

## Annexure-II

ITEM DESCRIPTION	QUANTITY	UNIT
Providing and laying in position ready mixed M-25 grade concrete for reinforced cement concrete work, using cement content as per approved design mix, manufactured in fully automatic batching plant and transported to site of work in transit mixer for all leads, 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.(Note :- Cement content considered in this item is @ 330 kg/cum. Excess/less cement used as per design mix is payable/recoverable separately).R.C.C	3513.7	Cum
Steel reinforcement for R.C.C. work including straightening, cutting, bending,placing in position and binding all complete above plinth level. Thermo-Mechanically Treated bars of grade Fe-500 D or more	667000	KG
Surface dressing of the ground including removing vegetation and inequalities not exceeding 15 cm deep and disposal of rubbish, lead upto 50 m and lift upto 1.5 m.	2813.57	Sqm
Supplying and filling in plinth with Jamuna sand under floors, including watering, ramming, consolidating and dressing complete.	422.03	Cum
Diluting and injecting chemical emulsion for POSTCONSTRUCTIONAL anti-termite treatment (excluding the cost of chemical emulsion) With Chlorpyriphos/Lindane E.C. 20% with 1% concentration	2813.57	Sqm
CC Work	2813.57	Sqm
1:4:8 (1 Cement : 4 coarse sand : 8 graded stone aggregate 40 mm nominal size)	636.94	CUM
Columns, Pillars, Piers, Abutments, Posts and Struts	5326.4	Sqm
Suspended floors, roofs, landings, balconies and access platform	10996.38	Sqm
Lintels, beams, plinth beams, girders, bressumers and cantilevers	7618.88	Sqm
Brick work with common burnt clay F.P.S. (non modular) bricks of class designation 7.5 in superstructure above plinth level up to floor V level in all shapes and sizes in :	1935	Cum
Half brick masonry with common burnt clay F.P.S. (non modular) bricks of class designation 7.5 in superstructure above plinth level up to floor V	15940	Sqm
Extra for providing and placing in position 2 Nos 6mm dia. M.S. bars at every third course of half brick masonry.	15940	Sqm
Plaster 6mm	18000	Sqm
Plaster 12mm	20500	Sqm
Plaster 15mm	20500	Sqm

Plaster 18mm	27800	Sqm
M.s Railing work (Balcony Railing+staircase+Fire Staircase+Ms Louver+Main Gate+railing)	102100	Kg
Providing and fixing hand rail of approved size by welding etc. to steel ladder railing, balcony railing, staircase railing and similar works, including applying priming coat of approved steel primer. M.S. Tube	40000	Kg
Providing and fixing 18mm thick gang 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.	1026.08	Sqm
Extra for providing opening of required size & shape for wash basin/ kitchen sink in kitchen platform, vanity counter and similar location in marble/ Granite/stone work, including necessary holes for pillar taps etc. including moulding, rubbing and polishing of cut edges etc. complete.	704	Each
Providing and fixing 1st quality ceramic glazed wall tiles conforming to IS:15622 (thickness to be specified by the manufacturer), of approved make, in all colours, shades except burgundy, 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	12172.16	Sqm
Providing and laying Ceramic glazed floor tiles of size 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.	5502.99	Sqm
Providing and laying Vitrified tiles in different sizes (thickness to be specified by manufacturer) with water absorption less than 0.08 % and conforming to I.S. 15622, of approved make in all colours & shade in skirting, riser of steps and Dado over 12 mm thick bed of cement mortar 1:3 (1 cement: 3 coarse sand), including grouting the joint with white cement & matching pigments etc. complete	14580	Sqm
Providing and laying Vitrified tiles in different sizes (thickness to be specified by manufacturer) with water absorption less than 0.08 % and conforming to I.S. 15622, of approved make in all colours & shade in skirting, riser of steps and Dado over 12 mm thick bed of cement mortar 1:3 (1 cement: 3 coarse sand), including grouting the joint with white cement & matching pigments etc. complete	1747.8	Sqm
Providing wood work in frames of doors, windows, clerestory windows and other frames, wrought framed and fixed in position with hold fast lugs or with dash fasteners of required dia & length ( hold fast lugs or dash fastener shall be paid for separately).	75.8	Cum
Providing and fixing ISI marked flush door shutters conforming to IS: 2202 (Part I) decorative type, core of block board construction with frame of 1st class hard wood and well matched teak 3 ply veneering with vertical grains or cross bands and face veneers on both faces of shutters.	566.72	Sqm

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:35 mm thick including ISI marked Stainless Steel butt hinges with necessary screws	2515.04	Sqm
Providing and fixing Aluminium body tubular type universal hydraulic door closer (having brand logo with ISI, IS : 3564, embossed on the body, door weight upto 36 kg to 80 kg and door width from 701 mm to 1000 mm) with double speed adjustment with necessary accessories and screws etc. complete shown as per architectural drawing and direction of the Engineer-in-Charge	352	Nos
Jali door	566.72	Sqm
Fire door	176	Sqm
Three track three panels sliding door with fly proof S.S wire mesh (Two nos. glazed & one no. wire mesh panels) made of (big series) frame 116 x 45 mm & sash 46 x 82 mm both having wall thickness of $2.3 \pm 0.2$ mm and single glazing bead / double glazing bead of appropriate dimension. (Area of door above 2.00sqm upto 5.00 sqm)	2188.85	Sqm
Three track three panels sliding window with fly proof SS wire mesh (Two nos. glazed & one no. wire mesh panels) made of (small series) frame 92 x 44 mm & sash 32 x 60 mm both having wall thickness of $1.9 \pm 0.2$ mm and single glazing bead of appropriate dimension (Area of window upto 1.75 sqm).	600.4	Sqm
Providing and fixing factory made uPVC white colour fixed glazed windows/ventilators comprising of uPVC multi-chambered frame and mullion (where ever required) extruded profiles duly reinforced with $1.60 \pm 0.2$ mm thick galvanized mild steel section made from roll forming process of required length (shape & size according to uPVC profile), , uPVC extruded glazing beads of appropriate dimension, EPDM gasket, G.I fasteners 100 x 8 mm size for fixing frame to finished wall, plastic packers, plastic caps and necessary stainless steel screws etc. Profile of frame shall be mitred cut and fusion welded at all corners, mullion (ifrequired) shall be also fusion welded including drilling of holes for fixing hardware's and drainage of water etc. After fixing framethe gap between frame and adjacent finished wall shall be filled with weather proof silicon sealant over backer rod of required size and of approved quality, all complete as per approved drawing & direction of Engineer-in-Charge. (Single / double glass panes and silicon sealant shall be paid separately). Note: For uPVC frame, sash and mullion extruded profiles minus 5% tolerance in dimension i.e. in depth & width of profile shall be acceptable. 9.147B.1 Fixed window / ventilator made of (small series) frame 47 x 50 mm & mullion 47 x 68 mm both having wall thickness of $1.9 \pm 0.2$ mm and single glazing bead of appropriate dimension. (Area upto 0.75 sqm.)	193.6	Sqm
Green Baroda Lift Wall+Staircase+Lobby Work(Replace Kota Stone)	3500	Sqm

<p>b) Laying brick bats with mortar using broken bricks/brick bats 25 mm to 115mm size with 50% of cement mortar 1:5 (1 cement : 5 coarse sand) admixed with water proofing compound conforming to IS : 2645 and approved by Engineer-in-charge over 20 mm thick layer of cement mortar of mix 1:5 (1 cement :5 coarse sand ) admixed with water proofing compound conforming to IS : 2645 and approved by Engineer-in-charge to required slope and treating similarly the adjoining walls upto 300 mm height including rounding of junctions of walls and slabs c) After two days of proper curing applying a second coat of cement slurry using 2.75 kg/ sqm of cement admixed with water proofing compound conforming to IS : 2645 and approved by Engineer-in-charge. d) Finishing the surface with 20 mm thick jointless cement mortar of mix 1:4 (1 cement :4 coarse sand)admixed with water proofing compound conforming to IS : 2645 and approved by Engineer-in-charge including laying glass fibre cloth of approved quality in top layer of plaster and finally finishing the surface with trowel with neat cement slurry and making pattern of 300x300 mm square 3 mm deep. e) The whole terrace so finished shall be flooded with water for a minimum period of two weeks for curing and for final test. All above operations to be done in order and as directed and specified by the Engineer-in-Charge :</p>	2834.85	Sqm
<p>Providing gola 75x75 mm in cement concrete 1:2:4 (1 cement : 2 coarse sand : 4 stone aggregate 10 mm and down gauge), including finishing with cement mortar 1:3 (1 cement : 3 fine sand) as per standard design :</p>	1896.9	Rmt
<p>Making khurras 45x45cm with average minimum thickness of 5 cm cement concrete 1:2:4 (1 cement :2 coarse sand : 4 graded stone aggregate of 20mm nominal size) over P.V.C. sheet 1m x 1m x 400 micron, finished with 12mm cement plaster 1:3 (1 cement :3 coarse sand) and a coat of neat cement rounding the edge sand making and finishing the outlet complete</p>	70	Nos
<p>Supply with Filling fly ash amd earth in trenches or embankment in layer for Toilets</p>	622.4	Sqm
<p>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</p>	3153.97	Sqm
<p>Door Handel Lock .</p>	1760	Nos
<p>Providing and fixing 150 mm bright finished floor brass door stopper with rubber cushion, necessary brass screws etc. to suit shutter thickness complete</p>	1052	Nos
<p>Providing and applying white cement based putty of average thickness1 mm, of approved brand and manufacturer, over the plastered wall surface to prepare the surface even and smooth complete.</p>	78953.4	Sqm
<p>External paint-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 priming coat of exterior primer applied @ 2.20 kg/10 sqm)</p>	20065	Sqm
<p>Internal paint-Wall painting with acrylic emulsion paint, having VOC (Volatile Organic Compound ) content less than 50 grams/ litre, of approved brand and manufacture, including applying additional coats wherever required, to achieve even shade and colour.Two Coat</p>	78953.4	Sqm

Providing and laying water proofing treatment in sunken portion of WCs, bathroom etc., by applying cement slurry mixed with water proofing cement compound consisting of applying : a) First layer of slurry of cement @ 0.488 kg/sqm mixed with water proofing cement compound @ 0.253 kg/sqm. This layer will be allowed to air cure for 4 hours. b) Second layer of slurry of cement @ 0.242 kg/sqm mixed with water proofing cement compound @ 0.126 kg/sqm. This layer will be allowed to air cure for 4 hours followed with water curing for 48 hours. The rate includes preparation of surface, treatment and sealing of all joints, corners, junctions of pipes and masonry with polymer mixed slurry.	7161.05	Sqm
Chequerred precast cement concrete tiles 22 mm thick in footpath & courtyard, jointed with neat cement slurry mixed with pigment to match the shade of tiles, including rubbing and cleaning etc. complete, on 20 mm thick bed of cement mortar 1:4 (1 cement: 4 coarse sand).Light shade pigment using white cement	220	Sqm
Injection grouting: Note: (The Water proofing work must be executed by an approved specialized Agency. The Contractor shall give a 10 years guarantee as per instruction of the Project Manager).Providing & fixing 18mm dia nozzles at 1.2 meter center to center on the junction of the base & verticals. Also at 0.75metre center to center at all construction joints, corners etc. and injecting non shrink grout mixed with an admixture of neat cement slurry.	230	Sqm
Providing and fixing stainless steel ( Grade 304) railing made of Hollow tubes, channels, plates etc., including welding, grinding, buffing, polishing and making curvature (wherever required) and fitting the same with necessary stainless steel nuts and bolts complete, i/c fixing the railing with necessary accessories & stainless steel dash fasteners , stainless steel bolts etc., of required size, on the top of the floor or the side of waist slab with suitable arrangement as per approval of Engineer-incharge, (for payment purpose only weight of stainless steel members shall be considered excluding fixing accessories such as nuts, bolts,fasteners etc.).	680	Rm
Tremix Floor 1:1.5:3 with Hardner (as per specification 150mm thik average	550	Cum
<b>SANITARY WORK:</b> China Orissa Pattern WC Pan	176	Each
Wall Hung European Type Water Closet	704	Each
Concealed Cistern Dual Flush	704	Each
Under Counter Circular Wash Basin With Cp Brass	880	Each
Silent Bottel Trap 32mm dia With 50 mm	880	Each
Wash Basin Mixer	880	Each
Short Body Bib Cock	880	Each
Toilet Holder Tissue	704	Each
Coral Super Value Pack	704	Each
Angle Valves	4224	Each
Health Faucet	704	Each
Overhead Shower	704	Each
Bath and Shower Mixer	704	Each
Kitchen Sink Singal Bowl	176	Each
Sink Mixer	176	Each

