

VOL-3
BILL OF QUANTITIES
SRFDCL

NAME OF WORK:-CONSTRUCTION OF RIVERSIDE SAVORIES I.E. BUILDING WITH UNDERGROUND ROAD BETWEEN NEHRU BRIDGE AND ELLISBRIDGE AND CONSTRUCTION OF PUBLIC PLAZA AND UNDERGROUND PARKING FACILITY AT SANSKAR KENDRA - TAGORE HALL CAMPUS CONNECTING RIVERFRONT ON WESTBANK FOR SRFDCL.

RECAPITULATION SHEET

No.	Item of Works	Amount in Rs.
A	Riverside Savories	1,32,54,31,480.92
B	Sanskar kendra	51,23,13,532.99
	Total Amount(Without GST)	1,83,77,45,013.92

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NAME OF WORK:- CONSTRUCTION OF RIVERSIDE SAVORIES I.E. BUILDING WITH UNDERGROUND ROAD BETWEEN NEHRU BRIDGE AND ELLISBRIDGE AND CONSTRUCTION OF PUBLIC PLAZA AND UNDERGROUND PARKING FACILITY AT SANSKAR KENDRA - TAGORE HALL CAMPUS CONNECTING RIVERFRONT ON WESTBANK FOR SRFDCL.

RECAPITULATION SHEET

Part-I :- Riverside Savories

No.	Item of Works	Amount in Rs.
A	Civil Works + plumbing Work	1,10,73,67,511.84
B	Electrical & ELV, HVAC Work	16,11,01,636.42
C	Fire Protection Work	4,42,67,670.66
D	Horticulture work	1,26,94,662.00
	Total Amount(Without GST)	1,32,54,31,480.92

Part-II :- Sanskar kendra plaza

No.	Item of Works	Amount in Rs.
A	Civil Works + Plumbing Work	43,41,55,193.68
B	Electrical & ELV,ELV, & HVAC Work	6,03,93,331.17
C	Fire Protection Work	1,77,65,008.15
	Total Amount (Without GST)	51,23,13,532.99

PRICE BID
(VOLUME - 3 For Civil & PHE Works)

CLIENT: SRFDCL

Price Bid: Bill of Quantities (BOQ)

Name of Contractor : _____

Address :

Tender Amount : Rs.

Contractor's Quoted Rates :

..... % above Add Rs.

OR

..... % below deduct Rs.

.....

..... Only)

PLEASE NOTE : PLEASE DO NOT FILL PRICE BID IN HARD COPY.

SUMMARY

No.	Item of Works	Amount in Rs.
Part-I :- Riverside Savories		
A	Civil Work	1,06,52,60,065.49
B	Plumbing Work	4,21,07,446.35
		1,10,73,67,511.84

Part-II Sanskar Kendra Plaza		
A	Civil Work	42,71,74,979.93
B	Plumbing Work	69,80,213.74
		43,41,55,193.67

TOTAL AMOUNT OF CIVIL + PLUMBING WORK		1,54,15,22,705.51
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PRICE BID
(VOLUME - 3 For Electrical,ELV&HVAC Works)

CLIENT: SRFDCL

Price Bid: Bill of Quantities (BOQ)

Name of Contractor : _____

Address :

Tender Amount : Rs.

Contractor's Quoted Rates :

..... % above Add Rs.

OR

..... % below deduct Rs.

.....

..... Only)

PLEASE NOTE : PLEASE DO NOT FILL PRICE BID IN HARD COPY.

SUMMARY

Part-I :- Riverside Savories

No.	Item of Works	Amount in Rs.
C	Electrical & ELV Work	13,38,24,679.28
D	Elevator Work	2,03,45,735.04
E	HVAC Work	69,31,222.10
		16,11,01,636.42

Part-II Sanskar Kendra Plaza

No.	Item of Works	Amount in Rs.
C	Electrical & ELV Work	5,33,89,420.52
E	HVAC Work	70,03,910.65
		6,03,93,331.17

TOTAL AMOUNT OF ELE, ELV, ELEVATOR AND HVAC WORKS 22,14,94,967.59

PRICE BID
(VOLUME - 3 For Fire Protection Works)

CLIENT: SRFDCL

Price Bid: Bill of Quantities (BOQ)

Name of Contractor : _____

Address :

Tender Amount : Rs.

Contractor's Quoted Rates :

..... % above Add Rs.

OR

..... % below deduct Rs.

.....

..... Only)

PLEASE NOTE : PLEASE DO NOT FILL PRICE BID IN HARD COPY.

SUMMARY

No.	Item of Works	Amount in Rs.
Part-I :- Riverside Savories		
F	FIRE PROTECTION WORK	4,42,67,670.66
		4,42,67,670.66
Part-II Sanskar Kendra Plaza		
F	FIRE PROTECTION WORK	1,77,65,008.15
		1,77,65,008.15
	TOTAL FOR FIRE PROTECTION WORK	6,20,32,678.81

PRICE BID
(VOLUME - 3 For Horticulture Works)

CLIENT: SRFDCL

Price Bid: Bill of Quantities (BOQ)

Name of Contractor : _____
Address :

Tender Amount : Rs.

Contractor's Quoted Rates :

..... % above Add Rs.

OR

..... % below deduct Rs.

.....
..... Only)

Ahmedabad Municipal Corporation

PLEASE NOTE : PLEASE DO NOT FILL PRICE BID IN HARD COPY.

SUMMARY		
No.	Item of Works	Amount in Rs.
Part-I :- Riverside Savories		
G	HORTICULTURE WORK	1,26,94,662.00
		1,26,94,662.00

NAME OF WORK:-CONSTRUCTION OF RIVERSIDE SAVORIES I.E. BUILDING WITH UNDERGROUND ROAD BETWEEN NEHRU BRIDGE AND ELLISBRIDGE AND CONSTRUCTION OF PUBLIC PLAZA AND UNDERGROUND PARKING FACILITY AT SANSKAR KENDRA - TAGORE HALL CAMPUS CONNECTING RIVERFRONT ON WESTBANK FOR SRFDCL.

SCHEDULE OF QUANTITIES

Item No.	Description of Item	Unit	Total QTY	Rate(Rs.)	Amount(Rs.)
CIVIL WORK					
EARTH WORKS					
1	Clearing and grubbing road land including uprooting rank vegetation grass bushes,shrubs,sapling and trees girth up to 300 mm removal of stumps of trees cut earlier and disposal of unserviceable materials. (C) By mechanical means in area of light jungle	Sqm	29,656.91	2.81	83,335.92
2	Cutting and felling trees of girth as specified below (measured at a height of 1 m above ground level) including cutting of trunks and branches, removing the roots and stacking of serviceable material and disposal of unserviceable materials within campus at directed place etc complete all as per specifications and as directed by the Engineer-in-charge				
2.1	Girth beyond 30 cm, up to and including 60 cm girth.	NOS	5.00	451.00	2,255.00
2.2	Girth beyond 60 cm, up to and including 120 cm girth.	NOS	5.00	2,011.00	10,055.00
3	Dismantling tiled of stone floors laid in mortar including stacking of serviceable materilas and disposal of unserviceable materials with all lead and lift.	Sqm	2,291.82	47.25	1,08,288.68
4	Demolition and disposal of unserviceable materials with all lead and lift.(i) Cement concrete.	Cum	619.28	603.23	3,73,569.56
5	Demolition including stacking of serviceable materilas and disposal of unserviceable materials with all lead and lift. (i) R.C.C. work	Cum	2,598.75	1,047.38	27,21,878.78
6	Dismantling barbed wire in fencing including making rolls and also including dismantling fencing posts including all earth work concrete in base and making good the disturbed ground stacking useful materials as directed and disposing as directed and disposing of the unserviceable materials with all lead and lift	RMT	525.00	66.15	34,728.75
7	Demolition of Brick work and stone masonry including stacking of serviceable materilas and disposal of unserviceable materials with all lead and lift.(ii) In Cement Mortar.	Cum	60.00	544.95	32,697.00
8	Dismantling and stacking within 50 metres lead, fencing posts or struts including all earth work and dismantling of concrete etc. in base of : T' or 'L' iron or pipe	NOS	20.00	230.90	4,618.00
9	Dismantling Digital Led Advertisment Hording Board	NOS	1.00	5,00,000.00	5,00,000.00
10	Dismantling wood work, wrought framed and fixed in frames trusses including stacking the materials with all lead and lift.	Cum	50.00	1,741.95	87,097.50
11	Dismantling steel work including distemping and stacking the materials with all lead and lift.	KG	487.91	3.63	1,771.11
12	Scarifying gravelled macadam or bitumen macadam surface 6cm to 10cm .depth including stacking useful materials on roadside and disposing off remaining stuff.	Sqm	6,221.25	39.23	2,44,059.64
13	Excavation for foundation up to 1.5 m DEPTH including sorting out and stacking of useful material sand disposing off the excavated stuff upto 50 Meter lead.(A) Loose or soft soil	Cum	26,954.30	115.92	31,24,542.46
14	Excavation for foundation up to 1.5 m TO 3.0M DEPTH including sorting out and stacking of useful material sand disposing off the excavated stuff upto 50 Meter lead.(A) Loose or soft soil	Cum	26,911.50	128.52	34,58,665.98

15	Excavation for foundation for depth from 3.0 m to 5.0 m including sorting out and stacking of useful materials and disposing off the excavated stuff upto 50 Meter lead.(A) Loose or soft soil	Cum	35,000.00	141.11	49,38,850.00
16	Extra for additional depth more than 5.0 m for excavation for foundation including sorting out and stacking of useful materials and disposing of the excavated stuff upto 50 m lead.(A) Loose or soft soil	Cum	17,000.00	162.02	27,54,340.00
17	Extra for additional depth more than 6.0 m for excavation for foundation including sorting out and stacking of useful materials and disposing of the excavated stuff upto 50 m lead.(A) Loose or soft soil	Cum	11,000.00	182.93	20,12,230.00
18	Conveyance charges of earth lime, murrum, building rubbish, manure, garbage, sludge, excavated rock, fly ash, aggregate of any kind etc. comp. upto any lead. up to 1.0 km	Cum	12,000.00	256.16	30,73,920.00
18.1	Above 1.0km & up to 5 km	Cum	24,000.00	326.73	78,41,520.00
18.2	Above 5.0 km & up to 10.00 km	Cum	63,330.00	363.78	2,30,38,187.40
19	Filling available excavated earth (excluding rock) in trenches. plinth, sides of foundations etc. in layers not exceeding 20cm. In depth consolidating each disposed layer by ramming and watering.	Cum	59,620.80	129.10	76,97,045.28
20	Carring out plinth treatment to pre or post construction / existing structure by spraying chemical solution for termite control treatment including labour and material consistment with I.S.I specification. Using Chlordene and Chiopurfiles 20 EC. As Per 6131_paret-II Consentration Weight one percent is recommended i.e one litre 20 EC chemical emulsion with 19 liter give 1 % concentration inclusive of one litre chemical emulsion appication at the rate of 5 Litre chemical / Sqm of surface is recommended as per I.S and as per directions of Clerk-of-Work. For all levels and leads.	Sqm	13,036.07	104.90	13,67,483.22
21	Providing and filling rubble soling including hand packing and filling interstices with quarry spalls below hardscape and others for infrastructure work in external development as directed by EIC.	Cum	100.00	2,370.00	2,37,000.00
SUB TOTAL					6,37,48,139.26
PLAIN AND REINFORCED CEMENT CONCRETE					
22	Providing and laying cement concrete 1:2:4 (1-Cement:2-Coarse sand:4-graded stone aggregates 20mm nominal size) and curing complete excluding cost of formwork in (A) Foundation and Plinth	Cu.m	1,682.56	3,661.30	61,60,356.93
23	Providing and laying in position M- 250 grade concrete for reinforced cement conctere work , using cement content as per approved Design Mix manufactured in fully automatic batching plant and transporting the concrete from Plant to point 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. Without Fly Ash(GRADE SLAB)	Cu.m	1,005.10	4,853.56	48,78,313.16
24	Providing and laying in position M-350 grade concrete for reinforced cement conctere work , using cement content as per approved Design Mix manufactured in fully automatic batching plant and transporting the concrete from Plant to point 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. Without Fly Ash (Foundation)	Cu.m	6,775.50	5,140.94	3,48,32,438.97

25	Providing and laying in position M-350 grade concrete for reinforced cement concrete work , using cement content as per approved Design Mix manufactured in fully automatic batching plant and transporting the concrete from Plant to point 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. Without Fly Ash (RCC BEAM)	Cu.m	4,958.30	5,140.94	2,54,90,322.80
25.1	Extra for additional lift of concrete for all R.C.C. work above floor two level excluding cost of reinforcement(Second Floor)	Cu.m	635.69	39.85	25,332.25
25.2	Extra for additional lift of concrete for all R.C.C. work above floor two level excluding cost of reinforcement(utility Floor)	Cu.m	627.99	79.70	50,050.80
26	Providing and laying in position M-250 grade concrete for reinforced cement concrete work , using cement content as per approved Design Mix manufactured in fully automatic batching plant and transporting the concrete from Plant to point 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. Without Fly Ash (RCC LINTEL)	Cu.m	151.20	4,853.56	7,33,858.27
26.1	Extra for additional lift of concrete for all R.C.C. work above floor two level excluding cost of reinforcement(Second Floor)	Cu.m	29.70	39.85	1,183.55
27	Providing and laying in position M-350 grade concrete for reinforced cement concrete work , using cement content as per approved Design Mix manufactured in fully automatic batching plant and transporting the concrete from Plant to point 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. Without Fly Ash (RCC COLUMN)	Cu.m	2,514.40	5,140.94	1,29,26,379.54
27.1	Extra for additional lift of concrete for all R.C.C. work above floor two level excluding cost of reinforcement	Cu.m	221.32	39.85	8,819.60
27.2	Extra for additional lift of concrete for all R.C.C. work above floor two level excluding cost of reinforcement	Cu.m	238.59	79.70	19,015.62
28	Providing and laying in position M-350 grade concrete for reinforced cement concrete work , using cement content as per approved Design Mix manufactured in fully automatic batching plant and transporting the concrete from Plant to point 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. Without Fly Ash(RCC WALL)	Cu.m	5,765.50	5,140.94	2,96,40,089.57
28.1	Extra for additional lift of concrete for all R.C.C. work above floor two level excluding cost of reinforcement	Cu.m	295.65	39.85	11,781.53
28.2	Extra for additional lift of concrete for all R.C.C. work above floor two level excluding cost of reinforcement	Cu.m	295.65	79.70	23,563.07

29	Providing and laying in position M-350 grade concrete for reinforced cement concrete work, using cement content as per approved Design Mix manufactured in fully automatic batching plant and transporting the concrete from Plant to point 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. Without Fly Ash (RCC SLAB)	Cu.m	6,256.53	5,140.94	3,21,64,419.63
29.1	Extra for additional lift of concrete for all R.C.C. work above floor two level excluding cost of reinforcement	Cu.m	1,051.05	39.85	41,884.34
29.2	Extra for additional lift of concrete for all R.C.C. work above floor two level excluding cost of reinforcement	Cu.m	981.75	79.70	78,245.48
30	Providing and laying in position M-350 grade concrete for reinforced cement concrete work, using cement content as per approved Design Mix manufactured in fully automatic batching plant and transporting the concrete from Plant to point 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. Without Fly Ash (STAIRCASE)	Cu.m	409.55	5,140.94	21,05,496.40
31	Providing TMT Bar FE 550D reinforcement for R.C.C. work including bending, binding and placing in position complete upto floor two level (Foundation to First Floor)	Kg	31,08,370.35	75.46	23,45,57,626.61
31.1	Extra for additional lift of reinforcing steel for all R.C.C. work above floor two level.	Kg	2,59,842.20	0.99	2,57,243.78
31.2	Extra for additional lift of reinforcing steel for all R.C.C. work above floor two level.	Kg	2,55,694.95	1.98	5,06,276.00
32	Providing formwork of ordinary timber planking so as to give a rough finish including centering shuttering strutting and propping etc. Height of propping and centering below supporting floor to ceiling not exceeding 4 M. and removal of the same for in situ reinforced concrete and plain concrete work in. (A) Foundations Footings Bases of Columns etc. and Mass concrete.	Sqm	16,503.22	171.68	28,33,272.38
33	Providing formwork of ordinary timber planking so as to give a rough finish including centering shuttering strutting and propping etc. height of propping and centering below supporting floor to ceiling not exceeding 4 M. and removal of the same for in situ reinforced concrete and plain concrete work in. (G) Columns Pillars Posts and struts. (1) Square Rectangular Polygonal in plan.	Sqm	2,411.64	297.68	7,17,897.00
34	Extra for Providing formwork with sheathing steel sheets or Plywood Sheets (Using Minimum 12 mm thick Shuttering Plywood, conforming to IS:4990) so as to give a Fair Exposed F3 finish in (G) Columns, Pillars, Posts and struts. (1) Square, Rectangular or polygonal in plan.	Sqm	2,411.64	94.02	2,26,742.39
35	Providing formwork of ordinary timber planking so as to give a rough finish including centering shuttering strutting and propping etc. height of propping and centering below supporting floor to ceiling not exceeding 4 M. and removal of the same for in situ reinforced concrete and plain concrete work in. (G) Columns Pillars Posts and struts. (2) Circular or curved in Plan.	Sqm	7,322.91	422.10	30,91,000.31
36	Extra for Providing formwork with sheathing steel sheets or Plywood Sheets (Using Minimum 12 mm thick Shuttering Plywood, conforming to IS:4990) so as to give a Fair Exposed F3 finish in (G) Columns, Pillars, Posts and struts. (2) Circular or curved in plan	Sqm	7,322.91	94.02	6,88,500.00
37	Extra for additional height of propping and centering where the height of propping and centering exceeds 4 .0 M between supporting floor to ceiling including temporary brick or stone pillars for supporting as required. (ii) Height more than 5.0M.and upto 6.0 M.	Sqm	3,649.04	682.01	24,88,681.77

38	Extra for Providing formwork with sheathing steel sheets or Plywood Sheets (Using Minimum 12 mm thick Shuttering Plywood, conforming to IS:4990) so as to give a Fair Exposed F3 finish in (G) Columns, Pillars, Posts and struts. (1) Square, Rectangular or polygonal in plan.	Sqm	3,649.04	94.02	3,43,082.74
39	Providing formwork of ordinary timber planking so as to give a rough finish including centering shuttering strutting and propping etc. height of propping and centering below supporting floor to ceiling not exceeding 4 M. and removal of the same for in situ reinforced concrete and plain concrete work in. (C) Vertical surface such as walls (any thickness) partitions and the like including attached buttresses & string course & the like.	Sqm	6,138.66	229.95	14,11,584.87
40	Extra for Providing formwork with sheathing steel sheets or Plywood Sheets (Using Minimum 12 mm thick Shuttering Plywood, conforming to IS:4990) so as to give a Fair Exposed F3 finish in (G) Columns, Pillars, Posts and struts. (1) Square, Rectangular or polygonal in plan.	Sqm	6,138.66	94.02	5,77,156.81
41	Extra for additional height of propping and centering where the height of propping and centering exceeds 4 .0 M between supporting floor to ceiling including temporary brick or stone pillars for supporting as required. (ii) Height more than 5.0 M. and upto 6.0 M.	Sqm	1,509.42	386.48	5,83,360.64
42	Extra for Providing formwork with sheathing steel sheets or Plywood Sheets (Using Minimum 12 mm thick Shuttering Plywood, conforming to IS:4990) so as to give a Fair Exposed F3 finish in (G) Columns, Pillars, Posts and struts. (1) Square, Rectangular or polygonal in plan.	Sqm	1,509.42	94.02	1,41,915.67
43	Providing formwork of ordinary timber planking so as to give a rough finish including centering shuttering strutting and propping etc. height of propping and centering below supporting floor to ceiling not exceeding 4 M. and removal of the same for in situ reinforced concrete and plain concrete work in. (C) Vertical surface such as walls (any thickness) partitions and the like including attached buttresses & string course & the like.	Sqm	11,632.50	229.95	26,74,893.38
44	Extra for Providing formwork with sheathing steel sheets or Plywood Sheets (Using Minimum 12 mm thick Shuttering Plywood, conforming to IS:4990) so as to give a Fair Exposed F3 finish in (G) Columns, Pillars, Posts and struts. (1) Square, Rectangular or polygonal in plan.	Sqm	11,632.50	94.02	10,93,687.65
45	Providing formwork of ordinary timber planking so as to give a rough finish including centering shuttering strutting and propping etc. Height of propping and centering below supporting floor to ceiling not exceeding 4 M. and removal of the same for in situ reinforced concrete and plain concrete work in. (B) Flat surfaces such as soffits of suspended floors slabs Landings and the like. (1) Floors etc. upto 200 mm in thickness.	Sqm	33,638.00	252.00	84,76,776.00
46	Extra for Providing formwork with sheathing steel sheets or Plywood Sheets (Using Minimum 12 mm thick Shuttering Plywood, conforming to IS:4990) so as to give a Fair Exposed F3 finish in (B) Flat surfaces such as soffits of slabs Landings and the like. (1) Floors etc. upto 200mm in thickness.	Sqm	33,638.00	94.02	31,62,644.76
47	Providing formwork of ordinary timber planking so as to give a rough finish including centering shuttering strutting and propping etc. height of propping and centering below supporting floor to ceiling not exceeding 4 M. and removal of the same for in situ reinforced concrete and plain concrete work in. (H) (1) Sides and soffits of Beams Beam Haunchings cantilevers Girders Bressumers and Lintels not exceeding 1 M. in Depth.	Sqm	39,771.47	192.15	76,42,087.96
48	Extra for Providing formwork with sheathing steel sheets or Plywood Sheets (Using Minimum 12 mm thick Shuttering Plywood, conforming to IS:4990) so as to give a Fair Exposed F3 finish in (H)(1) Sides and soffits of Beams, Beam Haunchings cantilevers Girders, Bressumers and Lintels not exceeding 1 M. in Depth.	Sqm	39,771.47	94.02	37,39,313.61

49	Providing formwork of ordinary timber planking so as to give a rough finish including centering shuttering strutting and propping etc. Height of propping and centering below supporting floor to ceiling not exceeding 4 M. and removal of the same for in situ reinforced concrete and plain concrete work in. (B) Flat surfaces such as soffits of suspended floors slabs Landings and the like. (1) Floors etc. upto 200 mm in thickness.	Sqm	2,356.66	252.00	5,93,878.32
50	Extra for Providing formwork with sheathing steel sheets or Plywood Sheets (Using Minimum 12 mm thick Shuttering Plywood, conforming to IS:4990) so as to give a Fair Exposed F3 finish in (B) Flat surfaces such as soffits of slabs Landings and the like. (1) Floors etc. upto 200mm in thickness.	Sqm	2,356.66	94.02	2,21,573.17
51	Earthwork for embankment including breaking clods, dressing with all lead and lift and including watering rolling and consolidation of subgrade in layers at O.M.C. to required dry density including filling the depression which occur during the process using power roller 8T to 10T.(E) From Borrow area within 3.0KM. lead	Cu.m	3,230.00	167.76	5,41,864.80
52	Construction of 300mm (as per IRC 37) Thick Granular sub base(GSB-I) by providing coarse graded material using B.T Metal 53 mm to 26.50 mm @ 35 % ,26.50 mm to 4.75mm 45% & Coarse sand below 2.36 mm 20 % in uniform layer with motor grader on prepared surface mixing by mix in place method with vibratory roller to achieve the desired density complete as per close 401	Cu.m	1,687.68	1,443.27	24,35,777.91
53	Construction of Dry Lean Cement Concrete Sub-base over a prepared sub-grade with coarse and fine aggregate conforming to IS: 383, the size of coarse aggregate not exceeding 25 mm, aggregate cement ratio not to exceed 15:1, aggregate gradation after blending to be as per table 600-1, cement content not to be less than 150 kg/ cum, optimum moisture content to be determined during trial length construction, concrete strength not to be less than 10 Mpa at 7 days, mixed in a batching plant, transported to site, laid with a paver with electronic sensor, compacting with 8-10 tonnes vibratory roller, finishing and curing.	Cu.m	969.00	3,335.86	32,32,448.34
54	Construction of reinforced, dowel jointed, plain cement concrete of M40, pavement over a prepared sub base with Ordinary Portland Cement @ 400 kg per cum, coarse and fine aggregate conforming to IS 383, maximum size of coarse aggregate not exceeding 25 mm, mixed in a batching and mixing plant as per approved mix design, transported to site, laid with a fixed form or slip form paver, spread, compacted and finished in a continuous operation including provision of contraction, expansion, construction and longitudinal joints, joint filler, separation membrane, sealant primer, joint sealant, debonding strip, dowel bar, tie rod, admixtures as approved, curing compound, finishing to lines and grades as per drawing.	Cu.m	1,938.00	7,491.00	1,45,17,558.00
55	Providing and laying cement concrete 1:2:4 (1-Cement:2-Coarse sand:4-graded stone aggregates 20mm nominal size) and curing complete excluding cost of formwork in Footpath.	Cum	67.83	3,661.30	2,48,345.98
56	Applying and providing Expansion joint sealing System on 100 mm wide joint including cleaning of expansion joint by mechanical means provision of adhesive and flexible membrane with required bond length as per manufacturer specification and 4mm thick aluminium strip covering with one side slotted and bolted with suitable system, inclusive of all manpower, machinery and material as per specification and as directed.	RMT	199.50	4,724.75	9,42,587.63
57	Providing and fixing expansion joint 50 mm thick expansion joint board of best quality and approved make including cutting to required size and shape at all levels etc. complete as directed by EIC.	SQM	1.00	3,250.00	3,250.00

58	Trimix flooring - BROOM FINISH Providing and laying C.C. pavement of mix M-25 with batch mixed concrete from batching plant. The concrete shall be casted in panel and finished with screed board vibrator, vacuum dewatering process and finally finished by floating, brooming with machine. Grooves to be made of size 5mm wide and one third of thickness of concrete within 48 Hours of concreting to form bay of 4 x 4 meters using heavy duty cutting machine with diamond cutting wheel and filling of the groove with appropriate sealant etc. complete as per specifications and as directed by the EIC. If trimix concrete shall be laid over on existing concrete surface, bonding agent shall be applied before laying of concrete at all basements floors. Reinforcement if required shall be paid in relevant tender item.	Cum	661.10	6,043.00	39,95,027.30
59	Extra for carrying out Tremix - Vacuum-dewatering (VDF) for driveway and other floor area as specified in detail drawing, it shall have contraction/sawed joints to be formed at every 10m distance by grooving with mechanical saw within 48 hrs. operation should be carried out as soon as concrete is ready to accept the saw cut w/o trowelling etc. as directed by EIC. Groove sawed joints of min. 5 mm thickness and 100 mm minimum depth (2/3rd depth of the pavement) with compressible shalitek board or equivalent. It shall be well compacted, mechanically vibrated, finished to required level, floated with neat cement with power trowel machine to get desired finish (smooth/broom), or a levelling course, including MS shuttering, curing for 7 days etc. complete. The reinforcement for Tremix floor to be installed as per drawing and contractor shall allow for one mock-up for approval without cost. The sealant could be Semifigid Sealant M-80 of approved make. The rate shall be inclusive of labour, grooves and machinery cost. The rate of concrete and steel shall be paid in relevant items separately	Sqm	1.00	469.36	469.36
SUB TOTAL					45,11,38,076.63
MASONRY WORK					
60	Masonry work using Aerated light weight concrete block having crushing strength not less than 35 kg/sqcm for super structure above plinth level upto floor two level in cement mortar 1:5 (1 cement : 5 fine sand) complete as per Technical Specification.(upto first floor)	Cu.m	3,190.19	4,483.73	1,43,03,950.61
60.1	Masonry work using Aerated light weight concrete block having crushing strength not less than 35 kg/sqcm for super structure above floor two level in cement mortar 1:5 (1 cement : 5 fine sand) complete as per Technical Specification.(Second floor)	Cu.m	767.54	4,526.39	34,74,185.38
60.2	Masonry work using Aerated light weight concrete block having crushing strength not less than 35 kg/sqcm for super structure above floor two level in cement mortar 1:5 (1 cement : 5 fine sand) complete as per Technical Specification.(utility terrace)	Cu.m	160.27	4,569.05	7,32,281.64
61	Brick work using common burnt clay building bricks having crushing strength not less than 35 kg./Sq.Cm. in Sub Structure and Super Structure in Cement Mortar 1:5. (1- Cement : 5 -fine sand)(A) Modular	Cu.m	1,113.87	4,607.37	51,32,011.22
SUB TOTAL					2,36,42,428.85

PLASTERING AND PAINTING

62	Providing 15 mm. thick cement plaster in single coat on fair side of brick wall for interior plastering upto floor two level finished even and smooth in [II] Cement mortar 1:4 (1 cement : 4 fine sand) For all levels, hights and leads of works. etc, complete for all floor heights as directed. Rate shall be inclusive of hexagonal chickenmesh at junction of concrete and brick work. Minimum width of the chicken mesh shall be 150 mm covering the brick / concrete surface equally, as directed by EIC.(Upto first floor)	Sq.m	25,387.72	155.61	39,50,583.11
62.1	Providing 15 mm. thick cement plaster in single coat on fair side of brick wall for interior plastering above floor two level finished even and smooth in [II] Cement mortar 1:4 (1 cement : 4 fine sand) For all levels, hights and leads of works. etc, complete for all floor heights as directed. Rate shall be inclusive of hexagonal chickenmesh at junction of concrete and brick work. Minimum width of the chicken mesh shall be 150 mm covering the brick / concrete surface equally, as directed by EIC.(Second floor)	Sq.m	8,062.56	178.77	14,41,343.85
62.2	Providing 15 mm. thick cement plaster in single coat on fair side of brick wall for interior plastering above floor two level finished even and smooth in [II] Cement mortar 1:4 (1 cement : 4 fine sand) For all levels, hights and leads of works. etc, complete for all floor heights as directed. Rate shall be inclusive of hexagonal chickenmesh at junction of concrete and brick work. Minimum width of the chicken mesh shall be 150 mm covering the brick / concrete surface equally, as directed by EIC.(Utility terrace)	Sq.m	152.71	201.93	30,836.73
63	Providing and laying average 20 mm. thick double coat Sand face/Mala cement plaster on external walls upto any height above ground level and for all shapes consisting of average 14 mm. thick backing coat of CM 1:3 (1 cement: 3 coarse sand) and average 6 mm. thick uniform grained textured finish coat using wooden Gutka, in CM 1:1 (1 cement: 1 sand),with line , level & plumb, including scaffolding, forming grooves, drip moulds, pattas, hacking RCC surface, curing etc. complete. as directed by EIC. Rate shall be inclusive of hexagonal chickenmesh at junction of concrete and brick work. Minimum width of the chicken mesh shall be 150 mm covering the brick / concrete surface equally.	Sq.m	18,063.34	297.68	53,77,095.05
64	Providing 10mm thick cement plaster in single coat on ceiling upto floor two level and finished even and smooth in (ii) Cement mortar 1:4 (1-cement :4-sand)	Sq.m	21,419.79	139.23	29,82,277.36
65	Applying two coats of acrylic putty & two coats of primer of approved brand and manufacture on new wall surface to give an even shade including thoroughly brushing the surface free from mortar dropping and other foreign matter and sand papered smooth.	Sq.m	53,193.83	40.19	21,37,860.03
66	Providing and painting internal walls with two coats of plastic emulsion paint of approved make & of shade. The rate shall include for all ladders, scaffolding and supports and including complete surface preparation, including scraping the surface off existing surface paint, loose particles and cleaning and applying primer and putty as necessary to achieve a surface in perfect line and level. Wherever necessary, POP punning or cement plastering needs to be done as per site condition, if the plastered surface has chipped off. The final finished surface should be smooth and in perfect line and level without undulations on surface. etc. complete as directed by EIC.	Sq.m	53,193.83	78.44	41,72,524.03
67	Providing, applying and finishing wall with weather proof exterior emulsion paint on wall surface (two coats) to give an required shape even shade after thoroughly brushing the surface to remove all dirt, and remains of loose powdered materials.etc complete. as directed by EIC.	Sq.m	18,063.34	113.40	20,48,382.76

68	<p>Providing and applying External texture Wall painting (with Superior quality exterior emulsion paint 100% pure acrylic, anti-carbonation water-based of approved make and manufacture on the undecorated wall surface to give an even shade including thoroughly brushing the surface free from mortar droppings and other foreign matter and sand papered smooth. The texture paint shall be of premium quality as selected and approved by architect and EIC. Cost including with one coat of texture, followed by two coats of 100% acrylic water based anti-carbonation paint conforming to IRC SP 80 as certified by National Test House, Anticarbonation properties as demonstrated by > 50 m of CO2 diffusion resistance equivalent air layer thickness, Solar Reflective Index > 100 as tested by Building Energy Performance Laboratory, Chloride ion diffusion coefficient - Nil (ASTM C 1202), Adhesion Strength to Concrete > 1.5 N/mm2 (ASTM D 4541), min 200% elongation (ASTM D 2370). The overall system should have 7 years of performance warranty, and low VOC.</p>	SQM	1.00	550.00	550.00
SUB TOTAL					2,21,41,452.91

