate 20mm nominal size) at plinth level with : Cement mortar 1:6 (1 cement: 6 coarse sand). Cement alone will be issued free of cost at BHEL stores.	510.000	CU.M	1411.55	719890.50
AGT.TS.35/01	29	Providing and fixing 40mm thick granite of Hassan green colour gang	36.000	SQ.M	2040.39	73454.18

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ESTIMATE

ESTIMATE REF NO : CF/C/10/16

NAME OF WORK : CONSTRUCTION OF TYPE "D" - 12 UNITS ALONG WITH SERVANT QUARTERS AND GARRAGE IN TOWNSHIP

CPWD 2007 REF	SLNO	DESCRIPTION	QTY	UNIT	RATE RS P	AMOUNT RS P
		saw cut mirror polished premoulded and prepolished) machine cut for kitchen platforms, vanity counters, window sills , facias and similar locations of required size of approved shade, colour and texture laid over 20mm thick base cement mortar 1:4 (1 cement : 4 coarse sand) with joints treated with white cement, mixed with matching pigment, epoxy touch ups, including rubbing, curing, moulding and polishing to edge to give high gloss finish etc. complete at all levels.Granite of any colour and shade-(Area of slab over 0.50 sqm.) Cement alone will be issued free of cost at BHEL stores.				
5.9.6	29E	Columns, Pillers, Piers, Abutments, Posts and Struts.	180.000	SQ.M.	238.40	42912.00
9.1	30	Providing wood work in frames of doors, windows, clerestory windows and other frames, wrought framed and fixed in position :				
9.1.1	30A	Second class teak wood	1.000	CU.M	52090.00	52090.00
DATA	30B	Australian vengai	4.600	CU.M	79099.10	363855.86
9.6	31	Providing and fixing 35 mm thick factory made laminated veneer lumber door shutter conforming to IS : 14616 and TADS 15:2001 (Part B) including ISI marked black enameled M.S. butt hinges with necessary screws as per directions of Engineer-in-charge and panelling with panels of:				
9.6.1	31A	12mm thick plain grade - 1, medium density flat pressed three layer particle board FPT - I or graded wood particle board FPT - I IS : 3087 marked bonded with BWP type synthetic resin adhesive as per IS : 848 :	24.000	SQ.M	1877.20	45052.80
BUDGET QUOTI	32	Supplying and fixing of UPVC windows (single / double leaf shutter)/Fixed	272.500	SQ.M	3753.97	1022956.83

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ESTIMATE

ESTIMATE REF NO : CF/C/10/16

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CPWD 2007 REF	SLNO	DESCRIPTION	QTY	UNIT	RATE RS P	AMOUNT RS P
		louvered Ventilators. The profiles are hollow, multi-chambered and steel reinforced with an outer wall thickness of 2.5mm. The window unit is designed with all corners, transom/mullion joints mitred and fusion welded. The outer frame should hold appropriate EPDM gaskets. The entire window is steel reinforced. The window unit should be designed such that water drainage does not pass through the reinforcement chamber and the unit is free from sharp edges and blurs, including providing and fixing all accessories confirming to IS standard like stainless steel friction hinges, Handles of powder coated or polyurethane coated with Single Glazing glass of 5mm thick (pin headed). Installation of frames to be carried with suitable Anchor Fasteners & Proper Silicone Sealing works to be carried out in exterior & Intereior Crevices.				
9.40.1.1	33	Providing and fixing wooden moulded beading to door and window frames with iron screws, plugs and priming coat on unexposed surface etc. complete : 2nd class teak wood 50 x 12mm	150.000	R.M.	53.85	8077.50
9.48.2	34	Providing and fixing M.S. grills of required pattern in frames of windows etc. with M.S. flats, square or round bars etc. all complete. Fixed to openings /wooden frames with rawl plugs screws etc	4200.000	KG	64.40	270480.00
9.96-100	35	Providing and fixing aluminium fittings ISI marked anodised (anodic coating not less than grade AC 10 as per IS:1868) transparent or dyed to the required colour or shade with nuts and screws etc complete.				
9.96.2	35A	250 x 16 mm sliding door bolts	168.000	EACH	134.10	22528.80
9.97.3	35B	200 x 10mm tower bolts	120.000	EACH	52.00	6240.00