Cp Waste	704	Each
PVC Connection	3696	Each
Exten Nipple	4400	Each
Splash Shower Pannel	176	Each
Towel Ring	880	Each
Soap Dish	880	Each
Mirror In Toilets	880	Each
Floor Trap	1760	Each
PVC Floor Drain	704	Each
Balcony Drain	528	Each
UPVC Soil waste and vent pipes 80mm dia	7383	Meter
UPVC Soil waste and vent pipes 110mm dia	6139	Meter
UPVC Soil waste and vent pipes 160mm dia	1326	Meter
UPVC Soil waste and vent pipes 65mm dia	1209	Meter
UPVC Soil waste and vent pipes 40mm dia	406	Meter
MS Holder Bet Clamps 150mm	1056	Each
MS Holder Bet Clamps 100mm	2640	Each
MS Holder Bet Clamps 80mm	2640	Each
MS Holder Bet Clamps 65mm	1056	Each
MS Holder Bet Clamps 160mm	81	Each
Plain Band	805	Each
Plain Junction(110X110X110)	880	Each
Plain Junction(80x80x80mm)	880	Each
Terminal PVC 110mm	100	Each
Terminal PVC 80mm	366	Each
PVC Trap 110mm	176	Each
Deep Sealtrap 110mm	1584	Each
Providing, fixing testing, and commissioning of CPVC) pipe as per CTS SDR-11 - pipe material as per ASTM D 1784 and pipe dimension and specs as per ASTM D 2846 & fittings such as tees, elbows, reducers, male/female connector, clamps etc. , jointing with CPVC solvent cement as per manufacturer recommendations conforming to ASTM-F493 complete (Exposed Pipe) [Pipe running in shaft and terrace etc.]. For Cold & flushing water supply 1/2 Inch dia pipe (Sch. - 11)	14500	Rm
3/4 Inch dia pipe (Sch. - 11)	2655	Rm
1 Inch dia pipe (Sch. - 11)	3958	Rm
1-1/4 Inch dia pipe (Sch. - 11)	2630	Rm
1-1/2 Inch dia pipe (Sch. - 11)	1962	Rm
2 Inch dia pipe (Sch. - 11)	1085	Rm

Providing, fixing testing, and commissioning of CPVC) pipe as per CTS SDR-80 - pipe material as per ASTM D 1784 and pipe dimension and specs as per ASTM D 2846 & fittings such as tees, elbows, reducers, male/female connector, clamps etc. , jointing with CPVC solvent cement as per manufacturer recommendations conforming to ASTM-F493 complete. (Exposed Pipe) [Pipe running in shaft and terrace etc.]. For Cold & flushing water supply 2-1/2 Inch dia pipe (Sch. - 80)	1107	RM
Providing and fixing PEx piping (Giacomini, Italy) (Pipe in pipe) system, NSF approved with crimp/compression joints as required all complete. with adequate size Nitril Elastomeric rubber insulation . For Hot water supply only 15 mm dia	5662.5	RM
20 mm dia	1195	RM
Providing, fixing, testing and commissioning Ball valve with hard chrome plated ball inside PTFE (Teflon) seat and ring with chrome plated centre handle with female BSP threads complete in all respect. Minimum working pressure 15 Kg/cm2. 15 mm NB	182	Each
20 mm NB	885	Each
25 mm NB	182	Each
32 mm NB	60	Each
40 mm NB	29	Each
50 mm NB	16	Each
Providing and fixing wafer type cast iron butterfly valves tested to 15kg/sqcm pressure including flanges. 65 mm NB	16	Each
80 mm NB	13	Each
100 mm NB	8	Each
150 mm NB	2	Each
P/F G.I. pipe with necessary fittings complete - pipe to be of medium class and threaded joints to be made using hole tite to ensure leak proof instalation, pipes to be painted with 2 coats of red oxide primer over 2 coats of enamel paint of shade as approved. (Plant room & roof piping) 150 mm dia, NB	28	RM
100 mm dia, NB	130	RM
80 mm dia, NB	490	RM
65 mm dia, NB	139	RM
50 mm dia, NB	85	RM
40 mm dia, NB	70	RM
32 mm dia, NB	35	RM
25 mm dia, NB	23	RM
P/F G.I. pipe with necessary fittings complete - pipe to be of medium class and threaded joints to be made using hole tite to ensure leak proof instalation, pipes to be painted with 2 coats of red oxide primer over 2 coats of enamel paint of shade as approved. (External Cold & Flushing Water Work) 100 mm dia, NB	183	RM
80 mm dia, NB	178	RM

Providing, fixing testing, and commissioning of CPVC) pipe as per CTS SDR-11 - pipe material as per ASTM D 1784 and pipe dimension and specs as per ASTM D 2846 & fittings such as tees, elbows, reducers, male/female connector, clamps etc. , jointing with CPVC solvent cement as per manufacturer recommendations conforming to ASTM-F493 complete. (External irrigation Work) 1" dia (SDR 11)	38	RM
2" dia pipe (SDR - 11)	255	RM
Providing and filling sand of grading zone V or coarse grade alround the CPVC pipes in external work. 25 mm dia, NB	38	RM
50 mm dia, NB	255	RM
80mm dia,NB,75mm	178	RM
100 mm dia, NB	183	RM
P/F Y Strainer in cast iron with SS 304 screen having 1.2mm perforations complete with BS 10 F flange, boths/nuts complete. 150 mm dia	1	Each
Providing and fixing brass auto air vent valve PN 10 rating of GIA complete suitable for domestic cold water supply. 15 mm dia nominal bore	13	Each
Providing & Fixing of washing hydrant / Garden hydrant outlet consisting 1 No. 20mm dia. ball valve & brass nozzle for connecting rubber hose including pipes, fittings and accessories complete.	11	Nos
Providing, fixing, testing and commissioning of motorised butterfly valve of 50mm dia for filling of overhead water tank complete with high and low level control switches to control tanks. The level controllers shall be installed in overhead tanks. The level switch will close the valve when water level is high in overhead tank and open the valve when overhead water tank level is low. The system should be complete in all respects with accessories 220 V AC / 2 V DC, IP67 electrical water level control unit, copper control wiring in whether proof casing etc. (Make: AIP/Audco/Advance )	1	Each
Providing and fixing 600 mm dia F.R.P. water tank manhole cover and frame and lockable arrangement complete in all respects (load bearing 500kg) .	1	Each
Providing & fixing S.S. (304) 700 mm long pipe puddle flanges of required size to under water tanks & retaining wall. (Water Tank shall be constructed by civil contractor - not included in this contract). Note :1. Both end screwed upto 65 mm 2. One end screwed & other end flanged above 65 mm 3. Size of plate welded center of pipes - 3 D x 3 D x 5 mm (D-Diameter of Pipes) mm dia	23	Each
50 mm dia	6	Each
65 mm dia	6	Each
80 mm dia	6	Each
100 mm dia	23	Each
150 mm dia	6	Each
Providing & fixing brass mesh in elbow with necessary G.I. Vent pipe with fittings 100 mm dia	11	Each
Providing & fixing mosquito proof brass overflow grating for tanks 65 mm dia	11	Each



Providing and fixing M.S. structural work fabricated from standard sections, (MS rounds, angles, channels etc.) including cutting to size, drilling, welding, including cost of fasteners, clamps in RCC structural members as directed, including two or more coats of synthetic paint over one coat of primer after surface preparation including cutting and making good walls.	263	KG
Providing & fixing M.S. slotted angle iron 40x40x2 mm thick with stove enamel finish & fixed to brick masonry or RCC walls with 12mm dia bolts embedded in cement concrete blocks 1:2:5 (1 cement: 2 coarse sand: 5 stone aggregate 12.5 mm nominal size) 100x100x100 mm size for masonry walls & with expandable anchor fasteners on RCC spaced not exceeding 600 mm with 15 mm dia G.I. spacer between wall & angle complete as directed by Engineer-in-Charge.	173	Mtr
Constructing masonry chamber 30x30x50 cm, inside with 75 class designation brick work in cement mortar 1:4 (1 cement:4 coarse sand) for stop cock complete with C.I. surface box 100x100x75mm (inside) with locking arrangement and RCC top slab 1:2:4 mix (1 cement : 2 coarse sand: 4 graded stone aggregate 20mm nominal size) necessary excavation foundation concrete 1:5:10 (1 cement:5 fine sand : 10 graded stone aggregate 40 mm nominal size) and inside plastering with cement mortar 1:3 (1 cement : 3 coarse sand) 12 mm thick finished with a floating coat of neat cement complete as per standard design. With F.P.S. bricks	9	Each
Constructing masonry Chamber 90X80X75 cm, inside with 75 class designation brick work in cement mortar 1:4 (1 cement: 4 coarse sand) for sluice valve, with C.I. surface box 100 mm top diameter, 160 mm bottom diameter and 180 mm deep (inside) with channel lid and RCC top slab 1:2:4 mix (1 cement: 2 coarse sand: 4 graded stone aggregate 20 mm nominal size) necessary excavation foundation concrete 1:5:10 (1 cement : 5 fine sand: 10 graded stone aggregate 40 mm nominal size) and inside plastering with cement mortar 1:3 (1 cement: 3 coarse sand) 12 mm thick finished with a floating coat of neat cement complete as per standard design: With F.P.S. bricks	2	Each
Providing & Fixing of water meter conforming to IS and tested by Municipal Board complete 50 mm dia nominal bore	1	Each
Sterilization of all cold water supply lines as per specification with chlorine dosing.	1	Item
Making 50mm Diam. water connection with local authority including approvals / liaisoning, excavation & back filling, cutting and making good of existing Authority supply line etc. complete (Fees Payment by Client)	1	Item
Providing and fixing SW pipes including all fittings & support as per manufactures recommendation. 150 mm dia	10	RM
250 mm dia	18	RM
Providing and laying cement concrete 1:5:10 (1 cement : 5 coarse sand : 10 graded stone aggregate 40 mm nominal size) around uPVC pipes including bed concrete as per standard design. 150 mm dia	10	RM
250 mm dia	18	RM
Providing and laying non-pressure NP2 class RCC pipes with collars jointed with stiff mixture of cement mortar in the proportion of 1:2 (1 cement : 2 fine sand) including testing of joints etc. complete. - For Sewage Line 250 mm dia RCC pipe	488	RM

Providing and laying cement concrete 1:5:10 (1 cement : 5 coarse sand : 10 graded stone aggregate 40 mm nominal size) haunching bed concrete for R.C.C. pipes as per standard design. 250 mm dia RCC pipe	488	RM
Providing and fixing square-mouth S.W. gully trap grade $\frac{1}{4}$ " complete with C.I. Grating, brick masonry chamber with bricks of class designation 75 in cement mortar 1:5 (1 cement : 5 coarse sand) inside plaster above trap 12 mm thick in cement mortar 1:3 (1 cement : 3 coarse sand) finished with a floating coat of neat cement outside plaster 12 mm thick in cement mortar 1:3 (1 cement : 3 coarse sand) 10 cm thick foundation concrete 1:5:10 mix (1 cement : 5 coarse sand : 10 graded stone aggregate 40 mm nominal size) space between chamber, and trap filled-with cement concrete 1:2:4 (1 cement : 2 coarse sand : 4 graded stone aggregate 20 mm nominal size) and water tight C.I. cover with frame of 300 x 300 mm size (inside) the weight of cover to be not less than 4.50 kg frame to be not less than 2.70 kg as per standard design. 180x150mm size P type With FPS bricks	119	Each
Construction brick masonry manhole with 75 class designation bricks in cement mortar 1:4 (1 cement : 4 coarse sand) RCC top slab with 1:2:4 mix (1 cement : 2 coarse sand 4 graded stone aggregate 20mm nominal size) foundation concrete 1:4:8 mix (1 cement : 4 coarse sand : 8 graded stone aggregate 40 mm nominal size) inside plastering 12 mm thick with cement mortar 1:3 (1 cement : 3 coarse sand) finished with floating coat of neat cement and making channels in cement concrete 1:2:4 (1 cement : 2 coarse sand : 4 graded stone aggregate 20 mm nominal size) finished with a floating coat of neat cement complete as per standard design. Inside size 90 x 80 cm and 60 cm deep including F.R.P. Cover with frame 600x450 mm dimensions (capable to bear 20 T Load ). With FPS bricks	34	Each
Inside size 120 x 90 cm and 100 cm deep including F.R.P. Cover with frame 600 x 450 dia dimensions ( capable to bear 20 T Load ). With FPS bricks	29	Each
Constructing brick masonry circular manhole 1.2m internal dia at bottom and 0.6 m dia at top in cement mortar 1:4 (1 cement : 4 coarse sand) inside cement plaster 12mm thick with cement mortar 1:3 (1 cement : 3 coarse sand) finished with a floating coat of neat cement, foundation concrete 1:3:6 (1 cement : 3 coarse sand : 6 graded stone aggregate 40mm nominal size) and making necessary channel in cement concrete 1:2:4 (1 cement : 2 coarse sand : 4 graded stone aggregate 20mm nominal size) finished with a floating coat of neat cement all complete as per standard design. 1.5 m deep with including F.R.P. Cover with frame 600 x 450 dia dimensions ( capable to bear 20 T Load ). With F.P.S. bricks class designation 75	6	Each
Constructing brick masonry circular manhole 1.52m internal dia at bottom and 0.6 m dia at top in cement mortar 1:4 (1 cement : 4 coarse sand) inside cement plaster 12mm thick with cement mortar 1:3 (1 cement : 3 coarse sand) finished with a floating coat of neat cement, foundation concrete 1:3:6 (1 cement : 3 coarse sand : 6 graded stone aggregate 40mm nominal size) and making necessary channel in cement concrete 1:2:4 (1 cement : 2 coarse sand : 4 graded stone aggregate 20mm nominal size) finished with a floating coat of neat cement all complete as per standard design. 450 dia dimensions ( capable to bear 20 T Load ). 2.3 m deep with including F.R.P. Cover with frame 600 x 450 dia dimensions ( capable to bear 20 T Load ). With F.P.S. bricks class designation 75	2	Each
Extra for depth for for manhole 90 x 80 cm beyond 60 cm deep. With F.P.S. bricks class designation 75	3	M