WATER PROOFING

68	<p>Providing & laying broken white china mosaic flooring for plain and curved surfaces, comprising of 12 to 20 mm. size broken pieces of white glazed tiles laid over water proofing using cement mortar 1:3 bedding, The flooring shall be tampered to bring the mortar cream up to the surface, including rounding of the junctions and extending them upto 30 cm. along the parapet wall. The rate shall include bands, if different colour is used, any pattern or design as per drawing and direction, curing, cleaning with water and oxalic acid, etc. complete. as directed by EIC.</p>	Sq.m	4,890.00	739.89	36,18,062.10
69	<p>Providing and laying integral cement based waterproofing treatment of the agency approved by department, including preparation of surface as required for treatment of roofs, terraces etc mixing with waterproofing compound as per IS:2645, with average thickness of 115mm and minimum thickness at drain point as 65 mm. Following works are included in above item</p> <p>(i) Applying and grouting a slurry coat of neat cement using 2.75 kg/sqm. of cement admixed with proprietary water proofing compound over the RCC slab including cleaning the surface before treatment.</p> <p>(ii) Laying cement concrete using broken bricks/brick bats 25 mm to 100 mm size with 50% of cement mortar 1:4 (1 cement : 4 coarse sand) using Ready mix mortar admixed with proprietary water proofing compound over 20 mm thick layer of cement mortar of mix 1:4 (1 cement : 4 coarse sand) using Ready mix mortar admixed with proprietary water proofing compound to required slope and treating similarly the adjoining walls up to 300 mm height including rounding of junctions of walls and slabs.</p> <p>(iii) After two days of proper curing applying a second coat of cement slurry admixed with proprietary waterproofing compound.</p> <p>(iv) Finishing the surfaces with 20 mm thick jointless cement mortar of mix 1:4 (1 cement : 4 coarse sand) using Ready mix mortar admixed with proprietary water proofing compound and finally finishing the surface to receive the China Mosaic waterproofing treatment.</p> <p>(v) 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>	Sq.m	4,890.00	1,425.00	69,68,250.00
70	<p>Providing and mixing integral crystalline admixture for waterproofing treatment to RCC structures like Rafts, Retaining Walls etc. into the drum of the ready-mix truck in powder form, using integral crystalline admixture @ 0.80% by weight of cement content per cubic meter of concrete or as recommended by Manufacturer. The material shall meet the requirements as specified in ACI-212-3R-2010 i.e. by reducing permeability of concrete by more than 90% compared with control concrete as per DIN 1048 Part 5 & resistant to 16 bars hydrostatic pressure. The crystalline admixture shall be capable of self-sealing of cracks up to a width of 0.5 mm by forming insoluble microscopic needle shaped crystals through catalyst reaction with un-hydrated cement particle and moisture. It should be hydrophilic in nature, should be able to grow crystals year after year to seal microcracks. For M- 250 grade(Cement level 450 kg) (GRADE SLAB)</p>				
70.1	Admixture Dosage :- 3.6Kg/m3	KG	3,618.23	215.00	7,77,919.45

71	<p>Providing and mixing integral crystalline admixture for waterproofing treatment to RCC structures like Rafts, Retaining Walls etc. into the drum of the ready-mix truck in powder form, using integral crystalline admixture @ 0.80% by weight of cement content per cubic meter of concrete or as recommended by Manufacturer. The material shall meet the requirements as specified in ACI-212-3R-2010 i.e. by reducing permeability of concrete by more than 90% compared with control concrete as per DIN 1048 Part 5 & resistant to 16 bars hydrostatic pressure. The crystalline admixture shall be capable of self-sealing of cracks up to a width of 0.5 mm by forming insoluble microscopic needle shaped crystals through ctalyst reaction with un-hydrated cement particle and moisture. It should be hydrophilic in nature, should be able to grow crystals year after year to seal microcracks. For M- 350 grade(Cement level 500 kg) (Foundation)(RCC Wall) (RCC SLAB)</p>				
71.1	Admixture Dosage :- 4Kg/m3	KG	61,528.22	215.00	1,32,28,566.23
72	<p>Providing and applying Synthetic Rubber based Swelling Waterstop tape, 20mm x 5mm thick for construction joints treatment of RCC structure such as retaining walls and at the junctions of raft slab with the retaining walls etc. After cleaning the surface, one coat of required adhesive for swellable water stop shall be applied throughout the length of the joint. Over the primed surface Swelling Waterstop shall be placed. The waterstop conforms to the following swelling properties: Swelling percentage of swelling waterstop in clear water 1000%, concrete water 800% & salt water 300%. The work shall be carried out all complete as per manufacturer specification.</p>	RMT	4,892.91	410.00	20,06,093.10
73	<p>WET Areas - Sunk Slab, Bathroom, Kitchen, Podium, Terrace, OHT & UGT Water Proofing (Cleaning and Preparation of surface with help of wire brush or grinder, wash the slab with clean water. Remove all loose concrete, grease, oil using wire brush and scrubber. Repair and fill all cracks, joints and annular space is included) Supply and application of 2mm thick with a covergae of 3.2kg/sqm in 2 coats two-component, high flexible, elastic cementitious mortar made from cementitious binders, fine-grained selected aggregates, special admixtures and synthetic polymers in water dispersion with an elongation of 120% (DIN 53504), Static crack bridging ability of >2.5mm (EN 1062-7), Permeability to water vapour sD = 3.6 m, μ = 1800 (EN ISO 7783-1), Impermeability to water < 0.05kg/m² h0.5 (EN 1062-3), Permeability to CO₂ sDCO₂ >50m (EN 1062-6), Reaction to fire (Euroclass): E (EN 13501-1), adhesion to concrete after 28 days: 1.3N/mm² (EN 1542) when applied @ 2mm thickness (in 2 coats) on the surface prepared for waterproofing to be carried out to ensure the mechanical properties of the product with Mapenet 150. The application of the product shall be carried out after the thorough preparation of the surface which includes cleaning, crack treatment, corner joint treatment, grouting and priming primer having Colour: opalescent Speci c gravity (kg/l): 1.01 Dry solids content (%): 15 Brook field Viscosity # 1, rpm 10 (mPa-s): 20 in dilution with water {1:1}. Additionally apply fiber net for reinforcing the waterproofing membrane and with Mapenet 150 tensile strength should be complied minimum 3.2 MPa after curing. 1. Tensile Strength : 3.2 Mpa 2. Crack Bridging: 2.8 mm</p>	Sq.m	2,000.00	1,127.00	22,54,000.00

74	<p>Water Tank Plastering & Food Grade Epoxy Underground Water Tank and Overhead Water Tank -Plastering & Internal coating (Cleaning and Preparation of surface with help of wire brush or grinder, wash the slab with clean water. Remove all loose concrete, grease, oil using wire brush and scrubber. Repair and fill all cracks, joints and annular space is included) Plaster Over Waterproofing Membrane: Before application of food grade epoxy supply & application of concrete plaster on avg thickness of 15-20mm by adding water proofing compound @200 ml per bag of cement. Food Grade Epoxy: Supply and application of two-component epoxy paint made from epoxy resins and special pigments with high covering capacity for anti-acid and non-toxic coatings on concrete surfaces. Apply two coats of the product on a solid, clean substrate treated with primer (not included) with a brush, roller or by airless spray. Wait between 6 and 24 hours between each coat, according to surrounding conditions. The product must comply with the principles defined in EN 1504-2/-9 and have the following characteristics like, Abrasion resistance:(EN ISO 5470-1) <600 mg, Permeability to CO₂: (EN 1062-6) > 900 m, Permeability to water vapour: (EN ISO 7783-1-2) Class III, Resistance to thermal shock (1x): (EN 13687-5) 3.5 MPa, Taber abrasion resistance (g): 0.1; viscosity - rotor 5.</p>	Sq.m	1,252.91	828.00	10,37,409.51
SUB TOTAL					2,98,90,300.38
PAVING AND FLOOR FINISHING					
75	<p>Providing & laying machine cut & machine polished (mirror finish) 18mm - 20mm thick Granite Stone of Steel Grey /Sadarhalli / Z Brown / Brown or other approved colour at all floor & location in necessary cement mortar bedding /backing, close jointed & grouted with matching cement slurry and rounding of edges, finished to line, level,curing etc. as required, including cutting of stone slab, wastage, making cut outs, grooves wherever required, machine polishing/ hand polishing (where machine cannot have access) etc. complete all as per specifications, drawings and as directed by the Engineer in charge. Note: Top exposed surface on plan & exposed vertical finished face shall be measured for payment in Sqm.</p>				
75.1	<p>In flooring with machine polished Granite stone of size 800mm x 800mm/ 1000mm x 1000mm / (and any other size and pattern as per drawing) laid over & including 20mm thick cement mortar1:4 (1 cement : 4 coarse sand) bedding. (Using ready mix mortar) including cement slurry at 4.40 Kg/Sqm over bedding and matching slurry with white cement at 2.20 Kg/Sqm for grouting the joints.</p>	Sq.m	1,759.91	2,750.00	48,39,752.50
75.2	<p>18 mm thick one side machine polished granite stone of approved colour, shade and surface finish for Cladding/dado/riser/treads with stone slabs of various sizes in pattern including 12 mm thick 1:4 cement mortar (Using ready mix mortar) backing, fixing of 6mm (approx.) size angular stone chips to the backside of granite after applying araldite to the unpolished surface of the granite to create a surface suitable for proper bond with backing and filling the space between granite and backing with cement slurry including adequate curing etc. complete as directed and including rounding & polishing all exposed edges in semicircle / chamfering / or as per drawing & as directed.</p>	Sq.m	5,865.76	2,850.00	1,67,17,416.00

75.3	For top of dwarf walls, parapets, seat wall, planter wall etc using machine polished Granite stone of approved colour, shade & size as per drawing laid over & including 20mm thick cement mortar 1:4 (1 cement : 4 coarse sand) bedding. (Using ready mix mortar) including cement slurry at 4.40 Kg/Sqm over bedding and matching slurry with white cement at 2.20 Kg/Sqm for grouting the joints. including half round / semi circle / camfering moulding & polishing of exposed face etc complete.	Sq.m	689.28	2,800.00	19,29,993.24
76	Providing & laying at all floors & locations Homogeneous Full body Vitrified tile/ Glazed vitrified tile/ Anti Skid Vitrified tile double charge/ multi charge (Glossy /Matt/ Satin)/ approved manufacturers of sizes 600 mm X 600mm / 800mm X 800mm / 1000 mm X 1000 mm size or as per approved size and having minimum thickness 8.5 mm or as specified by approved manufacturer tiles conforming to IS:15622 having water absorption less than or equal to 0.08% (Group B I a), in flooring/ skirting/ dado/ cladding / staircase tread/ riser at all floors and location, heights/ levels and lead in approved pattern and colour, shade laid over cement mortar bedding/ backing/ adhesive backing, including cleaning and preparing the surface for bedding/backing, spreading the neat cement slurry, close jointed and grouted with matching coloured readymade cement grout and approved pigment as per manufacturer's specifications, finished to level, line, slope and plumb, cutting of tiles, wastage, making openings / cut out if necessary, final cleaning of surfaces, curing etc. all as per drawings, specifications & as directed by Engineer in charge.				
76.1	In flooring using Anti Skid Finish tiles of size 600 mm X 600 mm laid over 20 mm thick cement mortar 1:4 bedding (using ready mix mortar) and spreading neat cement slurry by using minimum cement about 2 kg/sqm prior to bedding and spreading cement paste using minimum cement of about 4.50 kg/sqm over bedding,, and including Providing and laying Durafloor protector XF 3 mm thick sheet of approved make and brand over the whole vitrified tile / stone flooring area along with removing and cleaning the same before handing over without damaging the finished surface & making good the damages, if any etc and including Providing in flooring & skirting 3 mm thick and 8.5 mm deep grout line using PVC spacers for creating true alignment and gap between vitrified tile work, if shown in the drawing & the 3 mm spacer joints filled with approved cement based tile grout including all labour material, wastage complete.	Sq.m	1,541.65	1,400.00	21,58,310.00
76.2	In dado / skirting / cladding / sloped skirting laid over 12 mm thick CM 1:4 (1 cement : 4 sand, using ready mix mortar) backing, including providing grooves as per drawing on top of skirting. (Using AntiSkid vitrified tiles or Double charge vitrified tiles)	Sq.m	2,372.16	1,400.00	33,21,024.00
77	Providing and laying machine cut and machine Polished Kotah stone flooring, skirting, riser, treads at all floors, levels & location including cement mortar (using ready mix mortar) bedding / backing, close jointed & grouted with matching cement slurry and finished to line, level, curing etc. as required, including cutting of stone slab, wastage, making cut outs, wherever required, machine polishing/ hand polishing (where machine cannot have access) and including providing and laying 6 mm thick POP during construction period etc. complete all as per specifications, drawings and as directed by the Engineer in charge.				
77.1	In flooring with mirror polished, 25 mm minimum thickness kotah stone slab of size 600mm x 600mm / 575mm x 575mm / (and any other size and pattern as per drawing) laid over bedding of 20 mm Ready mix mortar having Cement: Sand (1:4)	Sq.m	2,386.02	982.83	23,45,052.04

77.2	Polished Kotah stone of approved colour, shade and surface finish for cladding/ dado/skirting/ /Facia/Window Sill/riser/treads with stone slabs of various sizes in pattern including 12 mm thick 1:4 cement mortar (Using ready mix mortar) backing, fixing of 6mm (approx.) size angular stone chips to the backside of Kotah stone after applying araldite to the unpolished surface of the Kota stone to create a surface suitable for proper bond with backing and filling the space between Kota stone and backing with cement slurry including adequate curing etc. complete as directed and including rounding & polishing all exposed edges in semicircle / chamfering / or as per drawing & as directed.	Sq.m	22.96	1,058.00	24,291.68
78	Providing and laying Riverwash finish Dark grey / Steel Grey /Adhunik/ Any other approved color Granite stone flooring / Coping in required size, design and patterns, in linear as well as curvilinear portions all complete as per the architectural drawings with 30 mm thick stone slab over 20 mm (average) thick base of cement mortar 1:4 (1 cement : 4 Coarse sand), portions butt jointed or with 5-8 mm gap as per design and drawing in 1:2 (cement : fine sand) and pointing full depth (flushed) or struck pointed as per design and drawing with white cement slurry admixed with pigment of matching shade including rubbing, pointing, curing, polishing, moulding/ chamfering at edges and final scrubbing using mechanical/ manual means to achieve clean surface etc. all complete as specified and as directed by the Engineer-in-Charge. Including Minimum 2 mockups for approval, complete for finished item of work. Wax polishing is strictly not allowed.	Sq.m	18,248.80	3,451.00	6,29,76,608.80
79	Providing and laying Riverwash finish Dark grey / Steel Grey /Adhunik/ Any other approved color Granite stone flooring / Coping in required size, design and patterns, in linear as well as curvilinear portions all complete as per the architectural drawings with 18-20 mm thick stone slab over 20 mm (average) thick base of cement mortar 1:4 (1 cement : 4 Coarse sand), portions butt jointed or with 5-8 mm gap as per design and drawing in 1:2 (cement : fine sand) and pointing full depth (flushed) or struck pointed as per design and drawing with white cement slurry admixed with pigment of matching shade including rubbing, pointing, curing, polishing, moulding/ chamfering at edges and final scrubbing using mechanical/ manual means to achieve clean surface etc. all complete as specified and as directed by the Engineer-in-Charge. Including Minimum 2 mockups for approval, complete for finished item of work. Wax polishing is strictly not allowed.	Sq.m	582.95	2,900.00	16,90,555.00
80	Providing and fixing Pre cast Kerb blocks of various types (Half Batter, Bull nose, Flat, offset, Transition, Dropper, etc..) and size of 600x450x150mm steel mould Vacuum wet pressed for connecting roads, pathway-promenade area and other area with true line & level, including grading, geometrical shapes in curves, circles etc. at respective finish level etc. completed as specified in drawing and specification. It shall be of CC- M25 grade of concrete and fitted and jointed in C:M 1:1 with thoroughly curing, rendering with cement slurry, cleaning the joints neatly etc. completed as directed by EIC. It allows to satisfy respective IS-codes for materials, manufacturing process and test results.	Rmt	2,875.38	1,762.00	50,66,412.51
81	Providing and fixing 80 mm thick (min.) factory made paver blocks of specified finish (shot blasted), approved make and colour, shade, size, shape laid in pattern manufactured with cement concrete grade not less than M-40 and conforming to IS:15658, including providing & laying 20 mm thick bedding of cement mortar (using ready mix mortar having cement: sand, 1:4) finishing to line, level and slope, finally filling the joints with matching cement mortar and cleaning the surface etc. complete all as per specification and as directed by the Engineer- in- Charge.	Sqm	9,083.61	1,400.00	1,27,17,058.20

82	Flooring with Cobble stone of approx. Size 100x100x100 mm (thick) laid on 25 mm average thick cement mortar 1:3 (1 cement : 3 Coarse sand) and jointed with grey cement slurry mixed with pigment to match the shade of the stone, laid in approved pattern, approved colors complete in all respect as per direction of Engineer-in-charge.	Sqm	50.00	1,822.00	91,100.00
83	Providing and fixing 60 mm thick (min.) factory made paver blocks of specified finish (shot blasted, pneumatic compressed), approved make and colour, shade, size, shape laid in pattern manufactured with cement concrete grade not less than M-35 and conforming to IS:15658, including providing & laying 20 mm thick bedding of cement mortar (using ready mix mortar having cement: sand, 1:4) finishing to line, level and slope, finally filling the joints with matching cement mortar and cleaning the surface etc. complete all as per specification and as directed by the Engineer- in-Charge.	SQm	1,019.00	1,250.00	12,73,750.00
84	Providing & laying machine cut machine polished natural stones as mentioned for the followings for kitchen / Basin platform topping, counter topping and facia over and including necessary cement mortar for backing / bedding, close jointed and grouted with matching cement slurry and finished to line, slope, level, plumb, curing etc, as required including cutting of stone slabs, wastages, making cut outs wherever required etc all as per specifications and as directed by the Engineer in charge. Notes : 1) Verticals, shelves, platform shall be embedded minimum 25 mm in wall/ flooring. 2) Top exposed surface on plan & exposed vertical finished face shall be measured for payment in sqm.				
84.1	For kitchen / Basin platform top, Vertical support for Counter, upto 750 mm wide and maximum length upto 1.80 m in single piece consisting machine cut machine polished 35 mm thick cuddappah stone at bottom and mirror polished machine cut 18mm thick Jet black/ approved Granite stone at top fixed with 47 mm thick 1:3 cement mortar (Using ready mix mortar), between two stone slabs (Double stone slab sandwich type) including providing cut out if any, moulding and polishing the edges etc complete.	SQM	49.61	5,449.00	2,70,324.89
84.2	For kitchen platform horizontal & vertical facia upto 100 mm wide machine cut machine polished on one side 18 mm thick Jet black/ approved Granite stone fixed with epoxy resin base (Araldite adhesive orequivalent) including round moulding and polishing the edges etc complete.	SQM	30.00	3,797.00	1,13,910.00
85	Providing and laying 30 mm thick (without pattern thickness) all type of tactile pattern stone with textured finish as a warning stone of required size and pattern, depth of pattern shall be as per standard of vision impaired persons (minimum 8mm above) in any colours and shades in for outdoor floors such as footpath, atrium, terrace location etc., laid on 30mm (average) thick base of cement mortar 1:4 (1 cement : 4 coarse sand) in all shapes and patterns including grouting the joints with white cement mixed with matching pigments etc. complete as per direction and approval of EIC. (RATE ONLY ITEM)	Sqm	1.00	5,219.72	5,219.72
SUB TOTAL					11,55,40,778.58

False Ceiling

86	<p>Providing & Fixing M/F Suspended Plain Gypsum Ceiling which includes 20x28x30x0.5mm Perimeter Channel {Material-GI(IS513), YS-300Mpa, Finish-Galvanised 150GSM(IS 277)} is fixed along the perimeter of existing wall/ partition with the help of suitable HPS - 1 (6x40) impact anchor / PVC Anchor (6x40) at 600mm c/c for the brick wall, at 600mm centres. 25x10x0.5mm Ceiling Angle {Material-GI(IS513), YS-300Mpa, Finish-Galvanised 150GSM(IS 277)} is suspended at up to 1.5m height by fixing it to the 27x37x25x1.6mm Gyproc® soffit clip {Material-GI(IS513), YS-300Mpa, Finish-Galvanised 150GSM(IS 277)} with Soffit Cleat and or Rawl Plug- Ø8x45mm {Material-IS 513 CR2 grade, Zinc coating (7 to 8 microns) Pull Out Load- 7.5kN for M30 concrete grade} creating 1220mm x 1220mm grid. 15x45x15x0.9mm Intermediate channel {Material-GI(IS513), YS-300Mpa, Finish-Galvanised 150GSM(IS 277)} is fixed to the 25x10x0.5mm Ceiling Angle with M6 x 12mm Hex Bolt & Hex Nut arrangement {Material-As per EN 10083 Finish – Zinc Plating} or with 2 Nos of Ø4.2x13 metal to metal screw {Material-Carbon steel EN-ISO 7049/50 Finish- Zinc Coating Thickness- 4.14micron.} The 80x26x0.5mm Ceiling Section {Material-GI(IS513),YS-300Mpa,Finish-Galvanised 150GSM(IS 277)} is then fixed to the 15x45x15x0.9mm Intermediate Channel {MaterialGI(IS513),YS-300Mpa,Finish-Galvanised 150GSM(IS 277)} with the help of Ø 2.64mm Connecting Clip {Material-High carbon spring steel wire (BS970Gr.En42)-46-48HRC,Finish-Zinc plating 4-6 micron} and in direction perpendicular to the Intermediate channel at 457mm c/c. Single-layer of 12.5mm thick Plain (conforming to IS 2095 Part 1: 2011, ISI Mark Certified, International EPD Verified) of size 1219 x 1829mm is then screw fixed to ceiling section with 25mm drywall screws {Material-Carbon steel EN-ISO 7049/50, Finish-Case hardened Grey Phosphating as per JIS G3507-1} standard at 230mm centres.Gypsum Board to be certified class 1 under BS-476 Part 5,6, & 7 & certified GreenPro by CII. Finally, square and tapered edges of the boards are to be jointed and finished to have a flush look which includes filling and finishing with Jointing Compound & Joint Paper tape. Serrated steel section has an effective thickness of 2T (2xdepth), better load carrying capacity, enhanced screw retention, Improved acoustic performance & fire resistance as compared to plain steel section. All metal components are Design Patented in India (325062). Vendor to submit MTC, material inspection report and/or performance certificate for the system. If required trap door also provided as per drawing is included. No Extra payment shall be made for the Trap Door.</p>	Sqm	995.40	978.00	9,73,501.20
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87	<p>Providing and fixing tiled false ceiling of size (600x600)mm in true horizontal level suspended on interlocking metal grid of hot dipped galvanized steel sections. It consists of main "T" runner of size 24x32x0.3x3600mm, cross "T" of size 24x25x0.3x1200mm, secondary cross "T" of size 24x25x0.3x600mm and PPGI wall angle of size 24x24x0.4x3000mm. Bottom exposed capping of width 24 mm of all T-sections shall be of 0.25mm thick PPGI. PPGI wall angle 24x24x0.4x3000mm {Material-GI(IS513), YS-280Mpa, Finish-Galvanised 90GSM (IS277)} is fixed along the perimeter of the ceiling to Walls, partitions or columns etc., with wooden screws at 300mm centers or Hilti HPS 6x40mm placed at 600 mm c/c. soffit cleat 27x37x25x1.6mm {GI(IS513) YS-260Mpa, Finish-Galvanised 120GSM (IS277)} is fixed with Rawl Plug- Ø8x45mm {Material-IS 513 CR1 grade, Zinc coating (7 to 8 microns) pull out load-6.8kN for M30 concrete grade} creating (1200x1200)mm grid. Main-T runners 24x32x0.3x3600mm are then suspended at 1200mm c/c from ceiling using 4mm zinc electroplated butterfly level clips of size 85x30x0.8mm spaced at maximum 1200mm center to center along main T and not more than 150mm from spliced joints. The last hanger at the end of each main runner should not be greater than 600mm from the adjacent wall. 24x25x0.3x1200mm cross T {Material- GI(IS513),YS-280Mpa, Finish-Galvanised 90GSM (IS277)} is interlocked between the main T at 600mm center to center to form a grid of 1200x600 mm and then secondary cross "T" 24x25x0.3x600mm {Material-GI(IS513), YS-280Mpa, Finish-Galvanised 90GSM(IS277)} is then interlocked at middle of the (1200x600)mm grid to form grids of (600x600)mm. Cross Tees at the ends having length more than 600mm are to be supported independently.Finally 12.5mm thick square edge Gypsum tile (meets requirement of specification mentioned under DAR no. 12.52.3 in Delhi Schedule of rates (DSR)), of size 595x595mm, made of Gypsum plasterboard, manufactured from natural gypsum as per IS 2095 part I and laminated with white 0.16mm thick fire retardant PVC film on the face side and 12micron metalized polyester on the back side with all edges sealed with the face side PVC film which goes around and wraps the edges and is bonded to the edges, so as to make the tile a completely sealed unit, is placed in the grid.</p>	Sqm	813.80	1,144.25	9,31,190.65
88	<p>Providing and Fixing Metal Frame Suspended Ceiling which includes Perimeter Channel of 0.50mm thick, having one flange of 20mm and another flange of 30mm and a web of 27mm, fixed along the perimeter of ceiling, screw fixed to wall/ partitions with the help of nylon sleeves and steel screws. Then suspending Intermediate Channel of 0.90mm thick, web of 45mm with two equal flanges of 15mm each from the soffit at 900mm centres with ceiling angle of 0.50mm thick, having one flange of 10mm and another flange of 25mm, fixed to soffit with the help of soffit cleat (27 x 37 x 25 x 1.6mm), Ø12 x 45mm Metal Anchor Fasteners (Rawl Plugs) and M6 Bolt Nut (6 x 12mm). Ceiling Section of 0.50mm thick, having a web of 53mm (80mm overall width of the profile) with two equal flanges of 26mm each and equal lips of 10.5mm each are then fixed to the Intermediate Channel and in direction perpendicular to the Intermediate Channel at 488mm c/c(max) with GI connecting clips (wire diameter of 2.64mm). Additional members shall also be provided to support the plank joints, as per site conditions.</p>				

88.1	6mm Fibre Cement Board (conforming to IS 14862: Type B- Category 3; Density >1200Kg/m3; MOR at EMC >10MPa and MOR in Wet Condition >7MPa; with Fire property classification as non-combustible, Class A and A2-s1-d0, when tested in accordance to BS 476, ASTM E84 - 18B and EN13501: Part 1, respectively) and 9mm Everest Heavy Duty Fibre Cement Board (conforming to IS 14862; Type A - Category 4 Density >1450Kg/m3, MOR in wet condition >14MPa, Class A and A1, when tested in accordance to BS 476, ASTM E84 - 18B and EN1350: Part 1, respectively), as substrate and finished ceiling board, shall then be screw fixed to the bottom of the ceiling section with 25mm and 35mm Everest self-tapping self-drilling countersunk screws, respectively. Screw fixing of the substrate board and the Heavy Duty Board shall be at 300mm c/c (max). The joints of the boards shall be staggered to avoid through joints. The exposed Everest Heavy Duty Fibre Cement Board shall be screw fixed with desired grove finish as per the specification.	Sqft	50,181.35	95.00	47,67,228.25
89	Providing and Fixing in position, Acoustic micro perforated metal ceiling clouds made of aluminium Sheet (exposed side powder-coated) of size as per drawing have NRC better than 0.85 on both side, Micro holes dia. 0.04 - 0.08mm, water resistant, no back material, warranty 25 years, electromagnetic immunity – 40% than general aluminium, dust proof, incombustibility Class A, Acid/ Alkali resist water tolerant, Non-toxic recyclable install with required hanging system. All material to be approved by the architect & EIC prior to installation. The design, color and shape of the panel shall be approved by the architect & EIC. Complete with hanging arrangement to suspend from the main ceiling/slab. Installation system as per vendor specification and to be approved by architect & EIC prior to installation. All Makes and models of all items/samples should be approved by the Architect and Engineer in charge prior to the installation.	Sqm	1,350.00	5,277.55	71,24,692.50
SUB TOTAL					1,37,96,612.60
DOORS & WINDOWS					
90	Aluminium Framed Doors with Floor Spring				
	Design, Fabrication, Supply, Installation, Testing, Protection, Cleaning & Handover Single shutter aluminium framed door opening outward system to withstand the design wind pressure. The system shall have a Wool pile weather sealing at periphery of Door Frame. The profile system is in line with the tender drawing & minimum of 1.8 mm thickness.				
	Design, Fabrication, Supply, Installation, Protection, Cleaning & Handover Single leaf double swing Frame door made out of 12mm thick fully tempered (FT) glass with PT series patch fittings, Door lock and BTS 80, 90 deg with EN 1-4 spring capacity floor spring. Floor spring covers shall be SS satin finish, as per the Architect's approved shop drawings.				
	The extruded aluminium sections of Alloy 6063 T5 / T6 & tolerances confirming to DIN / EN standard from approved extruder. The structural profiles shall have minimum 1.8mm wall thickness. All the visible surfaces shall have high Durability (Akzonobel) / Super durable (Jotun) Powder coating of 60 - 80 micron confirming to AAMA 2604. The non visible aluminium surfaces shall have minimum chromating treatment.				
	All Material Make / Vendor list / Supplier list shall be as per tender specification.				
	All shade approval shall be as per Architect's Approval.				
	The quote rate shall include all Design & shop drawing approval from architect & consultant.				
	Aluminium framed door system with glass				
	Quote rate for complete system as mentioned above under item (B).				
	Aluminium Framed Single Swing Doors:- Double Shutter (Size :- 1610 mm (W) x 2400mm (H)	NOS	18.00	51,850.00	9,33,300.00

	Aluminium Framed Single Swing Doors:- Double Shutter (Size :- 1425 mm (W) x 2400mm (H)	NOS	18.00	46,200.00	8,31,600.00
	Aluminium Framed Single Swing Doors:- Double Shutter (Size :- 1500 mm (W) x 2400mm (H)	NOS	36.00	48,600.00	17,49,600.00
	Vision Glass:- 12mm Thk.:- Providing and fixing glass:-				
	Glass:-12mm thk. (12mm thk. Clear tempered glass) (As per Client / Architect Approval sample).	Sqm	261.00	1,800.00	4,69,800.00
91	Spider Canopy with Laminated glass on SS Support Above Door.				
	Shop Drawing, Fabrication, Supply, Installation, Testing, Protection, Cleaning & Handover of SS316 Support canopy with spider system of DORMA / OZONE custom Shop Drawing with stand the Shop Drawing, wind pressure confirming to IS -875 part III. (The system must pass the proof test at 1.5 times Shop Drawing, wind pressure without any failure) with weather sealants, backer rod, Bracketing system with Aluminium Alloy of 6005 T5 brackets Shop Drawing,ed to accommodate three dimensional movements with serrated plate and serrated washers, SS 316 grade fasteners & Anchor Fasteners, nylon separators to prevent bi-metallic contacts, all complete required to perform as per specification and drawing in conjunction with BOQ.All SS members-Grade 316 With satin finish inline with architect requirement.				
	The stainless steel spider system of Grade 316, supported on SS structure, all inline with the tender drgs. All the weather sealants shall be non staining of approved make, Stainless steel spider system of grade 316 with Articulated bolt assembly, with SS 316 grade fasteners and anchor bolts of approved make, Teflon/ nylon bushes & separators to prevent bi-metallic contacts, all in complete required to perform as per specification and drawing in conjunction with BOQ.				
	Shop Drawing, Fabrication, Supply and install required prefabricated grid on to the SS Steel portal with full Welded of as recommended by approved supplier to support given Shop Drawing, loads. The brackets shall have provision movement to accommodate the construction tolerances . Use of SS316 brackets with washers to prevent wind direction movement after final position.				
	All Material Make / Vendor list / Supplier list shall be as per tender specification.				
	All shade approval shall be as per Architect's Approval.				
	The quote rate shall include all design & shop drawing approval from architect & consultant.				
91.1	Quote rate as mentioned above under item (D) with Laminated Glass.				
	17.52mm Laminated glass :- (8mm Clear FT Glass + 1.52mm Clear SGP Kuraray Lamination + 8mm Clear FT Glass)	Sqm	19.00	13,500.00	2,56,500.00
91.2	Quote rate for complete SS works as mentioned in item (D).	Ton	19.00	1,80,000.00	34,20,000.00
92	Aluminium Framed Doors with AHPL and Floor Spring.				
	Design, Fabrication, Supply, Installation, Protection, Cleaning & Handover Single leaf, double swing Aluminium Frame door System, The system shall have a wool pile weather sealing all side door frames. The profile system is in line with the tender drawing & minimum of 1.8 mm thickness. Patch fittings, Door lock and BTS 80, 90 deg with EN 1-4 spring capacity floor spring. Floor spring covers shall be SS satin finish, as per the Architect's approved shop drawings.				

