

NAME OF THE WORK:-ADDITION, ALTERATION & RENOVATION OF 'A' TYPE
QUARTERS AT NIT, ROURKELA
ABSTRACT OF COST

Summery:

1. SECTION-I	
• Earthwork	Rs 740775.60
2. SECTION-II	
• Dismantling	Rs 163952.60
3. SECTION-III	
• Concrete Work	Rs 2615926.42
4. SECTION-IV	
• Brick Work	Rs 657134.92
5. SECTION-V	
• Marble Work	Rs 173912.32
6. SECTION-VI	
• Wood Work/Pvc Work	Rs 2197273.83
7. SECTION-VII	
• Steel Work	Rs 719154.75
8. SECTION-VIII	
• Flooring	Rs 6921841.78
9. SECTION-IX	
• Finishing	Rs 6047380.24
10. SECTION-X	
• Repair	Rs 731083.90
11. SECTION-XI	
• Aluminium Work	Rs1889035.94

SANITARY/PLUMBING/WATER SUPPLY

12. SECTION-I	
• Sanitary	Rs 1035352.44
13. SECTION-II	
• Water supply	Rs 829772.24
14. SECTION-III	
• Drainage	Rs 199121.31

TOTAL Rs 24921718.26

ESTIMATE**NAME OF THE WORK:-ADDITION,ALTERATION & RENOVATION OF 'A' TYPE QUARTERS AT
NIT,ROURKELA**

SI no	ITEM	UNIT	RATE	QTY	AMOUNT	NIT REF NO
SECTION-I						
EARTHWORK						
1	Earthwork in excavation by mechanical means (Hydraulic excavator)/manual means over areas (Exceeding 30Cm in depth 1.5m in width as well as 10 Sq.M on Plan) including disposal of excavated earth lead upto 50m and lift upto 1.5m disposed earth to be levelled and neatly dressed (All kinds of Soil)	cum	114.68	540.00	61927.20	sl no-3
2	Earthwork in excavation by mechanical means (Hydraulic excavator)/manual means in foundation trenches or drains (Exceeding 30Cm in depth 1.5m in width as well as 10 Sq.M on Plan) including dressing of sides and ramming of bottoms including getting out the excavated soil and disposal of surplus excavated soil as directed, within a lead of 50Mtr. (All kinds of Soil)	cum	116.41	510.00	59369.10	sl no-5
3	Supplying and filling in plinth with river sand under floors including watering ramming consolidating and dressing complete.	cum	273.14	380.00	103793.20	sl no-9
4	Filling available excavated earth (excluding rock) in trenches, plinth, sides of foundation etc. in layers not exceeding 20Cm in depth, consolidating each deposited layer by ramming and watering, lead upto 50M and lift upto 1.5M	cum	50.77	380.00	19292.60	sl no-8
5	Surface dressing of the ground including removing vegetation and in equalities not exceeding 15 Cm deep and disposal of rubbish , Lead upto 50M and lift upto 1.5M	100 sqm.	564.19	500.00	282095.00	sl no-10

SI no	ITEM	UNIT	RATE	QTY	AMOUNT	NIT REF NO
6(a)	Along external wall where the apron is not provided using chemical emulsion @ 7.5 Ltr/ Sq.M of the vertical surfaces of the substructure to a depth of 300mm including excavation of channel along the wall & rodding etc complete					
	Chloropyriphos /Lindane emulsifiable concentrate of 20% with 1% concentration	RM	33.42	575.00	19216.50	sl no-13(a)
(b)	Treatment of soil under existing floor using chemical emulsion @one liter per hole, 300 mm apart including drilling 12mm diameter holes and plugging with cement mortar 1:2 (1 Cement : 2 Sand) to match the existing floor					
	Chloropyriphos /Lindane emulsifiable concentrate of 20% with 1% concentration	Sq.M	185.76	950.00	176472.00	sl no-13(b)
©	Along the external wall below concrete or masonry apron using chemical emulsion @2.25liter per linear metre including drilling and plugging holes etc.					
	Chloropyriphos /Lindane emulsifiable concentrate of 20% with 1% concentration	RM	37.22	500.00	18610.00	sl no-13(c)
				TOTAL	740775.60	
SECTION-II						
DISMANTLING						
7	Demolishing cement concrete manually/ by mechanical means including disposal of materials within 50mtr lead as per direction of Engineer in Charge.					
	Cement concrete 1:4:8 or leaner Mix	Cum	249.75	60.00	14985.00	sl no-356(b)
8	Dismantling R.C.C. work, including stacking of steel bars and disposal of unserviceable materials within 50mtr lead as per direction of Engineer in charge.	Cum	591.38	41.00	24246.58	sl no-357
9	Demolishing brickwork manually/ by mechanical means including stacking of serviceable materials and disposal of unserviceable materials within 50mtr lead as per direction of Engineer in Charge	Cum	342.07	44.00	15051.08	sl no-360
10	Dismantling doors windows and clearstorey windows (steel or wood shutter) including chowkaths architrave holdfasts etc. complete and stacking within 50mtr lead"					

SI no	ITEM	UNIT	RATE	QTY	AMOUNT	NIT REF NO
	Of area 3 Sq.M and below	Each	69.57	100.00	6957.00	sl no-363(a)
11	Dismantling tile work in floors laid in cement mortar including stacking materials within 50mtr lead					
	For thickness of tile above 10mm and upto 25mm	sqm	17.01	760.00	12927.60	sl no-368
12	Taking out doors windows and clearstorey window shutters (Steel or Wood) including stacking within 50mtr lead:					
	Of area 3 Sq.M and below	Each	26.70	95.00	2536.50	sl no-364(a)
13	Dismantling G.I pipes (External work) including excavation and refilling of trenches after taking out the pipes manually /by mechanical mean including stacking of pipes within 50mtr lead as per direction of Engineer in Charge:					
	15mm to 40mm dia nominal bore	RM	27.01	57.00	1539.57	sl no-380(a)
14	Dismantling C.I pipes including excavation and refilling of trenches after taking out the pipes manually /by mechanical means , breaking lead joints, melting of lead and making into blocks including stacking of pipes within 50mtr lead as per direction of Engineer in Charge:					
	Upto 150mm diameter	RM	69.65	33.00	2298.45	sl no-381(a)
15	Dismantling of flushing cistern of any size including stacking of useful materials near the site and disposal of unservicable materials within 50mtr lead.	Each	179.38	39.00	6995.82	sl no-383
16	Dismantling old plaster or skirting racking out joints and cleaning the surface for plaster including disposal of rubbish to the dumping ground within 50mtr lead	sqm	8.99	8500.00	76415.00	sl no-385
				TOTAL	163952.60	
SECTION-III (CONCRETE WORK UPTO PLINTH LEVEL/CONCRETE WORK ABOVE PLINT LEVEL)						
CONCRETE WORK UPTO PLINTH LEVEL						
17	Providing and laying in position cement concrete of specified grade excluding the cost of centering and shuttering. Cement concrete in 1:2:4 (1 Cement : 2 sand:4 Coarse Aggregate 20mm Down)	Cum	4065.29	77.00	313027.33	sl no-22