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CPWD 2007 REF	SLNO	DESCRIPTION	QTY	UNIT	RATE RS P	AMOUNT RS P
9.97.5	35C	100 x 10mm tower bolts	120.000	EACH	32.15	3858.00
9.100.2	35D	100 mm handle	120.000	EACH	35.30	4236.00
9.100.3	35E	75 mm handle	672.000	EACH	28.35	19051.20
L.S.	35F	Nylon buffer for doors & windows	672.000	EACH	10.00	6720.00
L.S.	35G	Hook & eye 150 mm x 3mm	672.000	EACH	10.00	6720.00
9.79.4	36	Providing and fixing special quality bright finished brass cupboard or ward robe locks with four levers including necessary screws etc. complete (best make of approved quality) : 75 mm lock	36.000	EACH	115.45	4156.20
9.21.3	37	Providing and fixing ISI marked flush door shutters conforming to IS: 2202 (Part I) non-decorative type, core of block board construction with frame of 1st class hard wood and well matched commercial 3 ply veneering with vertical grains or cross bands and face veneers on both faces of shutters : 25mm thick (for cupboard) including ISI marked nickel plated bright finished M.S. piano hinges with necessary screws	96.000	SQ.M	853.05	81892.80
9.46.2	38	Providing and fixing curtain rods of 1.25mm thick chromium plated brass plate, with two chromium plated brass brackets fixed with C.P. brass screws and wooden plugs, etc., wherever necessary complete. 20 mm dia	60.000	R.M.	187.80	11268.00
DATA	39	Providing and laying weathering course on top of roof slab with brick jelly of size 20mm and pure lime (no sand) in the proportion of 32:12.5 to an average thickness of 75mm concrete well beaten with wooden battens so as to secure a minimum slope of 1 in 48 and top finished with two courses of ressed tiles of size 25 cm x 25cm x	960.000	SQ.M.	583.50	560163.84

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CPWD 2007 REF	SLNO	DESCRIPTION	QTY	UNIT	RATE RS P	AMOUNT RS P
		1.2 cm set in cement mortar 1:3 mixed with crude oil at 10% by weight of cement and pointing with the same oiled mortar etc. complete as per standard specifications. Cement alone will be issued free of cost at BHEL stores.				
9.53	40	Providing 40x5 mm flat iron hold fast 40 cm long including fixing to frame with 10 mm diameter bolts, nuts and wooden plugs and embeddings in cement concrete block 30x10x15cm 1:3:6 mix (1 cement: 3 coarse sand : 6 graded stone aggregate 20mm nominal size). Cement alone will be issued free of cost at BHEL stores.	600.000	EACH	55.80	33480.00
11.36	41	Providing and fixing 1st quality ceramic glazed wall tiles conforming to IS : 15622 (thickness to be specified by the manufacture) of approved make in all colours, shades except bergundy, bottle green, black of any size as approved by Engineer-in-Charge in skirting, risers of steps and dados over 12 mm thick bed of cement Mortar 1:3 (1 cement : 3 coarse sand) and jointing with grey cement slurry @ 3.3kg per sqm including pointing in white cement mixed with pigment of matching shade complete. Cement will be issued free of cost at BHEL stores.	400.000	SQ.M	492.26	196904.00
11.37	42	Providing and laying Ceramic glazed floor tiles 300x300 mm (thickness to be specified by the manufacturer) of 1st quality conforming to IS : 15622 of approved make in colours such as White, Ivory, Grey, Fume Red Brown, laid on 20 mm thick Cement Mortar 1:4 (1 Cement : 4 Coarse sand) including pointing the joints with white cement and matching pigment etc., complete. Cement alone will be issued free of	1500.000	SQ.M	534.31	801465.00