Extra for depth for for manhole 120 x 90 cm beyond 60 cm deep. With F.P.S. bricks class designation 75	6	M
Extra for depth for circular manholes 1.2 m internal dia (at bottom)( beyond 2.30m. With F.P.S. bricks class designation 75	4	M
Extra for depth for circular manholes 1.52 m internal dia (at bottom)( beyond 2.30m. With F.P.S. bricks class designation 75	4	M
Providing and fixing of orange colour safety rest of minimum 6 mm thick plastic encapsulated as per IS:10910 on 12 mm dia steel bar conforming to IS: 1786 having minimum cross section as 23 mm x 25 mm and over all minimum length 263 mm width as 165 mm with minimum 112 mm space between protruded legs having 2 mm as per standard drawing and suitable to withstand the bend test and chemical resistance test as per specifications and having manufacturer's permanent identification mark to be visible even after fixing, including fixing in manholes with 30 x 20 x 15 cm cement concrete block 1:3:6 ( 1 cement : 3 coarse sand : 6 graded stone aggregate 20 mm nominal size ) complete as per design.	69	Each
Excavating trenches of required width for pipe, cables etc including excavation for sockets, & dressing of sides, ramming of bottoms, depth upto 1.5m including getting out the excavated soil & then returning the soil as required, in layers not exceeding 20 cm in depth including consolidating each deposited layer by ramming, watering etc and disposing of surplus excavated soil as directed, within lead of 50m. All kinds of soil Excavating trenches of required width for pipe, cables etc including excavation for sockets, & dressing of sides, ramming of bottoms, depth upto 1.5m including getting out the excavated soil & then returning the soil as required, in layers not exceeding 20 cm in depth including consolidating each deposited layer by ramming, watering etc and disposing of surplus excavated soil as directed, within lead of 50m. Pipes, cables etc exceeding 80 mm dia but not exceeding 300 mm dia	515	RM
Making 250mm Diam. Sewage connection with municipal line including approvals/ liasioning, excavtion & back filling, cutting and making good of existing municipapl line & approval from Pollution Control Board etc. complete (Payment by Client)	1	Item
Providing and laying non-pressure NP2 class RCC pipes with collars jointed with stiff mixture of cement mortar in the proportion of 1:2 (1 cement : 2 fine sand) including testing of joints etc. complete. 150 mm dia RCC pipe	63	Rm
250 mm dia RCC pipe	258	Rm
300 mm dia RCC pipe	205	Rm
450 mm dia RCC pipe	73	Rm
600 mm dia RCC pipe	18	Rm
Providing and laying cement concrete 1:5:10 (1 cement : 5 coarse sand : 10 graded stone aggregate 40 mm nominal size) haunching bed concrete for R.C.C. pipes as per standard design.150 mm dia RCC pipe	63	Rm
250 mm dia RCC pipe	258	Rm
300 mm dia RCC pipe	205	Rm
450 mm dia RCC pipe	118	Rm
600 mm dia RCC pipe	18	Rm

<p>Constructing Road gully chamber with bricks of class designated 75 in cement mortar 1:5 (1 cement : 5 coarse sand), foundation concrete 1:4:8, inside &amp; outside 12 mm thick cement plaster 1:3 (1 cement : 3 coarse sand) finished with a coat of neat cement including excavation, refilling and disposal of surplus earth as directed by Engineer-in-charge complete as per standard design. 600 x 600 x 600 mm size with F.R.P. Catch Basin Cover/grating with frame (500 x 600 mm) with fixed in 15 cm thick cement mortar 1:2:4 (1 cement : 2 coarse sand : 4 graded stone aggregate 20 mm nominal size) (Medium Duty )</p>	65	Each
<p>Construction brick masonry manhole with 75 class designation bricks in cement mortar 1:4 (1 cement : 4 coarse sand) RCC top slab with 1:2:4 mix (1 cement : 2 coarse sand 4 graded stone aggregate 20mm nominal size) foundation concrete 1:4:8 mix (1 cement : 4 coarse sand : 8 graded stone aggregate 40 mm nominal size) inside plastering 12 mm thick with cement mortar 1:3 (1 cement : 3 coarse sand) finished with floating coat of neat cement and making channels in cement concrete 1:2:4 (1 cement : 2 coarse sand : 4 graded stone aggregate 20 mm nominal size) finished with a floating coat of neat cement complete as per standard design. Inside size 90 x 80 cm and 60 cm deep including F.R.P. Cover with frame 600x450 mm dimensions ( capable to bear 20 T Load ). With FPS bricks</p>	4	Each
<p>Excavating trenches of required width for pipe, cables etc including excavation for sockets &amp; dressing of sides, ramming of bottoms, depth upto 1.5m including getting out the excavated soil &amp; then returning the soil as required, in layers not exceeding 20 cm in depth including consolidating each deposited layer by ramming, watering etc and disposing of surplus excavated soil as directed, within lead of 50m. All kinds of soil Pipes, cables etc exceeding 80 mm dia but not exceeding 300 mm dia</p>	688	RM
<p>Providing and constructing Rain water Harvesting Pit of 4000 dia. x 3000 mm size depth (internal) in overall size with inlet &amp; outlet connection with Upto 1500mm from ground level 1st class brick 230 mm thick in cement mortar 1:4 (1 cement: 4 coarse sand) inside and outside 12 mm thick plaster with cement mortar 1:3 (1 cement : 3 coarse sand) with a floating coat of neat cement on inside surface, After 1500mm depth 500 mm thick sand bed; then 500mm thick gravel and 500mm thick boulders. C.I (heavy duty) manhole cover 560 mm (weight not less than 208 kg) including necessary excavation backing filling, disposal of surplus earth, Providing and fixing of C.I manhole steps complete as per standard design. Constructing Rain Water Harvesting Pits.</p>	1	Item
<p>350mm diameter boring with 150mm dia, upvc slotted pipes located centrally in 350mm diameter bore filled with boulder.</p>	60	Meter
<p>Providing and laying UPVC back flow preventor with flanges generally as specified complete 200 nominal bore</p>	1	Each
<p>Providing and fixing 210mm dia. UPVC pipes (6 Kg/sqcm) including all fittings, excavation and back filling for connecting over flow from rain water harvesting pits to external network.</p>	30	RM

Constructing masonry valve Chamber 1000 x 1000 x1000 mm, inside with 75 class designation brick work in cement mortar 1:5 (1cement: 5 fine sand) for sluice valve/butter fly valve, with C.I. Surface box 100x100x75 mm (inside) with hinged cover fixed in cement concrete slab 1:2:4 mix (1cement : 2 coarse sand : 4 graded stone aggregate 20 mm nominal size) necessary excavation foundation concrete 1:5:10 (1 cement : 5 fine sand : 10 graded stone aggregate 40 mm nominal size) and inside plastering with cement mortar 1:3 (1 cement : 3 coarse sand) 12 mm thick finished with a floating coat of neat cement complete as per standard design. bricks With F.P.S.	1	Each
Making Storm connection with municipal line including approvals/ liasioning, excavtion & back filling, cutting and making good of existing municipiapl line & approval from Pollution Control Board etc. complete (Payment by Client)	1	Item
Constructing brick masonry covered open drain with bricks of class designation 75 in cement mortar 1:5 (1 cement : 5 fine sand) & RCC culvertincluding precast RCC horizontal grating with frame complete as per standard design: Earth work in excavation by mechanical means(Hydraulic excavator)/ manual means in foundation trenches or drains(not exceeding 1.5m in width or 10 sqm on plan) including dressing of sides and ramming of bottoms, lift up to 1.5m, including getting out the excavated soil and disposal of surplus excavated soil as directed, within a lead of 50m. eover areas (exceeding 30 cm in depth, 1.5m in widths as well as 10 sqm on plan) including disposalof excavated earth, lead upto 50m and lift upto 1.5, disposed earth to be levelled and neatly dressed. All kinds of soil	283	Cum
1:4:8 (1 cement : 4 coarse sand : 8 graded stone aggregate 40 mm nominal size)	38	Cum
Brick work with F.P.S. bricks of class designation 75 in foundation and plinth in: Cement mortar 1:4 (1 cement : 4 fine sand)	60	Cum
Providing & laying in position specified grade of reinforced cement concrete excluding the cost of centering, shuttering, finishing and reinforcement- all work upto plinth level 1:2:4 (1 cement: 2 coarse sand: 4 graded stone aggregate 20 mm nominal size)	7	Cum
15 mm cement plaster 1:3 (1 cement:3 coarse sand) finished with a floating coat of neat cement on the rough side of single or half brick wall	425	Sqm
Precast grating for open drains of 90mm thick (of Size : 900x450x90mm).	400	Nos
<b>WATER SUPPLY &amp; DRAINAGE PUMPS</b> Raw Water Treatment Feed Pump set Supplying, installing, testing & commissioning of horizontal / vertical centrifugal filter feed water pumps CI head & Base, SS-304 impeller along with motor, pressure guage with isolation cock, isolation valve, NRV on delivery line, isolation valve, stainer Suction & Delivery Header - SS 304 Control Valve On suction and Delivery - Ball Valve Only (No Butterfly Valve Accepted). Flow Prevention - Only Check Valve Suction & delivery header including all pipes, suction & delivery sides valves, NRV, Pressure gauges & accessories complete. Flow Rate : 6.0 LPS (1 duty + 1 stand by) Head : 35 M Min. Motor HP : 6.5 H.P. (Each)	1	Set

<p>HYDRO-PNEUMATIC SYSTEM :-          Contained Skid Mounted Hydropneumatic System As Follows:          casing and impeller and shaft, CI base &amp; S.S suction-discharge casing coupled with TEFC efficiency class 1 motor, 2900 rpm, three phase (with mechanical seal)          microprocessor PID controller and frequency inverter integrated in a single enclosure with pressure sensor transmitter, minimum two lined LCD display, diodes to indicate pump ready, pump running and fault and capable to communicate with other controllers following MODBUS-RTU or BACNET Class-2 protocol through RS485 port. System should be capable to compensate for frictional losses at lower flows. All alarms should be displayed in the controller. System should be equipped with dry running protection          c. Precharged diaphragm pressure vessel with food grade membrane, charging connection, connected to outlet header with necessary flanges, gaskets, isolating valves, nuts/bolts etc complete.          accessories such as pressure gauge, pressure transducers, inter connecting power and control cabling, MS base frame with epoxy &amp; synthetic enamel paint, neoprene rubber pads( anti vibration) etc. complete          delivery header with flanges for inlet connection, common outlet header with flanges for outlet connections as required, and inter connecting piping with flexible connections, eccentric type reducers etc. all necessary indigenous accessories as required to complete the installation.</p>	<p>Supply, Installation, Testing And Commissioning Of Compact Self          a. Vertical, In-Line, Multisage, centrifugal pumps with SS-304          b. Skid mounted or wall mounted electrical control panel with          c. Precharged diaphragm pressure vessel with food grade membrane, charging connection, connected to outlet header with necessary flanges, gaskets, isolating valves, nuts/bolts etc complete.          d. Set of accessories such as pressure gauge, pressure transducers, inter connecting power and control cabling, MS base frame with epoxy &amp; synthetic enamel paint, neoprene rubber pads( anti vibration) etc. complete          e. GI suction and delivery header with flanges for inlet connection, common outlet header with flanges for outlet connections as required, and inter connecting piping with flexible connections, eccentric type reducers etc. all necessary indigenous accessories as required to complete the installation.</p> <p>Domestic hydropneumatic system as follows:          Working + 1 Standby)      Water Flow Rate 9.0 LPS each          Head 80 M</p>	<p>1</p>	<p>Set</p>
<p>Submersible pumps complete with non-clog type impeller, minimum solid handling capacity of 3-15 mm, suitable for operation on 415 ± 10 V, 50 Hz AC power supply, 2900 RPM. The pump shall be complete with guide wire for lifting and lowering of pump, Galvanized lifting chain, etc. as per specifications. The pump shall be complete with automatic built-up water level controller with necessary starter panel with length of control / power cable upto the panel.          installed in one sump pit 1 working &amp; 1 standby with automatic / manual operation as required.          (For Basement)      Flow rate : 2.0 LPS          Min. Motor HP : 2.0 (Each)</p>	<p>Two nos. of pump          Waste Water Sump Pumps          Head : 10.0 Mtrs.          Set of 2 pumps (1 duty +1 stand by)</p>	<p>1</p>	<p>Each</p>
<p>Supply, Installation, Testing and Commissioning of pump controllers cum level controllers with level indicators in 16G powder coated steel sheet metal panels including the following:</p>		<p>7</p>	<p>Each</p>
<p>WATER TREATMENT PLANT          Supplying, storing, handling, installation, testing &amp; commissioning of Vertical FRP Dual Media Filter tested to 7.0 Kg/sqcm consisting of initial charge of media consisting (300mm bed depth of anthracite, filtering sand and support media), with frontals and manual multiport valve of 40 NB .          Capacity : 6.0 LPS</p>	<p>Dual Media Filter          Dual Media Filter          Working Pressure : (2.5 ± 1.5)MWCSUPPLY</p>	<p>1</p>	<p>Each</p>
<p>HANDLING AND INSTALLATION</p>		<p>1</p>	<p>Each</p>