SI no	ITEM	UNIT	RATE	QTY	AMOUNT	NIT REF NO
18	Providing and laying in position cement concrete of specified grade excluding the cost of centering and shuttering. Cement concrete in 1:4:8 (1 Cement : 4 sand:8 Coarse Aggregate 40mm Down)	Cum	3077.31	77.00	236952.87	sl no-25
	CONCRETE WORK ABOVE PLINTH LEVEL					
19	Providing and laying cement concrete in retaining walls return walls (any thickness) including attached pilasters Columns Piers Abutment Pillars Post Buttress string or lacing courses Parapets Coping bed block anchor blocks plain window sills fillets etc upto floor Five Level excluding the cost of centering and shuttering and finishing	Cum	4851.12	39.00	189193.68	sl no-27
	CC 1:1½:3 (1 Cement:1½ Coarse Sand:3 Coarse Aggregate 20mm Down)					
20	Providing and laying cement concrete in retaining walls return walls (any thickness) including attached pilasters Columns Piers Abutment Pillars Post Buttress string or lacing courses Parapets Coping bed block anchor blocks plain window sills fillets etc upto floor Five Level excluding the cost of centering and shuttering and finishing	Cum	4409.86	77.00	339559.22	sl no-28
	CC 1:2:4 (1 Cement:2 Coarse Sand:4 Coarse Aggregate 20mm Down)					
21	Providing and laying damp proof course 40mm thick with cement concrete 1:2:4 (1 cement:2 sand:4 coarse aggregate 12.5mm nominal size)	sqm	184.14	115.00	21176.10	sl no-29
22	Extra for Providing and mixing water proofing materials in cement concrete work @ 1Kg per 50kg Of cement	Per bag of cement	352.68	1080.00	380894.40	sl no-33

SI no	ITEM	UNIT	RATE	QTY	AMOUNT	NIT REF NO
23	Making plinth protection 50mm thick of cement concrete 1:3:6 (1 cement : 3sand:6 Coarse aggregate) over 75mm thick bed of dry brick ballast 40mm nominal size well rammed and consolidated and grouted with fine sand including finishing the top smooth	Sq.M	267.13	960.00	256444.80	sl no-34
REINFORCEMENT CEMENT CONCRETE WORK UPTO PLINTH						
24	Providing and laying in position Reinforced cement concrete of specified grade excluding the cost of centering and shuttering. Cement concrete in 1:1½:3 (1 Cement : 1½ sand:3 Coarse Aggregate 20mm Down)	Cum	4622.35	30.00	138670.50	sl no-36
REINFORCEMENT CEMENT CONCRETE WORK ABOVE PLINTH						
25	Providing and laying Reinforced cement concrete in retaining walls return walls (any thickness) including attached pilasters Columns Piers Abutment Pillars Post Buttress string or lacing courses Parapets Coping, slab beam, staircase, bed block anchor blocks plain window sills fillets etc upto floor Five Level excluding the cost of centering and shuttering and finishing	cum	5019.81	30.00	150594.30	sl no-39
CC 1:1½:3 (1 Cement:1½ Coarse Sand:3 Coarse Aggregate 20mm Down)						
CENTERING & SHUTTERING						
26	Foundations footing bases of column etc for mass concrete	sqm	110.23	95.00	10471.85	sl no-45
27	Suspended floors roofs landings balconies and access platform	sqm	161.74	152.00	24584.48	sl no-47
28	Lintels beams plinth beams girders bressumers and cantilevers.	sqm	145.75	140.00	20405.00	sl no-48
29	Columns Pillars piers Abutment Posts and struts	sqm	213.01	114.00	24283.14	sl no-49

SI no	ITEM	UNIT	RATE	QTY	AMOUNT	NIT REF NO
30	Providing precast cement concrete slab 1:2:4 (1 cement : 2sand: 4 Coarse aggregate 6mm nominal size) reinforced with 6mm dia mild steel including cenetring abd shuttering roughening and cleaning fixing and finishing in cement mortar 1:3(1 cement: 3 sand) etc complete excluding plastering of jambs sills and soffits.					
(a)	50mm thick precast slab	sqm	707.76	200.00	141552.00	sl no-59(a)
(b)	25mm thick precast slab	sqm	505.55	285.00	144081.75	sl no-59(b)
31	Providing and placing reinforcement for R.C.C. work including straightining cutting bending placing in position and binding allcomplete.					
	Thermo Mechanically Treated Bars	Kg	64.01	3500.00	224035.00	sl no-60
				TOTAL	2615926.42	
SECTION-IV (BRICK WORK UPTO PLINTH/ABOVE PLINTH)						
BRICK WORK UPTO PLINTH LEVEL						
32	Brick work with F.P.S bricks of class designation 75 in foundation and plinth in cement mortar 1:6 (1cement: 6 Sand)	Cum	2963.50	96.00	284496.00	sl no-65
BRICK WORK ABOVE PLINTH LEVEL						
33	Brick work with F.P.S bricks of class designation 75 in Super structure above plinth levell upto V floor level in all shapes and size in Cement mortar 1:6 (1cement: 6 sand)	Cum	3318.10	88.00	291992.80	sl no-70
34	Half brick masonry with FPS bricks of class designation 75 in Super structure above plinth levell upto V floor level in Cement mortar 1:4 (1 cement: 4 sand)	sqm	410.09	166.00	68074.94	sl no-73
35	Extra for providing and placing in position 2 Nos 6mm dia M.S.Bars at every third layer of half brick work (With F.P.S bricks)	sqm	75.73	166.00	12571.18	sl no-74
				TOTAL	657134.92	
SECTION-V(MARBLE WORK)						
MARBLE WORK						