CONTRACTOR/ TENDERER

ACCEPTING OFFICER

BHARAT HEAVY ELECTRICALS LIMITED

BOILER AUXILIARIES PLANT

RANIPET - 632406

ESTIMATE

ESTIMATE REF NO : CF/C/10/16

NAME OF WORK : CONSTRUCTION OF TYPE "D" - 12 UNITS ALONG WITH SERVANT QUARTERS AND GARRAGE IN TOWNSHIP

CPWD 2007 REF	SLNO	DESCRIPTION	QTY	UNIT	RATE RS P	AMOUNT RS P
		cost at BHEL stores.				
12.41	43	Providing and fixing on wall face unplasticised Rigid PVC rain water pipes conforming to IS : 13592 Type A including jointing with seal ring conforming to IS : 5382 leaving 10 mm gap for thermal expansion.(i) Single socketed pipes.				.00
12.41.1	43A	75 mm dia pipe	150.000	R.M	95.00	14250.00
12.41.2	43B	110mm dia pipe	360.000	R.M.	163.40	58824.00
12.42	44	Providing and fixing on wall face unplasticised - PVC moulded fittings/ accessories for unplasticised Rigid PVC rain water pipes conforming to IS : 13592 Type A including jointing with seal ring conforming to IS : 5382 leaving 10 mm gap for thermal expansion.				
12.42.1.1	44A	Coupler 75mm	20.000	EACH	81.40	1628.00
12.42.1.2	44B	110 mm dia coupler	20.000	EACH	101.65	2033.00
12.42.5.1	44C	75mm Bend 87.5 degree	36.000	EACH	88.40	3182.40
12.42.5.2	44D	110 mm dia Bend	36.000	EACH	134.20	4831.20
12.42.6.1	44E	75mm dia shoe	24.000	EACH	152.25	3654.00
12.42.6.2	44F	110mm shoe	24.000	EACH	263.10	6314.40
12.42.3.1	44G	Single tee with door 75 x 75 x 75mm	48.000	EACH	177.45	8517.60
12.42.3.2	44H	Single tee with door 100 x 100 x 100mm	48.000	EACH	260.70	12513.60
12.38	45	Providing and fixing M.S. holder bat clamps of approved design or C.I. or S.C.I. rain water pipes embeded in and including cement concrete blocks 10x10x10 cm of 1:2:4 (1 cement : 2 coarse sand :4 graded stone aggregate 20mm nominal size) and cost of cutting holes and making good the walls etc. Cement will be issued free of cost at				

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ESTIMATE REF NO : CF/C/10/16

NAME OF WORK : CONSTRUCTION OF TYPE "D" - 12 UNITS ALONG WITH SERVANT QUARTERS AND GARRAGE IN TOWNSHIP

CPWD 2007 REF	SLNO	DESCRIPTION	QTY	UNIT	RATE RS P	AMOUNT RS P
		BHEL stores.				
12.38.1	45A	100MM Diameter	144.000	EACH	39.45	5680.80
13.1.2	46	Plastering in cement mortar 1:6 (1 cement: 6 fine sand) , 12 mm thick Cement alone will be issued free of cost at BHEL stores.	4750.000	SQ.M	49.00	232750.00
13.2.1	47	Plastering in cement mortar 1:4 (1 cement :6 fine sand), 15mm thick. Cement only will be issued free of cost at BHEL stores.	780.000	SQ.M	56.47	44046.60
13.2.2	48	Plastering in cement mortar 1:6 (1 cement :6 fine sand), 15mm thick. Cement alone will be issued free of cost at BHEL stores.	4260.000	SQ.M	56.28	239752.80
13.16	49	6mm cement plaster of mix 1:3 (1 cement :3 fine sand) for ceiling , RCC / CC exposed surfaces. Cement will be issued free of cost at BHEL stores.	1200.000	SQ.M	43.14	51768.00
13.28	50	12mm thick plain cement mortar bands in cement motar 1:4 (1cement : 4 fine sand). Raised band. Cement alone will be issued free of cost at BHEL stores.	144.000	SQ.M	137.55	19807.20
13.41.1	51	Distempering with oil bound distemper of approved manufacturer to give an even shade. New work (two or more coats) over and including priming coat with cement primer.	1440.000	SQ.M	41.55	59832.00
13.37	52	White washing with lime to give an even shade -three or more coats on new work.	6600.000	SQ.M	6.75	44550.00
13.46	53	Finishing walls with Acrylic Smooth exterior paint of required shade : New work (Two or more coat applied @ 1.67 ltr/10 sqm over and including base coat of water proofing cement paint applied @ 2.20 kg/10 sqm).	4800.000	SQ.M	50.40	241920.00
13.61.1	54	Painting with synthetic enamel paint of approved brand and manufacture to give an even shade :	60.000	SQ.M	33.35	2001.00