Activated Carbon Filter Supplying, storing, handling, installation, testing & commissioning of Vertical FRP Activated Carbon Filter tested to 7.0 Kg/sqcm consisting of initial charge of media consisting (900mm bed depth of activated carbon of Iodine value 350-400 and support media), with frontals and manual multiport valve of 40 NB .Activated Carbon Filter Working Pressure : (2.5 ± 1.5)MWC MOC of vessel : FRP SUPPLY	1	Each
HANDLING AND INSTALLATION	1	Each
Water Softener Supplying, storing, handling, installation, testing & commissioning of Vertical FRP Softener tested to 7.0 Kg/sqcm consisting of initial charge of resin with mild steel frontals and manual multiport valve of 40 NB . HDPE Brine tank of min. 200 Liters complete with brine ejector and brine valve. Capacity : 6.0 LPSWorking Pressure : (2.5 ± 1.5) Kg/cm <sup>2</sup> MOC of vessel : FRP SUPPLY	1	Each
HANDLING AND INSTALLATION	1	Each
ALUM DOSING EQUIPMENT High density opaque polyethylene vessel having 50 Lt. capacity complete with brass strainer, solution control valves set, interconnecting piping and valves as per specification. (0-12 lph) Chemical feed pump diaphragm type with a rated capacity of 12 Litres. per hour against a pressure of 75 psi, the capacity shall be adjustable throughout 15 to 100 % of rating. Pump motor shall be fractional horse power (1/12 or 1/8 H.P) suitable for single phase 230 V, 50 Hz. AC supply. SUPPLY	1	Each
HANDLING AND INSTALLATION	1	Each
CHLORINATOR Polyethylene chlorinator cylindrical in shape constructed of high density opaque polyethylene complete with suction assembly, shut-off valves, interconnecting piping valves and cover. Capacity 50 Ltrs. (0-6 lph) Chemical feed pump shall be diaphragm type with a rated capacity of 5 ltrs. per hour against a pressure of 75 psi, the capacity shall be adjustable throughout 15 to 100 % of rating. Pump motor shall be fractional horse power (1/12 or 1/8 H.P) suitable for single phase 230 V, 50 Hz. AC supply. SUPPLY	1	Each
HANDLING AND INSTALLATION	1	Each
Test kit shall for conducting a PPM hardness test on effluent water samples drawn from sample cock installed on softeners. SUPPLY	1	Each
HANDLING AND INSTALLATION	1	Each

<p>ELECTRICAL WORKS FOR PLUMBING INSTALLATION WORKS</p> <p>i) For 2 x 6.5 HP Filter Feed Pumps (1 duty + 1 stand by)  1 Stand by) - (only isolator).- pump room</p> <p>Supply, installation, testing and commissioning of Cubical type sectionalised floor standing switch board of 31 MVA fault capacity at 415 V complete with 3.5 strip, 160 A capacity Aluminium Bus - Bar Electrolytic grade, cable alley, switchgears of following capacity &amp; as per specifications.</p> <p>INCOMER 100 A TP MCCB with heavy duty solid neutral link with (0-100A) ammeter with 3 CT and selector switch, (0 - 500 V) voltmeter with selector switch, phase indication light with protection fuse. - 01 Set</p> <p>OUTGOINGS</p> <p>Nos. - For 2 x 6.5 HP Filter Feed Pumps  ammeter with single CT, start / stop push buttons, on / off / trip indication lights with protection fuse, single phase preventer. - 01 set.</p> <p>For 3 x 21.5 HP Treated Water Transfer Pumps (H.S)</p> <p>For 2 x 2.0 HP Waste Water Transfer Pumps - pump room</p> <p>For 4 No. - 3.7 HP Borewell Pump</p> <p>For supply, installation, testing &amp; commissioning of plumbing control panel as per above details (with standrad items supplied by Manufactures)</p>	<p>CUBICAL PANEL BOARD - PLUMBINGi)</p> <p>i) For 3 x 21.5 HP Treated Water Transfer Pumps (1 duty + 1  iii) For 2 x 2.0 HP Basement Waste Sump Pumps (1 Duty +  iv) For 4 x 3.7 HP Bore well Pump (only isolator).</p> <p>For 2</p> <p>12 A TP MCB with 10 A DOL starter, overload relay, 96 mm (0-25A)  40.0 A TP MCB with isolator</p> <p>25 A TP MCB with 10 A DOL starter, overload relay, 96 mm (0-25A) ammeter with single CT, start / stop push buttons, on / off / trip indication lights with protection fuse, single phase preventer. - 01 set.</p> <p>32 A TP MCB with isolator - 2 Sets</p>	<p>1</p> <p>Item</p>
<p>i) All the drainage pumps shall be work cyclic process i.e. in first operation duty pump work on duty and stand by pump duty pump work on stand by and stand by pump work as duty pump ii) The drainage Stand by pumps automatically work as drainage assist pump for Duty pump when level of water rises in drainage sump pumps i.e. Both pumps can work at a time &amp; operation shall be controlled with the help of level controllers and float switches.POWER &amp; CONTROL CABLINGSupply, laying, testing and commissioning of power and control cabling, as per Standard specification including end termination as required.Power cabling (XLPE) insulated and PVC sheathed, armoured, Aluminium Conductor of 1.1 KV grade on existing cable trays).</p> <p>mm</p>	<p>3C x 10 Sq.</p>	<p>28</p> <p>RMt</p>
<p>3C x 6 Sq. mm</p>	<p>35</p>	<p>RMT</p>
<p>Control Cabling (PVC insulated and PVC sheathed, armoured, Copper Conductor of 1.1 KV grade on existing cable trays).  x 1.5 Sq. mm</p>	<p>5C</p>	<p>63</p> <p>RMT</p>
<p>Earthing Strip / Wires. Providing and fixing 25 x 5 mm copper strip in 40 mm</p>	<p>28</p>	<p>RMT</p>
<p>Providing and fixing 25 x 5 mm copper strip on surface or in recess for connections etc. as required.</p>	<p>23</p>	<p>RMT</p>
<p>Providing and fixing 4.0 mm dia. Copper wire on surface or in recess for loop earthing as required.</p>	<p>35</p>	<p>RMT</p>
<p>Supply &amp; laying of rubber mat of size 1000 mm &amp; 12 mm thick.</p>	<p>6</p>	<p>RMT</p>



Supply and installation of ladder type 16G ms cadmium plated 'U' shaped channel 40mm x 20mm cable tray of following sizes: 150 mm wide	15	RMT	
300 mm wide	25	RMT	
FIRE FIGHTING PLANT ROOM EQUIPMENTS	TERRACE LEVEL - FIRE PUMP	6	Set
Supplying, storing, handling, shifting, installation, testing and commissioning, supervision of testing of electric driven terrace pump suitable for automatic operation of horizontal end section centrifugal type synchronous speed of 2900 rpm TEFC conforming to IP : 55 & Flexible coupling & coupling guard mounted on common bed plate of fabricated mild steel channel or cast iron type as required. Capacity : 900 lpm App.head : 35 m App. H.P. : 15 HP PANELS: Supply, installation, testing and commissioning of following integrated, cubicle type, dead front, extensible, sheet steel control panel. The panel shall be suitable for 440 volts, 50 cycles, 4 wire supply The following components and accessories shall be mounted with in each control panel. One no 60 amps TP incoming MCCB with the following: 0-500 volts 96 x96 square mm voltmeter with selector switch and control fuses- 1 SET 0-100 amps 96 x96 square mm ammeter with CT's and selector switch- 1 SET Phase indicating lamp with toggle switches. Indication lamps for ON/OFF/TRIP status Outgoing Feeders / Starters as below: 60 ATP MCCB with star / delta as starter suitable for 15 HP motor for Downcomer Pump - 1 Set Provision in control panel to connect flow switch for automatic operation of roof fire pumps. Supply and installation of pressure gauge panel as per the requirement & comprising: Pressure gauges & pressure switches with ball valve and 2 x 1.5 sq mm copper conductor wiring to motor starter panel Water piping from system upto the gauge panel along with valves etc Sheet metal enclosure with glass paneling etc. as approved	6	Set	
Supply, fabrication (as per code), installation, testing and commissioning of Pressure vessels 450mm diameter and 1000mm high fabricated from 8-10mm M.S. plate with accessories inside painting with epoxy paint and outside with enamel.	6	Each	
Providing, fixing, testing & commissioning of resilient rubber lined single arch vibration eliminators suitable for raw water up to 45 deg. C temperature, working pressure 8.8 Kg/cm <sup>2</sup> and test pressure 14 Kg/cm <sup>2</sup> for :- 150 mm dia	11	Each	
FIRE FIGHTING SYSTEM NOTE : Contractor shall obtain, from the local fire authority, completion certificate with respect to his work as required for occupation of the building without any extra cost. Supply, installation, testing, trial run and commissioning of hydrants all complete as required and as approved Internal hydrants / landing valves generally as specified and all complete with: 63mm dia single outlet landing valve IS marked with suitable size bolts, nuts, washers and gaskets. Landing valve shall be as per IS code.	50	Each	
First aid hose reel with 25 mm dia, 30 m long rubber hose, ball valve, piping, nozzle and pressure gauge as per IS code.	50	Each	
63mm reinforced rubber hoses (RRL) with male and female SS coupling, IS marked- 15 m. as per IS code.	100	Each	

standard short size SS branch pipe with nozzle of 20mm nominal bore outlet with instantaneous type 63 mm dia coupling complete as per IS code.	50	Each
Fire Axe	50	Each
Aluminium 1000x1800 door for recessed fire hose cabinet. The door shall have a front glass with lock and key arrangement & shall be painted with post office red colour (approval shall be taken on the basis of submitted sample before ordering).	50	Each
1200x600x2100 Recessed type masonry box of accommodating fire hose reel, landing valve, hose pipes, fittings, 1 No. CO2 & 1 No. Dry powder type portable fire extinguishers & accessories.- By Civil Contractor. Supply, installation, testing, trial run and commissioning of hydrants all complete as required and as approved (at roof level). Internal hydrants/landing valves generally as specified and all complete with: 63mm dia single outlet landing valve IS marked with suitable size bolts, nuts, washers and gaskets. Landing valve shall be as per IS code.	6	Each
63mm reinforced rubber hoses (RRL) with male and female SS coupling, IS marked- 15 m as per IS code.	11	Each
standard short size SS branch pipe with nozzle of 20mm nominal bore outlet with instantaneous type 63 mm dia coupling complete as per IS code.	6	Each
Fire Axe	6	Each
Aluminium Powder coated 900x1800 door for recessed fire hose cabinet. The door shall have a front glass with lock and key arrangement & shall be painted with post office red colour (approval shall be taken on the basis of submitted sample before ordering).	6	Each
900x600x1800 Recessed type masonry box of accommodating fire hose reel, landing valve, hose pipes, fittings, 1 No. CO2 & 1 No. Dry powder type portable fire extinguishers & accessories.- By Civil Contractor. Providing, installing, testing & commissioning of fire brigade inlet connection (fire department connection) consisting of 4 Nos. 63 mm dia instantaneous inlet arranged on a 50 mm dia header, 1 No. 150 mm diameter sluice valve, 1 No. 150mm dia. Non-return valve and wall mounted box of M.S. construction with glass door to house the above mentioned components. as per IS code.	6	Set
Providing, installing, testing & commissioning of fire brigade draw out connection (fire department connection) with suction pipe MS class 'C' 100 mm dia. & 100 mm dia. foot valve & steel chain including wall mounted box M.S. construction with glass door to house the above mentioned components.	1	Set
Supply, fabrication & laying heavy grade IS marked black mild steel piping complete with all fittings, pipe supports, clamps etc. as approved with welded jointing for external hydrant system. These pipes shall be provided with 2mm thick weather proof treatment like covering with pypkote complete. 150 nominal bore	200	M
100 nominal bore	83	M
Excavation upto hard murrum as per general profiles and back filling	281	Meter
Making 1:2:4 cement concrete supports and thrust blocks generally as per required and approved.	38	CUM
Supply and installation of Butterfly Valves with mating flanges generally as specified all complete. 150 nominal bore	8	Each
100 nominal bore	1	Each