SI no	ITEM	UNIT	RATE	QTY	AMOUNT	NIT REF NO
36	Providing and fixing of 18mm thick gang saw cut mirror polished (pre moulded and pre polished) machine cut for kitchen platform vanity counters window sill facials and similar location of trequired size of approved shade colour and texture laid over 20mm thick base cement mortar 1:4 with joints treated with white cement mixed with matching pigment epoxy touch ups including rubbingcuring moulding and polishing to edges to give high gloss finish etc complete at all levels					
	Granite of any colourmirror polished and machine cut edge area of slab upto 0.5Sq.M	sqm	2288.32	76.00	173912.32	sl no-87(a)
				TOTAL	173912.32	
SECTION-VI(WOOD WORK & PVC WORK)						
WOOD WORK & PVC WORK						
37	Providing wood work in framed of doors Windows, clearstorey windows and other frames , wrought framed and fixed in position:					
	Second class teak wood	cum	109190.60	3.10	338490.86	sl no-96
38	Providing wood work in framed of doors Windows, clearstorey windows and other frames , wrought framed and fixed in position:					
	Sal Wood	cum	48600.30	9.60	466562.88	sl no-97(a)
39	Providing and fixing glazed shutters for doors and windows and clearstorey windows using 4mm thick float glass panes including ISI marked black enamelled M.S butt hinges with necessary screws					
	Second class Teak Wood (35mm thick shutters)	sqm	3290.80	64.00	210611.20	sl no-106
40	Providing and fixing of ISI marked flush door shutters conforming to IS 2202 (Part-I) Non-decorative type , core block board construction with frame of 1st class hard wood and well matched teak 3ply veenering with vertical grains or cross bands and face veneers on both faces of shutters					
	35mm thick includig ISI marked stainless steel butt hinges with necessary screws.	sqm	3913.01	96.00	375648.96	sl no-119(a)

Sl no	ITEM	UNIT	RATE	QTY	AMOUNT	NIT REF NO
41	Providing and fixing of M.S grills of required pattern in frames of windows etc. with M.S flats, Square or round bar etc all complete					
	Fixed to openings / wooden frames with rawl plugs screw etc	Kg	80.86	1810.00	146356.60	sl no-134
42	Providing 40x5 mm flat iron hold fast 40 cm long including fixing to frame with 10 mm diameter bolts nuts and wooden plugs and embedding in cement concrete block 30x10x15 cm 1:3:6 mix (1 cement : 3 sand: 6 coarse aggregate)	Each	78.15	456.00	35636.40	sl no-136
43	Providing and fixing factory made UPVC door frame made of UPVC extruded , section having an overall dimension , as below (tolerence +/- 1mm) with wall thickness 2.0 +/- 0.2mm. Corners of the door frame to be jointed with galvanized brackets and stainless steel screws, jointed and mitred and plastic wilded. the hinge side vericalof the frames reinforced by galvanised m.S tube of size 19x19mm and 1mm +/- 0.1 mm wall thick ness and 3 nos stainless steel hinges fixed to the frame complete aas per manufacture specification and direction of Engineer in charge.					
	Extruded section Profile size 42x50mm	RM	449.19	127.00	57047.13	sl no-138

SI no	ITEM	UNIT	RATE	QTY	AMOUNT	NIT REF NO
44	Providing and fixing to existing door frames 25mm thick PVC flush door shutters upto 737 mm width of colour and shade as approved by Engineer in Charge made out of one piece multi chamber extruded PVC section of the size of 762x25mm or less as per requirement with an average wall thickness of 1mm +/- 0.3mm . PVC foam end cap of size 23x10mm are provided on both vertical edges to ensure the overall thickness of 25mm . An Ms tube having dimensions 19x19mm is inserted along the hinges side of the door core of the door shutter should be filled with high density polyurethane foam. The top and bottom edges of the shutter are covered with an end cap of the size 25x11mm . door shutter shall be reinforced with special polymeric reinforcement as per manufacture specification and drawing to take up necessary hardware and fixtures . Stickers indicating the location of hardware will be pasted at appropriate places					
45	Providing and fixing of IS 12817 marked stainless steel butt hinges with stainless steel screw etc complete	sqm	2228.99	57.00	127052.43	sl no-141
(b)	100x58x1.90mm	Each	28.54	570.00	16267.80	sl no-157(b)
©	75x47x1.70mm	Each	24.36	475.00	11571.00	sl no-157(c)
46	Providing and fixing bright finished brass tower bolt (barrel type) with necessary screws etc complete:					
(a)	250x10mm	Each	270.55	285.00	77106.75	sl no-161(a)
(b)	150x10mm	Each	170.48	285.00	48586.80	sl no-161(c)
47	Providing and fixing of Bright finished brass Sliding door bolts with nut and screw etc complete					
(a)	300x16mm	Each	1033.63	75.00	77522.25	sl no-162(a)
(b)	250x16mm	Each	966.53	38.00	36728.14	sl no-162(b)
48	Providing and fixing bright finished brass 100mm mortice latch and lock with 6 levers and pair of lever handles with necessary screws etc complete: (best make of approved quality)	Each	440.37	57.00	25101.09	sl no-163
49	Providing and finishing special quality bright finished brass hanging type floor door stopper with necessary screws etc complete	Each	149.27	100.00	14927.00	sl no-167

SI no	ITEM	UNIT	RATE	QTY	AMOUNT	NIT REF NO
50	Providing and fixing bright finished CP brass handles with screws etc complete:					
(a)	125mm	Each	222.73	150.00	33409.50	sl no-173(a)
(b)	100mm	Each	187.67	200.00	37534.00	sl no-173(b)
51	Providing and fixing of aluminium tower bolts ISI marked anodised (anodic coating not less than grade AC 10 as per IS :1868) transparent or dyed to required colour or shades with necessary screw etc complete:					
	150x10mm	Each	97.19	76.00	7386.44	sl no-177(d)
52	Providing and fixing aluminium handles ISI marked anodised (anodic coating not less than grade AC10 as per IS 1868) transparent or dyed to required colour or shade with necessary screw etc. complete:					
	100mm	Each	78.60	76.00	5973.60	sl no-179(b)
53	Providing and fixing bright finished CP brass casement stays (straight peg type) with necessary screws etc. complete					
	250mm	Each	85.48	200.00	17096.00	sl no-175(b)
54	Providing and fixing Stainless steel sliding door bolts ISI marked (of approved make jindal/equivalent) with nuts and screw etc . Complete: as per direction of Enginner in Charge.					
	300x16mm	Each	306.57	100.00	30657.00	sl no-185(a)
				TOTAL	2197273.83	
SECTION-VII						
STEEL WORK						
55	Providing and fixing 1mm thick M.S sheet door with frame of 40x40x6mm angle iron and 3mm M.S gusset paltes at the junctions and corners, all necessary fittings complete, including applying a priming coat of approved steel primer.					
	Using M.S flats 30x6 mm for diagonal braces	sqm	1950.35	57.00	111169.95	sl no-191