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ESTIMATE REF NO : CF/C/10/16

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CPWD 2007 REF	SLNO	DESCRIPTION	QTY	UNIT	RATE RS P	AMOUNT RS P
		Two or more coats on new work				
13.62.1	55	Painting with synthetic enamel paint of approved brand and manufacture of required colour to give an even shade: Two or more coats on new work over an under coat of suitable shade with ordinary paint of approved brand and manufacture.	1160.000	SQ.M	51.30	59508.00
11.6.1	56	Cement plaster skirting (up to 30 cm height) with cement mortar 1:3 (1 cement: 3 coarse sand) finished with a floating coat of neat cement. Cement will be issued free of cost at BHEL stores.	300.000	SQ.M	95.98	28794.00
11.16.1	57	Precast terrazo tiles 22mm thick with graded marble chips of size upto 12mm laid in floors, and landings, jointed with neat cement slurry mixed with pigment to match the shade of the tiles including rubbing and polishing complete with precast tiles on 20mm thick bed of cement mortar 1:4 (1 cement :4 coarse sand) : Light shade using white cement. Cement alone will be issued free of cost at BHEL stores.	35.000	SQ.M	520.59	18220.65
13.50.1	58	Applying priming coat:With ready mixed pink or Grey primer of approved brand and manufacture on wood work (hard and soft wood)	100.000	SQ.M	16.55	1655.00
13.3.1	59	20 mm cement plaster of mix 1:4 (1 cement: 4 fine sand) cement alone will be issued free of cost at BHEL stores.	60.000	SQ.M	66.37	3982.20
13.33	60	Pointing on stone work with cement mortar 1:3 (1 cement: 3 fine sand) :Flush/Ruled pointing. Cement will be issued free of cost at BHEL stores.	240.000	SQ.M	56.44	13545.60
AGT.TS/35/01	61	Supplying at site of work, carrying and fixing in position of granite (Hassan Green) kithcen sink of more	12.000	EACH	4066.09	48793.08

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ESTIMATE

ESTIMATE REF NO : CF/C/10/16

NAME OF WORK : CONSTRUCTION OF TYPE "D" - 12 UNITS ALONG WITH SERVANT QUARTERS AND GARRAGE IN TOWNSHIP

CPWD 2007 REF	SLNO	DESCRIPTION	QTY	UNIT	RATE RS P	AMOUNT RS P
		than 50mm thick made from solid granite (carving with machine and jointless of size 0.60 x 0.60 x 0.23 (2' x 2' x 9") on either side of sink should be made to suit 40mm thick granite slab (the 40mm thick granite shall be selted on either side of sink and top level shall b;e same) the front face of the sink to be semi polished and edges to be moulded (nosing). Providing one number of CP waste coupling with waste pipe etc. complete. Rate to include cost of all materials labour charges and making good all damages, to the wall floor etc. complete all as per standard specification and instructions of Engineer-in-charge. Cement for fixing will be issued free of cost at BHEL stores.				
17.31	62	Providing and fixing 600x450 mm beveled edge mirror of superior glass (of approved quality) complete with 6 mm thick hard board ground fixed to wooden cleats with C.P. brass screws and washers complete.	48.000	EACH	493.65	23695.20
17.33	63	Providing and fixing 600x120x5mm glass shelf with edges round of supported on anodised aluminium angle frame with C.P. brass brackets and guard rail complete fixed with 40 mm long screws, rawl plugs etc., complete	48.000	EACH	218.80	10502.40
17.1	64	Providing and fixing water closet squatting pan (Indian type W.C. pan) with 100mm sand cast Iron P or S trap, 10 litre low level white P.V.C. flushing cistern with manually controlled device (handle lever) conforming to IS : 7231, with all fittings and fixtures complete including cutting and making good the walls and	24.000	EACH	2278.75	54690.00

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NAME OF WORK : CONSTRUCTION OF TYPE "D" - 12 UNITS ALONG WITH SERVANT QUARTERS AND
GARRAGE IN TOWNSHIP