	The extruded aluminium sections of Alloy 6063 T5 / T6 & tolerances conforming to DIN / EN standard from approved extruder. The structural profiles shall have minimum 1.8mm wall thickness. All the visible surfaces shall have high Durability (Akzonobel) / Super durable (Jotun) Powder coating of 60 - 80 micron confirming to AAMA 2604. The non visible aluminium surfaces shall have minimum chromatizing treatment.				
	All Material Make / Vendor list / Supplier list shall be as per tender specification.				
	All shade approval shall be as per Architect's Approval.				
	The quote rate shall include all Design & shop drawing approval from architect & consultant.				
	Aluminium framed door system with glass.				
92.1	Quote rate for complete system as mentioned above under item (E)				
	Aluminium HMPS Framed Single Swing Doors:- Double Shutter (Size :- 1000mm (W) x 2400mm (H))	NOS	18.00	32,500.00	5,85,000.00
	Aluminium HMPS Framed Single Swing Doors:- Double Shutter (Size :- 1000mm (W) x 2100mm (H))	NOS	72.00	28,500.00	20,52,000.00
	Aluminium HMPS Framed Single Swing Doors:- Double Shutter (Size :- 1200mm (W) x 2400mm (H))	NOS	12.00	39,000.00	4,68,000.00
92.2	Quote rate for complete system as mentioned above under (E) Including 6mm thick (AHPL) aluminium high-pressure laminate of a thick fire-retardant (FR) grade mineral-filled thermoplastic inorganic core of grade B sandwiched between two thin coil PVDF coated aluminium sheets (Top i.e. face #1 & rear, i.e. face #2) of Alloy Grade 3003 and H-16 temper and minimum thickness of 0.5mm each as specified in the nomenclature of item. The HPL fire retardant core of B grade	Sqm	687.00	4,200.00	28,85,400.00
93	Supplying & fixing in position the following type solid core block board flush door shutter (Single/ double leaf) with commercial ply facing / prelamination on both sides conforming to IS 2202 (Part-1) of approved make & brand with external / internal type second class teak wood lipping around of required width and depth (20 minimum thickness all around) of shutter as per IS/as specified, fixing shutters in position to HMPS door frames/ wooden frames/ granite frame works (door frames shall be paid separately under relevant item) at all floors by cutting/ planing if necessary including labour for fixing of the fittings & fixtures as per drawing with wooden packing pieces if necessary (but excluding the cost of fittings and fixtures with SS screws which shall be paid separately under relevant item), including view panel wherever required as per drawing, finishing as specified all as per specifications, drawings and as directed by Engineer In Charge.				
93.1	30 mm thick flush door shutter (for shaft doors), With 1.0 mm thick decorative laminate sheet of approved colour, pattern & shade fixed on one face of shutter and 1.0 mm thick white / off white lamination on another face.	Sqm	459.00	3,100.00	14,22,900.00

94	<p>Providing & fixing Hollow Metal Pressed steel (HMPS) door frames of following profile fabricated out of 1.60 mm thick G.I sheet of coating (Class VIII of zinc coating) 120 gram/sqm, manufactured by Sail / Lloyds/ Jindal or equivalent of profiles / size generally conforming to IS 4351-2003 with suitable one/two set rebates for fixing shutters and also rebate suitable for fixing fixed glazing including hole for self tapping screws wherever shown in the drawing, each frame to contain hinge jamb, lock jamb and head all rigidly fixed together with welded /mechanical joints with back plates /angles to correct shape & angles including providing and fixing base ties with GI channel 50x25mm, 1.25mm thick suitable section to suit floor thickness / angle thresholds with MS angle 25x25x3mm, 6nos. of adjustable lugs per frame, providing and welding of 40x40x5mm,150mm long angle cleats for hinges with necessary tapped holes for fixing counter sunk headed machine screws to suit heavy duty oxidised / stainless steel hinges of size 125mm x 65mm x 2.8mm/125mm x 76mm x 2.80mm/ 100mm x59mm x2.6mm/75mm x 48mm x 2.45mm or shop type welding and self taping screw for fixing hinges/ piano hinges etc.</p> <p>and finishing the same to smooth etc. (but excluding the cost of hinges which shall be paid under the relevant item) including providing each door frame with necessary lock strike plates, mortar guards, buffers, bushes etc. required for tower bolt/ baby latches, tadis, safety chains, aldrops etc including fixing the frame to brickwork/ concrete work with necessary PCCor bolted/ screwed to concrete work, painting a shop coat of polyurethane paint including etching the surface with ETCH primer etc.</p>	rmt	1,317.96	900.00	11,86,164.00
	<p>including painting the exposed surfaces with two coats of synthetic enamel paint of approved make and colour over a coat of red oxide/ zinc chromate primer and painting the unexposed surfaces with two coats of anti corrosive bituminous paint, after rectifying the damaged PU primer due to transport including filling the hollows of door frame with C.C.1:2:4 using 12 mm size downgraded stone aggregate, curing, finishing etc. all complete as per drawings, specifications and as directed by Engineer in charge.</p> <p>Note: The quoted rate shall include cost of base tie / angle and all accessories mentioned in the item description except iron mongeries (i.e. fittings and fixtures with wood and machine/ self taped screws as required, which shall be measured and paid separately under relevant item.)</p> <p>Profile 90mm x 60 mm with single rebate for doors.</p>				
95	<p>Steel Fire Rated Doors with HMPS Steel Frames. Fire Resistant Door (FRD) assembly having 120 minutes (2 hr) Fire rating, Metallic and conforming to IS 3614:2021 (Single / Double leaf Shutter)</p> <p>Providing and fixing factory made Fire rated door assembly of galvanised Iron Steel door frame with mettalic single / double leaf door shutter with accessories, the entire door assembly including shutter, frame and fittings shall be confirming to 1200 minutes (2 hr) fire rating as per IS 3614.</p> <p>Frame:- The door frame shall be made of minimum 1.20 mm thick GI Sheet with minimum 120 GSM coating as per IS:277. The frame shall be of grooved profile of minimum size 90 × 60 mm with inbuilt sealing system to take appropriate fire rated smoke seal. Frame shall be provided with appropriate reinforcement suitable for hardware and flush fixing. Frames shall be provided with stiffener pieces and mitred cut joints (self tab/screwed assembled at site). Fire rated EPDM smoke seal, conforming to IS 3614 : 2021 shall be fixed within the inbuilt groove or stuck with adhesive on the entire perimeter of the frame.</p>	Sq.m	453.60	20,200.00	91,62,720.00

	<p>Door frames shall be fixed to all round the opening with minimum 8 mm dia CSK headed fastner of minimum 80 mm long with 8mm dia Polyamide sleeves @ 3 Nos at each side.</p> <p>Finishing: Frame to be factory finished with polyester powder coating of minimum thickness of 30 microns (500 hrs salt spray test) of approved colour and shade all complete as per manufacturer's Specification and direction of the engineer in charge.</p> <p>Door Shutter: The factory made fire resistant mettalic door leaf shall be minimum 60 mm thick fully flush double skin step design door, insulated with or without vision. Door leaf shall be manufactured from 1.2 mm (18guage) minimum thick galvanised steel sheet. The internal construction of the door should be rigid reinforcement pads for receiving appropriate hardware. The infill material shall not be less than be 120kg/m3 high density mineral wool insulation material. Intumescent seals 15 x 1.5mm to be provided. All ISI labelled doors shall be factory prepped for receiving appropriate hardware and provided with necessary reinforcement for hinges, locks, and door closers panic bar etc. The edges should be interlocked with a bending radius of 1.4mm. For pair of doors integrated astragals has to be provided on the meeting stile for both active and inactive leaf. Vision lite wherever applicable shall be maximum 200 x 450mm with clear borosilicate fire rated glass of 6mm. Glass shall be fixed with suitable gasket and with clip-on arrangement.</p> <p>The door leaf shall be factory finished with polyester powder coating of minimum thickness of 30 microns (500 hours of salt spray test) of approved colour and shade all complete as per manufacture's Specification and as per the directions of Engineer - in- charge.</p>				
	<p>Accessories Hardware: Fire doorset shall include all accessories like, Fire rated SS 304 grade ball bearing type hinges of minimum size 100 mm x75 mm x 3 mm one (3 numbers per leaf upto 2100 mm height or as per test evidence), one number fire rated SS mortise lock with handle, fire rated door closer</p> <p>Installation: Post installation hollow space within door frame shall be filled with fire rated self-extinguishing type polyurethane foam. Rate shall include for supply and installation of complete door assembly, by the manufacturer. (All mechanical and functional hardware like hinges, lever handles, door closers with 120 minutes fire rating are to be used on doors and must conform to relevant IS 3614 : 2021.</p> <p>all as per manufacturer's specification and providing Fire Resistant certification (manufacturing & installation) as required by local fire statutory authority shall be furnished by manufacturer of Door assembly (Frame, Shutter, fitting) and all cutting/ planning if necessary, labour for fixing the fittings and fixtures with suitable packing if necessary including providing and fixing 120 minutes (2 hr) fire rated approved powder coated steel door set etc. all complete all as per specifications, drawings & as directed by Engineer in charge.</p>				
96	<p>Providing and fixing 12 mm thick frameless toughened glass door shutter of approved brand and manufacture, including providing and fixing top & bottom pivot & double acting hydraulic floor spring type fixing arrangement and making necessary holes etc. for fixing required door fittings, all complete as per direction of Engineer-in-charge.</p>	SQM	1.00	4,500.00	4,500.00
97	<p>Providing and fixing aluminium die cast body tubular type universal hydraulic door closer of approved make conforming to IS: 3564 with ISI mark including necessary accessories and screws etc for fixing with aluminium/ wooden/ steel doors with necessary bolts & nuts, labour, scaffolding etc complete all as per specifications and as directed by the Engineer-in-charge.</p>	NOS	207.00	1,250.00	2,58,750.00

98	Providing, fixing & Supplying at site of work approved quality and manufacturer, confirmed & marked with relevant IS (wherever applicable), Stainless steel (SS-304) fittings, fixtures and fastenings along with Stainless steel screws/concealed SS screws, bolts, nuts, washers, wooden packing pieces if necessary etc. and other accessories etc complete all as per specifications and as directed by the Engineer-in-Charge. SS But hinges (Heavy Weight) of size (100 X 75 X 3.0 mm) , ball bearing type, (Two / Three leaf Hinges)	NOS	621.00	220.00	1,36,620.00
99	Providing, fixing & Supplying at site of work approved quality and manufacturer, confirmed & marked with relevant IS (wherever applicable), Stainless steel (SS-304) fittings, fixtures and fastenings along with Stainless steel screws/concealed SS screws, bolts, nuts, washers, wooden packing pieces if necessary etc. and other accessories etc complete all as per specifications and as directed by the Engineer-in-Charge. S. S. Tower bolt 300 mm long x 12 mm barrel	NOS	381.00	330.00	1,25,730.00
100	Providing, supplying, fixing approved make back to back stainless steel Handle-450 mm long (Set including a pair of handles), of minimum 25 mm dia, including accessories for fixing it to glass, aluminium, wood shutter, brackets etc. complete as directed by EIC. (Note:- Cost is for one set consists of two nos of handles to fix on shutter both side (Inside & Outside))	NOS	174.00	3,400.00	5,91,600.00
101	GRAB HANDLE FOR ADA TOILETS: Providing & fixing 25 mm diameter (1.5mm thick) SS 304 satin (brush) finish Grab handle for disabled toilet door of 600mm long of approved make with necessary SS 304 grade screws etc. complete as per drawing as sample approved by Engineer-in-charge	NOS	18.00	1,000.00	18,000.00
102	Providing & Fixing 6- lever Mortice lock of chromium plated SS-304 parts & body of approved brand & make, 200 mm Mortice latch & lock (without Handle Set) Lock Body CK mortice lock with chromium plated SS screws, with duplicate keys etc. lock shall be fitted as per manufacturer specification and as directed by Engineer in charge.	NOS	10.00	600.00	6,000.00
103	Providing and fixing Mortise shaft dead bolt with key (Alen Key lock) with 57mm backset and 25mm square forend in stainless steel satin finish of approved make including all labour, material etc complete all as per specifications and as directed by the Engineer-in-Charge.	NOS	207.00	400.00	82,800.00
104	Providing, supplying, fixing glass to glass 6 lever SS patch lock (Round type) of approved make on glass for doors complete as per drawing. Frameless Swing Doors (Patch Fitting Doors)	NOS	1.00	750.00	750.00
105	Providing and fixing double action hydraulic floor spring of approved brand and manufacture having ISI mark as IS : 6315, having brand logo embossed on the body / plate with double spring mechanism for doors, including cost of cutting floors, embedding in floors as required and making good the same matching to the existing floor finishing and having minimum 1.25 mm thickness stainless steel cover plates with brass pivot and single piece M.S. sheet outer box with slide plate, and other accessories required for the works to facilitate smooth operation of the door shutter etc complete all as per specifications and as directed by the Engineer-in-charge.	NOS	1.00	4,350.00	4,350.00

106	<p>Sliding Windows: Providing, supply, fabrication, installing, fixing, testing, cleaning, protection and handing over the Sliding window system, at all levels, locations, floors as per approved drawings including all labour, material, wastage, transporation, fixing in position, scaffolding etc complete all as per specifications, drawings and as directed by the Engineer-in-Charge.</p> <p>The Sliding Window system shall with stand the wind pressure of confirming to IS -875 part III. The sliding window system shall have SS-304 grade mesh Net shutter panel, drainage gutter profile at bottom track, wool pile with film for weather protection and complete sir sealing. The shutter engagement shall be minimum of 15 mm at top and bottom track to ensure stability under deflection of vertical mullions. Including providing & fixing ball bearing rollers smooth movement of shutters, flush type lock with manual opeartion, microwave cured EPDM gasket, non staining weather sealant, SS-304 grade pan head screws etc complete.</p>				
106.1	<p>Supplying and fixing in position at all floors, levels & locations, aluminium section [extruded] for aluminium sliding windows sliding as per drawing of approved manufactures with extruded sections of Jindal / Indal / Aluminax or other approved equivalent sections with size and weights as shown in the drawing, for frames and shutters [including wastages if any] conforming to relevant I.S specifications, with all approved shade & colour anodised aluminium fittings and accessories, locking arrangements, 2 / 3 rollers with ball bearings for sliding shutters of approved quality all as shown in the drawing, including providing and fixing aluminium channel beading / glazing clips fixed with necessary matching anodised screws, grouting the gap with thermocole & polysulphide sealant etc. all complete generally as per drawings, specifications etc., all as directed by Engineer in charge, but excluding the cost of glazing, which will be paid separately. (The aluminium system consist of the extruded aluminium sections of alloy 6063 T5/T6 & tolerances confirming to DIN / EN standards from approved make and manufacturer.The aluminium sections shall have approved shade and colour super durable powder coating with minimum 50 micron thickness. The non visible aluminium sections shall have approved chromatizing treatment. {The weight of extruded aluminium sections only will be mesured for payment}). The quoted rate shall be inclusive for providing & fixing built in handle with locking nib/hook, dummy handle, SS locking closure plate (on frame), adjustable single roller, nylon roller, shutter end PVC cap, anti dust plugs, screw hole cap, drain cap, wool pile etc of approved make and design as per drawings.</p>	KG	30.00	620.00	18,600.00
106.2	<p>Providing and fixing following type of approved quality glass panes for aluminium sliding windows, of approved manufacturer and fixing with aluminium frame work including providing and fixing with 2 way EPDM gasketing , to ensure water and air tightness and neoprene cushions/ gasket accommodated in grooves, necessary SS-304 screws etc all complete generally as per drawings specifications and as directed by the Engineer-in-charge.</p> <p>Note:- Only clear opening of glass shall be measured for payment. (6 mm thick Single Glass Unit (SGU) using heat strengthened (HS) clear float glass of M/s. Saint Gobain ET/ST series or approved equivalent)</p>	Sqm	10.00	1,847.46	18,474.58
SUB TOTAL					2,66,89,158.58

Railing					
107	Providing & fixing stainless steel work for pipe hand rail at staircase, Entrance Ramp and other stainless works such as spool pieces, pipe sleeves etc, at all floors, levels & location conforming to SS-304 grade of steel preferably schedule-10, using SS pipe in horizontal at top, vertical, inclined including solid pipes as per drawing or as per pattern & design approved by EIC and including necessary S.S bend, tees, Embedded plates, nuts, SS bolt, necessary welding, anchoring with SS anchor fastener of M/s Hilti, grinding, buffing, polishing and fixing in concrete / wall with S.S lugs, making pockets, concreting, making good the surfaces etc. as per specifications, drawings and as directed by Engineer-in-Charge. (Note:- For payment purpose only weight of stainless steel members shall be considered excluding fixing accessories such as nuts, bolts, fasteners etc.)	KG	17,289.41	650.00	1,12,38,116.50
108	Frameless Glass Railing				
	Design, Fabrication, Supply, Installation, Testing, Protection, Cleaning & Handover 1200mm height glass (Above RCC) Railing designed to with stand the wind pressure confirming IS 875 Part III and Live load of 105 Kg/ m uniformly distributed load as per IS 875 Part II.				
	The system shall be support the glass at bottom continuous U-channel fixed on the finished floor level and vertical glass to glass open joint with top Alum. Rail. 100mm Min. Glass In-built in the U-Channel. The weather sealant of approved make, baker rod, SS 316 grade fasteners & hard setting blocks of EPDM, all in complete required to perform as per specification and drawing in conjunction with BOQ. Complete system shall be warranted for minimum 10 yrs against design & workmanship defects.				
	The extruded aluminium sections of Alloy 6063 T5 / T6 & tolerances confirming to DIN / EN standard from approved extruder. All visible surfaces shall have Anodized finish with minimum 22 micron.				
	All Material Make / Vendor list / Supplier list shall be as per tender specification.				
	All shade approval shall be as per Architect's Approval.				
	The quote rate shall include all design & shop drawing approval from architect & consultant.				
108.1	Quote rate for complete system as mentioned above under (C). Including glass For Straight Railing .				
	RAILING GLASS : 17.52mm Laminated glass (8 mm Clear HS Glass + 1.52mm thk SGP Kuraray Lamination + 8mm thk Clear HS Glass)	Sqm	1,172.00	12,500.00	1,46,50,000.00
108.2	Quote rate for complete system as mentioned above under (C). Including glass For Curved Railing .				
	RAILING GLASS : 17.52mm Laminated glass (8 mm Clear HS Glass + 1.52mm thk SGP Kuraray Lamination + 8mm thk Clear HS Glass)	Sqm	145.00	28,000.00	40,60,000.00

109	Fabricating, supply and erecting in position Standard Structural steel sections conforming to IS 2062 for all structural steel works using ISMB, ISA, ISMC, MS plate, flat, square bars, pipe, square pipe ,etc. including welding, cutting, wastage, etc. complete. The rate is inclusive of welding road, supply & fixing of correct size nut, bolts, washers, paint, with all contractor's materials, labour, tools & plants, in bolted / welded construction as directed by Engineer-in-Charge. Anticorrosive paint must be applied before applied any paint. The rate shall inclusive of providing and applying Epoxy Coating of approved shade, brand and manufacture on new structural steel work with one coat of 30 micron (DFT) of Epilux 4 Zinc Rich primer of Berger Paint India Ltd or equivalent as primer and Two coat each of 35 micron (DFT) of Epilux 84 High Gloss CR enamel of Berger Paint India Ltd or equivalent at all levels. (Total DFT is 30+35+35=100 microns). The waste cut pieces shall not be included in the paying quantity. The work shall be done as per drawing and specification. The work shall be carried out as per IS:800, IS:816 with its latest amendments.	KG	30,000.00	117.35	35,20,500.00
SUB TOTAL					3,34,68,616.50
Façade					
110	Sleek Curtain wall system With Fins At (Ground To Second Floor)				
	Design, Fabrication, Supply, Installation, Testing, protection, cleaning & handover of Conventional toggle curtainwall Sleek Blick / Lilli / Reynaers & VS1 system designed to withstand the wind pressure of confirming to IS-875 part III. (The system must pass the proof test at 1.5 times the design wind pressure without any failure). The profile system is based on capped curtainwall design and glass is held all around by mechanical pressure plate and cap with microwave cured EPDM gaskets in all four sides of glazing, with necessary brackets of Aluminium alloy of 6005 T5 / MS with HDG with three dimensional adjustment with serrations and serrated washers to arrest the wind load movement, Anchor Fasteners, screws and fasteners with non staining weather sealant and Aluminium flashing sealed all around parameter inside and outside to seal the gaps between curtain wall and the building structure all complete required to perform as per specification and drawing in conjunction with BOQ.				
	The system design shall be based on Open joint system & design shall include pressure equalization with minimum 2 barrier gaskets for improved weather performance, drainage at all floor levels, spandrel panel shall have pressure release slots on vertical side of profile system to avoid condensation. Transom shall be overlap with mullion to have proper drainage to mullion. The design to accommodate building movements, thermal expansions & the seismic movements. The system shall be designed considering surface temperatures of 80-90 deg Cel & temperature differential of 25 deg cel without creating excess stress in the system. All metal joints in the wet area shall be small joint sealant applied to ensure water tightness.				
	The system shall be designed of floor height units spanning between the floors with Dead load & wind load brackets with provision to accommodate movement at all floor levels and at every grid panel horizontally. The system shall lbe designed to accommodate vision/spandrel panel. The system shall accommodate an openable panel as per the architectural requirements in the system. All fixed vision glass and openable shall look similar in the elevation. Aluminium Edge Guard with black Anodised shall be fixed at all vertical & Horizontal grooves. Each glass panel shall be supported for dead load at the bottom of the glass with black anodised glass retainers, two per panel.				

	Flashing / Trim / Floor Closure at Parapet level, floor level, beam bottom level and required flashings shall be provided continuously with the required GI / Aluminium sheet. Internal & External cancelled Flashings shall be 1.0mm thick GI sheet. All exposed flashing shall be 1.5mm thick. Aluminium sheet with SDF coated, matching with external Aluminium profiles.				
	The extruded aluminium sections of Alloy 6063 T5 / T6 & tolerances confirming to DIN / EN standard from an approved extruder. All the visible surfaces shall have high Durability (Akzonobel) / Super durable (Jotun) Powder coating of 60 - 80 micron confirming to AAMA 2604. The non-visible aluminium surfaces shall have a minimum chromating treatment.				
	All Material Make / Vendor list / Supplier list shall be as per tender specification. .				
	All shade approval shall be as per Architect's Approval.				
	The quote rate shall include all design & shop drawing approval from architect & consultant.				
a.1	Sleek Curtain wall system				
	Quote rate for complete system as mentioned above under (A)	Sqm	9,856.87	11,000.00	10,84,25,570.00
a.1.1	Vision Glass Straight: 19mm Thk. Sentry laminated glass providing & fixing the vision glass on the system				
	8mm Thk. Clear HS Glass +3mm PVB Lamination + 8mm Thk.Reflective ET Series HS Glass (As per Client / Architect Approval sample)	Sqm	7,356.00	4,500.00	3,31,02,000.00
a.1.2	Vision Glass Curved : 19mm Thk. Laminated Glass Providing & fixing the vision glass on the system				
	8mm Thk. Clear HS Glass + 3mm PVB Lamination + 8mm Thk.Reflective ET Series HS Glass (As per Client / Architect Approval sample)	Sqm	2,241.00	11,000.00	2,46,51,000.00
a.2	Operable vent : Extra over a.1				
	Providing and fixing Top Hung Open Out (operable) vent accessories with heavy-duty self-balancing stainless steel friction hinges with provision to hold open at 250 mm. Vent locking accessories with a cremone lock and handle with a 6-point locking mechanism to keep the vent weather-tight. The vent shall comprise of Aluminium outer frame with drainage provisions and crimped corners, and a shutter frame with Euro grooves and crimped corners; all joints shall be sealed with small joint sealant. The outer frame is fixed to the unitised profile system with necessary SS screws and weather sealant applied at the outside and inside of the profile duty Super Durable Powder coating finish of 60-80 micron thickness as per the approved shade by the Architect. The stepped glass design vent shall have ceramic frit in black / colour to match the glass at the portion of the stepped unit in case of high light transmission glass to reduce banding effect in the glazing.	Sqm	216.00	6,500.00	14,04,000.00
SUB TOTAL					16,75,82,570.00
MISCELLANEOUS					
111	Providing and fixing 5mm thick various size of glass mirror on wall over 6mm thick plywood or plastic fibre base, round up mirror edge and corner from the approved make as per selection of architect and engineer in charge having basic rate as following - (Basic sqmt rate: 1940 Rs.) (This item shall be procured / provided from selection as per approved make list, data sheet and technical specifications.) (Selection as per soft furniture data sheet)	Sqm	105.46	4,496.00	4,74,148.16

112	Providing and fixing at all levels, locations and at all floors, 50 mm thick Reinforced precast Jali in C.C 1:2:4 of approved pattern, design and shape including pointing and proper joining of junctions with ready mix cement mortar including all formwork, reinforcement, finishing the surface, curing, scaffolding, hoisting, erecting & fixing in position etc complete all as per specifications and as directed by EIC.	Sqm	705.08	1,600.00	11,28,128.00
113	Providing and installing the speed breaker of PVC material with size of 250x350x50mm and/or 250x450x60mm on the cement concrete surface of the road with labour and all the necessary accessories, hexacore design, oil resistance, chemical resistance, water resistance, UV stabilized, non fading colors, with reflector tape.	NOS	15.00	1,568.53	23,527.95
114	Providing and fixing shock absorbing rubber corner guard having size 115x115mm, height 1000mm and thickness 10mm, manufactured from flexible high strength rubber, embedded with highly reflective weather resistance reflective material, tamper resistant, with black base and tape color options in yellow, white and lime.	Nos	233.00	569.00	1,32,577.00
115	Road marking with hot applied thermoplastic paints with reflectorising glass beads on bitumen surface providing and laying a hot applied thermoplastic compound 2.5 mm thick including reflectorising glass beads @ 250gms per sqm area, thickness of 2.5mm is excluding of surface applied glass beds as per IRC:35-2015. The finished surface to be level, uniform and free from streaks and holes. zebra patta /bump patta lane/center line/ edge line/cut patta. The white color marking should provide luminance coefficient on cement road shall be min 130 mcd/m2/lux and Asphalt road shall be min 100 mcd/m2/lux during the service life during the day time. The marking should meet the performance criteria for night time reflectivity, wet reflectivity and skid resistance as mentioned in the section-15 of IRC 35-2015. Warranty for the Retro reflectivity should be two years.	Sqm	417.30	307.38	1,28,269.67
116	Providing and installing outdoor convex mirror of size 600mm diameter, 130 degree viewing angle, polycarbonate construction, vandal resistant with and without MS pole.	NOS	8.00	4,242.00	33,936.00
117	Supply, Installation, Testing, Commissioning of- Electromechanical boom barrier with a 3-meter boom arm for car and 1.5mtr boom arm for bike lane, And a 0.6-second opening/closing time. Key features include a corrosion-resistant powder-coated cabinet, die-cast aluminium motor with thermal radiating and cooling fan, and 100% duty cycle with an MTBF of 10 million cycles. Safety features include manual release, obstacle reversal, auto-closing, and support for external photocell and vehicle loop detectors. The system operates on 220V/110V at 50/60Hz, with IP54 protection, a motor torque of 300Nm, and a working temperature range of 0°C to 65°C.	NOS	8.00	1,77,750.90	14,22,007.20
118	Supply, Installation, Testing, Commissioning of-Portable Cabin for the pay booth will be a compact, mobile structure with dimensions of 6 feet length, 4 feet width, and 8 feet height. It will feature a robust MS square pipe frame, sliding aluminium powder-coated windows with tinted glass, and a rainwater protection guard. Insulated with 50mm glass wool for both the ceiling and side walls, the cabin will be electrically equipped with AC 220-240V fittings, including sockets, tube lights, and a wall fan. A wooden counter with locked drawers for storage will be included, along with safety features such as earthing and synthetic primer/epoxy paint finishes. The cabin will also have special lifting hooks, vinyl flooring, along with 1-ton Split Air Conditioning unit fitted (1075 Watt) and all necessary accessories for installation and commissioning.	Nos	2.00	2,84,143.50	5,68,287.00

119	Providing and fixing in Stainless steel Floor Mounted Dustbin with dimensions and design as per Architect selection, in SS 316, Dual bins with 50 liters each having Matt / Mirror Finish including required foundation, anchor bolts and fixing details etc. completed as directed by EIC. Including Minimum 2 mockups for approval complete as per instruction of engineer in charge.	NOS	25.00	15,208.00	3,80,200.00
120	SS Support For Green Wall With SS String Design, Fabrication, Supply, Installation, Testing, Protection, Cleaning & Handover of SS 304 grade provision support for green wall as per design intent. The entire assembly shall be fixed on SS 304 grade Support grid as per design drawings. The brackets shall be SS 304 grade fixed to the building structure with necessary fasteners & anchor bolts in SS 316. Prefabricated grid SS 304 grade Support are fixed on to the RCC and concrete masonry walls with SS 316 anchor bolts as recommended by approved supplier to support given design loads. The brackets shall have provision movement to accommodate the construction tolerances with + 35mm plumb in case of RCC structure and + 20mm plumb in case of steel structure. Provision main SS 304 grade support for vertical Garden system shall be installed in line with drawing. All Material Make - Jacob. All shade approval shall be as per Architect's & EIC Approval. The quote rate shall include all design, engineering & shop drawing approval from architect, consultant & EIC.				
120.1	Rate as mentioned above under above item With 4mm thick. SS 304 grade String Vertical & Horizontal 900 c/c or as mentioned in drawings.	RMT	10,500.00	400.00	42,00,000.00
121	Entry Exit Totem Providing and fixing at location a signs I sign -display signage with 100 mm depth Aluminium extrusion Alloy 6060 as per European standards EN755-2-2008 tensile strength 190 MPa typical BHN is 70 from virgin aluminium homogeneous billet) with Premium grade Anodizing (Thickness 15- 20 microns) Flatness & Twist of profile within 1.5 mm / meter length, with 10 years warranty under normal working conditions. Media accommodation depth of 8 mm available for pasting on dual lock or strong two way adhesive. M.S fabrication slot of 65 mm depth for internal M.S structure. Media upto 6 mm thickness can be pasted or mounted with help of dual lock tape .assembled totem can be edge lite with help of edge lite modules or back lite with help of back lite modules. CosignTotem profiles screwed fixed with internal M.S structure are installed at site in plumb and level at specified location as per drawing to the satisfaction of the engineer-in-charge. Graphics to be done using printed retro reflective material. Size - 750mm * 1800mm * 100mm Mounting Type - Ground/RCC Signage - Lite/Nonlite (As per approved drawing)	NOS	2.00	97,750.00	1,95,500.00

122	<p>Speed Limit/Info sign Providing and fixing at location a sign using Modular Aluminium extrusions (Alloy 6060 as per European standards EN755-2-2008 tensile strength 190 MPa typical BHN is 70 from virgin aluminium homogeneous billet) with Premium grade Anodizing (Thickness 15-20 microns) International standards, with 10 years warranty under normal working conditions. Silver anodised aluminium 80 x 80 mm outer size (octagonal shaped) cover list anodised profile to hide screw fittings of pole and M.S structure . M.S structure of 'C' channel made by joining two 'L' angles 35x35x3 mm Pole to be screw fitted into fabrication, attached to with 50mm depth aluminium frame for media signage mounting , with media accommodation depth of 6mm , frame screw fitted at multiple position along vertical and horizontal side facing the octagonal pole. (size as per drawing) with in built slots to accommodate media (ACP, ACRYLIC, PLY etc) cover list profile used to specify left out below portion for display installed with fixbox aluminium component provided with system for Text panel fixing with pole sign to be installed at site in plumb and level at specified location as per drawing to the satisfaction of the engineer-in-charge. Graphics to be done using printed retro reflective material. Size - 460mm * 600mm (Frame) * 2400mm Pole Height Mounting Type - Ground/RCC Signage - Lite/Nonlite (As per approved drawing)</p>	NOS	2.00	28,750.00	57,500.00
123	<p>Parking Suspended Signs Providing a signs made as using Modular Aluminium extrusions (Alloy 6060 as per European standards EN755-2-2008 tensile strength 190 MPa typical BHN is 70 from virgin aluminium homogeneous billet) with Premium grade Anodizing (Thickness 15-20 microns) as per International standards, with 10 years warranty under normal working conditions. Sign is double sided 50 mm depth profile with media accommodation depth of 6 mm media of ACP acrylic upto 3 mm thickness can be pasted directly on frames or attached on frame with help of dual lock tape. Sign can be edge lite with help of edge lite led modules , led of LUCOLED make EL31 , Sign to be fitted and installed at site in plumb and level at specified location as per drawing to the satisfaction of the engineer-in-charge. Graphics to be done using printed retro reflective material. Size - 1200mm * 300mm * 50mm Mounting Type - Ceiling Suspended Signage - Lite/Nonlite (As per approved drawing)</p>	NOS	5.00	21,965.00	1,09,825.00
124	<p>Door Nameplate Sign Providing a signs made as using Modular Aluminium extrusions (Alloy 6060 as per European standards EN755-2-2008 tensile strength 190 MPa typical BHN is 70 from virgin aluminium homogeneous billet) with Premium grade Anodizing (Thickness 15-20 microns) as per International standards, with 10 years warranty under normal working conditions. Sign is single sided with 1 aluminium profile click fitted on 2 plastic moulded endcaps. Sign is including all plastic injection moulded end caps black in shade which are directly press fitted , media can be flat bed UV printed on panels/ profiles. Cosign make MPI panels fitted and installed at site in plumb and level at specified location as per drawing to the satisfaction of the engineer-in-charge. Graphics to be done using printed retro reflective material. Size - 300mm * 156mm * 12mm Mounting Type - Door/Wall Signage - Nonlite</p>	NOS	20.00	776.25	15,525.00

125	<p>Building Directory Sign Providing a signs made as using Modular Aluminium extrusions (Alloy 6060 as per European standards EN755-2-2008 tensile strength 190 MPa typical BHN is 70 from virgin aluminium homogeneous billet) with Premium grade Anodizing (Thickness 15-20 microns) as per International standards, with 10 years warranty under normal working conditions.Sign is single sided with aluminium side tracks and common click clips for panel fitting. a.Sign is including all plastic injection moulded clips black in shade which are slided in side tracks ,media can be flat bed UV printed on panels/ profiles.Cosign make MPI panels fitted and installed at site in plumb and level at specified location as per drawing to the satisfaction of the engineer-in-charge. Size - As per Drawing Mounting Type - Wall Signage - Nonlite</p>	Sqft	9.00	2,070.00	18,630.00
126	<p>Floor Directory Sign Providing a signs made as using Modular Aluminium extrusions (Alloy 6060 as per European standards EN755-2-2008 tensile strength 190 MPa typical BHN is 70 from virgin aluminium homogeneous billet) with Premium grade Anodizing (Thickness 15-20 microns) as per International standards, with 10 years warranty under normal working conditions.Sign is single sided with aluminium side tracks and common click clips for panel fitting. a.Sign is including all plastic injection moulded clips black in shade which are slided in side tracks ,media can be flat bed UV printed on panels/ profiles.Cosign make MPI panels fitted and installed at site in plumb and level at specified location as per drawing to the satisfaction of the engineer-in-charge. Size - As per Drawing Mounting Type - Wall Signage - Nonlite</p>	Sqft	30.00	2,070.00	62,100.00
127	<p>Staircase ID Sign Providing a signs made as using Modular Aluminium extrusions (Alloy 6060 as per European standards EN755-2-2008 tensile strength 190 MPa typical BHN is 70 from virgin aluminium homogeneous billet) with Premium grade Anodizing (Thickness 15-20 microns) as per International standards, with 10 years warranty under normal working conditions.Sign is single sided with 1 aluminium profile click fitted on 2 plastic moulded endcaps.Sign is including all plastic injection moulded end caps black in shade which are directly press fitted ,media can be flat bed UV printed on panels/ profiles.Cosign make MPI panels fitted and installed at site in plumb and level at specified location as per drawing to the satisfaction of the engineer-in-charge. Size - 300mm * 156mm * 12mm Mounting Type - Door/Wall Signage - Nonlite</p>	NOS	18.00	776.25	13,972.50