SI no	ITEM	UNIT	RATE	QTY	AMOUNT	NIT REF NO
56	Providing and fixing pressed steel door frames conforming to IS 4351 manufactured from commercial mild steel sheet of 1.25mm thickness including hinges, jambs, lock jamb, bead and if required angle threshold of mild steel angle section of 50x25mm or base tie of 1.25mm pressed mild steel welded or rigidly fixed together by mechanical means, adjustable lugs with split end tail to each jamb including steel butt hinges 2.5mm thick with mortar guards, lock strike -plate and shock absorbers as specified and applying a coat of approved steel primer after pre-treatment of the surface as directed by Engineer in charge:					
	Profile B	RM	345.58	310.00	107129.80	sl no-196(a)
57	Supplying and filling of non OZONE make stainless steel railing with specification ss 304 grade railing made of 38mm blaster and 38mm top rail of 1.6mm thickness with 3 mid rail of 120 D tube connected with CNC made modular connection with dash fasters center to center distance between each blaster shall be 1000mm (metre rate 3 item)	RM	4595.00	109.00	500855.00	Extra item major project (faculty residence) item-43@4595.00 per rm
				TOTAL	719154.75	
SECTION-VIII						
FLOORING WORK						
58	cement concrete flooring 1:2:4 (1 cement : 2 sand: 4 coarse aggregate) finished with a floating coat of neat cement including cement slurry , but excluding the cost of nosing of steps etc. complete					
	40mm thick with 20mm nominal size stone aggregate	sqm	237.98	570.00	135648.60	sl no-215
59	cement plaster skirting (Upto 30CM height) with cement mortar 1:3(1 cement : 3 Sand) finished with floating coat of neat cement.					
	18mm thick	sqm	189.16	95.00	17970.20	sl no-216

SI no	ITEM	UNIT	RATE	QTY	AMOUNT	NIT REF NO
60	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 shade except burgundy, bottle green , black of any size as approved by engineer in Charge in skirting , risers of steps and dados over 12mm thick bed of cement mortar 1:3 (1 cement : 3 sand) and jointing with grey cement slurry @3.3 kg per Sq.M including pointing in white cement mixed with pigment of matching shade complete	sqm	735.92	1100.00	809512.00	sl no-238
61	Providing and laying rectified ceramic glazed floor tiles 300x300mm (thickness to be specified by the manufacturer) of 1st quality conforming to IS 15622 of approved make in colours shade except white ivory grey fume red, brown laid on 20mm thick cement mortar 1:4 (1 cement : 4 sand) including pointing the joints with white cement and matching pigment etc complete.	sqm	842.47	1330.00	1120485.10	sl no-242
62	Providing and laying Vitrified floor tiles in different sizes (thickness to be specified by the manufacturer)with water absorption less than 0.08% and conforming to IS 15622 of approved make in all colours shade laid on 20mm thick cement mortar 1:4 (1 cement : 4 sand) including pointing the joints with white cement and matching pigment etc complete.	sqm	938.20	465.00	436263.00	sl no-243
63	Deduct for not using 20mm thick cement mortar 1:4 (1 cement : 4 sand) bedding in laying of floor tiles	sqm	259.37	3110.00	806640.70	sl no-247
64	Fixing glazed /ceramic /vitrified floor tiles with cement based high polymer modified quick set tile adhesive (water based) conforming to IS 15477 using 5 kg Adhesive per Sq.M of tile area in average of 3mm thick ness	sqm	315.63	3170.00	1000547.10	sl no-248

SI no	ITEM	UNIT	RATE	QTY	AMOUNT	NIT REF NO
65	Providing and fixing 1st quality ceramic glazed wall tiles (Boarder tiles) conforming to IS 15622 (thickness to be specified by the manufacture of approved make in all colours shade with printed series of any size as approved by engineer in Charge in skirting , risers of steps and dados over 12mm thick bed of cement mortar 1:3 (1 cement : 3 sand) and jointing with grey cement slurry @3.3 kg per Sq.M including pointing in white cement mixed with pigment of matching shade complete	RM	60.61	718.00	43517.98	sl no-249
66	Providing & fixing 5mm thick glass mosaic on walls of required shapes,colour and pattern over 10mm thick cement mortar 1:4 with rounded and smooth edge and surface fixed on cement mortar slurry mixed with pigment to match the shade of the tiles including cleaning etc directed.	sqm	1291.00	465.00	600315.00	Extra item majour project (faculty residence) item-5 page no-13@1291.00
67	Chequered precast cement concrete tiles 22mm thick DESIGNER TILE (ULTRA/ DUROCON/ EQUIVALENT) in foot path and courtyard 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 sand)					
	Ordinary cement without any pigment	sqm	605.21	2185.00	1322383.85	sl no-250©
68	Marble stone flooring with 18mm thick marble stone (sample of marble shall be approved by the Engineer in Charge. Over 20mm (average) thick base of cement mortar 1:4 (1 cement : 4 sand) laid and jointed with grey cement slurry including rubbing and polishing complete with :					
	Raj nagar White marble	sqm	1166.38	320.00	373241.60	sl no-229
69	Marble stone flooring with 18mm thick marble stone (sample of marble shall be approved by the Engineer in Charge. Over 20mm (average) thick base of cement mortar 1:4 (1 cement : 4 sand) laid and jointed with grey cement slurry including rubbing and polishing complete with :					
	Udipur green marble	sqm	1380.09	185.00	255316.65	sl no-231
				TOTAL	6921841.78	
SECTION-IX						
FINISHING WORK						
70	15mm cement plaster of mix 1:6 (1 cement: 6 Sand)over rough side of half brickwork	sqm	84.69	4870.00	412440.30	sl no-280
71	20mm cement plaster of mix 1:6 (1 cement: 6 Sand)	sqm	102.34	4870.00	498395.80	sl no-282