CPWD 2007 REF	SLNO	DESCRIPTION	QTY	UNIT	RATE RS P	AMOUNT RS P
		floors wherever required : White Vitreous china Orissa pattern W.C. pan of size 580x440mm with integral type foot rests. Cement alone will be issued free of cost at BHEL stores.				
17.7.2	65	Providing and fixing wash basin with C.I. brackets, 15 mm C.P. brass pillar tap, 32 mm C.P. brass waste of standard pattern, including painting of fittings and brackets, cutting and making good the walls wherever require : White Vitreous China Wash basin size 630x450 mm with 15 mm C.P. brass pillar taps. Cement alone will be issued free of cost at BHEL stores.	36.000	EACH	1188.75	42795.00
17.28.2.2	66	Providing and fixing P.V.C. waste pipe for sink or wash basin including P.V.C. waste fittings complete. Flexible pipe of 40mm dia	36.000	EACH	49.10	1767.60
18.15.1	67	Providing and fixing brass bib cock of approved quality : 15mm dia (min wt. 400 gms)	72.000	EACH	191.70	13802.40
18.16.1	68	Providing and fixing brass stop cock of approved quality - 15mm nominal bore.	144.000	EACH	191.70	27604.80
18.17.1	69	Providing and fixing gun metal gate valve with C.I. wheel of approved quality (Screwed end): 25mm nominal bore.	48.000	EACH	285.50	13704.00
18.22.1	70	Providing and fixing C.P. brass shower rose with 15 or 20 mm inlet: 100 mm diameter	48.000	EACH	40.40	1939.20
18.7	71	Providing and fixing Chlorinated Polyvinyl Chloride (CPVC) pipes, having thermal stability for hot & cold water supply including all CPVC plain & brass threaded fittings including fixing the pipe with clamps at 1.00 m spacing. This includes jointing of pipes & fittings with one step				

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ESTIMATE REF NO : CF/C/10/16

NAME OF WORK : CONSTRUCTION OF TYPE "D" - 12 UNITS ALONG WITH SERVANT QUARTERS AND GARRAGE IN TOWNSHIP

CPWD 2007 REF	SLNO	DESCRIPTION	QTY	UNIT	RATE RS P	AMOUNT RS P
		CPVC solvent cement and testing of joints complete as per direction of Engineer in Charge.				
18.7.2	71A	20 mm nominal outer dia pipes	960.000	R.M.	115.65	111024.00
18.7.3	71B	25mm dia nominal outer dia pipes	600.000	R.M.	150.40	90240.00
18.7.4	71C	32 mm nominal outer dia pipes.	24.000	R.M.	196.35	4712.40
18.7.5	71D	40mm nominal bore	12.000	R.M.	275.05	3300.60
18.9	72	Providing and fixing Chlorinated Polyvinyl Chloride (CPVC) pipes, having thermal stability for hot & cold water supply including all CPVC plain & brass threaded fittings This includes jointing of pipes & fittings with one step CPVC solvent cement .trenching .refilling & testing of joints complete as per direction of Engineer in Charge.				
18.9.3	72A	25mm nominal outer dia. jpipes.	60.000	R.M.	144.55	8673.00
19.1	73	Providing, laying and jointing glazed stoneware pipes grade 'A' with stiff mixture of cement mortar in the proportion of 1:1 (1 cement : 1 fine sand) including testing of joints etc. complete : Cement will be issued free of cost at BHEL stores.				
19.1.1	73A	100 mm diameter Cement will be issued free of cost at BHEL stores.	100.000	R.M.	94.66	9466.00
19.1.2	73B	150 mm diameter Cement will be issued free of cost at BHEL stores.	100.000	R.M.	134.92	13492.00
1.1.1 A	74	Carriage of materials by mechanical transport including loading, unloading & stacking - excavated earth, debris etc.				
1.1.2 (I)	74A	1 K.M. lead	600.000	CU.M	49.42	29652.00
1.1.2 (II)	74B	2 K.M. lead	120.000	CU.M	56.41	6769.20