128	<p>Washroom Sign</p> <p>Providing a signs made as using Modular Aluminium extrusions (Alloy 6060 as per European standards EN755-2-2008 tensile strength 190 MPa typical BHN is 70 from virgin aluminium homogeneous billet) with Premium grade Anodizing (Thickness 15-20 microns) as per International standards, with 10 years warranty under normal working conditions. Sign is single sided with 1 aluminium profile click fitted on 2 plastic moulded endcaps. Sign is including all plastic injection moulded end caps black in shade which are directly press fitted ,media can be flat bed UV printed on panels/ profiles. Cosign make MPI panels fitted and installed at site in plumb and level at specified location as per drawing to the satisfaction of the engineer-in-charge. Graphics to be done using printed retro reflective material.</p> <p>Size - 200mm * 156mm * 12mm Mounting Type - Wall/Door Signage - Nonlite</p>	NOS	72.00	592.25	42,642.00
129	<p>Duct Sign</p> <p>Providing a signs made as using Modular Aluminium extrusions (Alloy 6060 as per European standards EN755-2-2008 tensile strength 190 MPa typical BHN is 70 from virgin aluminium homogeneous billet) with Premium grade Anodizing (Thickness 15-20 microns) as per International standards, with 10 years warranty under normal working conditions. Sign is single sided with 1 aluminium profile click fitted on 2 plastic moulded endcaps. Sign is including all plastic injection moulded end caps black in shade which are directly press fitted ,media can be flat bed UV printed on panels/ profiles. Cosign make MPI panels fitted and installed at site in plumb and level at specified location as per drawing to the satisfaction of the engineer-in-charge.</p> <p>Size - 156mm * 156mm * 12mm Mounting Type - Wall/Door Signage - Nonlite</p>	NOS	180.00	476.10	85,698.00
130	<p>Lift Number Sign</p> <p>Providing a signs made as using Modular Aluminium extrusions (Alloy 6060 as per European standards EN755-2-2008 tensile strength 190 MPa typical BHN is 70 from virgin aluminium homogeneous billet) with Premium grade Anodizing (Thickness 15-20 microns) as per International standards, with 10 years warranty under normal working conditions. Sign is single sided with 1 aluminium profile click fitted on 2 plastic moulded endcaps. Sign is including all plastic injection moulded end caps black in shade which are directly press fitted ,media can be flat bed UV printed on panels/ profiles. Cosign make MPI panels fitted and installed at site in plumb and level at specified location as per drawing to the satisfaction of the engineer-in-charge. Graphics to be done using printed retro reflective material.</p> <p>Size - 200mm * 156mm * 12mm Mounting Type - Wall/Door Signage - Nonlite</p>	NOS	60.00	592.25	35,535.00

131	<p>Lift in case of fire use stair Providing sign of Modular Aluminium extrusions (Alloy 6060 as per European standards EN755-2-2008 tensile strength 190 MPa typical BHN is 70 from virgin aluminium homogeneous billet) with premium grade anodizing (Thickness 15-20 microns) as peinternational standards, with 10 years warranty under normal working conditions. Profile to form frame with overall depth of 10 mm with media of thickness upto 3mm. 2 mm thick acrylic/ACP . I-sign Fix profile of Cosign make with M.S zinc coated corners with grub screws. Installed at site in plumb and level at specified location as per drawing to the satisfaction of the engineer-in-charge. Graphics to be done using printed auto glow material. Size - 250mm * 150mm * 10mm Mounting Type - Wall Signage - Photoluminescent</p>	NOS	48.00	807.30	38,750.40
132	<p>Fire extinguisher Sign Providing sign of Modular Aluminium extrusions (Alloy 6060 as per European standards EN755-2-2008 tensile strength 190 MPa typical BHN is 70 from virgin aluminium homogeneous billet) with premium grade anodizing (Thickness 15-20 microns) as peinternational standards, with 10 years warranty under normal working conditions. Profile to form frame with overall depth of 10 mm with media of thickness upto 3mm. 2 mm thick acrylic/ACP . I-sign Fix profile of Cosign make with M.S zinc coated corners with grub screws. Installed at site in plumb and level at specified location as per drawing to the satisfaction of the engineer-in-charge. Graphics to be done using printed auto glow material. Size - 300mm * 150mm * 10mm Mounting Type - Wall Signage - Photoluminescent</p>	NOS	100.00	917.70	91,770.00
133	<p>Emergency Exit Sign Providing ready sign & fixing at location a Cosign make emergency exit sign- illuminated, surface mount (wall or ceiling) Dual sided made up of plastic material , battery backup of 3 hours (180 mins) .Battery life of 300 cycles of charge & discharge Li- ion battery 3.7 Volt, 100 mA, Charge time of 24 hours. Input voltage 220-240 Volt A.C, 50/60 Hz. Viewing distance 30 meter, degree of protection IP20 (rating for protection against solid object upto 12 mm) white light colour full back (white colour) LED illumination with green white coloured graphic inserted on both sides on 0.4 mm PC (sizes, texts, symbols or graphics as per standard safety norms & regulations) graphic options of -left ,right, up staircase down staircase. Test facility button self test plus auto self test, operation in maintained and non maintained mode (power saver mode).Sign with 12 months warranty for electric circuit & 6 months warranty for battery. Sign provided with dual mounting arrangement of mounting on wall & ceiling both (with flat rigid support/base).Sign is including all connection wires (upto 1 mtr) & high tensile strength zinc coated self tapering screws (4 nos with screw wall plastic packing), installed at site in plumb and level at specified location as per drawing to the satisfaction of the engineer-in-charge. Size - 310mm * 225mm * 55mm Mounting Type - Ceiling Signage - Lite</p>	NOS	15.00	3,783.50	56,752.50
134	<p>Providing & fixing in position heavy quality FRP bucket (UV resistant) of below mentioned size, at all floors, levels & location having approved colour & shade, including labour, material, fixing arrangements, screw, washer, scaffolding etc complete all as per specifications, drawings & as directed by the Engineer-in-Charge.</p>				

134.1	1200mm L x 400mm B x 600 mm H, wall thickness minimum 4 mm.	NOS	435.00	8,237.29	35,83,220.34
135	Aluminium Louvers (Box Type Louvers) System: Providing, supply, fabrication, installing, fixing, testing, cleaning, protection and handing over the Aluminium box type louvers system, at all levels, locations, floors as per approved drawings including all labour, material, wastage, transportation, fixing in position, scaffolding etc complete all as per specifications, drawings and as directed by the Engineer-in-Charge. The Aluminium box type louver system shall with stand the wind pressure of confirming to IS -875 part III. The Aluminium box type louver system shall have louvers of size 100 mm X 50 mm X 2 mm thickness vertical box louvers at 100 mm c/c. Including providing & fixing Aluminium frame to support aluminium louvers, Louver profile shall be fixed at an angle (as per drawing) to form a frame, necessary MS brackets with SS-316 fastners, EPDM gasket, non staining weather sealant, SS-304 grade pan head screws etc complete.				
135.1	Supplying and fixing in position at all floors, levels & locations, aluminium section [extruded] for aluminium box type louver system as per drawing of approved manufactures with extruded sections of Jindal / Indal / Aluminax or other approved equivalent sections with size and weights as shown in the drawing [including wastages if any] conforming to relevant I.S specifications, including grouting the gap with thermocole & polysulphide sealant, providing & fixing MS brackets etc. all complete generally as per drawings, specifications etc., all as directed by Engineer in charge. (The aluminium system consist of the extruded aluminium sections of alloy 6063 T5/T6 & tolerances confirming to DIN / EN standards from approved make and manufacturer. The aluminium sections shall have approved shade and colour super durable powder coating with minimum 50 micron thickness. The non visible aluminium sections shall have approved chromatizing treatment. {The weight of extruded aluminium sections only will be mesured for payment}).	KG	5,520.00	450.00	24,84,000.00
136	Providing, supply, fabrication, installing, fixing, testing, cleaning, protection and handing over the Aluminium (Z-Type) louvers system, at all floors, levels & locations, aluminium section [extruded] for aluminium Z type louver system as per drawing of approved manufactures with extruded sections of Jindal / Indal / Aluminax or other approved equivalent sections with size and weights as shown in the drawing [including wastages if any] conforming to relevant I.S specifications, including grouting the gap with thermocole & polysulphide sealant, providing & fixing MS brackets etc. all complete generally as per drawings, specifications etc., all as directed by Engineer in charge. (The aluminium system consist of the extruded aluminium sections of alloy 6063 T5/T6 & tolerances confirming to DIN / EN standards from approved make and manufacturer. The aluminium sections shall have approved shade and colour super durable powder coating with minimum 50 micron thickness. The non visible aluminium sections shall have approved chromatizing treatment. {The weight of extruded aluminium sections only will be mesured for payment}). The Aluminium Z type louver system shall with stand the wind pressure of confirming to IS -875 part III. The Aluminium Z type louver system shall have louvers of size as per drawing and thickness of Z shape louvers, fixed at fixed distance (as per drwing) to aluminium frame, louver profile to be fixed on 3 mm thick aluminium flat to form a frame, the louver frame is supported on the aluminium box frame including providing & fixing SS-316 fastners, necessary MS brackets with SS-316 fastners, EPDM gasket, non staining weather sealant, SS-304 grade pan head screws etc complete.	KG	7,619.69	450.00	34,28,860.50

137	<p>FOOD Kiosk Container – Providing, fabricating, supplying and installing in True line & level on specified level as per detailed drawings for Pre-fab Factory Made Portable Container type Food Kiosk Counter in Hot dip Galvanised Structural members and GI Sheet having size of 20' x 8' x 8' with following facilities inside of each compartment as per specifications:</p> <p>(1) Work table (Type 1) in one number of size 3910 x 600 x 925 mm or as per drawing and provision for 2 nos. under counter refrigerator to be made as per specification</p> <p>(2) Work table (Type 2) in one number of size 2340 x 600 x 925 mm or as per drawing and to be provided with 250mm height shelf under the counter top with SS supports & partitions.</p> <p>(3) 2 no's SS Sink unit & bottom pipe shelf as per drawing & 1 no SS pipe shelf mounted above sink unit on wall with SS 316; size: 1370x300 mm at 600mm from top of sink.The unit shall be fabricated with 3 openable shutter as shown in drawing.</p> <p>(4) All the preparation tables & sink tables should have 16 GA fabrication sheet at the top and the grade of steel used should be SS 316(Jindal Make).</p> <p>(5) Side wall ventilation (type-1) in one number of size 755 x 158 mm to be provided horizontally as per drawing. Unit to consist of 03 such vents separated by the structural frame of the container as indicated in drawings.</p> <p>(6) Side wall ventilation (type-2) in two numbers of size 755 x 158 mm with exhaust fan (outer size 158x158mm)of preferred make and model as per drawing.</p> <p>(7) Back wall ventilation (type -1) in three number of size 1175 x 158 mm to be provided horizontally as per drawing. Vents shall be provided from the center of the wall and separated by the structural frame of the container.</p> <p>(8) Back wall ventilation (type-2) in two numbers of size 1150 x 158 mm with exhaust fan (outer size 158 X 158 mm)of preferred make and model as per drawing. All vents to be provided from the centre of the wall separated by structural frame of the drawing. Each ventilation opening to have 50 mm wide MS plate frame projecting from the outer surface of the container on all 4 sides.</p>	NOS	12.00	17,50,000.00	2,10,00,000.00
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	<p>(9) Two service windows with flap door of size 1360 x 1025 mm at the front longer side on container. Window sill to be at 925 mm height from the container floor finish level. Each window to be fitted with 900mm height flap shutter foldable to 500mm, where the 500 mm portion serves as a counter top when open and the remaining 400 mm folds back anchored to the container. Features include a 125 mm height perforated panel at the top, 03 hooks on the outside for counter anchoring, and 04 nos. hook and stopper for internal closing.</p> <p>(10) Main Door of size as per specification and drawing. Outside handle to be vertical D Type (minimum 450mm high and 25mm diameter) with the top fixed at 1200mm from the door bottom. Entry shall include 01 No. aldrop installed on the adjoining part and a door closer provided at a level of 900mm from the door bottom. Inside shall be provided with a mortise handle set with lever mortise lock (horizontal lock). Door must be fixed at a proper level to avoid obstruction while closing.</p> <p>(11) Flooring to be covered with PVC vinyl sheet with proper drainage for water.</p> <p>(12) Inner wall & ceiling shall be finished with Cement board including painting.</p> <p>(13) 1 no Waste Bin Trolley below Sink with size of 375mm dia & 650mm Height with wheels.</p> <p>(14) Three fans of 1200mm dia</p> <p>(15) Electrification: It is provided with 6 Nos. of LED light (15Watt) & 6 No. 25Amp. Switch & socket & on/off switch for commercial kitchen equipment, Points.</p> <p>(16) To be provided with 1 no of water tank (Sintex/equivalent Make) made of Plastic having capacity of 500 ltr. All welding joint should be TIG welded. The supplier should have manufacturing set up should be certified with EN-15085 and ISO 9001:2015 from a recognized third party agency.</p> <p>17) Supply and Fixing of mechanical foam type Fire Extinguisher conforming to IS 15683:2018 as per the required capacity of 6 liters to 9 liters.</p>				
	<p>Notes: 1) Contractor shall provide 10 years guarantee for container materials & facility inside material & accessories including 1 year defect liabilities period & 4-years M&R scope.</p> <p>2) Refer Container specifications attached in Specification Volume.</p> <p>3) Contractor shall connect all water supply and drainage services to the given point in external water and drainage network system as directed by EIC.</p> <p>4) All the ironmongery shall be as approved by architect.</p> <p>5) All structural members must be hot dip galvanised.</p> <p>6) All Furniture shall have edge banding</p> <p>7) All structural members shall be painted with 300-500 micron of Epoxy paint system with PU top coat of 50-60 micron as per manufacturer specification with 10 years guarantee.</p> <p>8) Container shall be fire proof & shock proof.</p>				
138	<p>Providing and fixing in position, at all levels & location, stainless steel (SS-304) Mosquito Net/ Wire Mesh/ Wire gauze made with 0.5 mm dia wire and 1.4 mm aperture (on both directions) including fixing, cutting, wastage, scaffolding etc. complete all as per specifications and as directed by the Engineer-in-Charge. Note:- 1) For aluminium work with aluminium beading channel. (Aluminium beading channel will be paid under relevant item).</p>	Sqm	21.00	957.00	20,097.00

139	<p>Supplying, providing, placing, installing and fixing in position in true line and level as per detail drawing approved by EIC, MODULAR TOILET PARTITIONS along with specified brand or approved equivalent of size as per detail drawings, Floor mounted including providing and fixing all accessories, fixtures, fastenings, hinges, anchorages, all hardware with approved locking arrangement as recommended by manufacturer and as approved by EIC etc. complete as directed, at all levels.</p> <p>Item description: Cubicle size - 900mm x 1550mm x 2100 mm (height is including 150 mm gap from bottom). Colour of Boards : As per the Shade card - approved by EIC. Thickness of Compact Sheet : 12mm (min.). Material: Compact Laminate in panels. Made from solid grade compact high-pressure laminate as per IS:2046 and EN438- manufactured under high specific pressure > 5 MPa and temperature 120° C with bunch of kraft papers impregnated with thermosetting phenolic resin and decorative papers made of cellulose fibre impregnated with thermosetting melamine resin which provide superior scratch, abrasion, heat, chemical, impact, graffiti & moisture resistance along with anti-bacterial properties. Panels have a black core that when machined, presents a distinctive black edge. Size of panels to be as per drawing. Door size - 1750 x 600(H X W) All doors will be of single colour and made of 12 mm thick HPL compact panel. The doors will have chamfered edges. Each door will be supported by 3 stainless steel made hinges affixed to the pilasters. Stainless steel made coat hook and Lock set (comprised of Thumb turn and occupancy indicator) are provided with each door. All the doors will be routed at the vertical ends and the rubber sponge lining will be incorporated at the routed ends. Pilaster dimension - 1830 x 300 (H X W).</p>	NOS	112.00	34,200.00	38,30,400.00
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	<p>All pilasters will be made of 12 mm thick HPL compact panel with chamfered edge and completed with stainless steel made thumb turn lock set. Pilasters will be anchored to the floor using stainless steel made adjustable legs. All pilasters will be routed at their vertical ends to facilitate closure of doors. The bottom gap is 150-100 mm.</p> <p>Dividers - 1775 x 1550 (H X W)</p> <p>All intermediate partitions or dividers will be made of 12 mm thick HPL compact laminate panels. They are affixed with stainless steel made U-channel at their ends for ultimate stability of the system.</p> <p>Hardware and Accessories Details : below mentioned all accessories – Stainless Steel - 304 Grade</p> <p>a) Adjustable Pedestal Footing of base diameter 60 mm made from Stainless steel grade 316 giving an adjustable height of 100mm to 150mm. Surface finish to be matt type.</p> <p>b) SS U -Channel</p> <p>c) SS F Channel</p> <p>d) SS Door Stopper Channel</p> <p>e) SS Top Rail with circular cross section (Diameter 32mm). Surface finish will be mirror type.</p> <p>f) SS Coat Hook with rubber stopper made from Stainless steel grade 304. Surface finish to be lacquer type.</p> <p>g) SS Privacy Thumb turn c/w Occupancy Indicator made from Stainless steel grade 304. Surface finish to be lacquer type.</p> <p>h) Round Door knob diameter 30 mm with grooves for better hand grip made from Stainless steel grade 304. Surface finish to be matt type.</p> <p>I) SS Spring Loaded Butt Hinges with Cover</p> <p>j) Anti-noise rubber padding of thickness 2 mm and width 10 mm</p> <p>k) Screws & Wall Plugs. Stainless steel grade 304 screws.</p> <p>l) Tubular panel holder made of stainless steel grade 304. Surface finish will be lacquer type.</p> <p>m) Corner joinery section made from Stainless steel grade 304. Surface finish to be brush type. A thin plastic film pasted for surface protection. Size to be 35mm x16.4mm x 0.8 mm.</p> <p>n) Wall joinery section with hamming profile made from Stainless steel grade 304. Surface finish to be brush type. A thin plastic film is pasted for surface protection. Size to be 21mm x 16mm x 0.8 mm.</p>				
140	<p>Supplying, providing, placing, installing and fixing in position in true line and level as per detail drawing and approved EIC, Modular Toilet Urinal partition UMP along with specified brand or approved equivalent of size as per detail drawings, Colour of Boards : As per the Shade card - approved by EIC.</p> <p>Item description: The Urinary Panel has a 12 mm thick High Pressure Laminates (HPL) Compact Board, with a recommended panel width dimensions of 400-500 mm. The size of the panel is 500 mm (W-Top) X 400 mm (W-Bottom) X 1200 mm (H), with the overall height of 1200 mm. Final Size of Partitions : As per drawing given - shop drawings approved by EIC.</p> <p>Accessories Details : below mentioned all accessories – Stainless Steel - 304 Grade made 2 brackets used to fix each urinal panels to the walls.</p>	NOS	58.00	5,750.00	3,33,500.00
141	<p>Supplying and fixing in position various dia GI pipe for sleeves, using 'B' class (medium duty) GI pipes of any diameter as per requirement and as per drawing for sleeves etc. including cutting, placing in position, bending, welding, in line and level, at all levels & location including painting with one coat of approved zinc chromate primer, scaffolding, labour, wastage etc. complete all as per specifications, drawings and as directed by the Engineer in charge</p>	KG	2,000.00	165.00	3,30,000.00

142	Providing and fixing PVC rungs of Thickness 25mm, Length 170mm, Usage/Application Rungs, Stairs, Standards IS Features. Anchor type fixing at all levels as directed by EIC.	NOS	152.00	64.40	9,788.80
143	<p>Providing, supplying, and fixing modular welded mesh fencing system of approved make comprising of galvanized MS wire mesh panels, pre-galvanized H-profile posts, anchors, and all necessary accessories, complete in all respects.</p> <p>Panel Material: Galvanised MS wire with min. 40 GSM coating and tensile strength > 65 kg/mm², Panel Coating: Pure Polyester Powder Coating (PPC), thickness > 65 microns, tested for 1000 hrs in salt spray (ASTM B117), Mesh Aperture Tolerance: ± 2 mm, Welding Specification: Electrical Resistance Welding, Weld strength of 4 random welds ≥ 50% of vertical wire tensile strength, Panel Width: 2500 mm, Post C-C Distance: 2515 mm, Post Type: Pre-galvanized MS, H-profile with 80 GSM zinc coating, Post Cap and Anchor Cap: PVC, Anchors: GI anchor bolts M12 × 150 mm, Fixings per Post: 6 fixings for Mini, Regular, Panel Size Options (as per site requirements): Mini: 1260 mm height, Post Lengths: 1300 mm</p> <p>Installation Details: Posts fixed using M12 × 150 mm anchor bolts over concrete/paved surfaces.</p> <p>Panels secured using anti-vandal tamper-proof fixings and brackets. Complete system installed plumb, aligned, and in straight lines as per site drawing/layout. Rate to include supply, transportation, all hardware (posts, panels, fasteners, caps, anchors), labour, equipment, layout marking, drilling, surface preparation, fixing, finishing, and disposal of debris, etc., complete as per manufacturer's specification and direction of Engineer-in-Charge.</p>	RMT	115.50	3,800.00	4,38,900.00
144	Providing and fixing rolling shutters of approved make made of 80 mm wide M.S. laths inter-locked together through their entire length and jointed together at the ends by end locks mounted on specially designed pipe shaft with bracket plates, guide channels and arrangements for inside and outside locking with push-pull operation including the cost of hood cover and spring etc. complete.(A)Shutters having width below 3.5 M.	Sqm	8.82	3,468.72	30,594.11
145	<p>WALL MOUNTED LED - Outdoor</p> <p>The scope of work includes the design, supply, installation, testing, and commissioning of a wall-mounted digital screen. The exposed surface of the niche excluding the LED display area to be finished in ACP powder coated sheet with necessary ply backing.The work also involves necessary staging, testing of all functionalities, and commissioning to ensure full compliance requirements of Project-In-Charge (PIC).</p> <p>Finish Fascia: 3mm thick ACP sheet powder coated in black (RAL 9005) with 8mm thick commercial plywood backing WALL MOUNT DIGITAL SCREEN of mentioned size</p> <p>The video system shall consist of active indoor Direct LED based seamless large screen video wall system with front service access LED technology to reproduce excellent colors(up to 110% NTSC). Contrast ratio Minimum 4000 :1, color processing depth of 24 bit, viewing angle 160°±5 degrees (Horizontal & Vertical) . It will be necessary that the videowall along with controller can reproduce excellent color reproduction with HDR10 and HLG. The LED cabinet/modules to be enclosed with 10mm MS profile powder coated in RAL 9005 (black), LED pixel P3</p> <p>Adequate number of power/data cables and necessary controllers need to be considered by the vendor for internal looping. Installation of this screen will be on the wall, the fabrication of mounts/ installation etc. shall be in vendor's scope.</p>				
145.1	WALL MOUNT DIGITAL SCREEN 2M x 2.4M	Sqft	57.75	10,500.00	6,06,375.00
145.2	WALL MOUNT DIGITAL SCREEN 2M x 9M	Sqft	203.36	10,500.00	21,35,322.00

146	<p>WALL MOUNTED LED - Indoor</p> <p>The scope of work includes the design, supply, installation, testing, and commissioning of a wall-mounted digital screen. The exposed surface of the niche excluding the LED display area to be finished in ACP powder coated sheet with necessary ply backing. The work also involves necessary staging, testing of all functionalities, and commissioning to ensure full compliance requirements of Project-In-Charge (PIC).</p> <p>Finish Fascia: 3mm thick ACP sheet powder coated in black (RAL 9005) with 8mm thick commercial plywood backing WALL MOUNT DIGITAL SCREEN of mentioned size</p> <p>The video system shall consist of active indoor Direct LED based seamless large screen video wall system with front service access LED technology to reproduce excellent colors (up to 110% NTSC). Contrast ratio Minimum 4000 :1, color processing depth of 24 bit, viewing angle 160°±5 degrees (Horizontal & Vertical) . It will be necessary that the videowall along with controller can reproduce excellent color reproduction with HDR10 and HLG. The LED cabinet/modules to be enclosed with 10mm MS profile powder coated in RAL 9005 (black), LED pixel P3</p> <p>Adequate number of power/data cables and necessary controllers need to be considered by the vendor for internal looping. Installation of this screen will be on the wall, the fabrication of mounts/ installation etc. shall be in vendor's scope.</p>				
146.1	WALL MOUNT DIGITAL SCREEN 1.2M x 1.5M	Sqft	20.34	10,500.00	2,13,532.20
147	<p>Sanitary Napkin vending machine</p> <p>Supply and installation of a fully automatic electronic sanitary napkin vending machine fabricated from a durable stainless steel chassis with a powder-coated finish suitable for wall-mounted applications. The unit shall feature a storage capacity of 50 napkins and utilize a heavy-duty coin-operated mechanism designed to accept multiple denominations for immediate dispensing. The machine, with approximate dimensions of 50cm x 15cm x 30cm and a unit weight of 7kg, shall include an integrated electronic display for user instructions, a secure locking system for coin and stock protection, and a reinforced collection tray. The scope of work involves providing all necessary mounting hardware, wall fixings, and electrical connections to ensure a fully functional and secure installation.</p>	NOS	18.00	10,000.00	1,80,000.00
148	<p>Drinking water fountain</p> <p>Supply and installation of a wall-mounted drinking fountain manufactured from heavy-duty, corrosion and stain-resistant stainless steel suitable for indoor and outdoor environments. The unit shall feature a 280 mm (11.02") diameter basin with rounded safety edges, a 2.3 kg (5.1 lb.) chassis weight, and a push-button valve for single-finger operation. The installation includes the secure mounting of the 224 mm H x 323 mm W x 356 mm D (8.8" H x 12.7" W x 14" D) unit to the wall structure to ensure a total weight capacity of 45 kg (100 lbs). Work is to be complete with the provision and connection of all necessary plumbing attachments, internal fittings, and hardware required for a fully operational water dispensing system.</p>	NOS	54.00	46,000.00	24,84,000.00
149	<p>60L open top dustbin stainless steel silver 14x24 inch</p> <p>Supply and placement of a heavy-duty, cylindrical open-top dustbin fabricated from 0.5 mm thick SS202 grade stainless steel with a polished silver finish. The unit shall have a storage capacity of 70 liters and measure approximately 355.6 mm in diameter by 609.6 mm in height (14x24 inch). The design shall feature a reinforced swing-open top for hygienic waste disposal and a durable body suitable for high-traffic indoor and outdoor environments. The scope of work includes the delivery of the finished product to the site, ensuring all units are provided with compatible internal liners and ready for immediate operational use.</p>	Nos	36.00	2,300.00	82,800.00

150	<p>35L open top dustbin stainless steel silver 10x28 inch</p> <p>Supply and placement of a heavy-duty, cylindrical open-top dustbin fabricated from 0.5 mm thick SS202 grade stainless steel with a polished silver finish. The unit shall have a storage capacity of 35 liters and measure approximately 254 mm in diameter by 711.2 mm in height (10x28 inch). The design shall feature a reinforced swing-open top for hygienic waste disposal and a durable body suitable for high-traffic indoor and outdoor environments. The scope of work includes the delivery of the finished product to the site, ensuring all units are provided with compatible internal liners and are ready for immediate operational use.</p>	Nos	126.00	1,600.00	2,01,600.00
151	<p>External Illuminated Metal Letter Signage</p> <p>Providing, fabricating, and fixing individual 3D letters for the signage "Riverside Savories" in SS-316 grade stainless steel (minimum 1.6 mm thick), in English/Gujarati as per approved architectural design and drawings.</p> <p>The letters shall be of size, depth, and profile as per detailed design and as approved by the Engineer-in-Charge (EIC). Each letter shall be fabricated with necessary internal stiffeners and rigid SS back ties to maintain true shape and alignment. The work includes providing and fixing all required components such as SS plates, brackets, nuts, bolts, washers, studs, welding, and chemical anchor fasteners of same or compatible material for firm and durable fixing to wall/tower structure, ensuring stability, durability, and performance for a minimum period of 10 years.</p> <p>The signage shall be provided with concealed waterproof LED backlighting/halo lighting system, including routing and fixing of LED modules as per letter profile and curves to achieve uniform illumination. LED colour and illumination effect shall be as approved by the Architect/EIC, ensuring clear legibility and visibility from a long distance. The item includes supply and installation of all necessary drivers, boosters, transformers, wiring, conduits, connectors, and allied accessories, properly concealed within letters or structure.</p> <p>Where required as per design, provision of suitable external lighting fixtures such as spot lights, LED fixtures, bollards, etc., shall be included to achieve the desired lighting effect.</p> <p>The contractor shall submit the proposed font style, artwork (PDF format), and detailed shop drawings including fixing methodology, LED layout, driver arrangement, and mounting details for prior approval. A mock-up of minimum three letters with approved lighting effect shall be prepared for review and approval before full-scale execution.</p> <p>The rate shall include all materials, labour, fabrication, transportation, scaffolding, lifting arrangements, safety measures as per applicable guidelines, testing, commissioning, and complete installation at all heights. No extra payment shall be made for any component required to complete the work in all respects.</p>	NOS	1.00	5,50,000.00	5,50,000.00
152	<p>Providing and laying weep hole in abutments, and returns by using PVC pipe of 100mm diameter including laying in proper grade and jointing the completed as per detailed specification.</p>	NOS	50.00	552.77	27,638.50
153	<p>Providing and installing sculptures from the below list as per architecture/vendor/artist design including all necessary hardware, accessories, etc., as per the satisfaction of design intent provided by architect/vendor/artist and approval of engineer in charge (EIC)</p>	NOS	6.00	20,00,000.00	1,20,00,000.00
154	<p>Providing and filling Epoxy grout of approved make in 4mm to 6mm thick tiles joint including spacer with cleaning of joint by vacuum or blower etc. Rate to include filling/grouting and finishing as per the direction of EIC at all floors. Rate of the item to be considered in replacement of cementitious grout as specified in individual flooring items.</p>	RMT	606.00	55.00	33,330.00

155	CORE DRILL Providing and wet drilling accurate and clean holes of specified diameter in RCC walls, slabs, beam or any other RCC member without vibration by core cutting (diamond drilling) machine of approved make for laying service lines including scaffolding, safety measure, disposing the debris, cleaning, making good, providing epoxy mortar/ micro concrete/ patch repair mortar for concrete for grouting the gaps around the pipes for all levels/ all height, after approval of EIC etc. complete. Measurement shall be taken for the depth of holes in running meter for specified diameter. Holes shall be made by authorized approved agency. Scanning of reinforcement shall be carried out before core cutting if required and as suggested by EIC. Location of core cutting shall be approved by EIC.				
	CORE CUT IN SLAB/BEAM - 200X200 mm	NOS	1.00	1,811.94	1,811.94
	CORE CUT IN SLAB/BEAM- 150X150 mm	NOS	1.00	962	962.00
	CORE CUT IN SLAB/BEAM - 100X100 mm	NOS	1.00	905.97	905.97
	CORE CUT IN RETAINING WALL - 250X250 mm	NOS	1.00	7700.75	7,700.75
	CORE CUT IN RETAINING WALL - 200X200 mm	NOS	1.00	5435.82	5,435.82
	CORE CUT IN RETAINING WALL - 150X150 mm	NOS	1.00	3774.88	3,774.88
156	Providing & fixing precast approved brand FRP Composite Manhole covers as approved by Competent authority / E.I.C tested as per IS:1726, including cost of necessary hardware, 1:2:4 grade concrete for fixing frame, bed block (bearing course) and capping including necessary form work and CM 1:2 mortar for fixing the frame & for plastering exposed surfaces of concrete bed block (bearing course) and capping finished smooth with floating coat of neat cement etc., complete as per specifications, drawings and as directed by the E.I.C. Square or Circular Recessed Extra Heavy duty (Grade HD - 35/40Ton Capacity designation as per IS:1726/ C-250 as per EN124 or higher loading class) frame and cover of Size 600mm X 600 mm/ 750mm X 750mm /900mm X 900mm or 600 Dia. or As per mentioned in Architect Drawing. Note: Shade and Colour and design pattern to be get approved from Engineer-in-Charge.	NOS	1.00	20,000.00	20,000.00
157	Supplying and Grouting of Conbextra GP2 (FOSROC or approved equivalent) free flow, high strength, Non shrink, cementitious precision grout below base plates of columns, trusses, equipment, around foundation bolts, gap between pedestal top of columns and base plate etc. grouting should be carried out with grouting gun including cleaning by water/ compressed air or suitable grouting compound / chemical as per the manufacture's specifications including making the pockets for concrete foundations, pedestals etc. as per the requirement, necessary formwork, cost of labour, materials, scaffolding, transportation, tools & plants, loading and unloading charges, devices for grouting, finishing, all other incidental charges, etc. complete with lead & lifts at all levels etc complete all as per specifications and as directed by Engineer-in-charge	SQM	5.00	2,100.00	10,500.00
158	Providing and fixing SS-304 grade stainless steel L-Profile (L-Patti) of approved size, shape and thickness, finished with PVD coating of approved shade, fabricated by V-grooving and CNC bending with true, straight and smooth edges, including cutting, placing, aligning and fixing in position with approved adhesive complete, as per approved drawings and directions of Engineer-in-Charge.	RMT	20.00	560.00	11,200.00
				SUB TOTAL	6,33,81,531.19