SI no	ITEM	UNIT	RATE	QTY	AMOUNT	NIT REF NO
72	Neat cement Punning	sqm	25.04	380.00	9515.20	sl no-290
73	Providing and finishing wall surface with acrylic wall care putty (water based) of approved make (Birla or Equivalent) and finished smooth and even surface to receive painting including cost of scaffolding staging charges with all cost of materials taxes labour T&P etc complete	sqm	105.79	9500.00	1005005.00	sl no-294
74	White washing with KATNI lime to give an even shade					
	New work (Three or more coat	sqm	10.01	2150.00	21521.50	sl no-299(a)
75	Distempering with 1st quality acrylic distemper (readymade) of approved manufacture and of required shade and colour complete, as per manufacturer's specification.					
	New Work(Two or more coats)	sqm	32.73	9500.00	310935.00	sl no-303
76	Coal taring two coats on new work using 0.16 and 0.12 litre tar per Sq.M in the first coat and secon coat respectively	sqm	29.98	48.00	1439.04	sl no-314
77	Applying one coat of cement primer of approved brand and manufacturer on wall					
	Cement primer	sqm	26.91	15200.00	409032.00	sl no-304
78	Painting with synthetic enamel paint of approved brand and manufacture to give an even shade:					
	Two or more coats on new work	sqm	48.96	1140.00	55814.40	sl no-316
79	Providing and plastering 6mm thick cement plaster in CM 1:4 with admixture of plastocrete or equivalent (@100ml/bag of cement) and with painting of two coats of SIKA LATEX or equivalent (150ml/Sq.M) over the plastered surface before plastering including racking out the ceiling and painting two coats of ARMATEX or Equivalent over corroded steel and complete as per direction of Engineer in Charge.	sqm	165.01	2060.00	339920.60	sl no-326

SI no	ITEM	UNIT	RATE	QTY	AMOUNT	NIT REF NO
80	15 mm thick cement plaster in CM 1:4 with chemical admixture for water proofing such as PLASTOCRETE PLUS/CICOCRETE/Equivalent as per manufacturers manual for out side plastering including racking out and cleaning the wall surface with wire brush and painting of SIKALATEX two coats(@ 150ml/Sq.M) before plastering complete as per direction of Engineer In charge. Including all material and labour for racking and plastering.	sqm	148.89	5260.00	783161.40	sl no-327
81	Providing & laying Dura COAT TOP coated with trashed ultratech texture wall finished over existing cement plaster	sqm	386.00	5700.00	2200200.00	Extra item majour project (faculty residence) sl
				TOTAL	6047380.24	
SECTION-X						
REPAIR TO BUILDING						
82	Repairs to plaster of thickness 12mm to 20mm in patches of area 2.5Sq.Mand under including cutting the patches in proper shape racking out joints and repairing and plastering the surface of the wall s complete including disposal of rubbish to the dumping ground with in 50mtr lead					
	Cement Mortar 1:6	sqm	110.73	285.00	31558.05	sl no-328(b)
83	Renewing glass panes with Putty and nails wherever necessary:					
	Float glass panes of thickness 4mm	sqm	690.57	58.00	40053.06	sl no-332(b)
84	Removing dry or oil bound distemper , water proofing cement paint and the like by scrapping sand papering and preparing the surface smooth including necessary repairs to scratches etc. complete	sqm	4.57	15460.00	70652.20	sl no-341
85	Painting with synthetic enamel paint of approved brand and manufacture to give an even shade:					
	One or more coat over old Work	sqm	31.54	4750.00	149815.00	sl no-344
86	Re-Lettering with black japan paint of approved brand and manufacture	1Letter of 1 Cm height	0.91	208.00	189.28	sl no-352©

SI no	ITEM	UNIT	RATE	QTY	AMOUNT	NIT REF NO
87	Taking out the doors and window shutters and refixing them including screws as may be required. Including Cost of repairing of old door shutter of any size as per requirement along with refixing old fittings such as tower bolt, sliding door bolt, handles, (new fittings to be paid separately) with new hinges including painting the new portion with synthetic enamel paint of required shade with one coat of wood primer(cost of wood to be paid separately) including fixing in existing opening complete (Any size of any thickness)as per direction of Engineer in Charge.	sqm	351.06	380.00	133402.80	sl no-602
88	Easing ,oiling and adjusting the door & window including the cost of screws etc complete as per direction of Engineer - in charge.	each	113.30	190.00	21527.00	sl no-603
89	Labour for dismantling , fitting and refixing of M.S gates and Grills including cutting into size and welding all complete as per approved design including cost of all materials complete as per direction of Engineer in charge (Cost of materials and such as M.S flats and other consumable items welding machine etc are to be supplied by the contractor ,only power will be supplied free of cost within distance of 100.00mtr)	sqm	262.76	285.00	74886.60	sl no-605
90	Repairing wherever required of bibcock pillar cock, stopcock, pvc waste pipe low /high level cistern and other fittings of C.P. brass etc complete including providing and fixing as per requirement	each	29.33	114.00	3343.62	sl no-606
91	Cleaning of porcelain WC pan wash basin, and sink with porcelain clean acid with making complete germ free up to get up the white dazzling colour including using M-Seal as and where required to make the joints leakage proof as per direction of the Engineer in charge.	each	87.34	38.00	3318.92	sl no-611
92	Providing and laying screed concrete on the top of the roof in 1:2:4 (1 cement :2 sand : 4 stone chips 10mm down gauge) with water proofing admixture Conforming to IS:2645, and crack resistance fibre like RECRON 3S or equivalent with slope of 1 in 100 and necessary hollering as per direction of Engineer- in-charge. (minimum thickness of 75mm)	sqm	315.88	570.00	180051.60	sl no-613
93	Cleaning the roof top surface , terrace, portico etc by scraping the fungus/algae if any and cleaning the garbages at all height by brooming the top surface before monsoon and disposal the same to the dumping ground as directed by Engineer in Charge	sqm	25.96	570.00	14797.20	sl no-626

SI no	ITEM	UNIT	RATE	QTY	AMOUNT	NIT REF NO
94	Cleaning silt, sapling, dust etc its disposal to outside compound and washing O.H tanks with lime water and disinfecting with bleaching powder using 150 gms of bleaching powder in 1000to 1500 lits. tank keeping it in the tank at least for three hours before flushing and cleaning (at the interval of 1 year)(One tank shall be taken as one job).	each	162.03	19.00	3078.57	sl no-619
95	Conveyance of Materials such as stone metal refuse,garbage, rubbish etc including labour for loading and unloading. Beyond initial lead.					
(a)	truck load Upto 1km	Cum	41.00	30.00	1230.00	sl no-644(e)
(b)	truck load upto2 km	Cum	53.00	60.00	3180.00	sl no-644(f)
				TOTAL	731083.90	
SECTION-XI						
ALUMINIUM WORK						
96	Providing and fixing aluminium work Fully glazed with 4.0mm thick glass pane for Sliding windows ventilators (Subframe) (anodised transparent or dyed to required shade according to IS 1868 minimum anodic coating of grade AC15) subframe for windows and ventilators with extruded builtup standard tubular sections of approved make conforming to IS 733 and IS 1285 fixed with rawl plugs and stainless steel screws etc.with rawl plug and screw or with fixing clips or with expansion holdfasteners including necessary filling up of gaps at jnction at top and bottom and sides with required PVC /neoprene fillet etc aluminium sections shall be smooth rust free straight mitred and jointed mechanically wherever required including cleat angles , Aluminium snap beading for glazing /panelling CP brass /stainless steel screws all complete as per architectural drawings and direction of Engineer in Charge (all fittings such as hinges handle and beading etc all are included and measured in Sq.M)	sqm	3746.24	180.00	674323.20	sl no-594