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CPWD 2007 REF	SLNO	DESCRIPTION	QTY	UNIT	RATE RS P	AMOUNT RS P
1.1.2 (III)	74C	3 K.M. lead	120.000	CU.M	63.32	7598.40
1.1.2 (IV)	74D	4 K.M. lead	50.000	CU.M	69.99	3499.50
19.30	75	Constructing brick masonry chamber for underground C.I. inspection chamber and bends with 75 class designation bricks in cement mortar 1:4 (1 cement : 4 coarse sand) C.I. cover with frame (light duty) 455x610 mm internal dimensions, total weight of cover with frame to be not less than 38 kg (weight of cover 23 kg and weight of frame 15 kg) R.C.C. top slab with 1:2:4 mix (1 cement : 2 coarse sand : 4 graded stone aggregate 20 mm nominal size) foundation concrete 1:5:10 (1 cement : 5 fine sand : 10 graded stone aggregate 40 mm nominal size), inside plastering 12 mm thick with cement mortar 1:3 (1 cement : 3 coarse sand) finished smooth with a floating coat of neat cement on walls and bed concrete etc. complete as per standard design : Cement will be issued free of cost at BHEL stores.				
19.30.2	75A	Inside dimensions 500x700 mm and 45 cm deep for pipe line with one or two inlets : with F.P.S bricks.	48.000	EACH	3062.59	147004.32
19.4	76	Providing and fixing square-mouth S.W. gully trap grade 'A' complete with C.I. grating brick masonry chamber with water tight C.I. cover with frame of 300 x300 mm size (inside) the weight of cover to be not less than 4.50 kg and frame to be not less than 2.70 kg as per standard design : Cement will be issued free of cost at BHEL stores.				
19.4.3	76A	with F.P.S bricks class designation 75 of size 180x150mm	78.000	EACH	907.25	70765.50

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CPWD 2007 REF	SLNO	DESCRIPTION	QTY	UNIT	RATE RS P	AMOUNT RS P
17.2	77	Providing and fixing white vitreous china pedestal type water closet (European type W.C. pan) with seat and lid, 10 litre low level white P.V.C. flushing cistern with manually controlled device (handle lever), conforming to IS : 7231, with all fittings and fixtures complete including cutting and making good the walls and floors wherever required : Cement will be issued free of cost at BHEL stores.				
17.2.1	77A	W.C. pan with ISI marked white solid plastic seat and lid.	24.000	EACH	2126.60	51038.40
9.21	78	Providing and fixing ISI marked flush door shutters conforming to IS: 2202 (Part I) non-decorative type, core of block board construction with frame of 1st class hard wood and well matched commercial 3 ply veneering with vertical grains or cross bands and face veneers on both faces of shutters :				
9.21.1	78A	35 mm thick including ISI marked Stainless Steel butt hinges with necessary screws	195.000	SQ.M	929.95	181340.25
P01592403	79	Providing solid door frame of size 50 x 47mm with a wall thickness of 5mm made out of 5mm rigid PVC foam sheet, miter cut at two corners and joined with 2 Nos. of MS 'L' brackets of 15mm square in the size of 150 x 150mm. The PVC door frame is reinforced with 19 x 19mm MS square tube of 19 gauge and it will be reinforced by country wood. The door frame shall be fixed to the wall by drilling 100mm long MS screws by using PVC fasteners. Solid PVC door made on a structure of M.S. tubular frame 19 gauge of 19mm x 19mm for (styles) and 15 x 15mm (top & bottom rails) M.S. frame to be covered				

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CPWD 2007 REF	SLNO	DESCRIPTION	QTY	UNIT	RATE RS P	AMOUNT RS P
		with 5mm thick het moulded PVC "C" channel of size 50 x 30mm for styles with 5mm thick PVC sheet,)75mm wide for lock rail top rail and bottom rail on either side) panelling of 5mm thick PVC sheet to be fitted in the M.S. frame sealed to the styles and rails with 30 x 5mm thick PVC sheet bedding on either side and joined together with cement solvent adhesive etc.				
P01592403	79A	Supplying and fixing of solid PVC doors of size 750mm x 1850mm of Rajshri solid panel PVC door or "Quote" solid panel PVC door with the following furniture fittings: 1) 4" Al. hinges-3 Nos., 2)150 x 10mm Al. Aldrop set (Sliding bolt) - 1 No. outside, 3) 6" Al. tower bolt set (150mm long) - 2 Nos inside & 4)4" Al. handle - 2 Nos. one on each side with necessary screws depending upon the opening (left / right side). Fixing will be done at site.	264.000	SQ.M	1893.05	499765.20
DATA	80	Providing, suplllyng and fixing in position of ferro cement water tank of singel compartment of 800 litres, capacity of inner dimension 1300mm x 900mm x 800mm in cement mortar 1:2, with 40mm thick bottom finished wall thickness, 32mm wall thickness sides alround, & 25mm thick pre-cast cover slab using 10G x 10G weld mesh & two layers of chickenmesh 28 gauge. Rate to include cost of weldmesh, chickenmesh, fabrication, casting, finishing, carrying and fixing in position, curing etc., complete and cost of 25mm dia G.i. inlet, outlet, scour, overflow pipes & air vent ipes including supplying and fixing of 1 No. of 25mm dia automatic float arrangement of approved make with all necessary fittings etc., labour & incidental etc. complete. All as per	12.000	EACH	3936.04	47232.48