TENSILE WORK

158	Supplying, Providing, Fabricating, Assembling, hoisting, erecting and placing in position MS Built-up section/Tubular Structure (MS built-up section :-Rolled section & plates confirming to IS 2062 Grade Yst 350,Tubular Structure:- made from Steel hollow sections, ISI marked from SAIL / RINL / TATA/JINDAL, conforming to IS 1161/4923/1239, Minimum Yst 240 thickness upto 10mm) in the profile shape as per drawings with special plate connector, pinion joints, Plates, hollow sections etc. With special plate connectors, pinion joints, plates, hollow sections including Preparation of detailed fabrication and erection drawings of Structural steel work from design drawings issued by Engineer-In-Charge and incorporation of Engineer-In-Charge's comments on same, transportation from fabrication yard, cutting , threading, machining, leads and lifts upto all heights, tools and plants and necessary scaffolding etc. required for all operations involved to make structure of Tensile Membrane shade. The tubular structure system with plate connectors, pinion joints, etc. is to be provided. The structure has to be provided as per conceptual drawings of Tensile fabric profile , including all arch beam, curved lateral beams and bracings, vertical support columns, nodal joints, ,bases of columns and high tensile bolts of grade not less than 10.9 having black phosphate coating. The complete structure to be Hot Dip Galvanized along with one coat of epoxy primer and two coats of Polyurethane paint on steel work at all locations prepared by sand blasting in required minimum 210 micron DFT (dry film thickness) for each coat as specified in particular specification. The work is to be executed as per technical specification and direction of Engineer-In-Charge.	KG	19,000.00	220.00	41,80,000.00
159	Supply and Installation of membrane shall be PVC, Both side PVDF coating with HT Polyester Yarns of 1100 Dtex . Fabric Type 2 with minimum weight of 950 g/m2, minimum Tensile Strength (Warp/ Weft) - 4200/ 4000 N/5cm, minimum Tear Strength (Warp/ Weft) - 550/500 N. Fabric Flame Retardancy Rating to be Euro Class - Bs2, d0, Micro Organism Resistance and minimum Warranty of 15 years. The design complies with the requirements of BS and, EU Standards. The tensioned membrane structure shall include engineering design of structural members and accessory parts. Membrane system shall include PVC/ PVDF coated Membrane Fabric, Wire Ropes and Cables, Shackles, Rigging Screws, Clamps and tensioning hardware as per specification, drawings and engineers approval. Cost including Scaffolding and cranes.Make- Serge Ferrari/Verseidag/Mehler	SQM	1,236.00	4,025.00	49,74,900.00

160	<p>Design, Supply, Fabrication and Installation of Membrane Panels. Membrane shall be Fiberglass fabric EC 6 filaments and Both sides multi-layer Polytetrafluoroethylene reinforced coating having minimum Weight of 670 g/m². The Fabric shall have minimum 21% openness porosity for Maximum Light Visibility with minimum Tensile Strength (Warp/ Weft) - 6000/ 6000 N/5cm, minimum Tear Strength (Warp/ Weft) -500/500 N/5 cm. Fabric Flame Retardancy Rating to be Non combustible class A2/DIN 4102 — A2-s1,d0/EN 13501 — ASTM E136 — ASTM E84 — NFPA 701 — Cal T19. Warranty of 10 years and Life span of 35 plus years with proven track record. The applicator to submit the fabric load analysis for approval of fabric. Cost shall include the supply of fabric/SS Cables with end terminals minimum 25mm thickness for main grid and minimum 10mm thickness for edge cable alongwith all the accessories. Fabric Flame Retardancy Rating to be Euro Class - Bs2, d0, Micro Organism Resistance-Degree 0 Excellent – EN ISO 846-A and Warranty of 10 years and Life span of 30 plus years with proven track record. The design complies with the requirements of BS and, EU Standards. The tension membrane structure shall include engineering design of structural members and accessory parts. Membrane systems shall include PVC/ PVDF coated Membrane Fabric, Clamps and tensioning hardware as per specification, drawings and engineers' approval. Vendor to provide an OEM certificate for authorisation. The Mesh must withstand its Self-load and windspeed resistance of up to 180-200kmph. All the accessories like GI Cables, Turnbuckles,Brackets to be fixed to the substructure/Civil work considering the weathering effects (windspeed/loadbearing capacity/Structural strength).</p>	SQFT	38,750.00	1,150.00	4,45,62,500.00
	<p>Fabric analysis report shall be provided by vendor to understand the load calculation. Steel consumption to be provided by vendor.The entire system has to be backed up by a structural stability report.MS Built-up section/Tubular Structure (MS built-up section :-Rolled section & plates conforming to IS 2062 Grade Yst 350,Tubular Structure:- made from Steel hollow sections, ISI marked from SAIL / RINL / TATA/JINDAL, conforming to IS 1161/4923/1239, Minimum Yst 240 thickness upto10mm) in the profile shape as per drawings with special plate connector, pinion joints, Plates, hollow sections etc. with special plate connectors, pinion joints, plates, hollow sections including Preparation of detailed fabrication and erection drawings of Structural steel work from design drawings issued by Engineer-In-Charge and incorporation of Engineer-In-Charge's comments on same, ransportation from fabrication yard, cutting , threading, machining, leads and lifts upto all heights, tools and plants and necessary scaffolding etc. required for all operations involved to make structure of Tensile Membrane shade. The tubular structure system with plate connectors, pinion joints, etc. is to be provided. The structure has to be provided as per conceptual drawings of Tensile fabric profile , including all arch beam, curved lateral beams and bracings, vertical support columns, nodal joints, ,bases of columns and high tensile bolts of grade not less than 10.9 having black phosphate coating. The complete structure to be Hot Dip Galvanized along with one coat of epoxy primer and two coats of Polyurethane paint on steel work at all locations prepared by sand blasting in required minimum 210 micron DFT (dry film thickness) for each coat as specified in particular specification. Required detailed shop drawing and sample is needs to get approved from the project Architect before execution on site. Work shall be carried out as directed by the Engineer-In-Charge. Make List-SergeFerrari/Sherfil /Chucko/F.I.T/Fibertech</p>				
SUB TOTAL					5,37,17,400.00

ELECTRICAL & ELV CHAMBER					
161	Construction of ELECTRICAL & ELV chamber of size 750x750x1200 mm including excavation, backfilling, watering, soling, compaction, Reinforcement, Rungs etc. complete. It includes R.C.C work of M-30 for walls, top and bottom slabs, also having 100mm thick PCC in M-15 at bottom level. It shall be plastered with 15mm thick Plaster with neat coat in CM 1:3 on internal including water proofing and outside of chamber with 20mm thick sand faced cement plaster in two coat at all sides. making core cuts/providing sleeves for cables incoming and outgoing Top shall be covered with FRP Recessed MH cover with clear opening of 600x600mm with frame and cover bearing load min. 25 T and size as Mentioned in Drawing. It shall be completed with all respect in true line level, plumb with neat & clean surface as per coordinated infrastructure detail drawing up to the level of satisfaction.	NOS	18.00	24,000.00	4,32,000.00
162	Construction of ELECTRICAL & ELV chamber of size 600x600x1000 mm including excavation, backfilling, watering, soling, compaction, Reinforcement, Rungs etc. complete. It includes R.C.C work of M-30 for walls, top and bottom slabs, also having 100mm thick PCC in M-15 at bottom level. It shall be plastered with 15mm thick Plaster with neat coat in CM 1:3 on internal including water proofing and outside of chamber with 20mm thick sand faced cement plaster in two coat at all sides. making core cuts/providing sleeves for cables incoming and outgoing Top shall be covered with FRP Recessed MH cover with clear opening of 600x600mm with frame and cover bearing load min. 25 T and size as Mentioned in Drawing. It shall be completed with all respect in true line level, plumb with neat & clean surface as per coordinated infrastructure detail drawing up to the level of satisfaction.	NOS	1.00	21,000.00	21,000.00
163	Construction of ELECTRICAL & ELV chamber of size 450x450x900 mm including excavation, backfilling, watering, soling, compaction, Reinforcement, Rungs etc. complete. It includes R.C.C work of M-30 for walls, top and bottom slabs, also having 100mm thick PCC in M-15 at bottom level. It shall be plastered with 15mm thick Plaster with neat coat in CM 1:3 on internal including water proofing and outside of chamber with 20mm thick sand faced cement plaster in two coat at all sides. making core cuts/providing sleeves for cables incoming and outgoing Top shall be covered with FRP Recessed MH cover with clear opening of 600x600mm with frame and cover bearing load min. 25 T and size as Mentioned in Drawing. It shall be completed with all respect in true line level, plumb with neat & clean surface as per coordinated infrastructure detail drawing up to the level of satisfaction.	NOS	4.00	17,500.00	70,000.00
SUB TOTAL					5,23,000.00
TOTAL CIVIL AMOUNT					1,06,52,60,065.49

PLUMBING WORKS -RIVERSIDE,AHMEDABAD

Item No.	Description	Unit	Total Qty.	Rate	Amount
PLUMBING WORKS					
SANITARY FIXTURES AND FITTINGS					
1.01	<p>SPECIAL NEED FOR DISABLED TOILET Providing and Fixing EWC wall hung, Wash basin, Grab bar, Hinged rail & special faucet with spachula including seat cover, and flush valve, fittings, nuts, bolts and gasket etc complete for disabled toilet of approved make and conforming to IS Standards. Wash basin with one pair mounting brackets, Waste coupling 32 mm size full thread with 80 mm height.Jaquar make with 7 years warranty: Chrome plated, Bottle trap Jaquar make with 7 years warranty: Chrome plated etc., EWC S Trap & Cistern complete with fittings & seat cover, one no. hinged rail 750 mm & Two nos of grab rails 600 mm ,etc. complete as per directed by the Engineer's Representative.</p> <p>EWC : KOHLER : S1013200 SOFT CLOSE SEAT COVER : CERA :B1520118 WASH BASIN : CERA : S2040159 SINGLE LEVER CLINICAL FAUCET: CERA :F9030453 600 MM LONG WALL MOUNTED GRAB BAR : CERA :B2210106 WALL MOUNTED HINGED HAND RAIL 750 X 100 : CERA : B2210108</p>	Set.	18.00	69000.00	12,42,000
1.02	<p>Providing and fixing wash down wall mounting EWC-P of approved shade, conforming to Pattern 2 of IS: 2556 (Part -II), with SWR Self it Soil PVC pipe and plug bend as per specifications; glazed vitreous / Coloured European Water Closet with Metropole flush valve, connecting PVC 110mm dia soil pipe with PVC coupling, nuts, mounting cistern on WC., Ragbolt, Gasket Fitting and solid verity heavy duty plastic seat cover as per IS-2548, of approved make; hole in walls/slab/beam and making good etc. complete as per directed by the Engineer's Representative.</p> <p>EWC-P with PP Soft close Seat cover, Cistern with cistern fittings: W.C Wall Hung : Jaquar : SLS-WHT-6953BIPPSM/CERA : S1043144/KOHLER : K-20217IN-S-0 Concealed Cistern : HINDWARE : Hindware Cat No 525063/CERA : Cera Cat No B1110111</p>	Set.	128.00	38000.00	48,64,000
1.03	<p>Providing and fixing in position 15 mm C.P. brass 2 way bib cock of best quality including cutting and making good the wall where required etc. complete as per directed by the Engineer's Representative.</p> <p>2 WAY BIB COCK CERA : F1007151 KOHLER : K-16093IN-4-CP</p>	Nos.	128.00	3270.00	4,18,560
1.04	<p>Providing and fixing 15mm C.P. brass angle valve with wall flange complete, including cutting and making good the wall where required etc. complete as per directed by the Engineer's Representative.</p> <p>Angle Valve Jaquar, Model No. :OPP-15053PM CERA : F1019251 KOHLER : K-80154IN-4-CP</p>	Nos.	146.00	1305.00	1,90,530
1.05	<p>Providing and fixing of Hand Shower (Health Faucet), with 8mm Dia,1Rmt Long pvc Tube and Wall Hook accessories to .complete the item etc. complete as per directed by the Engineer's Representative.</p> <p>Health Faucet Jaquar:ALD-CHR-563 GA CERA : F8030106AB KOHLER : K-98100IN-CP</p>	Nos.	128.00	1450.00	1,85,600

PLUMBING WORKS -RIVERSIDE,AHMEDABAD

Item No.	Description	Unit	Total Qty.	Rate	Amount
1.06	<p>Providing and fixing White glazed vitreous Oval Wash Basin Under-Counter, size 560x430x195 mm., with supporting M.S. or C.I. Brackets, necessary pipe connection up to the outside face of the wall, having Telephonic Black / Colour Granite of 180 mm thick fixed on Black Kadappa Framework, Waste coupling 32 mm size full thread with 80 mm height Chrome plated, Bottle trap Chrome plated, Pressmatic Pillar Cock including necessary fittings with wall Flange etc. complete in all respects including cutting and making good the walls etc. complete as per directed by the Engineer's Representative.</p> <p>Wash basin : Jaquar : FLS-WHT-570/CERA : OVAL- S2030102/KOHLER : K-2211IN-0 Waste coupling : Jaquar : ALD-CHR-705/CERA : F8050101/KOHLER : K-45432IN-BV Bottle trap : Jaquar : ALD-CHR-769L300X190/CERA : CM 104B/KOHLER : K-75823IN-BN</p>	Nos.	110.00	7450.00	8,19,500
1.07	<p>Providing and fixing of C.P. copper connecting pipe 450 mm long and nuts, washer and brass flange complete, including cutting and making good the wall where required etc. complete as per directed by the Engineer's Representative.</p> <p>Braided Hose Copper Pipe Jaquar : ALD-CHR-805B CERA : F8070402</p>	Nos.	110.00	460.00	50,600
1.08	<p>Providing and fixing Pillar Cock of best quality necessary fittings with wall Flange etc. complete in all respects including cutting and making good the walls etc. complete as per directed by the Engineer's Representative.</p> <p>Pillar Cock Jaquar : PRS-001 CERA : F9020101 KOHLER : K-20747IN-8-CP</p>	Nos.	110.00	2950.00	3,24,500
1.09	<p>Providing and fixing white vitreous china flat back Urinal of size 385x325x635mm as per IS-2556 (Part-2) with C.I. hangers and pipe to wall with C.P. flange with Sensotronic Sensor Type Urinal flush valve with installation box with control valve Battery / Electric operated automatic flushes of approved make. System provided with a solenoid valve and valve connected to a 6 volts lithium battery. Unit automatically serves (the range in about 40 cms) and flushes in two steps. The pre flush is for 2 seconds duration and the final flushing is for 7 seconds duration. The outlet from the flusher shall be connected to urinal with required braided pipes from sensor to urinal flush connection in fixture. complete including cutting and making good the walls wherever required etc. complete as per directed by the Engineer's Representative.</p> <p>Urinal :Jaquar : URS-WHT-13253N/CERA : S4020107/KOHLER : K-26474IN-ER-0 Urinal Sensor ,Jaquar, SNR-51097 /KOHLER : K-24199IN-C03-CP</p>	Nos.	72.00	8500.00	6,12,000
1.10	<p>Providing and fixing in position best Indian make toilet recessed type paper holder complete in all respects including cutting and making good the walls etc. complete as per directed by the Engineer's Representative.</p> <p>Toilet Paper Holder Jaquar, Model no. ACN-CHR-1551 CERA : CA 106</p>	Nos.	128.00	2800.00	3,58,400
1.11	<p>Providing and fixing electrical hand dryer, fully automatic type etc. complete as per directed by the Engineer's Representative.</p> <p>Hand Dryer Orchid: OR/HD/9KV P Dolphy : DAHD0081</p>	Nos.	73.00	15300.00	11,16,900

PLUMBING WORKS -RIVERSIDE,AHMEDABAD

Item No.	Description	Unit	Total Qty.	Rate	Amount
1.12	Providing and fixing of Automatic Fragrance Dispenser fixed to wooden cleats with C.P. brass screws etc. complete as per directed by the Engineer's Representative. Fragrance Dispenser: EURONICS, Model No.: EA44	Nos.	55.00	1750.00	96,250
1.13	Providing and fixing C.P. brass liquid soap container of best quality etc. complete as per directed by the Engineer's Representative. Liquid Soap Container Jaquar : K-5487K-CP KOHLER : SDR-WHT-DJ0010F	Nos.	73.00	11500.00	8,39,500
1.14	Providing and fixing Urinal partition with frosted glass approx. size 900 MM (H) X 450 MM (W) having 10 MM of glass thickness, including fixing to wall with suitable brackets all as per manufacturers specification etc. complete as per directed by the Engineer's Representative. Urinal Partitlon: Jaquar, Model No. JSE-CHR-110US450X	Nos.	54.00	2198.00	1,18,692
Sub total					1,12,37,032
INTERNAL DRAINAGE AND RAIN WATER WORKS					
2.01	Providing laying and jointing in true line and level 40mm dia. U.P.V.C. Pipe (SCH- 40) for cold water including fittings as approved by Engineer In Charge. Pipe shall be fixed on the wall with the help of clamp at every two metre C/C or shall be concealed as directed including necessary fittings etc. including testing of pipe and joints and fixing the same with adhesive solvent, including cost of all materials	Rmt.	265.00	146.65	38,862
2.02	Providing laying and jointing in true line and level 50mm dia. U.P.V.C. Pipe (SCH- 40) for cold water including fittings as approved by Engineer In Charge. Pipe shall be fixed on the wall with the help of clamp at every two metre C/C or shall be concealed as directed including necessary fittings etc. including testing of pipe and joints and fixing the same with adhesive solvent, including cost of all materials	Rmt.	99.00	193.73	19,179
2.03	Providing and fixing unplasticized polyvinyl chloride (UPVC) pipes with all the engineered support as per detail technical specification, having thermal stability for water supply including all UPVC plain and brass threaded fitting. This includes jointing of pipes and fittings with one step UPVC solvent cement and testing of joints complete as per direction of engineer in charge. Scope shall also including cutting, chasing the wall/beam by grinder cutter and making good the same. Pipe Dia upto 50MM: UPVC (SCH 40) Pipe Diameter above 50MM: UPVC (SCH 80) The rate shall be including all the engineered support (support, hanger, nuts/bolts, anchor fasteners, fixing clamp/channels with U-bolts, etc) as per detail technical specification etc. complete the job. Product to compliance with occupational safety standards. 75 mm dia.	Rmt.	1017.00	1110.00	11,28,870
2.04	Providing, laying and jointing in true line and level 110 mm diameter U.P.V.C (Type B) conforming to IS 13592-1992 with one end plain and other end socketed with rubber ring, & fittings conforming to ISI 14735-1999 of approved make for drainage system pipe line, pipe shall be jointed with eachother with rubber lubricant, pipe shall be fixed on wall using of PVC clamp of the size 110 mm diameter x 149 mm length x 145 mm heigh at every 2000 mm center to center or shall be concealed in walls as directed including necessary fittings such as bends, shoes etc. including testing of pipes and joints and jointed with adhesive solvent cement including cost of all materials.	Rmt.	710.00	826.88	5,87,085
2.05	Providing and fixing in position cowel went topipes. (c) 100mm dia.	Nos.	60.00	496.90	29,814
2.06	Providing & fixing PVC SWR TYPE B P Trap of 110 X 110 mm diameter with Height riser/ necessary 110MM Diameter of distance piece for wash basin/ sink drain connection with cockroach trap - square flat cut, Satin-matt finish - 150mm x 150mm of approved Make, making necessary slab/ wall/ beam holes and cutting walls, etc. complete.	Nos.	292.00	1700.00	4,96,400
2.07	Making Khurras 45x45cm with average minimum thickness of 50 mm. cement concrete 1:2:4 (1 cement:2 coarse sand :4 graded stone aggregate of 20mm nominal size) over P.V.C. sheet 1mx1mx400micron, finished with 12mm cement plaster 1:3 (1 cement: 3 coarse sand) and a QUOTE of neat cement rounding the edge sand making and finishing the outlet complete depth as per site requirement.	Nos.	36.00	785.00	28,260

PLUMBING WORKS -RIVERSIDE,AHMEDABAD

Item No.	Description	Unit	Total Qty.	Rate	Amount
2.08	Providing and fixing to the inlet mouth of rain water pipe cast iron grating 15cm diameter not less than 440grams.	Nos.	36.00	480.00	17,280
2.09	Providing fixing, testing and commissioning in position 110 mm dia Polypropylene pipe ring fit conforming to EN: 1329, including all fittings such as bends, junctions, inspection doors, offsets, cowl, access pieces/plugs etc. including cutting holes in walls, slab and beam and making good the same. (For Basement ceiling)	Rmt.	1620.00	1300.00	21,06,000
2.10	Providing fixing, testing and commissioning in position 160 mm dia Polypropylene pipe ring fit conforming to EN: 1329, including all fittings such as bends, junctions, inspection doors, offsets, cowl, access pieces/plugs etc. including cutting holes in walls, slab and beam and making good the same. (For Basement ceiling)	Rmt.	525.00	1600.00	8,40,000
2.11	Providing fixing, testing and commissioning in position 200 mm dia Polypropylene pipe ring fit conforming to EN: 1329, including all fittings such as bends, junctions, inspection doors, offsets, cowl, access pieces/plugs etc. including cutting holes in walls, slab and beam and making good the same. (For Basement ceiling)	Rmt.	921.00	1850.00	17,03,850
	Sub total				69,95,600

PLUMBING WORKS -RIVERSIDE,AHMEDABAD

Item No.	Description	Unit	Total Qty.	Rate	Amount
INTERNAL/EXTERNAL WATER SUPPLY NETWORK					
3.01	Providing and fixing concealed center point to wall ceiling & floor CPVC (SDR 13.5) PIPE having National Sanitation Foundation (NSF) seal for potable water of following dia. nominal bore tube fittings and clamps including making good the wall, ceiling and floor etc. complete. [A] 20 mm.	Rmt.	362.00	202.97	73,475
3.02	Providing and fixing concealed center point to wall ceiling & floor CPVC (SDR 13.5) PIPE having National Sanitation Foundation (NSF) seal for potable water of following dia. nominal bore tube fittings and clamps including making good the wall, ceiling and floor etc. complete. [A] 25 mm.	Rmt.	410.00	247.25	1,01,373
3.03	Providing and fixing concealed center point to wall ceiling & floor CPVC (SDR 13.5) PIPE having National Sanitation Foundation (NSF) seal for potable water of following dia. nominal bore tube fittings and clamps including making good the wall, ceiling and floor etc. complete. [A] 32 mm.	Rmt.	322.00	330.36	1,06,376
3.04	Providing and fixing concealed center point to wall ceiling & floor CPVC (SDR 13.5) PIPE having National Sanitation Foundation (NSF) seal for potable water of following dia. nominal bore tube fittings and clamps including making good the wall, ceiling and floor etc. complete. [A] 40 mm.	Rmt.	260.00	437.66	1,13,792
3.05	Providing and fixing concealed center point to wall ceiling & floor CPVC (SDR 13.5) PIPE having National Sanitation Foundation (NSF) seal for potable water of following dia. nominal bore tube fittings and clamps including making good the wall, ceiling and floor etc. complete. [A] 50 mm.	Rmt.	80.00	647.30	51,784
3.06	Providing laying and jointing in true line and level 25mm dia. U.P.V.C. Pipe (SCH- 40) for cold water including fittings as approved by Engineer In Charge. Pipe shall be fixed on the wall with the help of clamp at every two metre C/C or shall be concealed as directed including necessary fittings etc. including testing of pipe and joints and fixing the same with adhesive solvent, including cost of all materials.	Rmt.	40.00	71.93	2,877
3.07	Providing laying and jointing in true line and level 32mm dia. U.P.V.C. Pipe (SCH- 40) for cold water including fittings as approved by Engineer In Charge. Pipe shall be fixed on the wall with the help of clamp at every two metre C/C or shall be concealed as directed including necessary fittings etc. including testing of pipe and joints and fixing the same with adhesive solvent, including cost of all materials.	Rmt.	157.00	117.97	18,521
3.08	Providing laying and jointing in true line and level 40mm dia. U.P.V.C. Pipe (SCH- 40) for cold water including fittings as approved by Engineer In Charge. Pipe shall be fixed on the wall with the help of clamp at every two metre C/C or shall be concealed as directed including necessary fittings etc. including testing of pipe and joints and fixing the same with adhesive solvent, including cost of all materials.	Rmt.	246.00	146.65	36,076
3.09	Providing laying and jointing in true line and level 50mm dia. U.P.V.C. Pipe (SCH- 40) for cold water including fittings as approved by Engineer In Charge. Pipe shall be fixed on the wall with the help of clamp at every two metre C/C or shall be concealed as directed including necessary fittings etc. including testing of pipe and joints and fixing the same with adhesive solvent, including cost of all materials.	Rmt.	373.00	193.73	72,261
3.09	Providing and fixing unplasticized polyvinyl chloride (UPVC) pipes with all the engineered support as per detail technical specification, having thermal stability for water supply including all UPVC plain and brass threaded fitting. This includes jointing of pipes and fittings with one step UPVC solvent cement and testing of joints complete as per direction of engineer in charge. Scope shall also including cutting, chasing the wall/beam by grinder cutter and making good the same. Pipe Dia upto 50MM: UPVC (SCH 40) Pipe Diameter above 50MM: UPVC (SCH 80) The rate shall be including all the engineered support (support, hanger, nuts/bolts, anchor fasteners, fixing clamp/channels with U-bolts, etc) as per detail technical specification etc. complete the job. Product to compliance with occupational safety standards. 65 mm dia.	Rmt.	225.00	920.00	2,07,000
3.10	Providing and fixing unplasticized polyvinyl chloride (UPVC) pipes with all the engineered support as per detail technical specification, having thermal stability for water supply including all UPVC plain and brass threaded fitting. This includes jointing of pipes and fittings with one step UPVC solvent cement and testing of joints complete as per direction of engineer in charge. Scope shall also including cutting, chasing the wall/beam by grinder cutter and making good the same. Pipe Dia upto 50MM: UPVC (SCH 40) Pipe Diameter above 50MM: UPVC (SCH 80) The rate shall be including all the engineered support (support, hanger, nuts/bolts, anchor fasteners, fixing clamp/channels with U-bolts, etc) as per detail technical specification etc. complete the job. Product to compliance with occupational safety standards. 80 mm dia.	Rmt.	15.00	1110.00	16,650

PLUMBING WORKS -RIVERSIDE,AHMEDABAD

Item No.	Description	Unit	Total Qty.	Rate	Amount
3.11	Providing and fixing unplasticized polyvinyl chloride (UPVC) pipes with all the engineered support as per detail technical specification, having thermal stability for water supply including all UPVC plain and brass threaded fitting. This includes jointing of pipes and fittings with one step UPVC solvent cement and testing of joints complete as per direction of engineer in charge. Scope shall also including cutting, chasing the wall/beam by grinder cutter and making good the same. Pipe Dia upto 50MM: UPVC (SCH 40) Pipe Diameter above 50MM: UPVC (SCH 80) The rate shall be including all the engineered support (support, hanger, nuts/bolts, anchor fasteners, fixing clamp/channels with U-bolts, etc) as per detail technical specification etc. complete the job. Product to compliance with occupational safety standards. 100 mm dia.	Rmt.	486.00	1270.00	6,17,220
3.12	Providing and fixing male/ female screw ended full way lever operated forged ISI marked brass ball valves with brass body with forged brass hard chrome plated ball / stem, union.Rated to temperature of 85 Deg C, The valves to be PN 10kgm class on CPVC or GI pipe lines. (For cold water supply lines) 20 mm dia.	Nos.	1.00	1181.00	1,181
3.13	Providing and fixing male/ female screw ended full way lever operated forged ISI marked brass ball valves with brass body with forged brass hard chrome plated ball / stem, union.Rated to temperature of 85 Deg C, The valves to be PN 10kgm class on CPVC or GI pipe lines. (For cold water supply lines) 25 mm dia.	Nos.	18.00	1770.00	31,860
3.14	Providing and fixing male/ female screw ended full way lever operated forged ISI marked brass ball valves with brass body with forged brass hard chrome plated ball / stem, union.Rated to temperature of 85 Deg C, The valves to be PN 10kgm class on CPVC or GI pipe lines. (For cold water supply lines) 32 mm dia.	Nos.	19.00	2630.00	49,970
3.15	Providing and fixing male/ female screw ended full way lever operated forged ISI marked brass ball valves with brass body with forged brass hard chrome plated ball / stem, union.Rated to temperature of 85 Deg C, The valves to be PN 10kgm class on CPVC or GI pipe lines. (For cold water supply lines) 40 mm dia.	Nos.	32.00	3510.00	1,12,320
3.16	Providing and supplying ISI mark CI D/F Butterfly Valves as per IS:13095 (Latest Edition) of class PN 10, including all taxes, insurance, transportation, freight charges, octroi, inspection charges, loading, unloading, conveyance to departmental stores, stacking etc. complete. Lowering, laying and jointing in position C. I. D/F Butterfly valves including cost of all labour, jointing material, including nut bolts and giving satisfactory hydraulic testing, etc. complete. 50 mm dia.	Nos.	33.00	1958.00	64,614
3.17	Providing and supplying ISI mark CI D/F Butterfly Valves as per IS:13095 (Latest Edition) of class PN 10, including all taxes, insurance, transportation, freight charges, octroi, inspection charges, loading, unloading, conveyance to departmental stores, stacking etc. complete. Lowering, laying and jointing in position C. I. D/F Butterfly valves including cost of all labour, jointing material, including nut bolts and giving satisfactory hydraulic testing, etc. complete. 65 mm dia.	Nos.	13.00	2098.00	27,274

PLUMBING WORKS -RIVERSIDE,AHMEDABAD

Item No.	Description	Unit	Total Qty.	Rate	Amount
3.18	Providing and supplying ISI mark CI D/F Butterfly Valves as per IS:13095 (Latest Edition) of class PN 10, including all taxes, insurance, transportation, freight charges, octroi, inspection charges, loading, unloading, conveyance to departmental stores, stacking etc. complete. Lowering, laying and jointing in position C. I. D/F Butterfly valves including cost of all labour, jointing material, including nut bolts and giving satisfactory hydraulic testing, etc. complete. 80 mm dia.	Nos.	6.00	2784.00	16,704
3.19	Providing and supplying ISI mark CI D/F Butterfly Valves as per IS:13095 (Latest Edition) of class PN 10, including all taxes, insurance, transportation, freight charges, octroi, inspection charges, loading, unloading, conveyance to departmental stores, stacking etc. complete. Lowering, laying and jointing in position C. I. D/F Butterfly valves including cost of all labour, jointing material, including nut bolts and giving satisfactory hydraulic testing, etc. complete. 100 mm dia.	Nos.	1.00	3002.00	3,002
3.20	Supply, Installation, Testing and Commissioning of Gun metal 25 mm dia. air release valve.	Nos.	30.00	2000.00	60,000
3.21	Supplying, fitting and fixing of SS 316, Solenoid Valve , confirming to latest IS 8935, PN 16.0, with IP 67 logic controller, float switch, IP 67 Battery, with all accessories viz. power and control cables, cabinets, hardwares specials, union, flange, cable upto tank, lower & upper level floats with, 3 Nos. brass ball valves screwed ends, etc., to complete the job. 50 mm dia.	Nos.	6.00	35450.00	2,12,700

PLUMBING WORKS -RIVERSIDE,AHMEDABAD

Item No.	Description	Unit	Total Qty.	Rate	Amount
3.22	Supplying, installation, testing and commissioning of 50 mm dia. Heavy Quality Gun metal Pressure Reducing Valve with set of best quality having by-pass arrangement consisting of the following : 1 No. pressure reducing valve screwed ends, 3 Nos. brass ball valve screwed ends.	Nos.	3.00	35110.00	1,05,330
3.23	Woltman Type Bulk Water Meter- AMR Based: Water Meter: 65 mm Design, Supply, Installation, Testing, Commissioning of Woltman type Bulk Water Meter, CI/ Brass/ Bronze body material, totalizer made of copper can/ suitable anti corrosive metallic material, totaliser metallic shall have 5 mm thick glass cover suitable against antifraud attempts, Flange End process connection, IP 68 protection class, AMR Woltman Type Water Meter with removable mechanism, magnetic drive, dry dial, and be fitted with a low mass rotor which is parallel to the direction of water flow and exhibits dynamic thrust relief, water meters complete with T Type strainer, ISO 4064 : 2005 with valid CE mark mentioning notified body number along with MID / OIML / ISO certification from a recognized International laboratory. AMR System : AMR System shall be Walk By / Drive By mode, Wireless AMR trans-receivers shall be directly fitted on meter or inbuilt, IP 68 protection class, water meter & AMR Module shall be of same brand, Single Command based AMR Reading and Minimum 90 days historical data retrieve facility, alarm indication/ recording (for Reverse Flow, back flow, Peak Flow, Minimum Flow, Low Battery Alarm, Volume below threshold, Volume above threshold, Reverse Meter, Meter Stopped), Minimum 10 years of AMR module bateery life considering one no. communication per day.	Nos.	1.00	19888.00	19,888
3.24	Construction of valve chambers in brick or bell stone masonry, locally available in CM 1:6. Foundation concrete 150 mm thick in C.C. 1:4:8 of trap metal size 25 mm to 40 mm thick, inside cement plaster in C.M. 1:3 and cement pointing outside in C.M. 1:3 and top cover of precast RCC slab 100 mma thick (with key hole in two parts, each with handles or MS bar etc. complete as given size) UP to 1Mt. depth from G.L. to pipe invert incl. complete civil works but excl. cost of excavation and refilling, with cast in situ RCC slab in one sigle piece with fixing of CI-MH frame and cover (excl. cost of CI-MH Frame and cover) with 23 mm thick brick masonry wall in C.M.:1:6 Size of chamber 0.60M X 0.60M and 1M depth	Nos.	1.00	5138.00	5,138
3.25	Making point of new connection from Existing/ Municipal water supply line with all support, clamps, civil work, etc. required, providing suitable fittings, to connect to Existing line and good the same as per engineer in charge. Work to be done including Liasoning cost.	Nos.	1.00	50000.00	50,000
Sub total					21,77,386
IRRIGATION WATER SUPPLY NETWORK					
4.01	Providing laying and jointing in true line and level 25mm dia. U.P.V.C. Pipe (SCH- 40) for cold water including fittings as approved by Engineer In Charge. Pipe shall be fixed on the wall with the help of clamp at every two metre C/C or shall be concealed as directed including necessary fittings etc. including testing of pipe and joints and fixing the same with adhesive solvent, including cost of all materials.	Rmt.	275.00	90.93	25,006
4.02	Providing laying and jointing in true line and level 40mm dia. U.P.V.C. Pipe (SCH- 40) for cold water including fittings as approved by Engineer In Charge. Pipe shall be fixed on the wall with the help of clamp at every two metre C/C or shall be concealed as directed including necessary fittings etc. including testing of pipe and joints and fixing the same with adhesive solvent, including cost of all materials.	Rmt.	1196.00	146.65	1,75,393
4.03	Supply, installation, testing and commissioning of 20mm diameter Garden Hydrant with gun metal Ball Valve, Flexible hose Connection Provision and all required accessories etc.	Nos.	36.00	3250.00	1,17,000
4.04	Supply, installation, testing and commissioning of Large dome type landscape drain is suitable for large planter areas and flower beds, where a thin layer of gravel is used. It consists of a cast iron body, membrane clamp and a dome covered with a stainless-steel mesh. This product covers a greater drainage area and prevents the soil and stones from entering the drainage line	Nos.	12.00	3000.00	36,000
Sub total					3,53,399