SI no	ITEM	UNIT	RATE	QTY	AMOUNT	NIT REF NO
97	Providing and fixing aluminium work Fully glazed with 8mm thick glass pane for doors and windows ventilators and partitions with extruded builtup standard tubular sections/ appropriate Z sections and other sections of approved make conforming to IS 733 and IS 1285 fixed with rawl plug and screw or with fixing clips or with expansion holdfasteners including necessary filling up of gaps at junction at top and bottom and sides with required PVC /neoprene fillet etc aluminium sections shall be smooth rust free straight mitred and jointed mechanically wherever required including cleat angles , Aluminium snap beading for glazing /panelling CP brass /stainless steel screws all complete as per architectural drawings and direction of Engineer in Charge (all fittings such as hinges handle and beading etc all are included and measured in Sq.M)					
	For Fixed portion only	sqm	4974.16	60.00	298449.6	sl no-592
98	Providing and fixing aluminium work Fully glazed with 5.0 mm thick glass pane for Sliding windows ventilators (Subframe) (anodised transparent or dyed to required shade according to IS 1868 minimum anodic coating of grade AC15) subframe for windows and ventilators with extruded builtup standard tubular sections of approved make conforming to IS 733 and IS 1285 fixed with rawl plugs and stainless steel screws etc.with rawl plug and screw or with fixing clips or with expansion holdfasteners including necessary filling up of gaps at junction at top and bottom and sides with required PVC /neoprene fillet etc aluminium sections shall be smooth rust free straight mitred and jointed mechanically wherever required including cleat angles , Aluminium snap beading for glazing /panelling CP brass /stainless steel screws all complete as per architectural drawings and direction of Engineer in Charge (all fittings such as hinges handle and beading etc all are included and measured in Sq.M)	sqm	3817.68	215.00	820801.20	sl no-595
99	Providing and fixing panelled or panelled and glazed shutters for doors and windows and clearstorey windows including ISI marked black enamelled M.S butt hinges with necessary screws excluding glass panelling which will be paid separately					

SI no	ITEM	UNIT	RATE	QTY	AMOUNT	NIT REF NO
	Second class Teak Wood (30mm thick shutters)	sqm	2328.34	41.00	95461.94	sl no-100
				TOTAL	1889035.94	
SANITARY INSTALLATION/PLUMBING/WATER SUPPLY						
SECTION-1						
SANITARY INSTALLATION						
100	Providing and fixing water closet squatting pan (Indian type W.C.Pan) with 100mm sand cast iron Por S trap , 10litr 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 where ever required :					
	White Vitreous china orissa pattern W.C pan of size 580x440mm with integral type foot rests.	each	3469.19	19.00	65914.61	sl no-401
101	Providing and fixing white vitreous china pedestal type water closet s(European typeW.C.Pan)with seat lid, 10litr 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 where ever required :					
	W.C.Pan with ISI marked White solid plastic seatand lid	Each	3701.49	19.00	70328.31	sl no-402
102	White vitreous china wash basin size 630x450mm withsingle 15mm CP Brass					
	Providing and fixing of wash basin with C.I brackets, 15mm Cp brass pillar taps 32mm	Each	2796.30	38.00	106259.40	sl no-406(b)
103	Kitchen sink without drain board 610x510 mm bowl depth 200mm					
	Providing and fixing of Stainless steel AISI304 (18/8) kitchen sink as per IS 13983 with C.I brackets, CP brass chain with stainless steel plug, 40mm CP brass waste complete, including painting the fittings and brackets, cutting and making good the walls wherever required:	Each	8679.90	19.00	164918.10	sl no-409(c)
104	Providing and fixing single equal junction of required degree with access door insertion rubber washer 3mm thick bolts and nuts complete					
	Sand Cast Iron (S&S) as per IS -1729					
(a)	100x100x100x100mm dia	Each	480.30	38.00	18251.40	sl no-450(a)
(b)	75x75x75x75mm dia	Each	302.91	38.00	11510.58	sl no-450(b)
105	Providing and fixing Terminal Guard					
	Centrifugal Cast iron asp per IS 3989					
	100mm dia	Each	194.57	38.00	7393.66	sl no-469(a)

SI no	ITEM	UNIT	RATE	QTY	AMOUNT	NIT REF NO
106	Providing and fixing 600x450mm bevelled edge mirror of superior glass (of approved quality) complete with 6mm thick hard board ground fixed to wooden cleats with CP brass screws and washers complete	Each	1057.20	76.00	80347.20	sl no-429
107	Providing and fixing of 600x120x5mm glass self with edges round of supported on anodized aluminium angle frame with CP brass brackets and guard rail complete fixed with 40mm long screw, rawl plugs etc complete	Each	668.34	76.00	50793.84	sl no-430
108	Providing and fixing of CP towel rail complete with brackcket fixed to wooden cleats with CVp bras screw with concealed arrangement of approved make and brand and quality : 600mm x20mm dia CP Brass	Each	516.81	58.00	29974.98	sl no-433
109	Providing and fixing CP bras Soap case of Approved make and quality	Each	298.23	114.00	33998.22	sl no-434
110	Providing and fixing of CP brass Towel ring Circular shape 200mm dia with a minimum distanc eof 37mm from wall face with concealed fitting arrangement of approved quality	Each	313.93	58.00	18207.94	sl no-435
111	Providing and fixing Soil, waste and vent pipes (Centrifugally cast iron PIPE as per IS 3989					
(a)	100mm dia	RM	677.74	95.00	64385.30	sl no-438(a)
(b)	75mm dia	RM	599.80	190.00	113962.00	sl no-438(b)
112	Providing and fixing plain bend of required degree Centrifugal Cast Iron as per IS -3989					
(a)	100mm dia	Each	503.53	95.00	47835.35	sl no-442(a)
(b)	75mm dia	Each	314.52	95.00	29879.40	sl no-442(b)
113	Providing and fixing of PVC waste pipe for Sink or wash basin including PVC waste fittings complete : Semirigid pipe 32mm dia	Each	255.86	60.00	15351.60	sl no-426
114	Providing lead caulked joints to sand cast iron/ Centrifugally cast (Spun) iron pipes and fittings of diamter					
(a)	100mm dia	Each	318.66	95.00	30272.70	sl no-475(a)
(b)	75mm dia	Each	279.26	95.00	26529.70	sl no-475(b)
115	Supplying and fixing and fittins of PVC pipes of approved brand (Finolex/Supreme) complete with fittings including cutting and making good the walls etc. as per direction of Engineerin Charge.					
	110mm dia Pipes	RM	302.61	115.00	34800.15	sl no-478(a)
116	Supplying and fixing and fittins of PVC door bend of approved brand (Finolex/Supreme) complete with fittings including cutting and making good the walls etc. as per direction of					
	110mm dia Pipes	Each	222.66	50.00	11133.00	sl no-479(a)