Providing and laying cast iron non-return valve IS marked with flanges generally as specified complete. 150 nominal bore	6	Each
100 nominal bore	1	Each
Supply, installation testing and commissioning double flanged MS pot strainers with M.S. body and SS 40-grade mesh strainer. Size 150mm	6	Each
Supply, installation, testing and commissioning C.I. flanged double air valves size 25mm with 25mm SS isolation valve etc. all complete.	6	Each
Supply, fabrication & laying heavy grade (Class C) IS marked black mild steel piping complete with all forged fittings, pipe supports, clamps, painting etc. as approved with threaded and welded jointing for Wet Riser System. Note: a. Threaded joint upto 50mm diameter pipe. b. Welded joint above 50mm diameter pipe. 200 mm nominal bore (Class C)	1	RM
150 mm nominal bore (Class C)	45	RM
100 mm nominal bore (Class C)	238	RM
80 mm nominal bore (Class C)	15	RM
65 mm nominal bore (Class C)	15	RM
25 mm nominal bore (Class C)	45	RM
Supply, installation, testing and commissioning brass orifice plates in pipelines to reduce pressure from 8 kg. to 3.5 kg/sq.cm.	55	Each
Providing & Fixing C.I.sluiice valve(with cap) complete with bolts,nuts,rubber insertions etc.(the tail pieces if required will be paid separately)	6	Each
Preparation of working drawing, getting approval from statutory/ local fire authority at all stage of work including inspection of authorities, obtaining licences from authorities including incidental changes etc. complete in all respect.	1	Job
<b>PORTABLE FIRE EXTINGUISHERS &amp; EXIT SIGNAGES</b> Supply, storing, handling, shifting, installation, testing and commissioning of portable fire Extinguishers as described below: 4.5 kg carbon dioxide extinguisher, IS marked, with high pressure discharge tube, horn, control valve, CCE approved cylinder	50	Each
Providing & Fixing of stored pressure Fire Extinguisher ABC powder type (Mono Ammonium Phosphate Powder) Magnetic Pressure Gauge having the facility to check at site, Discharge Time less than 9 Secs, Controllable discharge mechanism, Range minimum 4 Meters, applicable on Class A,B,C and electrically started Fire, A Rating- 21A, B Rating 55B as per BS EN-3 BIS 15683 marked, Can Construction : Deep drawn & CO2 Mig welded, Valve Construction : Forging & Machining, Internal Coating of Can : Epoxy Powder coating, External Coating of Can : Epoxy Polyester Powder coating, Sheet metal thickness : 1.60MM, Helium LeakDetection Tested, Warranty 5 Years. 6 kg Mono ammonium phosphate (ABC) type cartridge operated extinguishers	50	Each

<p><b>ELECTRICAL WORKS:</b>Point wiring in PVC conduit, with modular type switch :- Wiring for light point/fan point/exhaust fan point/call bell point with 1.5 Sq.Mm FRLS PVC insulated copper conductor single core cable in surface / recessed medium class PVC conduit, with modular switch, modular plate,suitable GI box and earthing the point with 1.5 Sq.Mm FRLS PVC insulated copper conductor single core cable etc. as Group B</p>	12103.00	Point
<p>Group C</p>	1061.00	Point
<p>Twin Control Point wiring in PVC conduit, with modular type switch :- Wiring for twin control light point with 1.5 Sq.Mm FRLS PVC insulated copper conductor single core cable in surface/recessed medium class PVC conduit, 2 way modular switch, modular plate,suitable GI box and earthing the point with 1.5 Sq.Mm FRLS PVC insulated copper conductor single core cable etc. as required.</p>	748.00	Point
<p>Power plug wiring in PVC conduit (2 x 4 Sq.Mm.) :- Wiring for power plug with 2 x 4 Sq.Mm. FRLS PVC insulated, copper conductor single core cable in surface / recessed medium class PVC conduit along with 1 no 4 Sq.Mm FRLS PVC insulated copper conductor single core cable for loop earthing as required.</p>	12320.00	M
<p>Circuit / Sub main wiring in PVC conduit :-Wiring for circuit / submain wiring alongwith earth wire with the following sizes of PVC insulated, copper conductor single core cable in surface/ recessed medium class PVC conduit as required. 2 X 1.5 sq. mm + 1 X 2.5 sq. mm earth wire.</p>	81100.00	M
<p>2 X 2.5 sq. mm + 1 X 2.5 sq. mm earth wire.</p>	44158.00	M
<p>2 X 4 sq. mm + 1 X 4 sq. mm earth wire</p>	24692.00	M
<p>4 x 10 sq.mm. + 2 x 10 sq.mm. Earth wire</p>	7500.00	M
<p>S/F light plug point Modular type accessories :- Supply and fixing of suitable size GI box with modular plate and cover in front on surface or in recess including providing and fixing 3 pin 5/6 amps modular socket outlet and 5/6 amps. modular switch, connection etc. as required. (For light plugs to be used in non residential buildings).</p>	7963.00	Each
<p>S/F power plug point modular type accessories :-Supply and fixing of suitable size GI box with modular plate and cover in front on surface or in recess, including providing and fixing 6 pin 5/6 &amp; 15/16 amps modular socket outlet and 15/16 amps. modular switch, connection etc. as required.</p>	2249.00	Each
<p>Supplying and fixing 20 amps, 240 volts, SPN, industrial type socket outlet, with 2 poles and earth metal enclosed plug top along with 20 amps. "C" curve, SP MCB in sheet steel enclosure, on surface or in recess, with chained metal cover for the socket outlet, and complete with connections, testing and commissioning etc. as required.</p>	1770.00	Each
<p>S/F modular type electronic fan regulator :- Supply and fixing of stepped type electronic fan regulator on the existing modular plate switch box including connections but excluding modular plate etc. as required.</p>	941.00	Each
<p>S/F modular type blanking plate :-Supply and fixing modular blanking plate on the existing modular plate &amp; switch box excluding modular plate as required.</p>	188.00	Each

<p style="text-align: center;">SUB HEAD (II) :- DISTRIBUTION BOARDS &amp; MCB's</p> <p>Supplying and fixing 5 amps. to 32 amps. rating, 240 volts `C' series, miniature circuit breaker (MCB) suitable for inductive load of following poles in the existing MCB DB complete with connections, testing and commissioning etc. as required. single pole</p>	3872.00	Each
<p>Supplying &amp; fixing single pole, blanking plate in the existing MCB DB complete etc. as required.</p>	1032.00	Each
<p>Supplying and fixing following way, prewired TP&amp;N MCB distribution board of steel sheet for 415 volts, on surface /recess, complete with loose wire box, terminal connectors for all incoming and outgoing circuits, duly prewired with suitable size FRLS PVC insulated copper conductor up to terminal blocks, tinned copper bus bar, neutral link, earth bar, din bar, detachable gland plate, interconnections, powder painted including earthing etc. as required (But without MCB / RCCB / Isolators). 6 way (4 + 18), Double door</p>	176.00	Each
<p style="text-align: center;">8 way (4 + 24), Double door</p>	9.00	Each
<p>Supplying and fixing following way prewired SP&amp;N MCB distribution board of steel sheet for 240 volts on surface / recess, complete with loose wire box, terminal connectors for all incoming and outgoing circuits, duly prewired with suitable size FRLS PVC insulated copper conductor up to terminal blocks, tinned copper bus bar, neutral link, earth bar, din bar, detachable gland plate bus bar, interconnections, powder painted including earthing etc. as required. (But without MCB / RCCB / Isolator) 2 + 8 way, Double door</p>	10.00	Each
<p>Supplying and fixing following rating, double pole, (single phase and neutral), 240 V, residual current circuit breaker (RCCB), having a sensitivity current 30 mA in the existing MCB DB complete with connections, testing and commissioning etc. as required. 63 Amps</p>	565.00	Each
<p>S/F TP MCB Isolator Supplying and fixing following rating, four pole, 415 V, isolator in the existing MCB DB complete with connections, testing and commissioning etc. 63 Amps</p>	185.00	Each
<p style="text-align: center;">SUB HEAD (III) :- TELEPHONE, TELEVISION &amp; DATA SYSTEM</p> <p>S/F MODULAR BOXES, BASE &amp; COVER PLATE :-Supplying and fixing following size / modules, GI box along with modular base &amp; cover plate for modular switches in recess etc as required Supplying and fixing following size / modules, GI box along with modular base &amp; cover plate for modular switches in recess etc as required 1 or 2 Module (75 mm x 75 mm)</p>	1762.00	Each
<p>S/F MODULAR TYPE SWITCH / SOCKET :-Supplying and fixing following modular switch / socket on the existing modular plate &amp; switch box including connections but excluding modular plate etc as required Telephone Socket outlet</p>	1058.00	Each
<p style="text-align: center;">TV Antenna socket outlet</p>	707.00	Each

Supply and fixing of following sizes of medium class PVC conduit along with accessories in surface/recess including cutting the wall and making good the same in case of recessed conduit as required :20 mm.	9772.00	M
25 mm.	8504.00	M
Supply and drawing following pair, 0.5 sq.mm. FRLS PVC insulated annealed copper conductor, unarmoured telephone cable in the existing surface / recessed steel/ PVC conduit as required.2 Pair	13954.00	M
Supply and drawing co-axial TV cable RG-6 grade, 0.7 mm. Solid copper conductor PE insulated, shielded with fine tinned copper braid and protected with PVC sheath in the existing surface / recessed steel/ PVC conduit as required.	9527.00	M
Providing, fixing, connecting & testing of Telephone Tag Block krone type in a suitable size 1.6 mm thick dust and vermin proof Sheet steel enclosure duly painted by synthetic enamel over anti corrosive primer, lockable and hinged cover with provision for cable through glands complete in all respects.5 pair krone (Hensel - KG 9001 - size 136*253*115 mm)	177.00	Nos
Supply and Erecting modular type computer jack RJ 45 ISI mark approved make with mounting plate and box with wiring connections complete.	2.00	Nos.
Supplying & installing UTP networking Cat-6 cable suitable for LAN/WAN computer net working as per catalog no. DC6CAUTP4P3X.	60.00	Metre
<b>SUB HEAD (VI) :- MISCELLANEOUS</b>		
Providing and fixing M.V. danger notice plate of 200mmx150mm made of mild steel, atleast 2mm thick and vitreous enamelled white on both sides and with inscription single red colour on front side as required.	191.00	Each
Providing and fixing hexagonal fan box circular/ Hexagonal cast iron or M.S. sheet box for ceiling fan clamp, of internal dia 140 mm, 73 mm height, top lid of 1.5 mm thick M.S. sheet with its top surface hacked for proper bonding, top lid shall be screwed into the cast iron/ M.S. sheet box by means of 3.3 mm dia round headed screws, one lock at the corners. Clamp shall be made of 12 mm dia M.S. bar bent to shape as per standard drawing.	1997.00	Each
<b>SUB HEAD(VII):-INTERNAL LIGHTING FIXTURES &amp; FANS</b>		
<b>SUPPLY OF LIGHTING FIXTURES</b>		
Supply of 1 * 28 watt T5 Surface/Ceiling mounted fluorescent light fixture similar to Bajaj Cat. Ref. No : BLPR 128 or equivalent.	1125.00	Each
Supply of 2 * 28 watt T5 Surface/Ceiling mounted fluorescent light fixture similar to Bajaj Cat. Ref. No : BLPR 128 or equivalent.	13.00	Each
Supply of Mirror Light fixture 1x11/15w Retrofit CFL Bajaj catalouge no.BJCH 115 or Equivalent.	704.00	Each
Supply of 1* 18 watt D Type CFL similar to Bajaj Cat. Ref. No :BJDS118C WEB or Equivalent./LED Ceiling Light 5w	3820.00	Each
Supply of 15W Bracket light fixtrure as per Bajaj cat no: BJLF1 15W RF OR equivalent including the lamps	1760.00	Each
Supply of 2* 18 watt D Type CFL similar to Bajaj Cat. Ref. No : BCSC 218 CFL W2EB or Equivalent.	360.00	Each
supply of 10W RETROFIT CFL BULK HEAD LIGHT as per Bajaj cat no : BJDB 10 CFL RF OR equivalent including the lamps	98.00	Each
Supply of Decorative 9/12 lamps chandelier.	176.00	Each

<p style="text-align: center;"><b>SUPPLY OF CEILING &amp; EXHAUST FANS</b></p> <p>Supply of AC 230/250 volts, 50 HZ ceiling fan with standard down rod, blades, 2 nos. caps &amp; regulator etc. ISI marked complete as required. 1200 mm sweep</p>	941.00	Nos
<p>Supply of AC 230/250 volts, 50 HZ exhaust fans including providing nuts, bolts, mounting frame and other accessories etc. complete (Make : Bajaj / Crompton / Havells) 300 mm sweep 900 rpm</p>	356.00	Nos
<p>Supply of 450 mm dia Wall Bracket Fan including providing nuts, bolts, mounting frame and other accessories etc complete in all respect as required.</p>	176.00	Nos
<p style="text-align: center;"><b>ERECTION OF LIGHTING FIXTURES AND FANS</b></p> <p>Installation, testing and commissioning of pre-wired, flourescent fitting / compact flourescent fitting of all types, complete with all accessories and tubes etc. directly on ceiling / wall, including connection with 1.5 sq. mm. FRLS PVC insulated, copper conductor, single core cable and earthing etc. as required.</p>	4996.00	Each
<p>Installation, testing and commissioning of ceiling fan including wiring the down rod of standard length (upto 30 cm.) with 1.5 sq. mm. FRLS PVC insulated, copper conductor, single core cable, including providing and fixing phenolic laminated sheet cover on the fan box etc. as required.</p>	1821.00	Each
<p>Installation of exhaust fan in the existing opening, including making good the damage, connection, testing, commissioning etc. as required Upto 450 mm sweep</p>	356.00	Each
<p>Supplying and fixing of call bell/buzzer suitable for single phase, 230 volts, complete as required.</p>	176.00	Each

**EXTERNAL ELECTRICAL:**All outgoing MCCB's shall be thermal-magnetic based with inbuilt O/L & S/C release.All MCCB's shall be Ics = 100% Icu, with rotary handle & pad locking arrangement, with adjustable O/L & S/C trip setting as per load requirement. All TP MCCB shall be with heavy duty solid isolable neutral link. The breaking capacity specified is Ics value. The instrument chamber shall be separate and shall comprise of flush type ammeter, voltmeter, selector switches, CT's, PT's, etc

Capacitor duty contactors should be used for switching individual capacitor banks.The fault withstanding capacity of panel & its control gear shall be min. 35 KA rms for 1 sec.The capacitor panel shall be integrated with the main L T Panel as per schematic diagram.