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ESTIMATE REF NO : CF/C/10/16

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CPWD 2007 REF	SLNO	DESCRIPTION	QTY	UNIT	RATE RS P	AMOUNT RS P
		drawaings and standard specifications. The rate shall exclude cost of reinforcement & Cement which will be issued free of cost at BHEL Stores. (Ref. Drg. No. BHE-BAP-C-30-127/R1)				
9.42	81	Providing and fixing 18 mm thick, 150 mm wide pelmet of flat pressed 3 layer or graded wood particle board medium density grade I, IS : 3087 marked including top cover of 6 mm commercial ply wood conforming to IS: 303 BWR grade, nickel plated M.S. pipe 20 mm dia (heavy type) curtain rod with nickel plated brackets including fixing with 25x3 mm M.S. flat 10 cm long and rawl plugs 50 mm long (designation 10 no.) etc all complete.	312.000	R.M.	208.70	65114.40
10.25	82	Steel work welded in built up sections/ framed work including cutting, hoisting, fixing in position and applying a priming coat of approved steel primer using structural steel etc. as required.				
10.25.2	82A	In gratings, frames, guard bar, ladder, railings, brackets, gates and similar works.	2400.000	KG.	51.20	122880.00
13.68	83	French spirit polishing: Two or more coats of glue sizing with copal varnish over an under coat of flatting varnish	330.000	SQ.M.	75.60	24948.00
18.65	84	Providing and fixing PTMT soap dish Holder having length of 138mm, breadth 102mm, height of 75mm with concealed fitting arrangements. Weighing not less than 106 Gms.	36.000	EACH	133.30	4798.80
17.73	85	Providing and fixing PTMT towel rail complete with brackets fixed to wooden cleats with CP brass screws with concealed fitting arrangement of approved quality and colour.				
17.73.2	85A	600mm long towel rail with total length of 645 mm, width 78mm, and effective height of 88mm weighing not less than 190 gms.	48.000	EACH	329.50	15816.00

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ESTIMATE

STIMATE REF NO : CF/C/10/16

AME OF WORK : CONSTRUCTION OF TYPE "D" - 12 UNITS ALONG WITH SERVANT QUARTERS AND GARRAGE IN TOWNSHIP

CPWD 2007 REF	SLNO	DESCRIPTION	QTY	UNIT	RATE		AMOUNT	
					RS	P	RS	P
18.18.3	86	Providing and fixing ball valve (brass) of approved quality, High or low pressure, with plastic floats complete. 25mm nominal bore.	12.000	EACH	385.90		4630.80	
DATA	87	Providing vertical drops, fins, facias etc., for an overall thickness of 75mm with 1:2:4 cement concrete using 6mm gauge granite stone chips for 50mm thick inner core applied on chickenmesh and neatly plastered with cement mortar 1:4, 12mm thick on both faces, finishing, curing etc., complete. Rate to include cost of all materials and labour but excluding fabrication charges for reinforcement as per standard specifications. Cement & reinforcement steel alone will be issued free of cost at BHEL stores.	60.000	SQ.M	409.61		24576.86	
18.53	88	Providing and fixing C.P. brass angle valve for basin mixer and geyser points of approved quality conforming to IS:8931 a) 15 mm nominal bore	24.000	EACH	347.65		8343.60	

12533778.25

ESCALATION @ 26.00 %

3258782.35

TOTAL ESTIMATED VALUE (A)

15792560.60

CONTRACTOR/ TENDERER

ACCEPTING OFFICER

Civil projects & Services

Name of Work: Construction of Type B-96 units, Type C-144 units & Construction of Type D-12 units along with Servant quarters & Garrage in township.