Sl no	ITEM	UNIT	RATE	QTY	AMOUNT	NIT REF NO
117	Supplying and fixing and fittings of PVC vent cowl of approved brand (Finolex/Supreme)complete with fittings including cutting and making good the walls etc. as per direction of Engineerin Charge.					
	110mm dia Pipes	Each	66.10	50.00	3305.00	sl no-484(a)
				TOTAL	1035352.44	
SECTION-II						
WATER SUPPLY						
118	Providing and fixing of chlorinated polyvinyl chloride (CPVC)pipes , having thermal stability for hot and cold water supply including all CPVC plain and brass threaded fittings including fixing the pipe with clamps at 1.00m spacing . This includes jointing of pipes fittings with one CPVC solvent cement and testing of joints complete as per direction of Engineer in Charge(Concealed work includig cutting chases and making good the walls etc.)					
(a)	15mm nominal bore	RM	239.19	85.00	20331.15	sl no-487(a)
(b)	20mm nominal bore	RM	276.80	85.00	23528.00	sl no-487(b)
©	25mm nominal bore	RM	356.68	38.00	13553.84	sl no-487(c)
119	Providing & fixing unplasticized P.V.C. connection pipe with PTMT Nuts collar and					
	15mm nominal bore with 30cm length	each	70.15	39.00	2735.85	DSR sl no-18.74.1
120	15mm nominal bore with 45cm length	each	81.47	39.00	3177.33	DSR sl no-18.74.2
121	Providing and fixing of chlorinated polyvinyl chloride (CPVC)pipes , having thermal stability					
(a)	20mm nominal bore	RM	168.04	55.00	9242.20	sl no-488(b)
(b)	25mm nominal bore	RM	230.09	55.00	12654.95	sl no-488(c)
122	Providing and fixing of G.I pipes complete with G.I fittings and clamps including cutting and making good the walls etc. Internal work (Exposed on wall)					
(a)	15mm nominal bore	RM	225.41	95.00	21413.95	sl no-489(a)
(b)	20mm nominal bore	RM	259.44	95.00	24646.80	sl no-489(b)
©	25mm nominal bore	RM	350.98	190.00	66686.20	sl no-489(c)
123	Concealed pipe including painting with anti corosive bitumastic paint, cutting chases and making good the wall					
(a)	15mm nominal bore	RM	283.40	95.00	26923.00	sl no-490(a)

Sl no	ITEM	UNIT	RATE	QTY	AMOUNT	NIT REF NO
(b)	20mm nominal bore	RM	315.03	95.00	29927.85	sl no-490(b)
©	25mm nominal bore	RM	404.77	190.00	76906.30	sl no-490(c)
124	Providing and fixing of CP Brass Fittings conforming to IS 8931as per approved quality and direction of Engineer in Charge.					
	15mm dia Bib cock	Each	663.88	57.00	37841.16	sl no-501
	15mm dia Stop cock	Each	663.88	57.00	37841.16	sl no-502
	15mm dia long body bib cock	Each	771.13	19.00	14651.47	sl no-504
	15mm dia short body bibcock	Each	687.11	76.00	52220.36	sl no-506
	15mm dia Swing cock	Each	1064.22	38.00	40440.36	sl no-507
	15mm dia wall mixer with L bend	Each	3271.07	38.00	124300.66	sl no-509
	15mm dia angle cock	Each	733.27	38.00	27864.26	sl no-510
	15mm dia conceal stop cock	Each	727.46	95.00	69108.70	sl no-511
	15mm to 20mm dia CP brass shower rose with Arm (150mm dia)	Each	1054.71	38.00	40078.98	sl no-513
	CP connector pipe for Geysers 60Cm length with CP brass Unions	Each	364.15	51.00	18571.65	sl no-515
125	Providing and fixing PTMT grating of approved quality and colour.					
	100 mm nominal dia	Each	61.14	95.00	5808.30	DSR sl no-18.58.1.1
126	Constructing masonry chamber 30x30x50cm , inside with 75class designation brick work in cement mortar 1:4 (1 cement : 4 sand) for sluice valve and RCC top slab of 1:2:4 (1 cement : 2 sand: 4 coarse aggregate) necessary excavation foundation concrete 1:5:10 (1 cement : 5 sand: 10 stone aggregate) and inside plastering with cement mortar 1:3 (1 cement: 3 sand) 12mm thick finished with a floating coat of neat cement complete as per standard design: With FPS Bricks	Each	771.52	38.00	29317.76	sl no-545
				TOTAL	829772.24	
SECTION-III						
DRAINAGE						
127	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 300x300 mm size (Inside) the weight of cover to be not less than 4.50kg and frame to be not less than 2.70kg as per standard design:					
	180x150mm size P type with F.P.S bricks class designation 75	each	1873.90	60.00	112434.00	sl no-564

Sl no	ITEM	UNIT	RATE	QTY	AMOUNT	NIT REF NO
128	Constructing brick masonry man hole in cement mortar 1:4 (1 cement: 4 sand) R.C.C. top slab with 1:2:4 (1cement : 2 sand: 4 coarse aggregate), Foundation concrete 1:4:8 (1 cement : 4sand: 8 coarse aggregate) inside plastering 12mm thick with cement mortar 1:3 (1 cement: 3 sand) finished with floating coat of neat cement punning and making channel in cement concrete 1:2:4 (1 cement: 2 sand: 4 coarse aggregate) finished with floating coat of of neat cement punning complete as per standard design :					
	Inside size of 90x80cm and deep 45Cm including R.C.C Precast 50mm thick cover	each	4562.49	19.00	86687.31	sl no-567
				TOTAL	199121.31	
				GRAND TOTAL	24921718.29	
				SAY	24921719.00	