#### INCOMING

Incomer circuit breaker has been included in the main panel.

1 set- 3 CTs , ratio 100/5A Class 1.0 accuracy 15 VA burden for metering.

1Nos- (0-100A) digital Ameter with selector switch

Micro processor based automatic power factor control relay (including power factor meter) in 8 steps for automatic cut off or add on capacitor units to keep the power factor at 0.95 with variation of loads. All associated auxiliary contactors / relays shall be provided with in the scope of work.

Phase indicating lamps with HRC fuses, and indicating in each capacitor chamber unit to indicate On/Off status of capacitor unit.

#### BUS BARS

800 AMP, 500 Volts, 3 phase 50 HZ TPN high conductivity electrolytic Aluminium bus bar of suitable length, SMC / DMC supports, with colour coding and insulated by heat shrinkable sleeves and clips on shrouds for joints. The current density of bus bar shall be minimum 1.00 sq mm / amp.

The Maximum allowable temperature for the Bus bar to be restricted to 85 deg C. The temperature rise should be restricted to 35 deg C above ambient temperature.

#### OUTGOINGS -

3 no. of 125 AMPS TPN 25 KA MCCB and 150 amps AC3 duty contactor with 50 KVAR gas filled 415 V capacitor bank, auto-manual selector switch, start stop push button for manual operation including on/off indicating lamps and delay timer complete.3 no. of 63 AMPS TPN 25 KA MCCB and 80 amps AC3 duty contactor with 25 KVAR gas filled 415 V capacitor bank, auto-manual selector switch, start stop push button for manual operation including on/off indicating lamps and delay timer complete.

1

SET



Design, manufacture, supply, testing and commissioning of DISTRIBUTION PANEL TYPE A fabricated out of 16 SWG CRCA sheet steel, IP52, wall / floor mounting type. The sheet steel shall undergo minimum 9 tank treatment followed by finishing powder coating of min 60 micron thickness. the board includes 415 V electrolytic Aluminium Bus Bar, removable gland plates, cable glands, including connection with outgoing feeders complete in all respect. The incoming MCCB shall be thermal-magnetic based with inbuilt O/L & S/C release with E/F protection and all Outgoings MCCB's shall be thermal-magnetic based with inbuilt O/L & S/C release. All MCCB's shall be Ics = 100% Icu, with rotary handle & pad locking arrangement, with adjustable O/L & S/C trip setting as per load requirement. All TP MCCB shall be with solid isolable neutral link. The breaking capacity specified is Ics value. All outgoing MCB's shall be C type with 10 KA breaking capacity.

The above board shall be complete with 3 nos. phase indicating lights, flush mounted Ammeter, Voltmeter, CT's, PT's, selector switches, protective fuses etc. at Incomer with all inter connections by min. 2.5 sq.mm. Copper wires.

INCOMER : 630 AMP FP MCCB

BUS BAR : 800 AMP,3 phase 50 HZ TPN high conductivity electrolytic Aluminium bus bar of suitable length, insulated by heat shrinkable sleeves. The current density of bus bar shall be minimum 1.00 sq mm / amp.

The Maximum allowable temperature for the Bus bar to be restricted to 85 deg C. The temperature rise should be restricted to 35 deg C above ambient temperature.

OUT GOINGS :

1 no 500 AMP FP MCCB (RISING MAIN TYPE A )

1 no 63 AMP TPN MCB (COMMON AREA DB )

2 no 63 AMP DP MCB (STILT AREA DB)1 no 100 AMP FP MCB (SPARE )

1

SET

<p>Design, manufacture, supply, testing and commissioning of DISTRIBUTION PANEL TYPE B fabricated out of 16 SWG CRCA sheet steel, IP52, wall / floor mounting type. The sheet steel shall undergo minimum 9 tank treatment followed by finishing powder coating of min 60 micron thickness. the board includes 415 V electrolytic Aluminium Bus Bar, removable gland plates, cable glands, including connection with outgoing feeders complete in all respect.</p> <p>The incoming MCCB shall be thermal-magnetic based with inbuilt O/L &amp; S/C release with E/F protection and all Outgoings MCCB's shall be thermal-magnetic based with inbuilt O/L &amp; S/C release.</p> <p>All MCCB's shall be Ics = 100% Icu, with rotary handle &amp; pad locking arrangement, with adjustable O/L &amp; S/C trip setting as per load requirement. All TP MCCB shall be with solid isolable neutral link. The breaking capacity specified is Ics value. All outgoing MCB's shall be C type with 10 KA breaking capacity.</p> <p>The above board shall be complete with 3 nos. phase indicating lights, flush mounted Ammeter, Voltmeter, CT's, PT's, selector switches, protective fuses etc. at Incomer with all inter connections by min. 2.5 sq.mm. Copper wires.</p> <p style="text-align: center;">INCOMER : 500 AMP FP MCCB</p> <p>The Maximum allowable temperature for the Bus bar to be restricted to 85 deg C. The temperature rise should be restricted to 35 deg C above ambient temperature.</p> <p style="text-align: center;">OUT GOINGS :</p> <p style="text-align: center;">1 no 400 AMP FP MCCB (RISING MAIN TYPE B ) 1 no 63 AMP TPN MCB (COMMON AREA DB ) 1 no 100 AMP FP MCB (SPARE )</p>	1	SET
<p>Design, manufacture, supply, testing and commissioning of MAIN LIFT Panel fabricated out of 16 SWG CRCA sheet steel, IP52, wall / floor mounting type. The sheet steel shall undergo minimum 9 tank treatment followed by finishing powder coating of min 60 micron thickness. the board includes 415 V electrolytic Aluminium Bus Bar, removable gland plates, cable glands, including connection with outgoing feeders complete in all respect.</p> <p style="text-align: center;">INCOMER :</p> <p>Main Incomer 630 Amps FP MCCB, MCCB terminals shall be suitable to receive connection on one side and Busbar connection on the other side.</p> <p style="text-align: center;">BUSBAR :</p> <p style="text-align: center;">800 amps TPN busbar chamber of suitable length with Aluminium busbars.</p> <p style="text-align: center;">INDICATING PANEL :</p> <p>3 nos phase indicating lamps each backed up with MCB and switch shall be provided for incomer.</p> <p style="text-align: center;">Provide CT operated ammeter with selector switch for incomer. Provide 0-500 Volts range Volt Meter with selector switch for incomer. Provide CT operated KWH Meter for incomer.</p> <p style="text-align: center;">OUTGOINGS</p> <p style="text-align: center;">10 Nos. 100 A FP MCCB ( 10Towers Lift Panel) 2 Nos. 100 A FP MCCB (Spare)</p> <p style="text-align: center;">The Lift Panel as described above and specifications complete.</p>	1	SET

<p>Design, manufacture, supply, testing and commissioning of TOWER LIFT PANEL fabricated out of 16 SWG CRCA sheet steel, IP52, wall / floor mounting type. The sheet steel shall undergo minimum 9 tank treatment followed by finishing powder coating of min 60 micron thickness. the board includes 415 V electrolytic Aluminium Bus Bar, removable gland plates, cable glands, including connection with outgoing feeders complete in all respect.</p> <p style="text-align: center;">INCOMER :</p> <p>Main Incomer 100 Amps FP MCCB terminals shall be suitable to receive connection on one side and Busbar connection on the other side.</p> <p style="text-align: center;">BUSBAR :</p> <p style="text-align: center;">800 amps TPN busbar chamber of suitable length with Aluminium busbars.</p> <p style="text-align: center;">INDICATING PANEL :</p> <p style="text-align: center;">3 nos phase indicating lamps each backed up with MCB and switch shall be provided for incomer.</p> <p style="text-align: center;">Provide CT operated ammeter with selector switch for incomer.</p> <p style="text-align: center;">Provide 0-500 Volts range Volt Meter with selector switch for incomer.</p> <p style="text-align: center;">Provide CT operated KWH Meter for incomer.</p> <p style="text-align: center;">OUTGOINGS</p> <p style="text-align: center;">2 Nos. 63 A FP MCB (LIFT 1 &amp; 2)</p> <p style="text-align: center;">1 Nos. 63 A FP MCB (Spare)</p>	5	SET
<p style="text-align: center;">FLOOR BOARDS :-(TOWER A,B,C FLATS)</p> <p>Design, manufacture, suppling, fixing in position testing and commissioning of following MV switchgear panels suitable for 415 V, 3 phase, 4 wire, 50 Hz power distribution system. The panel shall be indoor, free standing, dust and vermin proof type compartmentalized design fabricated out of 14 SWG CRCA sheet steel, complete with aluminium bus bars, seprate earth bus bar to be provided through out the length of the panel. The incoming and outgoing panel shall be accommodated a modular multitier arrangment and shall be interlocked to avoid paralleling, adequate size cable alley, painting, earthing, numbering, danger plate etc as required per specification and drawings, meter board shall be got approved by Engineer in charge before installation.</p> <p style="text-align: center;">INCOMER:</p> <p style="text-align: center;">1 no.125A, 30KA TPN MCCB with microprocessor based releases, ON indication, 1 no. multifunction meter (showing all power parameters), with selector switch, matching cast resin CT's.</p> <p style="text-align: center;">BUS BAR</p> <p style="text-align: center;">TPN Aluminium bus bar with heat Shrink Sleeve rated for 125A.</p> <p style="text-align: center;">OUTGOING</p> <p style="text-align: center;">4 nos 63A TPN MCB</p> <p style="text-align: center;">Other items such as</p> <p style="text-align: center;">1 Set of control wiring</p> <p style="text-align: center;">1 Set of designation plates</p> <p style="text-align: center;">All Items complete as above</p>	40	SET

<p style="text-align: center;"><b>FLOOR BOARDS :-(TOWER D FLATS)</b></p> <p>Design, manufacture, suppling, fixing in position testing and commissioning of following MV switchgear panels suitable for 415 V, 3 phase, 4 wire, 50 Hz power distribution system. The panel shall be indoor, free standing, dust and vermin proof type compartmentalized design fabricated out of 14 SWG CRCA sheet steel, complete with aluminium bus bars, seprate earth bus bar to be provided through out the length of the panel. The incoming and outgoing panel shall be accommodated a modular multitier arrangment and shall be interlocked to avoid paralleling, adequate size cable alley, painting, earthing, numbering, danger plate etc as required per specification and drawings, meter board shall be got approved by Engineer in charge before installation.</p> <p style="text-align: center;"><b>INCOMER:</b></p> <p>1 no.100 A, 30KA TPN MCCB with microprocessor based releases, ON indication, 1 no. multifunction meter (showing all power parameters), with selector switch, matching cast resin CT's.</p> <p style="text-align: center;"><b>BUS BAR</b></p> <p>TPN Aluminium bus bar with heat Shrink Sleeve rated for 125A.</p> <p style="text-align: center;"><b>OUTGOING</b></p> <p>2 nos 63A TPN MCB Other items such as 1 Set of control wiring 1 Set of designation plates All Items complete as above</p>	5	SET
<p style="text-align: center;"><b>External Lighting Panel</b></p> <p>Design, manufacture, supply, installation, testing and commissioning of cubicle type panel fabricated out of 14 SWG CRCA sheet steel , floor mounted totally enclosed switchbaord suitable for use of 415 volts , 3 phase, 50 HZ complete with aluminium bus bar and all accessories including supply and fixing of following incoming and outgoing switchgears.</p> <p style="text-align: center;"><b>INCOMER:</b></p> <p>One no. 100A 4P MCCB with microprocessor based releases, ON indication 1 no. multifunction meter (showing all power parameters), with selector switch, matching cast resin CT's.</p> <p style="text-align: center;"><b>BUS BAR</b></p> <p>TPN Aluminium bus bar with heat Shrink Sleeve rated for 125A</p> <p style="text-align: center;"><b>OUTGOING :</b></p> <p>12 nos 32 A DP MCB Other items such as 1 set of control wiring 1 Set of designation plates All Items complete as above</p>	1	NO