PLUMBING WORKS -RIVERSIDE,AHMEDABAD

Item No.	Description	Unit	Total Qty.	Rate	Amount
EXTERNAL SEWAGE NETWORK					
5.01	<p>Providing and supplying 100 mm Inner Dia. Pipe of Class SN8 Structured Wall polyethelene Piping systems (Pipe with online/offline coupler and elastomeric sealing ring) with non-smooth External Annular Corrugated and Smooth Internal Surfaces (Double Wall) for non-pressure underground Sewerage & Drainage application as per EN:13476-3 including all local and central taxes, transportation, freight charges, octroi, inspection charges, loading, unloading, conveyance to the departmental stores etc. complete.(ID Dia)</p> <p>Lowering, laying and jointing of class SN 8 structured wall (External Annular Corrugated & Smooth Internal surface) Polyethylene Piping and fittings with the help of coupler (on line / off line) attached with one end of pipes, sliding over the elastomeric sealing rubber ring placed on the specified valley of the corrugation at the spigot end, lowering the same into the trench at all level, laying on the lower bedding (constructed at bottom of trenches) at prescribed gradient,depth & alignment ,testing the water tightness of the joints, ensuring the continuity tests of specified pipe segments etc. complete as per drawing, specifications & detailed engineering, including carriage of pipes & fittings from site stacks to the place of laying etc. as per direction of Engineer-in-charge. (From GT to First Chamber)</p>	Rmt.	3.00	229.00	687
5.02	<p>Providing and supplying 200 mm Inner Dia. Pipe of Class SN8 Structured Wall polyethelene Piping systems (Pipe with online/offline coupler and elastomeric sealing ring) with non-smooth External Annular Corrugated and Smooth Internal Surfaces (Double Wall) for non-pressure underground Sewerage & Drainage application as per EN:13476-3 including all local and central taxes, transportation, freight charges, octroi, inspection charges, loading, unloading, conveyance to the departmental stores etc. complete.(ID Dia)</p> <p>Lowering, laying and jointing of class SN 8 structured wall (External Annular Corrugated & Smooth Internal surface) Polyethylene Piping and fittings with the help of coupler (on line / off line) attached with one end of pipes, sliding over the elastomeric sealing rubber ring placed on the specified valley of the corrugation at the spigot end, lowering the same into the trench at all level, laying on the lower bedding (constructed at bottom of trenches) at prescribed gradient,depth & alignment ,testing the water tightness of the joints, ensuring the continuity tests of specified pipe segments etc. complete as per drawing, specifications & detailed engineering, including carriage of pipes & fittings from site stacks to the place of laying etc. as per direction of Engineer-in-charge.</p>	Rmt.	100.00	771.00	77,100
5.03	<p>Providing and supplying 250 mm Inner Dia. Pipe of Class SN8 Structured Wall polyethelene Piping systems (Pipe with online/offline coupler and elastomeric sealing ring) with non-smooth External Annular Corrugated and Smooth Internal Surfaces (Double Wall) for non-pressure underground Sewerage & Drainage application as per EN:13476-3 including all local and central taxes, transportation, freight charges, octroi, inspection charges, loading, unloading, conveyance to the departmental stores etc. complete.(ID Dia)</p> <p>Lowering, laying and jointing of class SN 8 structured wall (External Annular Corrugated & Smooth Internal surface) Polyethylene Piping and fittings with the help of coupler (on line / off line) attached with one end of pipes, sliding over the elastomeric sealing rubber ring placed on the specified valley of the corrugation at the spigot end, lowering the same into the trench at all level, laying on the lower bedding (constructed at bottom of trenches) at prescribed gradient,depth & alignment ,testing the water tightness of the joints, ensuring the continuity tests of specified pipe segments etc. complete as per drawing, specifications & detailed engineering, including carriage of pipes & fittings from site stacks to the place of laying etc. as per direction of Engineer-in-charge.</p>	Rmt.	430.00	1046.00	4,49,780
5.04	<p>Providing and fixing S.W. gully trap with C.I. grating brick masonry chamber and water tight C.I. cover with frame of 300mm x 300mm size (inside) with standard weight. (i) Square mouth traps. A)100mm x 100mm size P type</p>	Nos.	1.00	1280	1,280
5.05	<p>Manufacture,supply and delivery of chemical fabricated RCC precast chambers with top cover as per specification and drawing attached with the tender documents of sizes as mentioned below The delivery of chambers with clamps, nuts, bolts, and locking arrangement(without lock)is to be made to GWSSB store and sites anywhere in Gujrat.The rates include all taxes, loading, carting, unloading, stacking including all taxes. Sewage chamber of size 900x900 depth 0.90m.</p>	Nos.	9.00	11087.00	99,783

PLUMBING WORKS -RIVERSIDE,AHMEDABAD

Item No.	Description	Unit	Total Qty.	Rate	Amount
5.06	Constructing Manhole with R.C.C. top slab in 1:2:4 mix (1-cement :2-coarse sand : 4-graded stone aggregate 20mm nominal size) foundation concrete 1:3:6 mix (1-cement : 3- coarse sand :6-Brick bats 40 + 50mm size) inside plastering 15mm thick with Cement Mortar 1:5 (1-Cement : 5-coarse sand) finished with a floating coat of neat cement and making channels in cement concrete 1:2:4 mix (1- Cement :2-Coarse sand :4-stone aggregate 20mm nominal size) finished smooth complete including curing and festing (1) Inside size 900mm x 1500mm and 1.5M. deep including C.I. cover with frame size 560mm diameter total weight of cover and frame to be not less than 128 kgs. (Wt. of cover 64 Kg. and Wt. of frame 64 Kg.)(A) With 230mm thick walls of brick msonry using brick having crushing strength not less than 35Kg. / Sq.cm. in Cement Mortar 1:5 (1- Cement:5-Coarse sand) (3) B type depth 1.5 Metre	Nos.	8.00	23209.64	1,85,677
5.07	Providing and constructing Sewer manhole ,scraper manholes and untilt house connection chamber , as per the type design in brick masonary in C.M. 1:5 and inside amd outside 20mm thick plastering in C.M. 1:3 necessary 100 mm capping with reinforcement in R.C.C.M. 200 fixing C.I. steps and fixing manhole fram and cover (But excluding suppling of manhole cover)over manholes and house connection chambers and fixing manhole covers (But excluding suppling of manhole cover) over scraper manhole etc.complete providing and fixing safety chain wherever necessary as per the stipulation in the type design complete as per latest CPHEEO manul.(excl.excavation) Manhole type "B" circular type having inside diameter of minimum 1500mm and for depth from1.5m to 4.0m(for 150 mm to 600 mm dia sewers)	Nos.	13.00	33429.00	4,34,577
5.08	Making connection to Municipal storm water line/ existing drain including breaking them in a systematic way with suitable excavation, dewatering, dismantling of the RCC or masonry wall or pipe line, passing the plumbing storm water line in the existing structure either through masonry or RCC and providing suitable "Y" tee to the connect to existing pipe line, Reconstructions of dismantled existing structure according to the original one to bring to the working conditions testing etc. work to be done in the presence of municipal eng. including Liasoning cost. complete as per standard as directed by Engineer-in-charge to complete the job.	Nos.	1.00	50000.00	50,000
Sub total					12,98,884
EXTERNAL STORM NETWORK					
6.01	Providing and supplying 150 mm Inner Dia. Pipe of Class SN8 Structured Wall polyethelene Piping systems (Pipe with online/offline coupler and elastomeric sealing ring) with non-smooth External Annular Corrugated and Smooth Internal Surfaces (Double Wall) for non-pressure underground Sewerage & Drainage application as per EN:13476-3 including all local and central taxes, transportation, freight charges, octroi, inspection charges, loading, unloading, conveyance to the departmental stores etc. complete.(ID Dia) Lowering, laying and jointing of class SN 8 structured wall (External Annular Corrugated & Smooth Internal surface) Polyethylene Piping and fittings with the help of coupler (on line / off line) attached with one end of pipes, sliding over the elastomeric sealing rubber ring placed on the specified valley of the corrugation at the spigot end, lowering the same into the trench at all level, laying on the lower bedding (constructed at bottom of trenches) at prescribed gradient,depth & alignment ,testing the water tightness of the joints, ensuring the continuity tests of specified pipe segments etc. complete as per drawing, specifications & detailed engineering, including carriage of pipes & fittings from site stacks to the place of laying etc. as per direction of Engineer-in-charge.	Rmt.	125.00	396.00	49,500
6.02	Providing and supplying 200 mm Inner Dia. Pipe of Class SN8 Structured Wall polyethelene Piping systems (Pipe with online/offline coupler and elastomeric sealing ring) with non-smooth External Annular Corrugated and Smooth Internal Surfaces (Double Wall) for non-pressure underground Sewerage & Drainage application as per EN:13476-3 including all local and central taxes, transportation, freight charges, octroi, inspection charges, loading, unloading, conveyance to the departmental stores etc. complete.(ID Dia) Lowering, laying and jointing of class SN 8 structured wall (External Annular Corrugated & Smooth Internal surface) Polyethylene Piping and fittings with the help of coupler (on line / off line) attached with one end of pipes, sliding over the elastomeric sealing rubber ring placed on the specified valley of the corrugation at the spigot end, lowering the same into the trench at all level, laying on the lower bedding (constructed at bottom of trenches) at prescribed gradient,depth & alignment ,testing the water tightness of the joints, ensuring the continuity tests of specified pipe segments etc. complete as per drawing, specifications & detailed engineering, including carriage of pipes & fittings from site stacks to the place of laying etc. as per direction of Engineer-in-charge.	Rmt.	540.00	771.00	4,16,340

PLUMBING WORKS -RIVERSIDE,AHMEDABAD

Item No.	Description	Unit	Total Qty.	Rate	Amount
6.03	<p>Providing and supplying 300 mm Inner Dia. Pipe of Class SN8 Structured Wall polyethelene Piping systems (Pipe with online/offline coupler and elastomeric sealing ring) with non-smooth External Annular Corrugated and Smooth Internal Surfaces (Double Wall) for non-pressure underground Sewerage & Drainage application as per EN:13476-3 including all local and central taxes, transportation, freight charges, octroi, inspection charges, loading, unloading, conveyance to the departmental stores etc. complete.(ID Dia)</p> <p>Lowering, laying and jointing of class SN 8 structured wall (External Annular Corrugated & Smooth Internal surface) Polyethylene Piping and fittings with the help of coupler (on line / off line) attached with one end of pipes, sliding over the elastomeric sealing rubber ring placed on the specified valley of the corrugation at the spigot end, lowering the same into the trench at all level, laying on the lower bedding (constructed at bottom of trenches) at prescribed gradient,depth & alignment ,testing the water tightness of the joints, ensuring the continuity tests of specified pipe segments etc. complete as per drawing, specifications & detailed engineering, including carriage of pipes & fittings from site stacks to the place of laying etc. as per direction of Engineer-in-charge.</p>	Rmt.	385.00	1401.00	5,39,385
6.04	<p>Providing and supplying 400 mm Inner Dia. Pipe of Class SN8 Structured Wall polyethelene Piping systems (Pipe with online/offline coupler and elastomeric sealing ring) with non-smooth External Annular Corrugated and Smooth Internal Surfaces (Double Wall) for non-pressure underground Sewerage & Drainage application as per EN:13476-3 including all local and central taxes, transportation, freight charges, octroi, inspection charges, loading, unloading, conveyance to the departmental stores etc. complete.(ID Dia)</p> <p>Lowering, laying and jointing of class SN 8 structured wall (External Annular Corrugated & Smooth Internal surface) Polyethylene Piping and fittings with the help of coupler (on line / off line) attached with one end of pipes, sliding over the elastomeric sealing rubber ring placed on the specified valley of the corrugation at the spigot end, lowering the same into the trench at all level, laying on the lower bedding (constructed at bottom of trenches) at prescribed gradient,depth & alignment ,testing the water tightness of the joints, ensuring the continuity tests of specified pipe segments etc. complete as per drawing, specifications & detailed engineering, including carriage of pipes & fittings from site stacks to the place of laying etc. as per direction of Engineer-in-charge.</p>	Rmt.	355.00	2153.00	7,64,315
6.05	<p>Construction of Storm water chamber of size 450x450x600 mm (internal clear) making of RCC including excavation, backfilling, watering, soling, compaction, Reinforcement etc. complete. It includes M 30 RCC work for walls , top slab and bottom slab as per the drawing, having Rubble soiling and 100mm thick PCC in M-15 at bottom level. It shall be plastered with 20mm thick Plaster with neat coat in CM 1:3 on internal and outside of chamber with adequate goliya at all sides. Top shall be covered with FRP recessed Heavy Duty cover with Frame(450MMX450MM Clear Opening). It shall be completed with all respect in ture line level, plumb with neat & clean surface as per coordinated infrastructure detail drawing up to the level of satisfaction</p>	Nos.	18.00	14000.00	2,52,000
6.06	<p>Construction of Storm water chamber of size 600x600x1000 mm (internal clear) making of RCC including excavation, backfilling, watering, soling, compaction, Reinforcement etc. complete. It includes M 30 RCC work for walls , top slab and bottom slab as per the drawing, having Rubble soiling and 100mm thick PCC in M-15 at bottom level. It shall be plastered with 20mm thick Plaster with neat coat in CM 1:3 on internal and outside of chamber with adequate goliya at all sides. Top shall be covered with FRP recessed Heavy Duty cover with Frame(600MMX600MM Clear Opening). It shall be completed with all respect in ture line level, plumb with neat & clean surface as per coordinated infrastructure detail drawing up to the level of satisfaction</p>	Nos.	27.00	16000.00	4,32,000
6.07	<p>Construction of Storm water chamber of size 900x900x1500 mm (internal clear) making of RCC including excavation, backfilling, watering, soling, compaction, Reinforcement etc. complete. It includes M 30 RCC work for walls , top slab and bottom slab as per the drawing, having Rubble soiling and 100mm thick PCC in M-15 at bottom level. It shall be plastered with 20mm thick Plaster with neat coat in CM 1:3 on internal and outside of chamber with adequate goliya at all sides. Top shall be covered with FRP recessed Heavy Duty cover with Frame(600MMX600MM Clear Opening). It shall be completed with all respect in ture line level, plumb with neat & clean surface as per coordinated infrastructure detail drawing up to the level of satisfaction</p>	Nos.	25.00	19500.00	4,87,500
6.08	<p>Construction of Storm water chamber of size 1200x1200x2000 mm (internal clear) making of RCC including excavation, backfilling, watering, soling, compaction, Reinforcement etc. complete. It includes M 30 RCC work for walls , top slab and bottom slab as per the drawing, having Rubble soiling and 100mm thick PCC in M-15 at bottom level. It shall be plastered with 20mm thick Plaster with neat coat in CM 1:3 on internal and outside of chamber with adequate goliya at all sides. Top shall be covered with FRP recessed Heavy Duty cover with Frame(600MMX600MM Clear Opening). It shall be completed with all respect in ture line level, plumb with neat & clean surface as per coordinated infrastructure detail drawing up to the level of satisfaction</p>	Nos.	25.00	24500.00	6,12,500

PLUMBING WORKS -RIVERSIDE,AHMEDABAD

Item No.	Description	Unit	Total Qty.	Rate	Amount
6.09	Making connection to Municipal storm water line/ existing drain including breaking them in a systematic way with suitable excavation, dewatering, dismantling of the RCC or masonry wall or pipe line, passing the plumbing storm water line in the existing structure either through masonry or RCC and providing suitable "Y" tee to the connect to existing pipe line, Reconstructions of dismantled existing structure according to the original one to bring to the working conditions testing etc. work to be done in the presence of municipal eng. including Liasoning cost. complete as per standard as directed by Engineer-in-charge to complete the job.	Nos.	1.00	50000.00	50,000
Sub total					36,03,540

PLUMBING WORKS -RIVERSIDE,AHMEDABAD

Item No.	Description	Unit	Total Qty.	Rate	Amount
PUMP AND EQUIPMENT WORKS					
7.01	Providing and fixing S.S. water cooler of 80ltr storage capacity with 60ltr per hr. cooling capacity . Including inbuilt R.O.Plant consisting of considering the inbuilt booster pump,dry run protection, water purification filters, piping, isolation valves, instruments supports, etc. complete & Medium Penetration UV. Including all Inter connection piping and valve all comp. System as per drinking water IS stadard requirement. it is recommendate to provide blending system of water at attain TDS level between 250-300 ppm. The supplier has to also supply and installation of SS-316 storage tank - 80 ltr. capacity.	Nos.	18.00	96495	17,36,910
7.02	WATER TRANSFER PUMP (For Domestic Water Supply) Centrifugal Monoblock Transfer pump Supplying, installing, testing and commissioning of Horizontal / vertial multistage, centrifugal clear water pumps with SS-304 casing, S.S 304 impeller and SS-304 shaft, SS-304/C.I. Base CED coating & head TEFC IE3 motor (with mechanical seal) with Company fitted with company compliance certificate. Vendor to submit performance curves and technical catalogue with all GA Drawing of the proposed model for review and information. Panel mounted PLC and HMI Based multi pump contoller with large graphical display with VGA 240 x 320 pixels and variable frequency drive (VFD) integrated in a Panel with IP55 class with pressure sensor transmitter (each pump each VFD), 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. All alarms should be displayed in the controller. System should be equipped with dry running protection. Indication of all type of faults / on-off status / electrical parameters shall be available on panel. Set of accessories such as G.I headers for suction and discharge, control valves, non return valves, pressure transducers, pressure gauge, inter connecting power and control cabling etc. complete. Capacity per pump - 20.0 m3/hour, Head - 50 mt, 1 Set = 3 Nos. Pump (2 Working +1 Asist - cascade operation)	Set	1.00	1400000	14,00,000
7.03	IRRIGATION PUMP Centrifugal Monoblock Transfer pump Supplying, installing, testing and commissioning of Horizontal / vertial multistage, centrifugal clear water pumps with SS-304 casing, S.S 304 impeller and SS-304 shaft, SS-304/C.I. Base CED coating & head TEFC IE3 motor (with mechanical seal) with Company fitted with company compliance certificate. Vendor to submit performance curves and technical catalogue with all GA Drawing of the proposed model for review and information. Panel mounted PLC and HMI Based multi pump controller with large graphical display with VGA 240 x 320 pixels and variable frequency drive (VFD) integrated in a Panel with IP55 class with pressure sensor transmitter (each pump each VFD), 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. All alarms should be displayed in the controller. System should be equipped with dry running protection. Indication of all type of faults / on-off status / electrical parameters shall be available on panel. Set of accessories such as G.I headers for suction and discharge, control valves, non return valves, pressure transducers, pressure gauge, inter connecting power and control cabling etc. complete. Capacity per pump - 7.5 m3/hour, Head -45 mt, 1 Set = 2 Nos. Pump (1 Working + 1 Standby).	Set	1.00	520000	5,20,000

PLUMBING WORKS -RIVERSIDE,AHMEDABAD

Item No.	Description	Unit	Total Qty.	Rate	Amount
7.04	<p>Sump Drain Pump (For Basement Drain, Pump Room Drain) Supply, installation, testing & commissioning of Submersible Non Clog, single stage, single entry pumps connected to TEFC submersible motor for 415 + 10% volts, 3 phase, 50 cycles A.C. power supply with mechanical seal, pump connector unit with rubber diaphragm and bend, vertical discharge pipe. (Pumps suitable to handle solids upto 50 mm size with C.I. body, SS304 shaft, SS impeller). Pump Outlet shall be individual for both pumps and shall be connected to main drain line individually. Electrical Starter panels complete with O/L Relay with Single phasing preventer feature, earth leakage relay, ON-OFF and Trip Indicating lamps, contactors Potential free contacts for Building Automation System, interlocking, level controller with operational mode as one pump working at low level, both pumps at high level with a hooter alarm and cut off at dry level, cascade operation, working / standby selection, etc. suitable for the motor H.P. as specified below. The operations data for all pumps shall be available on central BMS system Capacity per pump - 15.0 m3/hour, Head -20 mt, 1 Set = 2 Nos. Pump (1 Working + 1 Asist - cascade operation)</p>	Set	3.00	150000	4,50,000
7.05	<p>Sump Drain Pump (For Tunnel Drain) Supply, installation, testing & commissioning of Submersible Non Clog, single stage, single entry pumps connected to TEFC submersible motor for 415 + 10% volts, 3 phase, 50 cycles A.C. power supply with mechanical seal, pump connector unit with rubber diaphragm and bend, vertical discharge pipe. (Pumps suitable to handle solids upto 50 mm size with C.I. body, SS304 shaft, SS impeller). Pump Outlet shall be individual for both pumps and shall be connected to main drain line individually. Electrical Starter panels complete with O/L Relay with Single phasing preventer feature, earth leakage relay, ON-OFF and Trip Indicating lamps, contactors Potential free contacts for Building Automation System, interlocking, level controller with operational mode as one pump working at low level, both pumps at high level with a hooter alarm and cut off at dry level, cascade operation, working / standby selection, etc. suitable for the motor H.P. as specified below. The operations data for all pumps shall be available on central BMS system Capacity per pump - 300 m3/hour, Head -10 mt, 1 Set = 2 Nos. Pump (1 Working + 1 Asist - cascade operation)</p>	Set	2.00	4500000	90,00,000
Sub total					1,31,06,910
SPRINKLER , DRIP & HYDRANT IRRIGATION SYSTEM					
8.00	Providing, installing, testing and commissioning of HDPE pipes conforming to IS 4984 or ISO 4427 suitable for the respective working pressures with all electrofusion or compression type PN16 fittings and accessories e.g. couplings, tees, bends, reducers, screwed adapters, flanged tail pieces etc. jointing as per manufacturers' instruction,with Excavation & Backfilling upto 600mm for main and 450 mm for subman depth Make : Reliance/Emirates/Germany/Smartflows/Supreme				
8.01	HDPE Pipe 160mm PN 8	Rmt.	1.00	1,499.15	1,499.15
8.02	HDPE Pipe 140mm PN 8	Rmt.	1.00	1,161.86	1,161.86
8.03	HDPE Pipe 110mm PN 8	Rmt.	1.00	753.39	753.39
8.04	HDPE Pipe 90mm PN 8	Rmt.	1.00	452.54	452.54
8.05	HDPE Pipe 75mm PN 8	Rmt.	1.00	345.76	345.76
8.06	HDPE Pipe 63mm PN 6	Rmt.	1.00	269.49	269.49
	Piping Network Providing & fixing of following dia. white PVC pipe conforming to ASTM D 1785 SCH 40 or D 2241 Class 200/315 standards with all fittings and accessories e.g. couplings, tees, bends, reducers, screwed adapters, flanged tail pieces etc. as required with Excavation & Backfilling upto 450mm for for subman depth. Make: Rainbird/Astra/Smartflows/Supreme				
8.07	PVC Pipe Sch 40 / Class 200 2.5" - 65mm	Rmt.	1.00	525.42	525.42
8.08	PVC Pipe Sch 40 / Class 200 2" - 50mm	Rmt.	1.00	352.54	352.54
8.09	PVC Pipe Sch 40 / Class 200 1-1/2" - 40mm	Rmt.	1.00	280.51	280.51
8.10	PVC Pipe Sch 40 / Class 200 1-1/4" - 32mm	Rmt.	1.00	246.61	246.61

PLUMBING WORKS -RIVERSIDE,AHMEDABAD

Item No.	Description	Unit	Total Qty.	Rate	Amount
9.00	Drip & Accessories				
9.01	Providing, installing, testing and commissioning of 16mm inline tubing with pressure compensating,, Flat emitter and resistance to UV damage, algae growth brown in colour from outer surface and black inner surface, with flow rate 3.4 lph, dripper spacing 18" Pressure rating 0.58 to 4.1 kg/cm2 wall thickness 1.2mm The flexible polyethylene tubing shall have factory-installed pressure-compensating, inline emitters installed every 18 inches. The flow rate from each installed inline emitter shall be 3.4 Litre per hour. The inline emitter shall be pressure compensating with a spring-action design which will provide a self-rinsing mechanism if grit accumulates within the emitter. The bend radius shall be 3 inches whether bending the tubing with the natural bend of the coil or against it. The inline emitter inlet shall be raised off the inside tube wall to minimize dirt intrusion. Make: Rainbird/Smartflows/Toro/Netafim	Rmt.	1.00	56.78	56.78
9.02	Providing of 16 mm - 4 Bar Pressure Rating, 1.2mm Thickness, LEED Compliant, PE pipe -together with all required accessories. Make : Netafim / Rain Bird / Smartflows (Brown Colour)	Rmt.	1.00	-	-
9.03	Providing Pressure Comp. Bug Dripper 4 to 20 PLH Make : Netafim / Naan Dan / Rain Bird	NOS	1.00	-	-
9.04	Providing, installing, testing and commissioning of High Quality kg/cm2bs Grab Tubing for a Secure Fit. Unique kg/cm2b Design to Reduce Insertion Force. Non - Obtrusive 17mm Insert Fittings - Brown Color - Take Off Adapter, Elbow,Tees, End Cap with PP Clamp Saddle having nuts and bolts in zinc chromed steel, o-ring gasket in NBR. Male: Rainbid/Toro/Smartflows/Netafim	Set	1.00	251.69	251.69
9.05	Providing, installing, testing and commissioning of 9" Long Galvanized Lateral Hold Stake Make: Rainbird/Toro/Smartflows/Netafim	Nos	1.00	14.41	14.41
9.06	Providing, installing, testing and commissioning of Subsurface Dripline 16mm 30CM 2.3 LPH, 4 Bar Pressure Rating, 1.2mm Thickness together with all required accessories. Make: Netafim, Rain Bird, Smartflows (Brown Color)	Rmt.	1.00	111.86	111.86
				-	
10.00	Sprinklers & Accessories			-	
10.01	Providing, installing, testing and commissioning of Supply,Fixing & commissioning of 1" Rotor pop up sprinkler full/part circle having radius of 17.20m @ 3.0 kg/cm2 with discharge of 0.74 ltr./sec. the sprinklers having Arc Adjust through Top Cover w/ Std. Screwdriver The sprinkler is gear driven rotary type with having 1" bottom inlet. Oversized wiper seal, Rain Curtain technology, gentle close-in watering and Self-flushing arc adjustment port and also having tapered riser stem with Wiper Seal. Having internal Seal - A - Matic device which prevents low head drainage (upto 3.1m) & hence puddling & erosion. The body of sprinkler should be of non - corrodible, heavy duty, ABS plastic.O-ring Slip Clutch,Racheting Slip Clutch and having 4" (10.2 cm) pop-up height to center line of nozzle to clears taller turfgrass Make: RainBird/Toro/Weathermatic	Each	1.00	2,992.37	2,992.37
10.02	Providing, installing, testing and commissioning of 1" X 12" IONG Pop up Connecting Swing joint Assembly. The swing joint shall be molded from rigid PVC, Type 1, cell classification 12454-B, conforming to ASTM D1784, with a pressure rating of 315 psi (21.6 kg/cm2) at 73° F (22° C) when tested in accordance with ASTM D3139, including 60 minutes at 790 psi (54.1 kg/cm2), and short term exposure of 1000 psi (68.5 kg/cm2) without leakage. All NPT threads, sockets, and spigots shall be Schedule 80 per ASTM D2464 and D2467. All components shall be factory preassembled, available with 1" (2.5 cm), inlet/outlet and in lengths of 12" (45.7 cm). Spigot inlets shall be available for 1" (2.5 cm) swing joints. All rotating joints shall be modified stub ACME threads. All rotating joints shall have two EPDM rubber O-rings for positive sealing and thread protection. The swing joint shall have oversized threaded inlets with large grips and visible thread stops to make hand tightening and blind (underwater) installations easier with with PP Clamp Saddle Chromed Nut Bolt & Nitrile Rubber Gasket.Make: Lasco/Toro/Rainbird/Smartflows/Astore	Each	1.00	2,591.53	2,591.53
10.03	Providing, installing, testing and commissioning of Supply,Fixing & commissioning of 3/4" Rotor pop up sprinkler full/part circle having radius of 10m - 12m @ 2.5 kg/cm2 with discharge of 0.22 ltr./sec. the sprinklers having Arc Adjust through Top Cover w/ Std. Screwdriver The sprinkler is gear driven rotary type with having 3/4" bottom inlet. Oversized wiper seal, Rain Curtain technology, gentle close-in watering and Self-flushing arc adjustment port and also having tapered riser stem with Wiper Seal The sprinkler shall have Plus (PL) Flow shut off feature for maintainace and nozzle insertion online, 45 psi pressure regulator with flow optimizer technology, internal Seal - A - Matic device which prevents low head drainage (upto 3.1m) & hence puddling & erosion. The body of sprinkler should be of non - corrodible, heavy duty, ABS plastic.O-ring Slip Clutch,Racheting Slip Clutch and having 4" (10.2 cm) pop-up height to center line of nozzle to clears taller turfgrass Make: Rainbird/Toro/Weathermatics	Each	1.00	1,338.98	1,338.98
10.04	Providing, installing, testing and commissioning of 3/4" x 12" Long Pop up Connecting Swing joint Assembly. The tubing shall be made of polyethylene having wall thickness of 2.3mm ,a working pressure of 5.5 kg/cm2 at 43oC and a surge pressure of 16.6 kg/cm2. Flex pipe textured for wet conditions.The fittings shall be made of UV resistant thermo plastic with PP Clamp Saddle Chromed Nut Bolt & Nitrile Rubber Gasket. Make: Lasco/Toro/Rainbird/Smartflows/Astore	Each	1.00	343.22	343.22

PLUMBING WORKS -RIVERSIDE,AHMEDABAD

Item No.	Description	Unit	Total Qty.	Rate	Amount
10.05	Providing, installing, testing and commissioning of 4" Pop up spray head with SAM PRS Series Spray bodies, having Co-moulded wiper seal is moulded into the cap and features an encased plastic 'cage' to provide resistant to grit, with 2.4 to 5.4 Mtr Radius with Check Valve, complete with required nozzle Make : Rain Bird/ Toro/ Weahermatics	Each	1.00	-	-
10.06	Providing of Shrub Spray Pop-up Sprinkler 6" (6" Pop Up hight from Bottom to Centre of Discharging Nozzle) from (2.4 to 5.4 Mtr Radius) with Check Valve, complete with required nozzle Make : Rain Bird/ Toro/ Weathermatics	Each	1.00	-	-
10.07	Providing, installing, testing and commissioning of 4" Pop up spray head with SAM PRS Series Spray bodies , having Co-moulded wiper seal is moulded into the cap and features an encased plastic 'cage' to provide resistant to grit, with Spray nozzle having nozzle capable of covering 2.4 to 5.4 Meter radius. Make: Rainbird/Toro/Weathermatics	Each	1.00	627.97	627.97
10.08	Providing, installing, testing and commissioning of 4" Pop up spray head with SAM PRS Series Spray bodies , having Co-moulded wiper seal is moulded into the cap and features an encased plastic 'cage' to provide resistant to grit, with Rotary nozzle having mutiple stream MPR sprayhaving Co-moulded wiper seal is molded into the cap and features an encased plastic 'cage' to provide unmatched resitence to grit, nozzle capable of covering 4.0-7.3m at 1.4 - 3.8 kg/cm2s pressure, and the enviroment. Rotary nozzles shall have hand adjustable (without tools) radius and arc-45 to 270 degree or full circle.True flushing mechanism,Thick streams and large water droplet & Low precipitation rate. Make: Rainbird/Toro/Weathermatics	Each	1.00	711.02	711.02
10.09	Providing, installing, testing and commissioning of 12" Pop up spray head with SAM PRS Series Spray bodies , having Co-moulded wiper seal is moulded into the cap and features an encased plastic 'cage' to provide resistant to grit, with Rotary nozzle having mutiple stream MPR sprayhaving Co-moulded wiper seal is molded into the cap and features an encased plastic 'cage' to provide unmatched resitence to grit, nozzle capable of covering 4.0-7.3m at 1.4 - 3.8 kg/cm2s pressure, and the enviroment. Rotary nozzles shall have hand adjustable (without tools) radius and arc-45 to 270 degree or full circle.True flushing mechanism,Thick streams and large water droplet & Low precipitation rate. Make: Rainbird/Toro/Weathermatics	Each	1.00	711.02	711.02
10.10	Providing, installing, testing and commissioning of 1/2" x 12" Long Pop up Connecting Swing joint Assembly. The tubing shall be made of polyethylene having wall thickness of 2.3mm ,a working pressure of 5.5 kg/cm2 at 43oC and a surge pressure of 16.6 kg/cm2. Flex pipe textured for wet conditions.The fittings shall be made of UV resistant thermo plastic with PP Clamp Saddle Chromed Nut Bolt & Nitrile Rubber Gasket Make:Lasco/Toro/Rainbird/Smartflows/Astore	Each	1.00	318.64	318.64
					-
11.00	Valves Providing of Various Valves with required Fittings & Tapping PP Clamp Saddles with Chromed Nut Bolt & Nitrile Rubber Ring				-
11.01	Providing, installing, testing and commissioning of 2' 50mm Gate Valve, MOC Brass, Non Rising Stem, Full Port, 200 / 14 kg/cm2 PSI, BSPT Make: NIBO/LEADER/Leemco	NOS	1.00	4,975.42	4,975.42
11.02	Providing, installing, testing and commissioning of 1-1/2' 40mm Gate Valve, MOC Brass, Non Rising Stem, Full Port, 200 / 14 kg/cm2 PSI, BSPT Make: NIBO/LEADER/Leemco	NOS	1.00	4,717.80	4,717.80
11.03	Providing, installing, testing and commissioning of PVC Butter Fly Valve 160mm (6") PN 10, having EPDM Seals, Galvnized Steel Stem Disc - PVC U Make: Astore/GF/FIP	NOS	1.00	18,366.95	18,366.95
11.04	Providing, installing, testing and commissioning of PVC Butter Fly Valve 140mm (5") PN 10, having EPDM Seals, Galvnized Steel Stem Disc - PVC U Make: Astore/GF/FIP	NOS	1.00	16,481.36	16,481.36
11.05	Providing, installing, testing and commissioning of PVC Butter Fly Valve 110mm (") PN 10, having EPDM Seals, Galvnized Steel Stem Disc - PVC U Make: Astore/GF/FIP	NOS	1.00	12,937.29	12,937.29
11.06	Providing, installing, testing and commissioning of PVC Butter Fly Valve 90mm (3") PN 10, having EPDM Seals, Galvnized Steel Stem Disc - PVC U Make: Astore/GF/FIP	NOS	1.00	12,338.98	12,338.98
11.07	Providing, installing, testing and commissioning of PVC Butter Fly Valve 75mm (2.5") PN 10, having EPDM Seals, Galvnized Steel Stem Disc - PVC U Make: Astore/GF/FIP	NOS	1.00	11,500.00	11,500.00
11.08	Providing, installing, testing and commissioning of PVC Butter Fly Valve 63mm (2.0") PN 10, having EPDM Seals, Galvnized Steel Stem Disc - PVC U Make: Astore/GF/FIP	NOS	1.00	10,910.17	10,910.17
11.09	Providing, installing, testing and commissioning of PVC Flush Valve 40mm Make: Rainbird/Smartflows/Netafim	NOS	1.00	238.98	238.98
11.10	Providing, installing, testing and commissioning of 3/4" Quick Coupling Valve Make: Rainbird/Toro/Smartflows	NOS	1.00	5,870.34	5,870.34
11.11	Providing, installing, testing and commissioning of 3/4" Quick Coupling Valve Key Make Rainbird/Toro/Smartflows	NOS	1.00	5,728.81	5,728.81
11.12	Providing, installing, testing and commissioning of Saddle Tee 160/140/110/90/75/63mmX3/4" wittth ASTM Pipe (12" Long) Make Astore/Smartflows/Astral	NOS	1.00	1,094.92	1,094.92