Abstract of Estimate

Construction of Type B-96 units in township = Rs. 5,00,12,697.63

Construction of Type C-144 units in township = Rs. 9,70,42,808.65

Construction of Type D-12 units along with |
Servant Quarters in township | = Rs. 1,57,92,560.60

Total Estimated cost (A) = Rs. 16,28,48,066.88

Constructor's Tender %age @ Below/at par / above%
(Percentage in words.....) (B) = Rs. _____

Sub total (A+B)

Service Tax @%age (C) = Rs. _____

Service Head

Total value of work (A+B+C) = Rs. _____

(Rupees in
Words.....)
.....)

Tenderer / Contractor

Accepting Officer.

BHARAT HEAVY ELECTRICALS LIMITED	
BOILER AUXILIARIES PLANT	
RANIPET - 632 406	
SPECIAL CONDITIONS OF CONTRACT	
1	Items of work other than those mentioned in Bill of Quantities will have to be carried out at the rates to be fixed by this organisation .The same offered & accepted percentage will be applicable with reference to CPWD DSR 2007.
2	Safety precautions should be taken while doing the work. You will have to follow all safety requirements to carry out the work inside the factory premises.
3	CONTRACT CONDITIONS ON TAXES & DUTIES
	a. The Tenderer shall have been Registered under Excise, Sales Tax, VAT, Service Tax regulations if applicable and provide a copy of such registration to BHEL as part of the tender document. In case of fresh registration/amendment thereon, the same shall be carried out before start of the work. PAN no shall be submitted as part the tender document. (copy to be enclosed)
	b. If payment of statutory dues are not made in accordance with the applicable provisions of the relevant Act within the time specified and Penalty, Interest etc paid/payable by the Contractor, the same shall not be reimbursed by BHEL and the entire implication is only to be borne by the Contractor. The Tenderer shall clearly indicate the rate of applicable taxes and duties for the work to be executed.
	c. The Tenderer shall indicate all exemptions on account of thrushold limits or special notification under any stature. Any modification theron shall also be intimated immediately on changes.
	d. The quote submitted shall include all taxes and duties of whatsoever in nature but exclusive of Service Tax which shall be quoted separately if applicable. The existing rate shall be quoted clearly. If reduced rates are applicable on account of material, labour if any the same shall be indicated clearly. After tender opening addition of any tax & duty is not admissible.
	e. If any composition scheme is to be availed by the Tenderer, the all relevant terms and conditions shall be indicated clearly in the offer. The required compliance under relevant statue shall be carried out.
	f. Any statutory variation will be to the account of BHEL. But if the variation is effective during the delayed/extended period of execution for reasons attributable to the vendor, the same shall be borne by the vendor only.
4	All materials shall confirm to the latest IS/IRC specifications
5	All works shall be carried out as per standard specifications and instructions of Engineer-in-charge.
6	All materials, colour, shade,brand, etc. shall be got approved from the Engineer-in-charge before the start of the work and shall confirm to the latest IS/IRC specifications.
7	The minimum wages applicable as per the Tamil Nadu minimum wages Act from time to time is to be paid.
8	The contractor have to follow all statutory requirements like PF ,ESI etc.,through out the contract period.
9	The General conditions of contract in force shall apply to this contract.
10	The contractor is required to engage a qualified Engineer with sufficient knowledge of the work through out the contract period.
11	Time is essence of the contract. Any delay beyond the delivery date will be subjected to LD.

12	BHEL will provide water at free of cost by identifying the water source (Open well) within the BHEL premises subject to availability and the contractor has to make their own arrangement for pumping the water from well and using the same after ensuring the suitability for the purpose. In case BHEL is not able to provide water as stated above, the contractor has to make their own arrangement for bringing the required quality of water at their own cost from outside BHEL premises for construction & testing purpose.
13	The contractor has to make their own arrangement for the required power supply for the execution of work. However BHEL will issue No-Objection Certificate for getting the temporary power service connection if required.