<p style="text-align: center;"><b>RISING MAINS &amp; BUS DUCTS - AIR INSULATED TYPE:</b></p> <p>Design, fabrication, supply, installaion, testing and commissioning of following capacity Rising Mains consisting of total metal clad enclosure, 4 POLE high electrolytic conductivity aluminium conductor bus bars fully covered with heat shrinkable PVC coloured sleeves, suitable for operation on 415V/650V 3 phase, 4 wire 50 cycles AC supply system. The construction should be such that it will be dust and vermin proof to IP42 in 14G &amp; front cover in 16G CRCA painted/ powder coated sheet construction rated for 45°C ambient temp. The Rising Mains should be built in convenient sections complete with fire proof barriers, thrust pads, expansion joints at intervals and straps for fixing on the wall or floor mounted arrangement duly marked with the Current carrying capacity and danger plates/sticker. The entire length should be fitted with a double run of 25 x 6mm Al earth bus. The Rising Mains should be CPRI tested for 50 KA for 1 sec. The supporting system shall be earth quake proof.</p> <p style="text-align: center;">The supporting system shall be fail proof even in earth quake situation. 500A/50 KA, 4Pole, Aluminium</p>	79	RM
<p style="text-align: center;">315A/50 KA, 4Pole, Aluminium</p>	88	RM
<p style="text-align: center;">200A/50 KA, 4Pole, Aluminium</p>	9	RM
<p style="text-align: center;"><b>ADAPTOR BOX - INDOOR:</b></p> <p>Design, fabrication, supply, installation, testing and commissioning of following adaptor box housings fabricated out of 14G CRCA painted or powder coated (as approved) sheet steel for the Rising Mains fitted with following MCCB. The adaptor box shall be totally factory assembled complete with solid aluminium busbar links of rated capacity of MCCB to Risings Mains. The adaptor box should be complete with suitable size of glands plate for incoming cables, including shrouding of terminal ends. The construction shall be dust and vermin proof to IP42.500 Amp/50KA, 4P MCCB with rotary operating mechanism with door interlock &amp; a set of 3 Nos. phase indicating lights, voltmeter, ammeter along with selector switch, CT's and control fuses.</p>	5	NO
<p style="text-align: center;"><b>REDUCING UNITS</b></p> <p style="text-align: center;">supply of redusing boxes with termination on both ends 315 amp , 50KA</p>	5	NO
<p style="text-align: center;">200 amp , 50KA</p>	1	NO
<p style="text-align: center;"><b>TAP-OFF BOXES - INDOOR:</b></p> <p>Supply and installation of following 4P MCCB of breaking capacity as called for, for fixing in the incoming Tap-off box. Tap-off box housing shall be fabricated out of 14G CRCA painted or powder coated (as approved) sheet steel. The tap-off box should be factory fabricated and complete with solid aluminium links of rated capacity from MCCB to rising mains and suitable size of gland plate etc.The tap-off box shall be suitable for termination of XLPE insulated Al. conductor armoured cable including shrouding of terminal ends. as required. The construction shall be dust and vermin proof to IP42.</p> <p style="text-align: center;">125Amp, 4P MCCB, 25KA</p>	45	NO
<p style="text-align: center;">100Amp, 4P MCCB, 25KA</p>	5	NO
<p style="text-align: center;"><b>LT CABLE AND ACCESSORIES</b></p> <p style="text-align: center;"><b>SUPPLY OF L.T. CABLE:</b></p> <p>Supplying of following sizes of 1.1 KV grade multicore aluminium conductor XLPE insulated armoured cable conforming to IS:7098 (Part - I) complete with all amendments etc. as required</p> <p style="text-align: center;">3.5 C X 300 Sq.mm Al. XLPE arm.</p>	400	Mtrs.

3.5 C X 240 Sq.mm Al. XLPE arm.	240	Mtrs.
3.5 C X 185 Sq.mm Al. XLPE arm.	100	Mtrs.
3.5 C X 150 Sq.mm Al. XLPE arm.	150	Mtrs.
3.5 C X 120 Sq.mm Al. XLPE arm.	50	Mtrs.
3.5 C X 95 Sq.mm Al. XLPE arm.	60	Mtrs.
3.5 C X 70 Sq.mm Al. XLPE arm.	50	Mtrs.
3.5 C X 50 Sq.mm Al. XLPE arm.	60	Mtrs.
3.5 C X 35 Sq.mm Al. XLPE arm.	80	Mtrs.
3.5 C X 25 Sq.mm Al. XLPE arm.	100	Mtrs.
<b>MV CABLE LAYING</b> Laying of one number PVC insulated and PVC sheathed / XLPE power cable of 1.1 KV grade of following size direct in ground including excavation, sand cushioning, protective covering and refilling the trench etc as required. Upto 35 sq. mm	180	Mtrs
Above 35 sq. mm and upto 95 sq. mm	170	Mtrs
Above 95 sq. mm and upto 185 sq. mm	300	Mtrs
Above 185 sq. mm and upto 400 sq. mm	640	Mtrs
<b>MV CABLE JOINTING &amp; END TERMINATION</b> Supplying and making end termination with brass compression gland and aluminium lugs for following size of PVC insulated and PVC sheathed / XLPE aluminium conductor cable of 1.1 KV grade as required. 3½ X 25 sq. mm (28mm)	2	Each
3½ X 35 sq. mm (32mm)	2	Each
3½ X 50 sq. mm (35mm)	2	Each
3½ X 70 sq. mm (38mm)	1	Each
3½ X 95 sq. mm (45mm)	1	Each
3½ X 120 sq. mm (45mm)	2	Each
3½ X 150 sq. mm (50mm)	2	Each
3½ X 185 sq. mm (57mm)	4	Each
3½ X 240 sq. mm (62mm)	4	Each
3½ X 300 sq. mm (70mm)	8	Each
<b>HT CABLE AND ACCESSORIES</b> Supply of H.T. Cable Supply of following 11 KV( UE) grade multicore Aluminium conductor XLPE insulated cable, insulation screening with extruded semi conducting compound in combination with copper tape armoured cores laid up, inner sheath of PVC tape, galvanised steel flat strip armoured and overall PVC sheathed cable conforming to IS: 7098 (Part - II) and complete with all latest amendments etc. complete as required. 3 C x 240 Sq. mm 11 KV (UE)	110	Mtrs.

<p style="text-align: center;">H.T. Cable Laying-DSR ITEM H V CABLE LAYING</p> <p>Laying of one number PVC insulated and PVC sheathed / XLPE power cable of 11 KV grade of following size direct in ground including excavation, sand cushioning, protective covering and refilling the trench etc as required. Above 120 sq. mm and upto 400 sq. mm</p>	110	Meter
<p style="text-align: center;">H.T Termination: DSR ITEM</p> <p>Supply and making Indoor cable end jointing with cast resin compund, including lugs and other jointing materials for following size of 3 core, XLPE aluminium conductor cable of 11KV (UE) grade as required 3 C x 240 Sq.mm ( 11KV UE )</p>	1	Sets
<p>Supply and making Outdoor cable end jointing with cast resin compund, including lugs and other jointing materials for following size of 3 core, XLPE aluminium conductor cable of 11KV ( UE )grade as required. 3 C x 240 Sq.mm ( 11KV UE )</p>	2	Sets
<p style="text-align: center;">CABLE TRAY</p> <p>Supplying and installing following size of perforated pre-painted M.S. cable trays with perforation not more than 17.5%, in convenient sections, joined with connectors, suspended from the ceiling with M.S. suspenders including bolts &amp; nuts, painting suspenders etc as required.</p>	25	Metre
100 mm width X 50 mm depth X 1.6 mm thickness		
150 mm width X 50 mm depth X 1.6 mm thickness	25	Metre
300 mm width X 50 mm depth X 1.6 mm thickness	25	Metre
450 mm width X 50 mm depth X 2.0 mm thickness	25	Metre
600 mm width X 50 mm depth X 2.0 mm thickness	30	Metre
750 mm width X 62.5 mm depth X 2.0 mm thickness	30	Metre
900 mm width X 62.5 mm depth X 2.0 mm thickness	45	Metre
<p>Providing and fixing M.V. danger notice plate of 200 mm x 150 mm made of mild steel, at least 2 mm thick and vitreous enamelled white on both sides, and with inscription in single red colour on front side as required .</p>	10	NOS
<p>Providing and fixing H.T. danger notice plate of 250 mm x 200 mm made of mild steel, at least 2 mm thick and vitreous enamelled white on both sides, and with inscription in single red colour on front side as required .</p>	2	NOS
<p>S/F of shock treatment chart (prescribed under I.E.rules) duly framed with glass and supported from back with hard board with supply of all material labour T &amp; P etc for proper completion of work. (Approx front area = 1.20 sq M)</p>	3	NOS
<p>Supply and fixing of First aid box as approved by Indian red cross conforming to IS : 2217.</p>	1	NOS
<p>CO2 Fire Extinguishers 4.5 kg capacity complete in all respect ISI : 15683 marked</p>	1	NOS
<p>ABC FIRE EXTINGUISHER 4 KG capacity complete in all respect ISI : 15683 marked</p>	1	NOS
<p>Fire Bucket stand made of M S angle suitable for and with 4 Nos Fire Buckets of 9.5 Ltrs capacity</p>	1	NOS
<p>Supply of rubber gloves of 11 KV grade as per IS : 4770.</p>	3	Set
<p>Supply and fixing of cable route maker</p>	2	NOS

ANTI SKID RUBBER MAT 1 mtr x 2 mtr. 3mm thick ISI - 15652 marked	3	M
<b>EARTHING</b> Earthing with G.I. earth plate 600 mm X 600 mm X 6 mm thick including accessories, and providing masonry enclosure with cover plate having locking arrangement and watering pipe of 2.7 metre long etc. with charcoal/ coke and salt as required. (BODY EARTHING)	22	Set
Earthing with copper earth plate 600 mm X 600 mm X 3 mm thick including accessories, and providing masonry enclosure with cover plate having locking arrangement and watering pipe of 2.7 metre long etc. with charcoal/ coke and salt as required. (NEUTRAL EARTHING)	4	Set
Providing and fixing 25 mm X 5 mm G.I. strip on surface or in recess for connections etc. as required.	200	Mts
Providing and fixing 6 SWG dia G.I. wire on surface or in recess for loop earthing as required.	900	Mts
Providing and fixing earth bus of 50 mm X 5 mm copper strip on surface for connections etc. as required.	40	Mts
Earthing with G.I. earth pipe 4.5 metre long, 40 mm dia including accessories, and providing masonry enclosure with cover plate having locking arrangement and watering pipe etc. with charcoal/ coke and salt as required.	3	Each
<b>OIL COOLED TRANSFORMER:</b> Supply, Installation, Testing and Commissioning of Outdoor type oil cooled ONAN, 1000 KVA, 11/0.433 KV, 3 Phase, 50Hz, Dyn11 vector group, copper wound, Transformer with metal enclosure , lockable doors switches and ON LOAD Tap Changer with RTCC arrangement on HV + 5 to - 15 in steps of 1.25% having cable end box on HV side suitable of 3C x 240 sq. mm. XLPE cable of 11 KV grade and 6 Runs. 3-1/2 core 300 sq mm on LV side complete with all accessories i.e. OTI, WTI, MOG, Buchholz Relay etc. including supply, laying, terminating control cable between transformer and HT panel and complete test prior to handing over shall be conducted at site. All instruments contact wiring to be done up to Marshalling box. ALL ITEMS COMPLETE AS ABOVE	1	NO



<p style="text-align: center;"><b>DIESEL GENERATOR SET:</b></p> <p>Supply, Intastallation, Testing &amp; Commissioning of 500KVA Capacity water cooled DG Set with suitable capacity engine directly coupled with alternator for 415 volt, 3 phase, 50 Hz, 4 wire, generation system complete with accessories, fuel oil tank &amp; control panel etc as required and sound proof acquastic enclosure approved by CPCB for the DG SET, including supply, fixing of antivibration pads suitable for 500KVA DG Set, provision of conrol cable from engine to control panel. Provision of fuel pipe line of suitable size from fuel tank to engine and over flow pipe from engine to fuel tank complete with all fittings. Supply, Intallation of starting batteries of suitable AH as recommended by manufacturer heavy duty complete as required at site complete with stand and battery charger residential silenser suitable for diesel engine exhaust pipe line complete flange, bend, flexible pipe all as required and as directed by Engineer-incharge.</p> <p style="text-align: center;">Base frame and DG radiator. Resistoflex antivibration pads or manufacturer standard pads. 990 Ltrs Day tank for fuel with markings ECP Panel mounted on a separate frame. Suitable space heater for alternators. Lub oil drain arrangement.</p> <p style="text-align: center;">Suitable amended arrangement for cable or bus duct and arrangement for mounting differential /REF CTs. DG shall be completely filled with oil for 10 hours running. ALL ITEMS COMPLETE AS ABOVE</p>	1	NO
<p style="text-align: center;"><b>POLE ERECTION</b></p> <p>Erection of RCC/ PCC pole of following length in brick ballast and ramming the foundation, finishing with 150mm thick cement concrete (1:3:6) layer on top with including excavation and refilling etc as required. Above 4.5 metre and upto 6.5 metre</p>	26	Each
<p style="text-align: center;">Above 6.5 metre and upto 8.0 metre</p>	19	Each
<p>Supplying and embedding following dia G.I. pipe (medium class) in pole collar/ foundation (during casting) for cable entry including bending the pipe to the required shape complete as required. 32 mm dia</p>	125	metre
<p style="text-align: center;">40 mm dia</p>	107	metre
<p style="text-align: center;"><b>EXTERNAL LIGHTING SYSTEM</b> <b>SUPPLY OF EXTERNAL LIGHTING SYSTEM</b></p> <p>Supply of pole mounted post top lantern for external lighting complete with required nos. lamps and control gears etc. complete as required as per the standard catalogue item.70 watt HPSV (Philips HPS 360 / 70 (E) watt HPF) Sonora/Bajaj/Surya</p>	2	Nos
<p style="text-align: center;"><b>ERECTION OF EXTERNAL LIGHTING FIXTURES</b></p> <p>Installation, testing and commissioning of CFL / HPSV / MH / CDMT type post top lantern with required lamps complete with, control gears, ballast, capacitor etc. including connection with 3x1.5 sqmm flexible fire retardant copper connecting wire of required length complete as required.</p>	2	Nos