PLUMBING WORKS -RIVERSIDE,AHMEDABAD

Item No.	Description	Unit	Total Qty.	Rate	Amount
11.13	Providing, installing, testing and commissioning of Swivel Elbow 3/4" X 3/4" - Rainbird/Toro/Smartflows	NOS	1.00	6,281.36	6,281.36
11.14	Providing, installing, testing and commissioning of 1" - 25mm Double Acting Air cum Vacum Release Valve, Body: Glass-reinforced Nylon, Float Assembly: Polypropylene, Elastomers: EPDM, operating pressure minimum 0.1 kg/cm2, maximum 10 kg/cm2, Aerodynamic full-body kinetic shield, Straight flow body with large diameter orifice size 0.787mm dia and area of 0.496 sqmm Make:Bermad/Rainbird/Crispin	NOS	1.00	1,801.69	1,801.69
11.15	Providing, installing, testing and commissioning of PP Saddle Tee 160/140/110/90/75/63mmX1" with ASTM Pipe (12" Long) Make: Astore/Smartflows/FIP/Astral	NOS	1.00	1,094.92	1,094.92
11.16	Providing, installing, testing and commissioning of 12" Rectangular Standard Commercial grade Valve Box with greenlid and corrugated structure with unique shovel access slot and bolt hole knockout & having Dimensions @ Top Opening:14.5" L X 9.4" W 12.1" H & bottom opening :18.7" L X 14.1"W with Nut Bolt Lock Make: RainBird/Toro/Smartflows	NOS	1.00	4,065.25	4,065.25
11.17	Providing, installing, testing and commissioning of 10" Round Valve Box with greenlid and corrugated structure with unique shovel access slot and bolt hole knockout & Having Dimensions @ Top Opening 8.9" Dia & Bottom Opening 11.9" Dia,with Nut Bolt Lock, Make: RainBird/Toro/Smartflows	NOS	1.00	2,494.92	2,494.92
11.18	Providing, installing, testing and commissioning of 6"Round box with greenlid Having Dimensions @ Top Opening :6 1/8" Dia & Bottom Opening 8 5/8" Dia, with Nut Bolt Lock, Make: RainBird/Toro/Smartflows	NOS	1.00	601.69	601.69
11.19	Providing, installing, testing and commissioning of 12" Jumbo Rectangular Standard Commercial grade Valve Box with greenlid and corrugated structure with unique shovel access slot and bolt hole knockout & having Dimensions @ Top Opening:18.7" L X 12.2" W & bottom opening :24" L X 17.5" W X 12.1" H, with Nut Bolt Lock Make: RainBird/Toro/Smartflows	NOS	1.00	7,760.17	7,760.17
11.20	Providing, installing, testing and commissioning of 4.0" Hydro Meter - Water Meter cum Master Valve in one common body Make:Rainbird/Bermad/Smartflows/Cal-Valve	NOS	1.00	1,40,180.51	1,40,180.51
11.21	Providing, installing, testing and commissioning of 2.0" Hydro Meter - Water Meter cum Master Valve in one common body Make:Rainbird/Bermad/Smartflows/Cal-Valve	NOS	1.00	76,676.27	76,676.27
12.00	Automation Providing Automation Items for Irrigation with all its required accessories.				
12.01	Providing, installing, testing and commissioning of 230V Input, DC output Irrigation Controller combines electromechanical and microelectronic circuitry capable of fully automatic or manual operation. Make:Netafim/Toro/Rainbird	Set	1.00	1,15,646.61	1,15,646.61
12.02	Providing, installing, testing and commissioning of D.C. 2"-50mm Durable Glass filled nylon Solenoid Valve - BSP Female Threaded, with Nylone scrubber / Filter Sentry Pressure - 1 to 13.8 kg/cm2 along with Filed Device - DC Solienoid Coil with interface module in-built in one device mountable on Solenoid Valve to connect Controller and Valve on one wire path Make: Bermad/Netarim/RainBird/Toro	Nos	1.00	20,105.08	20,105.08
12.03	Providing, installing, testing and commissioning of D.C. 1.5"-40mm Durable Glass filled nylon Solenoid Valve - BSP Female Threaded, with Nylone scrubber / Filter Sentry Pressure - 1 to 13.8 kg/cm2 along with Filed Device - DC Solienoid Coil with interface module in-built in one device mountable on Solenoid Valve to connect Controller and Valve on one wire path Make: Bermad/Netarim/RainBird/Toro	Nos	1.00	18,394.07	18,394.07
12.04	Providing, installing, testing and commissioning of Flow Sensor Make: Bermad/Netarim/RainBird/Toro	Nos	1.00	98,538.98	98,538.98
12.05	Providing, installing, testing and commissioning of Rain Sensor Make: Bermad/Netarim/RainBird/Toro	Nos	1.00	16,901.69	16,901.69
12.06	Providing, installing, testing and commissioning of Maxi Jackated Direct Burrial Irrigation Automation Cable 14 AWG Tin coated copper conductors, insulated with PVC and having a high density polyethylene direct burial jacket. Conductor - Soft annealed fin coated solid copper conforming to ASTM B-33. Insulation: Polyvinyl Chloride conforming to UL Standard 493 for TYPE UF/TWU rated 75°C. Outer Jacket: Pressure Extruded High Density PE conforming to ICEA S-61-402, and NEMA WC5 Jacket Thickness 3/64" minimum jacket material to completely fill interstices between the two insulated conductors. Make: RainBird/Paige/Smartflows/Toro	Mtr	1.00	186.44	186.44
12.07	Providing, installing, testing and commissioning of Pressure Regulatr to Maintain constant outlet pressure between 1.04 to 6.9 Kg/cm2 Make: Bermad/Netarim/RainBird/Toro	Nos	1.00	4,763.56	4,763.56
12.08	Providing, installing, testing and commissioning of direct bury -on wire connector with strain relief ,UL486 D certified ,with waterproof silicon sealant ,fits wire from 22ga to6 ga as per specifications complete. Make 3M/Smartflows/Rainbird	Nos	1.00	195.76	195.76
12.09	Providing, installing, testing and commissioning of Surge Protector Make: Bermad/Netarim/RainBird/Toro	Nos	1.00	8,539.83	8,539.83
12.10	Providing, installing, testing and commissioning of Copper Grounding Rod 5/8" x 8' Make: Paige/Smartflows/Rainbird	Nos	1.00	6,405.93	6,405.93
12.11	Providing, installing, testing and commissioning of Maxi Surge Pipe Bermad/Netarim/RainBird/Toro	Nos	1.00	31,135.59	31,135.59
12.12	Providing, installing, testing and commissioning of Maxi Grounding Plate Bermad/Netarim/RainBird/Toro/Paige	Nos	1.00	38,251.69	38,251.69
12.13	Providing, installing, testing and commissioning of Voltage Stabilizer Make: APC/V Guard/Lumineous	Nos	1.00	16,901.69	16,901.69

PLUMBING WORKS -RIVERSIDE,AHMEDABAD

Item No.	Description	Unit	Total Qty.	Rate	Amount
12.14	Providing, installing, testing and commissioning of PLB Duct Pipe 32/26mm with pre inserted 3mm nylon rope for cable pulling, length Make: Supreme/Smartflows/Reliance	Mtr	1.00	107.63	107.63
13.00	Filteration Unit				
13.01	Providing, installing, testing and commissioning of Filter Station Fully Automatic Self Cleaing Filter, Pressure Differential Based, 100/130 Micron, Flanged End & all required Accessories Screen Filter Self Cleaning 50m3 / Hr Make : Rain Bird / Yardeney / Smartflows / VAF	Nos	1.00	3,95,340.68	3,95,340.68
13.02	Providing, installing, testing and commissioning of Filter Station Fully Automatic Self Cleaing Filter, Pressure Differential Based, 100/130 Micron, Flanged End & all required Accessories Screen Filter Self Cleaning 25m3 / Hr Make : Rain Bird / Yardeney / Smartflows / VAF	Nos	1.00	1,99,011.02	1,99,011.02
14.00	Pump Station				
14.01	Pump Station Providing, installing and commissioning of Pumping System - Vurticle Multistage Pump having system flow of 37.8 m3/Hr @ 55 Mtr Head (2 Working + 1 SB), combination of 3 Pumps capacity of 18.9 m3/Hr @ 55m Head of each Pumps with All Header, Pressure Tank, Pressure switch, NRV and Butter Fly Valve with VFD Control Panel with all GI C Class Pipes and Fittings (Jindal/TATA/Surya) etc. complete as directed by engineer in charge Make : Grundfos / ITT / Smartflows / Watertronics	set	1.00	11,59,220.34	11,59,220.34
14.02	Pump Station Providing, installing and commissioning of Pumping System - Vurticle Multistage Pump having system flow of 18.0 m3/Hr @ 45 Mtr Head (1 Working + 1 SB) with All Header, Pressure Tank, Pressure switch, NRV and Butter Fly Valve with VFD Control Panel with all GI C Class Pipes and Fittings (Jindal/TATA/Surya) etc. complete as directed by engineer in charge Make : Grundfos / ITT / Smartflows / Watertronics	set	1.00	6,67,388.98	6,67,388.98
14.03	Providing, installing and commissioning of Surge anticipation cum Quick Pressure relief Valve 2" Make : Bermad/Rainbird/ Cal-Valve	Nos	1.00	1,74,586.44	1,74,586.44
14.04	Providing, installing and commissioning of DWC SN 8 Pipe 6" - Road Sleeve Make : Supreme/Duraline/Astral/Smartflows	Mtr	1.00	998.31	998.31
	Sub total				33,34,695
	TOTAL PLUMBING				4,21,07,446

PROJECT- RIVERSIDE SAVOURIES, AHMEDABAD

DOCUMENT-BOQ

Schedule of rate for R & B

Item	Description of Item	Quantity	Unit	SOR Rate	Amount (Rs.)	Total Amount
Electrical & ELV Work						
1	Compact Substation					
1.1	<p>Unitized Sub-Stations Supplying, installation, testing and commissioning of 11 KV, 21 KA for 3 sec. non extensible unitized / Compact sub-station consisting of following 11 KV SF6 insulated compact VCB, transformer & LT Air circuit Breaker in a pre -fabricated dust and vermin proof out door enclosure having modular construction of galvanised sheet steel in corugated type wall design dully painted with epoxy based powder paint (Colour RAL 7032) . The enclosure shall have IP54 degree of protection for HT&LT switch gear compartment and IP23 degree of protection for transformer compartment. Short Circuit breaking capacity of 21 KA at 11 KV 3 phase. Interconnection between HT switch gear and transformer using suitable size aluminium conductor armoured XLPE cable, HV Danger Notice board, Internal earth connections copper bus bars of 25mm X 6mm.</p> <p>A) HT SF6 VCB Supplying, Installation, Testing & Commissioning of HT VCB panel consisting of 1 no. of 630A HT VCB . The panel should have tinned copper busbars and extensible type for future requirements. The Panel should be complete with metering and protection as per specification.</p> <p>B) Transformer Dry type 500 kVA, 11KV / 415 Volts , 3 phase, 50 Hz, Dyn11 vector group, copper wound, class "F" insulation associated with winding temperature indicator / controller actuated by means of resistance temperature detector embedded in LV windings , indoor type distribution Transformer with approximately 5 % impedance, tappings for off load operation on HV side in steps of +/- 2.5 % , + 10 % & - 10 % having Suitable cu busbar connection between LV side & LT ACB with neutral brought out separately including supplying and laying copper conductor multicore control cable from transformer to HT breaker for safety tripping, suitably mounted on MS channel with all accessories and confirming to IS 11171:1985 complete with all fittings and accessories as per specifications attached etc. as required at site.Efficiency should be as per IS1180 Level -02.</p> <p>B) LT Circuit Breker 800A FP, ACB, 36KA with busbar outgoing Suitable to connect 5#3.5x300Sq mm. Complete with OL,SC,EF Protection.</p>	1.00	Each	28,35,072.00	28,35,072.00	2835072.00
	Total					2835072.00
2	DG Set					
2.1	Supplying and erecting, commissioning and testing of Diesel Generating set confirming to IS: 4722:1968 & BS:5514 having continuous rating, 3 phase, 415 volts, 50 cycles A.C. supply comprising of a totally enclosed air/water cooled diesel engine with multi-cylinders developing suitable BHP not less than following capacity at 1500 RPM with 10% overload for one hour in 24 hours with standard accessories like fly wheel, lubricating oil cooler, "A" class governor, heavy duty fuel wheel and lubricating oil filter, oil bath air filler, lubricating oil pressure gauge, end exhaust manifold, standard set of tools with adjustable spanners, screw drivers, cylinder head to cover, joint cylinder head to exhaust, element lube oil filter, 12 / 24 volts electric starting equipment complete with standard heavy duty battery, dynamo, cut-outs, ammeter, necessary wiring, pressure gauge, starter etc and heavy duty Residential type exhaust silencer and vertical hot air duct both	1.00	Each	40,18,180.00	4018180.00	4018180.00

	<p>logged with asbestos rope, save oil trays, exhaust piping of required length, standard wall/floor mounted fuel with level indicator and piping and drip proof alternator, self excited, self regulated, screen protected, with excitation system, capable of delivering the rated system output at 415 volts, 3 phase, 0.8 PF, 50 Hz, 4 wire, running at 1500 RPM, conforming to IS-4722- 1968 with voltage regulation +/- 5% of rated voltage from no load to full load. Both the engine and alternator fitted on a common fabricated steel base plate with antivibration mounting engine and alternator both connected to each other by flexible flange coupling and with floor/wall mounted control panel box comprising of voltmeter ammeter, selector switches, ACB / MCCB / MCB of adequate capacity,</p> <p>indicator lamps duly wired with HRC fuses. The alternator & control panel shall be connected with provided suitable capacity armoured cable and complete with Acoustic enclosure (canopy) made out of 16 SWG CRCA Sheet, sound absorbing material Rockwool of 64 density & 100 mm thick conforming to IS:8183 / PU Foam of 40 Density - at least 40 mm. The resin bonded rockwool covered from inside the canopy by perforated sheet with 3/4 mm holes, sound level not more than 75 dB at a distance of 1 mtr, as per PVCT norms. Erection, commissioning and satisfactory testing as per requirement with first filling of fuel, oil, etc. with guarantee / Warrantee of complete system for Two years. & with obtaining all necessary certificate from Electrical Inspector. The Capacity and Ratings of DG sets are as below.</p> <p>(V) Continuous rating of 500 KVA ,BHP not less than 600 BHP</p>					
2.2	<p>AMF panel</p> <p>Providing & erecting approved make AMF control panel suitable for following size of 3 phase, 415 V., 50 cycles, A.C. diesel generating set complete of scope as detailed below:</p> <p>1) Power module: A pair of electromechanically interlocked contactors (for mains & generator) Overload relay for generator contactor Neutral contactor for mains and generator Power socket for connections.</p> <p>2) Control and metering module: Line voltage monitor. Generator voltage monitor Ammeter 3 items attempt start facility. Air circuit breakers/MCB/MCCB of suitable rating for auto/manual operation. Auto/manual switch. Emergency stop push buttons. Manual start push button. frequency meter. Engine hour meter. Two earthing studs.</p> <p>3) Protection module: The engine shutdown in the unlikely event of Low lube oil pressure High cylinder head temperature. V belt failure.</p> <p>4) Indicators with alarm Load on generator.</p> <p>5) Indicators Load on mains Engine fails to start . Emergency stop battery charger.</p> <p>The AMF Panel of following capacity</p> <p>(G) AMF Control Panel for 500 KVA 3 phase DG Set</p>	1.00	Each	4,38,931.00	438931.00	438931.00
	Total					4457111.00

3	LT PANEL					
	<p>Supply, installation, testing and commissioning of 3 phase 415V 4 wire Free Standing Floor mounted MV panel made out of minimum 14 SWG CRCA sheet after seventank process and painting with Epoxy powder coating including all switchgear as detailed below. The panel having PU/Neoprene rubber gasket of not less than 3mm thickness, separate detachable, gland plate M.S. base channel, hinged door with locking arrangement for equipment/switchgear. The panel shall consist of suitable rating FP/TPN Aluminium- busbar-as per SLD (at the rating of 0.8ASq.mm) supported with DMC/ SMC barriers and colour coded with Heat shrinkable sleeves. The Metering shall be provided as specified. The panel shall have Short circuit with standing capacity as given in SLD and consist of the switchgear as mentioned below. The panel shall be mounted on plinth, stand, etc. including all materials. The panel shall be got fabricated from manufacturers with CPRI Test certificate only. All the Panels shall have minimum 25% outgoing as per SLD. The earth bus shall be continuously run without any jointing/welding and its Size should be per SLD. The size of all Panel Mounting Meters shall be 96X96mm. The Panels shall be mounted on U channels including supply and fixing of the same. MCBs shall be provided for Control purposes. (All Panels shall be extendable type only). Price shall be inclusive following:</p> <p>Shifting of panels from site store to the suitable location. Installation of panel as located in electrical drawings or as per site conditions, including removing packing etc. Earthing all components, frame etc. to a common internal earth bar. Connection, testing & commissioning. Electrical contractor shall carry out the insulation test at site & all the readings shall be submitted in copy to the consultant or engineer-in-charge. Supply, installation, testing and commissioning all accessories, supporting structure, hard ware etc to complete the job. Supply, installation, testing and commissioning of necessary tools, hard ware, testing hard ware, testing equipment etc. The rates for the distribution boards apart from the Breakers and instruments shall also include the following :</p> <p>This schedule of Quantities shall be read in conjunction with the technical specification, General & Special conditions as well as all tender drawings. Supporting rigid steel framework. Cubicle type, 14 gauge CRCA sheet steel enclosed. Proper bonding to earth. Painting/lettering on Breakers and distribution boards, the location they serve, providing on each panel its circuit diagram.</p> <p>Providing cable clamps / supports within distribution boards cable alley.</p> <p>All MCB's shall be of minimum 10 KA breaking capacity.</p> <p>The breaking capacity of MCCB's are mentioned panel wise. All MCCB's shall be with thermal magnetic releases upto 250 amps and microprocesR&B R&B SOR based for 250 amps and above capacity, unless specified otherwise.</p>					
3.1	<p>SITC OF Main LT Panel ALSO REFER SLD ALONG WITH THIS. ALL SHOULD BE AS PER SLD & REQUIREMENT.</p>	1.00	Each	11,02,281.90	11,02,281.90	1102281.90
3.2	<p>SITC OF Block Common Panel ALSO REFER SLD ALONG WITH THIS. ALL SHOULD BE AS PER SLD & REQUIREMENT.</p>	6.00	Each	1,08,037.90	6,48,227.40	648227.40
3.3	<p>SITC OF External Lighting Panel ALSO REFER SLD ALONG WITH THIS. ALL SHOULD BE AS PER SLD & REQUIREMENT.</p>	4.00	Each	1,10,222.04	4,40,888.15	440888.15
3.4	<p>SITC OF PHE Panel ALSO REFER SLD ALONG WITH THIS. ALL SHOULD BE AS PER SLD & REQUIREMENT.</p>	1.00	Each	99,916.60	99,916.60	99916.60

3.5	<p>SITC OF APFC PANEL - 200 KVAR</p> <p>Design, Supplying, installing, testing of factory fabricated ready made Three phase APFC Panel Cubical Panel fabrication should be type tested as per IEC 61921, 61439:1&2 Capacitor Duty Contactor for switching as per following Steps Incomer Switch of MCCB type Icu=Ics=50KA at 400/440 Volts, with OC, SC, internal earth fault protection Incomer Switch of MCCB type Icu=Ics=50KA at 400/440 Volts, with OC, SC, internal earth fault protection, Copper tinned insulated Busbar, Cubical panel should be indoor type with IP 43 and IK 10, Metalized polypropylene film tye3-phase 550Volt Capacitor, De tuning Reactor for each capacitor, Panel having Short Circuit and Overload protection, Each step Capacitor having suitable MCB with Sc, OL, internal earth fault relay, Each stage having Stage Contactor (Capacitor load rating), PF regulator master controller having suitable steps with LCD display, Rs 485 Communication port, Indication LED Lamps for main incomer and ON-OFF for each capacitor bank, MS Chanel for Floor mounting, Cable entry as per site situation, Cooling fans for panel ALSO REFER SLD ALONG WITH THIS. ALL SHOULD BE AS PER SLD & REQUIREMENT.</p>	1.00	Each	5,74,578.00	5,74,578.00	574578.00
Total						2865892.05
4	JUNCTION BOXES					
4.1	Supply, Transportation, Installation, testing and commissioning of IP-67 Rated weather proof Outdoor type junction boxes having dimensdios Height x Width x Depth:- 104 x 104 x 70 mm with terminal having black colour RAL 7035. with 5 pole terminal set upto 4 sqmm cables	5.00	Each	904.42	4,522.09	4522.09
4.2	Supply, Transportation, Installation, testing and commissioning of IP 66/69 weather proof Outdoor type junction boxeshaving dimensdios Height x Width x Depth:- 155 x 210 x 92 mm with terminal having black colour RAL 9011. with 5 pole terminal set upto 16 sqmm cables	10.00	Each	4,072.96	40,729.55	40729.55
Total						45251.64
5	DISTRIBUTION BOARD					
SPN Distribution Board :						
5.1	<p>Providing and erecting Sheet Steel powder coated MCB distribution board - flush / surface mounted fitted with busbar, neutral link, earth bar and DIN rail, Conforms to IS 8623-1 & 3, IEC 61439-1 & 3 without MCB to house appropriate nos. of MCBs.(The DBs should be used of same company of MCB to be used) suitable for</p> <p>(A) Single phase incoming and horizontal single phase outgoing (b) Sheet Steel double door (IP-43) (iii) 8 way</p>	44.00	Each	1,141.00	50,204.00	50204.00
5.2	<p>Providing and erecting Sheet Steel powder coated MCB distribution board - flush / surface mounted fitted with busbar, neutral link, earth bar and DIN rail, Conforms to IS 8623-1 & 3, IEC 61439-1 & 3 without MCB to house appropriate nos. of MCBs.(The DBs should be used of same company of MCB to be used) suitable for</p> <p>(A) Single phase incoming and horizontal single phase outgoing (b) Sheet Steel double door (IP-43) (iv)12 way</p>	8.00	Each	1,478.00	11,824.00	11824.00

5.3	<p>Providing and erecting Sheet Steel powder coated MCB distribution board - flush / surface mounted fitted with busbar, neutral link, earth bar and DIN rail, Conforms to IS 8623-1 & 3, IEC 61439-1 & 3 without MCB to house appropriate nos. of MCBs.(The DBs should be used of same company of MCB to be used) suitable for</p> <p>(A) Single phase incoming and horizontal single phase outgoing (b) Sheet Steel double door (IP-43) (v) 16 way</p>	1.00	Each	1,664.00	1,664.00	1664.00
TPN Distribution Board :						
5.4	<p>Providing and erecting Sheet Steel powder coated MCB distribution board - flush / surface mounted fitted with busbar, neutral link, earth bar and DIN rail, Conforms to IS 8623-1 & 3, IEC 61439-1 & 3 without MCB to house appropriate nos. of MCBs.(The DBs should be used of same company of MCB to be used) suitable for suitable for (PPI DB)</p> <p>(B) three phase incoming and single phase horizontal type outgoing Per phase isolation type (PPI) (b) Sheet Steel double door (ii) 6 way</p>	7.00	Each	2,885.00	20,195.00	20195.00
5.5	<p>Providing and erecting Sheet Steel powder coated MCB distribution board - flush / surface mounted fitted with busbar, neutral link, earth bar and DIN rail, Conforms to IS 8623-1 & 3, IEC 61439-1 & 3 without MCB to house appropriate nos. of MCBs.(The DBs should be used of same company of MCB to be used) suitable for suitable for (PPI DB)</p> <p>(B) three phase incoming and single phase horizontal type outgoing Per phase isolation type (PPI) (b) Sheet Steel double door (iii) 8 way</p>	17.00	Each	3,379.00	57,443.00	57443.00
5.6	<p>Providing and erecting Sheet Steel powder coated MCB distribution board - flush / surface mounted fitted with busbar, neutral link, earth bar and DIN rail, Conforms to IS 8623-1 & 3, IEC 61439-1 & 3 without MCB to house appropriate nos. of MCBs.(The DBs should be used of same company of MCB to be used) suitable for suitable for (PPI DB)</p> <p>(B) three phase incoming and single phase horizontal type outgoing Per phase isolation type (PPI) (b) Sheet Steel double door (iv)12 way</p>	1.00	Each	3,836.00	3,836.00	3836.00

5.7	Providing and erecting Sheet Steel powder coated MCB distribution board - flush / surface mounted fitted with busbar, neutral link, earth bar and DIN rail, Conforms to IS 8623-1 & 3, IEC 61439-1 & 3 without MCB to house appropriate nos. of MCBs.(The DBs should be used of same company of MCB to be used) suitable for suitable for (PPI DB) (B) three phase incoming and single phase horizontal type outgoing Per phase isolation type (PPI) (b) Sheet Steel double door (v)16 way	1.00	Each	4,620.00	4,620.00	4620.00
VTPN Distribution Board :						
5.8	Providing and erecting Sheet Steel powder coated Vertical MCB distribution board (VTPN) - flush / surface mounted double door (IP54) fitted with copper insulated busbar, isolated neutral bar, earth bar and DIN rail, Conforms to IS 8623-1 & 3, IEC 61439-1 & 3, suitable for 63/100 AMP TPN MCCB + RCCB as incomer and three phase outgoing as per following .(The DBs should be used of same company of MCB to be used) (A)4 way outgoing	1.00	Each	5,760.00	5,760.00	5760.00
5.9	Providing and erecting Sheet Steel powder coated Vertical MCB distribution board (VTPN) - flush / surface mounted double door (IP54) fitted with copper insulated busbar, isolated neutral bar, earth bar and DIN rail, Conforms to IS 8623-1 & 3, IEC 61439-1 & 3, suitable for 63/100 AMP TPN MCCB + RCCB as incomer and three phase outgoing as per following .(The DBs should be used of same company of MCB to be used) (C)8 way outgoing	1.00	Each	8,319.00	8,319.00	8319.00
5.10	Providing and erecting Sheet Steel powder coated Vertical MCB distribution board (VTPN) - flush / surface mounted double door (IP54) fitted with copper insulated busbar, isolated neutral bar, earth bar and DIN rail, Conforms to IS 8623-1 & 3, IEC 61439-1 & 3, suitable for 63/100 AMP TPN MCCB + RCCB as incomer and three phase outgoing as per following .(The DBs should be used of same company of MCB to be used) (D)12 way outgoing	1.00	Each	10,857.00	10,857.00	10857.00
MCB 's and its Accessories						
5.11	Providing & erecting insulated socket 3P+N+E with Plug16A rating which is comprised of Four pole MCB slot and insulated socket IP40 Cat-III.	1.00	Each	1,690.00	1,690.00	1690.00
5.12	providing and erecting Miniature circuit breaker single pole 6A to 25A suitable to operate on 240 V A.C. system and having breaking capacity 10 KA to be erected in existing box. confirming to IS 8828/1996 with ISI Mark Cat.III.	614.00	Each	111.00	68,154.00	68154.00
5.13	Providing & erecting 240 V MCB double pole switch for motor & inductive load having 10 KA breaking capacity & confirms to IS : 8828 in existing box having following capacity (A) 6 to 32 Amp.	1.00	Each	297.00	297.00	297.00
5.14	Providing & erecting 415 V MCB Four Pole for Motor & Inductive Load having 10KA breaking capacity & confirms to IS :8828 in existing box having following capacity (a) 6 to 32 Amp. (Cat.III)	7.00	Each	590.00	4,130.00	4130.00
5.15	Providing & erecting 415 V MCB Four Pole for Motor & Inductive Load having 10KA breaking capacity & confirms to IS :8828 in existing box having following capacity (b) 40 Amp. (Cat.III)	17.00	Each	662.00	11,254.00	11254.00

5.16	Providing & erecting 415 V MCB Four Pole for Motor & Inductive Load having 10KA breaking capacity & confirms to IS :8828 in existing box having following capacity (c) 63 Amp. (cat III)	87.00	Each	730.00	63,510.00	63510.00
5.17	Providing & erecting 415 V MCB three Pole for Motor & Inductive Load having 10KA breaking capacity & confirms to IS :8828 in existing box having following capacity (a) 6 to 32 Amp. (Cat.III)	4.00	Each	582.00	2,328.00	2328.00
5.18	Providing & erecting 415 V MCB three Pole for Motor & Inductive Load having 10KA breaking capacity & confirms to IS :8828 in existing box having following capacity (b)40 Amp.(Cat.III)	4.00	Each	641.00	2,564.00	2564.00
5.19	Providing & erecting 415 V MCB three Pole for Motor & Inductive Load having 10KA breaking capacity & confirms to IS :8828 in existing box having following capacity (C)63 Amp. (Cat.III)	1.00	Each	709.00	709.00	709.00
5.20	Providing and erecting Approved make RCCBs conforming to IS: 12640 and having sensitivity of 30 mA and Short Circuit withstand capacity of 10 KA and suitable for operation on single phase 240 V,50Hz. having characteristic of quick action & tripping with all advance feature & do not incorporate any electronic component. for following Max. rating erected as directed (i) 25 Amps.DP (Cat. III)	89.00	Each	1,950.00	1,73,550.00	173550.00
5.21	Providing and erecting Approved make RCCBs conforming to IS: 12640 and having sensitivity of 30 mA and Short Circuit withstand capacity of 10 KA and suitable for operation on single phase 240 V,50Hz. having characteristic of quick action & tripping with all advance feature & do not incorporate any electronic component. for following Max. rating erected as directed (ii) 40Amps. DP (Cat. III)	7.00	Each	2,213.00	15,491.00	15491.00
5.22	Providing and erecting Approved make RCCBs conforming to IS: 12640 and having sensitivity of 30 mA and Short Circuit withstand capacity of 10 KA and suitable for operation on single phase 240 V,50Hz. having characteristic of quick action & tripping with all advance feature & do not incorporate any electronic component. for following Max. rating erected as directed (iii) 63Amps. DP (Cat. III)	1.00	Each	2,628.00	2,628.00	2628.00
5.23	Supplying & erecting approved make RCCB + MCB (Electro magnetic type only) working on residual current device having 10 KA short circuit breaking capacity and 30 mAmp. Sensitivity & 30 mili sec. tripping time conforming to IS 12640 test knob facility trip free mechanism operating for rated leakage at nominal ten volt, complete erected including all materials lugs screws etc. completed. [a] 6A / 10A / 16A / 20A / 25A 2 pole single phase Cat. II	14.00	Each	1,798.00	25,172.00	25172.00
5.24	Supplying & erecting approved make RCCB + MCB (Electro magnetic type only) working on residual current device having 10 KA short circuit breaking capacity and 30 mAmp. Sensitivity & 30 mili sec. tripping time conforming to IS 12640 test knob facility trip free mechanism operating for rated leakage at nominal ten volt, complete erected including all materials lugs screws etc. completed. [b] 32A / 40A, 2 pole Single Phase Cat. II	1.00	Each	1,925.00	1,925.00	1925.00