LIST OF APPROVED MANUFACTURERS / BRANDS FOR CIVIL WORKS

Sl. No.	Materials	Manufacturers
1	Grey Cement (43 or 53 Grade) White Cement Putty	Konark (OCL), Ultratech Birla White Birla White Putty
2	Steel (TMT)	TATA, SAIL
3	Clay Bricks	Reputed brand approved by project Engineer and Architect.
4	Pressed Steel frames for Doors.	As approved by Architect/Consultant & Engineer-in-Charge.
5	Flush Door Shutters	Green Ply/Century/Archid Ply/Duro/Bhutan Board/ Hindustan Board/equivalent.
6	Particle Boards/Block Boards (Ward robe shutters and kitchen cabinets on with laminates)	Century Ply woods Archidply / Kitply / Duro, Bhutan Board, Novapan, Equivalent.
7	Glass (Plain/Pin Headed)	Modi Float not less than Grade as per IS 1868
8	Aluminium Hardware/fittings	Argent/Classic (ISI marked anodised coating not less than grade AC as per IS 1868).
9	Brass Mortice Lock & Latches	Godrej or equivalent.
10	Latches with Internal locks	Godrej or equivalent.
11	Floor Type Hydraulic door closer (Floor spring)	Everite / Hyper.
12	Aluminium door, window and ventilator sections.	Jindal / Indal / Hindalco.
13	Water proofing materials / compound	CICO - I / Sikaflex / Sikalutex / Dr. FIXIT / Plastocrete Plus / F Airmate.
14	Ceramic Glazed Tiles	Kajaria / NITCO / equivalent
15	Ceramic Tiles (Non-Skid)	Kajaria / NITCO / equivalent
16	Cement Concrete (Chequered) Tiles	NITCO / Bharat / URO.
17	Synthetic Enamel Paint	Burger / Asian or equivalent
18	Oil Bound Distemper	Burger / Asian or equivalent
19	Plastic Paint	Burger / Asian
20	Glass Mosaic Tiles	Italia or equivalent
21	Vitrified Tiles	NITCO / Kajaria / or equivalent
22	Interlocking Grass Pavers	NITCO
23	Any other item	On Approval of Architect / Consultant or Engineer-in-Charge

Note: In case of non-availability of any other item listed above architect/Consultant will approve the make / brand to be used in the work.

LIST OF APPROVED MANUFACTURERS/BRANDS FOR PLUMBING WORKS

Sl. No.	Materials	Manufacturers
1	VITREOUS CHINA SANITARY WARES	PARRYWARE / CERA / HIND WARE
2	C P FITTINGS / MIXTURES	MARC / PLUMBER
3	URINAL / WC FLUSHING SYSTEM	MARC / PLUMBER
4	FIRE CLAY SINK	SANFIRE / JOHNSON PEDDER / PARRYWARE / HIND WARE
5	STAINLESS STEEL SINK	NIRALI / PARRY / FRANKE / SALEM
6	BALL VALVES / NRV / STRAINER / PRV	CIM / LEADER / AUDCO / ZOLOTO
7	GI PIPES - IS : 1239	JINDAL (HISSAR) / PRAKASH - SURYA (TATA (MEDIUM) / BANSAL OR EQUIVALENT
8	GI FITTINGS - IS : 1239	UNCO / R BRAND / UNIK / ZOLOTO / TATA /BANSAL OR EQUIVALENT
9	CI PIPES (CLASS LA / A/ B) - IS, 1536	ELECTROSTEEL / KESHORAM / HINDUSTAN / NECO
10	DI PIPES - IS - 8329	ELECTROSTEEL / JINDAL OR EQUIVALENT
11	CI PIPES (CENTRIFUGAL CAST) - IS - 3989	NECO OR EQUIVALENT
12	SW PIPES / GULLY TRAPS - IS - 651	BURN / PERFECT OR ISI MARKED OR EQUIVALENT
13	PWC PLASTIC SEAT COVERS	PARRYWARE / CERA / HINDUSTAN / COMMANDER
14	OVER HEAD TANKS	SINTEX OR EQUIVALENT
15	SS FLOOR GRATING / CLAMPS	CHILLY OR EQUIVALENT
16	SS LIQUID SOAP DISPENSOR / HAND DRIER	IMPULSE / TOSHI / UTEC OR EQUIVALENT
17	SI UICE / BUTTERFLY / NON RETURN VALVES	KIRLOSKER / LEADER / CIM / ZOLOTO) / VENUS/IVC
18	RCC PIPES - IS - 458	INDIAN HUME PIPE / JAIN SPUN / DAYA SPUN OR EQUIVALENT
19	SUBMERSIBLE PUMP FOR WATER SUPPLY	KSB / / GRUNDFOSS / CROMPTON GREAVES
20	MONOBLOCK PUMP FOR WATER SUPPLY	KIRLOSKER / CROMPTON / MATHER + PLATT
21	UPVC PIPES (S/W/R)	PRINCE / SUPREME / FINOLEX
22	GUNMETAL VALVES (FULLWAY. CHECK & GLOBE)	LEADER / ZOLOTO (WITH ISI MARK) / SANT
23	MIRRORS	FLOAT GLASS (MODIGUARD/AGI/EQUIVALENT
24	CI MANHOLE COVER	NECO/SILC OR EQUIVALENT
25	CHEMICAL DOSER	ASIA LMI / PROMINENT / ION EXCHANGE
26	PVC FITTINGS	PRAYAG OR EQUIVALENT

27	PRESSURE GAUGE	H GURU
28	LEVEL INDICATOR	RM OR EQUIVALENT APPROVED MAKE
29	AIR RELIEF VALVES	RB / ZOLOTO
30	WATER METER	DASMESH / CAPSSTAIN
31	PVC ENCAPSULATED FOOTREST	KKM OR EQUIVALENT APPROVED MAKE
32	CI BUTTERFLY VALVE	KEYSTONE / KIRLOSKAR / CASTLE
33	RCC PIPES	INDIA HUME PIPES / JAIN SPUN / OR ISI MARKED
34	ANY OTHER ITEMS	ON APPROVAL OF ARCHITECT / CONSULTANT OR ENGINEER-IN-CHARGE

Note: 1. The choice of the final makes shall be made by the owner / consultant.

2. The samples or Cat. No. of all type of sanitary fixtures, CP, fitting & pumps should be approved before execution.