<p style="text-align: center;"><b>LED &amp; SOLAR LIGHTING</b> Supply of LED Lights</p> <p>Supply, installation, testing and commissioning of Street light luminaire having IP66 level of ingress protection for both LED compartment and control gear compartment, LEDSafe© optic compartment with 19W LED at 530mA, equipped with the Lensoflex photometric system with PMMA lenses, body made of an extruded aluminium, a toughened glass protector, end covers made of injection moulded polycarbonate, safety plug and socket system, a high pressure die cast aluminium painted mounting spigot suitable for horizontal mounting, having a surge protection of 10 kV of Schreder make Brika-19W LED or equivalent.</p>	17	Nos
<p>Supply, installation, testing and commissioning of Street light luminaire having IP66 level of ingress protection for both LED compartment and control gear compartment, LEDSafe© optic compartment with 24 LEDs and a total wattage of 78W at 530mA, equipped with the Lensoflex photometric system with PMMA lenses, body made of an extruded aluminium, a toughened glass protector, end covers made of injection moulded polycarbonate, safety plug and socket system, a high pressure die cast aluminium painted mounting spigot suitable for horizontal mounting, having a surge protection of 10 kV of Schreder make Brika-24 LED or equivalent.</p>	5	Nos
<p>Supply, installation, testing and commissioning of Street light luminaire having IP66 level of ingress protection for both LED compartment and control gear compartment, LEDSafe© optic compartment with 24 LEDs and a total wattage of 78W at 530mA, equipped with the Lensoflex photometric system with PMMA lenses, body made of an extruded aluminium, a toughened glass protector, end covers made of injection moulded polycarbonate, safety plug and socket system, a high pressure die cast aluminium painted mounting spigot suitable for horizontal mounting, having a surge protection of 10 kV, with independent standalone solar street lighting system, having dusk to dawn operation (10hrs duty cycle) powered by a 180Wp or solar array, a 12V 150Ah battery backup providing 2 days autonomy (10hrs + 10hrs), high efficiency mono/multi crystalline silicon cells battery - 12-110 Ah, capacity 12V, 150 Ah, of Schreder make Solar Brika-24 LED or equivalent with 6m Brika Pole with an arrangement to mount the Solar Panel, battery and charge controller</p>	5	Nos
<p style="text-align: center;">Supply of Poles</p> <p>Supply, installation, testing and commissioning of 8/4m high Galvanised Octagonal (bajaj make) with base plate, made out of GI tubular pole, primed and PU painted factory finish. The column shall also be provided with flush door at the bottom with proper strengthening to the cutout of the door opening. A junction/ looping box with Heavy duty 3 phase connector shall be suitable into the pole along with 500mm single side bracket. 8m High Galvanised Octagonal Pole</p>	10	Nos
<p style="text-align: center;">4m High Galvanised Octagonal Pole</p>	17	Nos
<p style="text-align: center;">Erection of Poles</p> <p>Erection of 8/4 meter high street light GI octagonal pole including providing and casting in position 'M20' grade reinforced cement concrete pole foundation i/c excavation of earth in all kind of soils including foundation.</p>	27	Nos
<p>Supplying, drawing, connecting and testing of following size of PVC insulated FRLS copper conductor (as per IS : 694) flexible multicore wire in the existing poles and bracket from cable termination connector / MCB to the fitting i/c providing suitable connectors 3 core 2.5 sq.mm (for 7.5Mtr Poles)</p>	216	Nos

<p style="text-align: center;"><b>PANEL AND DETECTORS:</b></p> <p>roviding, fixing, testing and commissioning of UL / FM / EN / VDS listed / approved conventional automatic fire Alarm detectors - (MAKE : Siemens, Tyco, Edward)(a) Optical/Photoelectric type smoke detectors of photo-optic sensing chamber, 12 / 24 volt D.C., visual alarm indicator (LED's) "Blink - green" in stand by and "Steady - red" in alarm complete in all respects with base as required.( Make:- Siemens, Tyco, Edward)</p>	225	NOS
<p>(b) Fixed cum rate of rise temprature type heat detectors, 12 / 24 volt D.C., visual alarm indicators (LED's) "Blink - green" in stand by and "Steady - red" in alarm complete in all respects with base as required. ( Make:- Siemens, Tyco, Edward)</p>	150	NOS
<p>Providing, fixing, testing and commissioning of resettable type manual call points break glass type housed in sheet steel / Polymer housing in surface/recess including making connections with wires complete in all respects and as per specifications. The manual call point should have an indicator, which should "blink" in stand by condition. (Make : Siemens, Tyco, Edward)</p>	175	NOS
<p>Providing, fixing, testing and commissioning of electronic hooters with LMT (hooters shall also be able to work as public address system sounders) housed in sheet steel / Polymer housing suitable for wall / ceiling and surface / recess mounting including making connections with wires complete in all respects and as per specifications. (Make : Siemens, Tyco, Edward)</p>	173	NOS
<p>Providing, fixing, testing and commissioning of fire alarm main control and indicating panel, Addressable microprocessor based to monitor all local/zonal control panels on each floor or directly detectors as per the case, pulser, timer for dual stage alarm facility complete with indicators, floor selector switches, stand by SMF battery, battery charger, battery box, connections to building automation system / Fire fighting pump panel etc. including Public Address System complete in all respect and as per specifications and requirements. The panel shall have facility of automatic dialling to 5 telephone numbers in case of alarm. The main control panel should give a distinct visual signal of the isolation of loop from the local indication panel. If all the loops at the local panel are isolated or if the fuse of the LCP gets blown, it should result in an open circuit fault indication at the Main Panel. Each loop should have provision of activation of hooter. (MAKE : Siemens, Tyoc, Edward) 6 loop main control panel</p>	2	SET
<p>Providing, installing, testing and commissioning of repeater panel suitable for common fire / fault indication of 5 nos main Fire Alarm panels with sounder, stand by SMF battery, battery charger, battery box, LCD alpha numeric character display with accept / reset buttons for alarm. The panel shall be connected to the main fire alarm panel.</p>	5	SET
<p style="text-align: center;"><b>CABLES AND ACCESSORIES</b></p> <p>Supply and fixing of ISI marked (IS:3419 &amp; 2509) 2 mm thick PVC conduit in concealed / exposed system in wall, ceiling or on floor including cutting of brick work, laying of conduit and fixing it with M.S. hooks and then plastering with cement, sand motar finished to the level, on floor the conduit shall be covered in PCC 1:2:4 for protection, including cost of threading of conduit and providing necessary sockets, bends, tees etc as directed at site by the engineer-in-charge with supply of all material labour and T &amp; P required for proper completion of work. conduit being laid either in concealed system in ceiling slab or wall or on surface or under the frame of false ceiling including flexible conduits or through wooden partition including clamping arrangements as required (Make : B.E.C. / AKG / Finolex / Atul) 25 mm dia. conduit</p>	2000	M

Supplying, receiving, storing, handling, fixing, wiring for fire alarm system wiring using ISI marked (IS 694) 1100 Volts grade, PVC insulated, flexible, flame retardant low smoke (FRLS) copper conductor wire, drawn in existing solid / flexible conduits / casing capping including connections to the detectors, manual call points, hooters, response indicators, accessories, fire alarm control panel etc. including termination with bottle type copper lugs, connectors etc as required to complete the system. (Make : FINOLEX / RR / Polycab / Skytone) 2 x 1.5 sq mm	4450	M
Supply and laying of ISI marked Copper conductor PVC insulated FRLS control cable as per IS 1554 or XPLE insulated as per IS 7098 PVC sheathed 1100 volts grade. On surface the cable run shall be fixed by GI clamps etc. of suitable size or on existing cable tray complete in all respect .The armouring of the cable shall be properly connected with the earth conductor including fixing of palm or pin type copper tin plated cable socket (lug) to the cable leads, connectors, terminal blocks, connectors, insulating with tape and making connections complete in all respect including supply of clamps, lugs, tape etc complete upto the satisfaction of Engineer-in-charge. (Make : Universal (Satna) / CCI / Nicco / Finolex / Polycab / Skytone RR) 8 x 1.5 sq mm armoured	150	M
<b>SWIMMING POOL:</b> 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.	845.94	Cum
Disposal Of Excavated Earth By truck upto 10 Km.	845.94	Cum
Providing and laying in position cement concrete of specified grade excluding the cost of centering and shuttering - All work up to plinth level : 1:4:8 (1 cement : 4 fine sand : 8 graded stone aggregate 40 mm nominal size)	50.74	Cum
Reinforced cement concrete work in walls (any thickness), including attached pilasters, buttresses, plinth and string courses, fillets, columns, pillars, piers, abutments, posts and struts etc. up to floor five level, excluding cost of centering, shuttering, finishing and reinforcement : 1:1:2 (1 cement : 1 coarse sand : 2 graded stone aggregate 20 mm nominal size)	157.53	Cum
Brick work with common burnt clay F.P.S. (non modular) bricks of class designation 7.5 in foundation and plinth in: Cement mortar 1:6 (1 cement : 6 coarse sand)	6.72	Cum
Brick work with common burnt clay F.P.S. (non modular) bricks of class designation 7.5 in Superstructure in: Cement mortar 1:6 (1 cement : 6 coarse sand)	7.63	Cum
Steel reinforcement for R.C.C. work including straightening, cutting, bending, placing in position and binding all complete above plinth level.	28024.50	Kg
Retaining walls, return walls, walls (any thickness) including attached pilasters, buttresses, plinth and string courses fillets, kerbs and steps etc.	260.52	Sqm

<p>Providing and laying water proofing treatment to vertical and horizontal surfaces of depressed portions of W.C., kitchen and the like consisting of:</p> <p>(i) 1st course of applying cement slurry @ 4.4 kg/sqm mixed with water proofing compound conforming to IS 2645 in recommended proportions including rounding off junction of vertical and horizontal surface.</p> <p>(ii) 2nd course of 20 mm cement plaster 1:3 (1 cement : 3 coarse sand) mixed with water proofing compound in recommended proportion including rounding off junction of vertical and horizontal surface.</p> <p>(iii) 3rd course of applying blown or residual bitumen applied hot at 1.7 kg. per sqm of area.</p> <p>(iv) 4th course of 400 micron thick PVC sheet. (Overlaps at joints of PVC sheet should be 100 mm wide and pasted to each other with bitumen @ 1.7 kg/sqm).</p>	491.00	Sqm
<p>Providing and laying Ceramic glazed floor tiles of size 300x300 mm (thickness to be specified by the manufacturer), of 1st quality conforming to IS : 15622, of approved make, in all colours, shades, except White, Ivory, Grey, Fume Red Brown, laid on 20 mm thick bed of cement mortar 1:4 (1 Cement : 4 Coarse sand), including pointing the joints with white cement and matching pigments etc., complete.</p>	491.04	Sqm
<p>Providing and fixing 1st quality ceramic glazed wall tiles conforming to IS: 15622 (thickness to be specified by the manufacturer), of approved make, in all colours, shades except burgundy, 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.</p>	117.00	Sqm
<p>Providing and fixing T-iron frames for doors, windows and ventilators of mild steel Tee-sections, joints mitred and welded, including fixing of necessary butt hinges and screws and applying a priming coat of approved steel primer. Fixing with 15x3 mm lugs 10 cm long embedded in cement concrete block 15x10x10 cm of C.C. 1:3:6 (1 Cement : 3 coarse sand : 6 graded stone aggregate 20 mm nominal size)</p>	60.00	Kg
<p>Filtration Plant electrical Plumbing work, S leader under ground lighting.</p>	1.00	NOS
<p><b>LIFT:8 Passenger, 11 Floor, 11 Opening SS Finish with SS mirror finish center panel and all corners in SS finish, center opening Doors, with SH 300 OP and SH 250 COP controls Lift with Machine Room on top, (09 Stops) SS Finished Cabins, Automatic door with ARD Panel etc. complete in 154 Beam sensor, Fire man Switch and Emergency Alarm SH 110 Control Panel and ARD complete in all respects, Make-KONE</b></p>	10	Nos