5.25	Supplying & erecting approved make RCCB + MCB (Electro magnetic type only) working on residual current device having 10 KA short circuit breaking capacity and 30 mAmp. Sensitivity & 30 mili sec. tripping time conforming to IS 12640 test knob facility trip free mechanism operating for rated leakage at nominal ten volt, complete erected including all materials lugs screws etc. completed. [e] 32A to 40 A, 4 Pole Three Phase Cat. II	14.00	Each	2,145.00	30,030.00	30030.00
5.26	Supplying & erecting approved make RCCB + MCB (Electro magnetic type only) working on residual current device having 10 KA short circuit breaking capacity and 30 mAmp. Sensitivity & 30 mili sec. tripping time conforming to IS 12640 test knob facility trip free mechanism operating for rated leakage at nominal ten volt, complete erected including all materials lugs screws etc. completed. [f] 63A, 4 pole Three Phase Cat. II	1.00	Each	2,806.00	2,806.00	2806.00
5.27	SITC of Sheet steel metal enclouser for DP MCB	1.00	Each	175.00	175.00	175.00
5.28	SITC of Sheet steel metal enclouser for FP MCB	86.00	Each	623.00	53,578.00	53578.00
5.29	SITC of 80-100 A FP MCCB with thermal magnetic release.	1.00	Each	6,723.20	6,723.20	6723.20
5.30	SITC of 125A FP MCCB with thermal magnetic release with sheet steel metal enclosure. Note:-1 Add Rs. 10% extra for housing/Encloser of MCCB for Item No 3-4-1 to 3-4-12 (The Enclosures should be used of same company of MCCBs to be used) *Add 35% additional for microprocessor type of mccb in place of conventional for item no.3-4-1 to 3-4-12	12.00	Each	8,773.60	1,05,283.20	105283.20
5.31	SITC of IP 65 - outdoor type - 4Way SPN DB	1.00	Each	1,833.45	1,833.45	1833.45
5.32	SITC of IP 65 - outdoor type - 8Way SPN DB	1.00	Each	2,891.68	2,891.68	2891.68
5.33	SITC of Blank Plates	50.00	Each	9.00	450.00	450.00
5.34	SITC of 20A x 415 V Industrial type plug & socket with 20A FP RCBO, 30mA and surface mounting box IP 66 but without cost of wiring and piping.	4.00	Each	6,300.16	25,200.64	25200.64
Total						777095.16
6	HT AND LT CABLES & CABLE TERMINATION					
6.1	11KV HT CABLES.					
6.1.1	Providing and erecting ISI Marked 3core 240 Sq.mm XLPE insulated 11 KV armoured cable Aluminium conductor IS-7098 to be laid on wall with clamps or in provided cable trench / pipe approved manner as directed.	100.00	Mtr.	2,196.00	2,19,600.00	219600.00
6.2	HT CABLE TERMINATION'					
6.2.1	Supplying and erecting high tension cable end box outdoor type suitable. for 11 KV 240Sq.mm 3core H.T. cable complete with gland bushing and jointing material.	1.00	Ea.	4,154.00	4,154.00	4154.00
Total						223754.00

7	LT CABLES & CABLE TERMINATION					
7.1	UNARMoured COPPER CABLES.					
7.1.1	Supplying & erecting XLPE(IS:7098)(I)-88 ISI unarmoured copper cable 1.1 KV grade to be erected as directed of following size. (E) 3 core 2.5 Sq. mm	10.00	Mtr.	136.00	1,360.00	1360.00
7.1.2	Supplying & erecting XLPE(IS:7098)(I)-88 ISI unarmoured copper cable 1.1 KV grade to be erected as directed of following size. (F) 3 core 4 Sq. mm	432.00	Mtr.	187.00	80,784.00	80784.00
7.1.3	Supplying & erecting XLPE(IS:7098)(I)-88 ISI unarmoured copper cable 1.1 KV grade to be erected as directed of following size. (J) 4 core 2.5 Sq. mm	10.00	Mtr.	167.00	1,670.00	1670.00
7.1.4	Supplying & erecting XLPE(IS:7098)(I)-88 ISI unarmoured copper cable 1.1 KV grade to be erected as directed of following size. (K) 4 core 4 Sq. mm	10.00	Mtr.	238.00	2,380.00	2380.00
7.1.5	Supplying & erecting XLPE(IS:7098)(I)-88 ISI unarmoured copper cable 1.1 KV grade to be erected as directed of following size. (L) 4 core 6 Sq. mm	10.00	Mtr.	361.00	3,610.00	3610.00
7.1.6	Supplying & erecting XLPE(IS:7098)(I)-88 ISI unarmoured copper cable 1.1 KV grade to be erected as directed of following size. (M) 4 core 10 Sq. mm	10.00	Mtr.	568.00	5,680.00	5680.00
7.2	ARMoured ALUMINIUM CABLES					
7.2.1	Providing and erecting XLPE (IS:7098)(I)-88 ISI armoured cable multistrand Aluminium conductor for 1.1 KV. to be laid on wall with necessary clamps or in existing trench / pipe of following size of cables (A) 4 core 16 Sq. mm	10.00	Mtr.	152.00	1,520.00	1520.00
7.2.2	Providing and erecting XLPE (IS:7098)(I)-88 ISI armoured cable multistrand / Solid Aluminium conductor for 1.1 KV. to be laid on wall with necessary clamps or in existing trench / pipe of following size of cables (C) 4 core 10 Sq. mm	10.00	Mtr.	139.00	1,390.00	1390.00
7.2.3	Providing and erecting XLPE(IS:7098)(I)-88 ISI armoured cable multistrand Aluminium conductor with water swellable coating which should protect against saline water & for 1.1 KV. to be laid on wall with necessary clamps or in existing trench / pipe of following size of cables (I) 3 1/2 core 25 Sq. mm(16 Sq. mm 1/2 core)	10.00	Mtr.	182.00	1,820.00	1820.00
7.2.4	Providing and erecting XLPE(IS:7098)(I)-88 ISI armoured cable multistrand Aluminium conductor with water swellable coating which should protect against saline water & for 1.1 KV. to be laid on wall with necessary clamps or in existing trench / pipe of following size of cables (I) 3 1/2 core 35 Sq. mm(25 Sq. mm 1/2 core)	30.00	Mtr.	218.00	6,540.00	6540.00

7.2.5	Providing and erecting XLPE(IS:7098)(I)-88 ISI armoured cable multistrand Aluminium conductor with water swellable coating which should protect against saline water & for 1.1 KV. to be laid on wall with necessary clamps or in existing trench / pipe of following size of cables (C) 3 1/2 core 50 Sq. mm (25 Sq.1/2 mm core)	713.00	Mtr.	282.00	2,01,066.00	201066.00
7.2.6	Providing and erecting XLPE(IS:7098)(I)-88 ISI armoured cable multistrand Aluminium conductor with water swellable coating which should protect against saline water & for 1.1 KV. to be laid on wall with necessary clamps or in existing trench / pipe of following size of cables (D) 3 1/2 core 70 Sq. mm (35 Sq. mm 1/2 core)	341.00	Mtr.	375.00	1,27,875.00	127875.00
7.2.7	Providing and erecting XLPE(IS:7098)(I)-88 ISI armoured cable multistrand Aluminium conductor with water swellable coating which should protect against saline water & for 1.1 KV. to be laid on wall with necessary clamps or in existing trench / pipe of following size of cables (E) 3 1/2 core 95 Sq. mm (50 Sq. mm 1/2 core)	236.00	Mtr.	486.00	1,14,696.00	114696.00
7.2.8	Providing and erecting XLPE(IS:7098)(I)-88 ISI armoured cable multistrand Aluminium conductor with water swellable coating which should protect against saline water & for 1.1 KV. to be laid on wall with necessary clamps or in existing trench / pipe of following size of cables (F) 3 1/2 core 120 Sq. mm (70 Sq. mm 1/2 core)	504.00	Mtr.	535.00	2,69,640.00	269640.00
7.2.9	Providing and erecting XLPE(IS:7098)(I)-88 ISI armoured cable multistrand Aluminium conductor with water swellable coating which should protect against saline water & for 1.1 KV. to be laid on wall with necessary clamps or in existing trench / pipe of following size of cables (G) 3 1/2 core 150 Sq. mm (70 Sq. mm 1/2 core)	357.00	Mtr.	724.00	2,58,468.00	258468.00
7.2.10	Providing and erecting XLPE(IS:7098)(I)-88 ISI armoured cable multistrand Aluminium conductor with water swellable coating which should protect against saline water & for 1.1 KV. to be laid on wall with necessary clamps or in existing trench / pipe of following size of cables (H) 3 1/2 core 185 Sq. mm (95 Sq. mm 1/2 core)	423.00	Mtr.	896.00	3,79,008.00	379008.00
7.2.11	Providing and erecting XLPE(IS:7098)(I)-88 ISI armoured cable multistrand Aluminium conductor with water swellable coating which should protect against saline water & for 1.1 KV. to be laid on wall with necessary clamps or in existing trench / pipe of following size of cables (I) 3 1/2 core 240 Sq. mm(120 Sq. mm 1/2 core)	25.00	Mtr.	1,157.00	28,925.00	28925.00
7.2.12	Providing and erecting XLPE(IS:7098)(I)-88 ISI armoured cable multistrand Aluminium conductor with water swellable coating which should protect against saline water & for 1.1 KV. to be laid on wall with necessary clamps or in existing trench / pipe of following size of cables (I) 3 1/2 core 300 Sq. mm(150 Sq. mm 1/2 core)	150.00	Mtr.	1,394.00	2,09,100.00	209100.00
7.3	ARMOURED COPPER CABLES					
7.3.1	Providing and erecting XLPE(IS:7098)(I)-88 ISI armoured cable multistrand Copper conductor with water swellable coating which should protect against saline water & 1.1 KV. to be laid on wall with necessary clamps or in existing trench / pipe at road crossing or floor of following size of cable. (A) 3 core 2.5Sq. Mm	50.00	Mtr.	213.00	10,650.00	10650.00

7.3.2	Providing and erecting XLPE(IS:7098)(I)-88 ISI armoured cable multistrand Copper conductor with water swellable coating which should protect against saline water & 1.1 KV. to be laid on wall with necessary clamps or in existing trench / pipe at road crossing or floor of following size of cable. (B) 3 core 4 Sq. mm	480.00	Mtr.	285.00	1,36,800.00	136800.00
7.3.3	Providing and erecting XLPE(IS:7098)(I)-88 ISI armoured cable multistrand Copper conductor with water swellable coating which should protect against saline water & 1.1 KV. to be laid on wall with necessary clamps or in existing trench / pipe at road crossing or floor of following size of cable. (C) 3 core 6 Sq. mm	10.00	Mtr.	392.00	3,920.00	3920.00
7.3.4	Providing and erecting XLPE(IS:7098)(I)-88 ISI armoured cable multistrand Copper conductor with water swellable coating which should protect against saline water & 1.1 KV. to be laid on wall with necessary clamps or in existing trench / pipe at road crossing or floor of following size of cable. (C) 3 core 10 Sq. mm	10.00	Mtr.	495.00	4,950.00	4950.00
7.3.5	Providing and erecting XLPE(IS:7098)(I)-88 ISI armoured cable multistrand Copper conductor with water swellable coating which should protect against saline water & 1.1 KV. to be laid on wall with necessary clamps or in existing trench / pipe at road crossing or floor of following size of cable.. (A) 4 core 2.5 Sq. mm	10.00	Mtr.	269.00	2,690.00	2690.00
7.3.6	Providing and erecting XLPE(IS:7098)(I)-88 ISI armoured cable multistrand Copper conductor with water swellable coating which should protect against saline water & 1.1 KV. to be laid on wall with necessary clamps or in existing trench / pipe at road crossing or floor of following size of cable. (B) 4 core 4 Sq. mm	1300.00	Mtr.	361.00	4,69,300.00	469300.00
7.3.7	Providing and erecting XLPE(IS:7098)(I)-88 ISI armoured cable multistrand Copper conductor with water swellable coating which should protect against saline water & 1.1 KV. to be laid on wall with necessary clamps or in existing trench / pipe at road crossing or floor of following size of cable. (C) 4 core 6 Sq. mm	1168.00	Mtr.	505.00	5,89,840.00	589840.00
7.3.8	Providing and erecting XLPE(IS:7098)(I)-88 ISI armoured cable multistrand Copper conductor with water swellable coating which should protect against saline water & 1.1 KV. to be laid on wall with necessary clamps or in existing trench / pipe at road crossing or floor of following size of cable. (A) 4 core 10 Sq. mm	320.00	Mtr.	670.00	2,14,400.00	214400.00
7.3.9	Providing and erecting XLPE(IS:7098)(I)-88 ISI armoured cable multistrand Copper conductor with water swellable coating which should protect against saline water & 1.1 KV. to be laid on wall with necessary clamps or in existing trench / pipe at road crossing or floor of following size of cable. (B) 4 core 16 Sq. mm	2931.00	Mtr.	978.00	28,66,518.00	2866518.00
7.4	CABLE GLANDS.					
7.4.1	Providing and, fixing heavy duty flange type brass cable gland with rubber ring for PVC insulated armoured cable complete with out going tails, insulating tape etc for following size of cables. (A) 2 to 4 core 2.5/4 Sq. mm	82.00	Ea.	33.00	2,706.00	2706.00

7.4.2	Providing and, fixing heavy duty flange type brass cable gland with rubber ring for PVC insulated armoured cable complete with out going tails, insulating tape etc for following size of cables. (B) 2 to 4 core 6 Sq. mm	42.00	Ea.	38.00	1,596.00	1596.00
7.4.3	Providing and, fixing heavy duty flange type brass cable gland with rubber ring for PVC insulated armoured cable complete with out going tails, insulating tape etc for following size of cables. (C) 2 to 4 core 10 Sq. mm	4.00	Ea.	38.00	152.00	152.00
7.4.4	Providing and, fixing heavy duty flange type brass cable gland with rubber ring for PVC insulated armoured cable complete with out going tails, insulating tape etc for following size of cables. (D) 2 to 4 core 16 Sq. mm	134.00	Ea.	47.00	6,298.00	6298.00
7.4.5	Providing and, fixing heavy duty flange type brass double compression type cable gland with rubber ring for PVC insulated armoured cable complete with out going tails, insulating tape etc for following size of cables. (B) 3 & 1/2 core 25Sq. mm	2.00	Ea.	66.00	132.00	132.00
7.4.6	Providing and, fixing heavy duty flange type brass double compression type cable gland with rubber ring for PVC insulated armoured cable complete with out going tails, insulating tape etc for following size of cables. (B) 3 & 1/2 core 35/50 Sq. mm	28.00	Ea.	75.00	2,100.00	2100.00
7.4.7	Providing and, fixing heavy duty flange type brass double compression type cable gland with rubber ring for PVC insulated armoured cable complete with out going tails, insulating tape etc for following size of cables. (C) 3 & 1/2 core 70 Sq. mm	4.00	Ea.	102.00	408.00	408.00
7.4.8	Providing and, fixing heavy duty flange type brass double compression type cable gland with rubber ring for PVC insulated armoured cable complete with out going tails, insulating tape etc for following size of cables. (D) 3 & 1/2 core 95 Sq. mm	2.00	Ea.	130.00	260.00	260.00
7.4.9	Providing and, fixing heavy duty flange type brass double compression type cable gland with rubber ring for PVC insulated armoured cable complete with out going tails, insulating tape etc for following size of cables. (E) 3 & 1/2 core 120 Sq. mm	4.00	Ea.	139.00	556.00	556.00
7.4.10	Providing and, fixing heavy duty flange type brass double compression type cable gland with rubber ring for PVC insulated armoured cable complete with out going tails, insulating tape etc for following size of cables. (F) 3 & 1/2 core 150 Sq. mm	2.00	Ea.	189.00	378.00	378.00
7.4.11	Providing and, fixing heavy duty flange type brass double compression type cable gland with rubber ring for PVC insulated armoured cable complete with out going tails, insulating tape etc for following size of cables. (G) 3 & 1/2 core 185 Sq. mm	2.00	Ea.	236.00	472.00	472.00

7.4.12	Providing and, fixing heavy duty flange type brass double compression type cable gland with rubber ring for PVC insulated armoured cable complete with out going tails, insulating tape etc for following size of cables. (H) 3 & 1/2 core 240 Sq. mm	2.00	Ea.	245.00	490.00	490.00
7.4.13	Providing and, fixing heavy duty flange type brass double compression type cable gland with rubber ring for PVC insulated armoured cable complete with out going tails, insulating tape etc for following size of cables. (I) 3 & 1/2 core 300 Sq. mm	12.00	Ea.	278.00	3,336.00	3336.00
7.5	Aluminium lugs					
7.5.1	Supply, installation, testing and commissioning of Solder less crimping type Aluminium lugs conforming to IS suitable for cable of following size evenly crimped with high pressure tool & connected to switchgear terminals with brass/cadmium plated nut bolts in an approved manner. (B) 10 Sq.mm	8.00	Ea.	13.00	104.00	104.00
7.5.2	Supply, installation, testing and commissioning of Solder less crimping type Aluminium lugs conforming to IS suitable for cable of following size evenly crimped with high pressure tool & connected to switchgear terminals with brass/cadmium plated nut bolts in an approved manner. (C) 16/25 Sq.mm.	8.00	Ea.	15.00	120.00	120.00
7.5.3	Supply, installation, testing and commissioning of Solderless crimping type Aluminium lugs conforming to IS suitable for cable of following size evenly crimped with high pressure tool & connected to switchgear terminals with brass/cadmium plated nut bolts in an approved manner. (D) 35/50 Sq.mm.	112.00	Ea.	20.00	2,240.00	2240.00
7.5.4	Supply, installation, testing and commissioning of Solderless crimping type Aluminium lugs conforming to IS suitable for cable of following size evenly crimped with high pressure tool & connected to switchgear terminals with brass/cadmium plated nut bolts in an approved manner. (E) 70 Sq.mm.	16.00	Ea.	25.00	400.00	400.00
7.5.5	Supply, installation, testing and commissioning of Solderless crimping type Aluminium lugs conforming to IS suitable for cable of following size evenly crimped with high pressure tool & connected to switchgear terminals with brass/cadmium plated nut bolts in an approved manner. (F) 95 Sq.mm.	8.00	Ea.	40.00	320.00	320.00
7.5.6	Supply, installation, testing and commissioning of Solderless crimping type Aluminium lugs conforming to IS suitable for cable of following size evenly crimped with high pressure tool & connected to switchgear terminals with brass/cadmium plated nut bolts in an approved manner. (G) 120 Sq.mm.	16.00	Ea.	45.00	720.00	720.00
7.5.7	Supply, installation, testing and commissioning of Solderless crimping type Aluminium lugs conforming to IS suitable for cable of following size evenly crimped with high pressure tool & connected to switchgear terminals with brass/cadmium plated nut bolts in an approved manner. (H) 150 Sq.mm.	8.00	Ea.	61.00	488.00	488.00

7.5.8	Supply, installation, testing and commissioning of Solderless crimping type Aluminium lugs conforming to IS suitable for cable of following size evenly crimped with high pressure tool & connected to switchgear terminals with brass/cadmium plated nut bolts in an approved manner. (I) 185 Sq.mm.	8.00	Ea.	80.00	640.00	640.00
7.5.9	Supply, installation, testing and commissioning of Solderless crimping type Aluminium lugs conforming to IS suitable for cable of following size evenly crimped with high pressure tool & connected to switchgear terminals with brass/cadmium plated nut bolts in an approved manner. (J) 240 Sq.mm.	8.00	Ea.	85.00	680.00	680.00
7.5.10	Supply, installation, testing and commissioning of Solderless crimping type Aluminium lugs conforming to IS suitable for cable of following size evenly crimped with high pressure tool & connected to switchgear terminals with brass/cadmium plated nut bolts in an approved manner. (J) 300 Sq.mm.	48.00	Ea.	98.00	4,704.00	4704.00
7.6	Copper lugs					
7.6.1	Supply, installation, testing and commissioning of Solder less crimping type Copper lugs conforming to IS suitable for cable of following size evenly crimped with high pressure tool & connected to switchgear terminals with brass/cadmium plated nut bolts in an approved manner. (A) 1.5/2.5 to 6 Sq.mm	496.00	Ea.	8.00	3,968.00	3968.00
7.6.2	Supply, installation, testing and commissioning of Solder less crimping type Copper lugs conforming to IS suitable for cable of following size evenly crimped with high pressure tool & connected to switchgear terminals with brass/cadmium plated nut bolts in an approved manner. (B) 10 Sq.mm	16.00	Ea.	10.00	160.00	160.00
7.6.3	Supply, installation, testing and commissioning of Solder less crimping type Copper lugs conforming to IS suitable for cable of following size evenly crimped with high pressure tool & connected to switchgear terminals with brass/cadmium plated nut bolts in an approved manner. (C) 16 Sq.mm.	536.00	Ea.	12.00	6,432.00	6432.00
	Total					6034460.00
8	CABLE TRAY					
	Perforated type cable tray					
8.1	Providing and fixing approved make Perforated C type cable tray . Made from sheet steel. The cable tray should be single or double bended as per required and as per IS 2062/1079 and shall be coated with hot dip galvanizing as per IS 2629/4759. with max 17.5% perforation with coupler plate / Fish plate and GI hardware like nut - bolt and washers etc. erection with necessary support(included) as per Specification and as per instruction of engineer in charge.. (2) 100 X 50 X 1.6 mm Thick	330.00	Rmt	357.00	1,17,810.00	117810.00

8.2	Providing and fixing approved make Perforated C type cable tray . Made from sheet steel. The cable tray should be single or double bended as per required and as per IS 2062/1079 and shall be coated with hot dip galvanizing as per IS 2629/4759. with max 17.5% perforation with coupler plate / Fish plate and GI hardware like nut - bolt and washers etc. erection with necessary support(included) as per Specification and as per instruction of engineer in charge.. (3) 150 X 50 X 1.6 mm Thick	1477.00	Rmt	420.00	6,20,340.00	620340.00
8.3	Providing and fixing approved make Perforated C type cable tray . Made from sheet steel. The cable tray should be single or double bended as per required and as per IS 2062/1079 and shall be coated with hot dip galvanizing as per IS 2629/4759. with max 17.5% perforation with coupler plate / Fish plate and GI hardware like nut - bolt and washers etc. erection with necessary support(included) as per Specification and as per instruction of engineer in charge. (5) 300 X 50 X 2.0 mm Thick	512.00	Rmt	616.00	3,15,392.00	315392.00
8.4	Providing and fixing approved make Perforated C type cable tray . Made from sheet steel. The cable tray should be single or double bended as per required and as per IS 2062/1079 and shall be coated with hot dip galvanizing as per IS 2629/4759. with max 17.5% perforation with coupler plate / Fish plate and GI hardware like nut - bolt and washers etc. erection with necessary support(included) as per Specification and as per instruction of engineer in charge.. (6) 450 X 50 X 2.0 mm Thick	10.00	Rmt	794.00	7,940.00	7940.00
8.5	Providing and fixing approved make Perforated C type cable tray . Made from sheet steel. The cable tray should be single or double bended as per required and as per IS 2062/1079 and shall be coated with hot dip galvanizing as per IS 2629/4759. with max 17.5% perforation with coupler plate / Fish plate and GI hardware like nut - bolt and washers etc. erection with necessary support(included) as per Specification and as per instruction of engineer in charge.. (7) 600 X 50 X 2.0 mm Thick	10.00	Rmt	997.00	9,970.00	9970.00
8.5	Providing and fixing approved make 'T' Junction for Perforated C type cable tray . Made from sheet steel. The Junction should be bended as per IS 2062/1079 and shall be coated with hot dip galvanizing as per IS 2629/4759. with max 17.5% perforation with coupler plate / Fish plate and GI hardware like nut - bolt and washers etc. erected on existing support as per Specification and as per instruction of engineer in charge of following size (2) 100 X 50 X 1.6 mm Thick	14.00	Ea.	158.00	2,212.00	2212.00
8.6	Providing and fixing approved make 'T' Junction for Perforated C type cable tray . Made from sheet steel. The Junction should be bended as per IS 2062/1079 and shall be coated with hot dip galvanizing as per IS 2629/4759. with max 17.5% perforation with coupler plate / Fish plate and GI hardware like nut - bolt and washers etc. erected on existing support as per Specification and as per instruction of engineer in charge of following size (3) 150 X 50 X 1.6 mm Thick 'T' Junction	33.00	Ea.	183.00	6,039.00	6039.00

8.7	<p>Providing and fixing approved make 'T' Junction for Perforated C type cable tray. Made from sheet steel. The Junction should be bended as per IS 2062/1079 and shall be coated with hot dip galvanizing as per IS 2629/4759. with max 17.5% perforation with coupler plate / Fish plate and GI hardware like nut - bolt and washers etc. erected on existing support as per Specification and as per instruction of engineer in charge of following size</p> <p>(5) 300 X 50 X 2.0 mm Thick ' T' Junction</p>	2.00	Ea.	289.00	578.00	578.00
8.8	<p>Providing and fixing approved make 'T' Junction for Perforated C type cable tray. Made from sheet steel. The Junction should be bended as per IS 2062/1079 and shall be coated with hot dip galvanizing as per IS 2629/4759. with max 17.5% perforation with coupler plate / Fish plate and GI hardware like nut - bolt and washers etc. erected on existing support as per Specification and as per instruction of engineer in charge of following size</p> <p>(6) 450 X 50 X 2.0 mm Thick ' T' Junction</p>	1.00	Ea.	544.00	544.00	544.00
8.9	<p>Providing and fixing approved make 'T' Junction for Perforated C type cable tray. Made from sheet steel. The Junction should be bended as per IS 2062/1079 and shall be coated with hot dip galvanizing as per IS 2629/4759. with max 17.5% perforation with coupler plate / Fish plate and GI hardware like nut - bolt and washers etc. erected on existing support as per Specification and as per instruction of engineer in charge of following size</p> <p>(7) 600 X 50 X 2.0 mm Thick ' T' Junction</p>	1.00	Ea.	815.00	815.00	815.00
8.10	<p>Providing and fixing approved make '90° Elbow' for Perforated C type cable tray. Made from sheet steel. The Junction should be bended as per IS 2062/1079 and shall be coated with hot dip galvanizing as per IS 2629/4759. with coupler plate / Fish plate and GI hardware like nut - bolt and washers etc. erected on existing support as per Specification and as per instruction of engineer in charge..</p> <p>(2)100 X 50 X 1.6 mm Thick 90° Elbow</p>	33.00	Ea.	115.00	3,795.00	3795.00
8.11	<p>Providing and fixing approved make '90° Elbow' for Perforated C type cable tray. Made from sheet steel. The Junction should be bended as per IS 2062/1079 and shall be coated with hot dip galvanizing as per IS 2629/4759. with coupler plate / Fish plate and GI hardware like nut - bolt and washers etc. erected on existing support as per Specification and as per instruction of engineer in charge..</p> <p>(3)150 X 50 X 1.6 mm Thick 90° Elbow</p>	121.00	Ea.	162.00	19,602.00	19602.00
8.12	<p>Providing and fixing approved make '90° Elbow' for Perforated C type cable tray. Made from sheet steel. The Junction should be bended as per IS 2062/1079 and shall be coated with hot dip galvanizing as per IS 2629/4759. with coupler plate / Fish plate and GI hardware like nut - bolt and washers etc. erected on existing support as per Specification and as per instruction of engineer in charge..</p> <p>(5) 300 X 50 X 2.0 mm Thick 90° Elbow</p>	29.00	Ea.	243.00	7,047.00	7047.00
8.13	<p>Providing and fixing approved make '90° Elbow' for Perforated C type cable tray. Made from sheet steel. The Junction should be bended as per IS 2062/1079 and shall be coated with hot dip galvanizing as per IS 2629/4759. with coupler plate / Fish plate and GI hardware like nut - bolt and washers etc. erected on existing support as per Specification and as per instruction of engineer in charge..</p> <p>(6) 450 X 50 X 2.0 mm Thick 90° Elbow</p>	1.00	Ea.	442.00	442.00	442.00

8.14	Providing and fixing approved make '90° Elbow' for Perforated C type cable tray . Made from sheet steel. The Junction should be bended as per IS 2062/1079 and shall be coated with hot dip galvanizing as per IS 2629/4759. with coupler plate / Fish plate and GI hardware like nut - bolt and washers etc. erected on existing support as per Specification and as per instruction of engineer in charge.. (7) 600 X 50 X 2.0 mm Thick 90° Elbow	1.00	Ea.	688.00	688.00	688.00
8.15	Providing and fixing approved make 'Cross over Junction' for Perforated C type cable tray . Made from sheet steel. The Junction should be bended as per IS 2062/1079 and shall be coated with hot dip galvanizing as per IS 2629/4759. with max 17.5% perforation with coupler plate / Fish plate and GI hardware like nut - bolt and washers etc. erected on existing support as per Specification and as per instruction of engineer in charge.. (2) 100 X 50 X 1.6 mm Thick Cross Junction	5.00	Ea.	213.00	1,065.00	1065.00
8.16	Providing and fixing approved make 'Cross over Junction' for Perforated C type cable tray . Made from sheet steel. The Junction should be bended as per IS 2062/1079 and shall be coated with hot dip galvanizing as per IS 2629/4759. with max 17.5% perforation with coupler plate / Fish plate and GI hardware like nut - bolt and washers etc. erected on existing support as per Specification and as per instruction of engineer in charge.. (3) 150 X 50 X 1.6 mm Thick Cross Junction	5.00	Ea.	242.00	1,210.00	1210.00
8.17	Providing and fixing approved make 'Cross over Junction' for Perforated C type cable tray . Made from sheet steel. The Junction should be bended as per IS 2062/1079 and shall be coated with hot dip galvanizing as per IS 2629/4759. with max 17.5% perforation with coupler plate / Fish plate and GI hardware like nut - bolt and washers etc. erected on existing support as per Specification and as per instruction of engineer in charge.. (5) 300 X 50 X 2.0mm Thick Cross Junction	5.00	Ea.	370.00	1,850.00	1850.00
8.18	Providing and fixing approved make 'Cross over Junction' for Perforated C type cable tray . Made from sheet steel. The Junction should be bended as per IS 2062/1079 and shall be coated with hot dip galvanizing as per IS 2629/4759. with max 17.5% perforation with coupler plate / Fish plate and GI hardware like nut - bolt and washers etc. erected on existing support as per Specification and as per instruction of engineer in charge.. (6) 450 X 50 X 2.0 mm Thick Cross Junction	1.00	Ea.	667.00	667.00	667.00
8.19	Providing and fixing approved make 'Cross over Junction' for Perforated C type cable tray . Made from sheet steel. The Junction should be bended as per IS 2062/1079 and shall be coated with hot dip galvanizing as per IS 2629/4759. with max 17.5% perforation with coupler plate / Fish plate and GI hardware like nut - bolt and washers etc. erected on existing support as per Specification and as per instruction of engineer in charge.. (7) 600 X 50 X 2.0 mm Thick Cross Junction	1.00	Ea.	976.00	976.00	976.00
Ladder type cable tray						
8.20	Providing and fixing approved make Ladder type cable tray . Made from M.S sheet. The cable tray should be bended as per IS 2062/1079 shall be fabricated of double bended channel section longitudinal members with single bended Channel section. Rungs of members welded to the base of the longitudinal members at 250 mm c/c spacing . as per IS and shall be coated with hot dip galvanizing as per IS 2629/4759. with coupler plate / Fish plate and GI hardware like nut - bolt and washers etc. erected on existing support as per Specification and as per instruction of engineer in charge.. (8) 150 X 100 X 1.6 mm Thick	224.00	Mtr.	518.00	1,16,032.00	116032.00

8.21	Providing and fixing approved make Ladder type cable tray . Made from M.S sheet. The cable tray should be bended as per IS 2062/1079 shall be fabricated of double bended channel section longitudinal members with single bended Channel section. Rungs of members welded to the base of the longitudinal members at 250 mm c/c spacing . as per IS and shall be coated with hot dip galvanizing as per IS 2629/4759. with coupler plate / Fish plate and GI hardware like nut - bolt and washers etc. erected on existing support as per Specification and as per instruction of engineer in charge.. (9) 200 X 100 X 1.6 mm Thick	898.00	Mtr.	530.00	4,75,940.00	475940.00
8.22	Providing and fixing approved make Ladder type cable tray . Made from M.S sheet. The cable tray should be bended as per IS 2062/1079 shall be fabricated of double bended channel section longitudinal members with single bended Channel section. Rungs of members welded to the base of the longitudinal members at 250 mm c/c spacing . as per IS and shall be coated with hot dip galvanizing as per IS 2629/4759. with coupler plate / Fish plate and GI hardware like nut - bolt and washers etc. erected on existing support as per Specification and as per instruction of engineer in charge.. (10) 300 X 100 X 2.0 mm Thick	608.00	Mtr.	551.00	3,35,008.00	335008.00
8.23	Providing and fixing approved make Ladder type cable tray . Made from M.S sheet. The cable tray should be bended as per IS 2062/1079 shall be fabricated of double bended channel section longitudinal members with single bended Channel section. Rungs of members welded to the base of the longitudinal members at 250 mm c/c spacing . as per IS and shall be coated with hot dip galvanizing as per IS 2629/4759. with coupler plate / Fish plate and GI hardware like nut - bolt and washers etc. erected on existing support as per Specification and as per instruction of engineer in charge.. (12) 500 X 100 X 2.0 mm Thick	867.00	Mtr.	658.00	5,70,486.00	570486.00
8.24	Providing and fixing approved make Ladder type cable tray . Made from M.S sheet. The cable tray should be bended as per IS 2062/1079 shall be fabricated of double bended channel section longitudinal members with single bended Channel section. Rungs of members welded to the base of the longitudinal members at 250 mm c/c spacing . as per IS and shall be coated with hot dip galvanizing as per IS 2629/4759. with coupler plate / Fish plate and GI hardware like nut - bolt and washers etc. erected on existing support as per Specification and as per instruction of engineer in charge.. (13) 600 X 100 X 2.0 mm Thick	110.00	Mtr.	688.00	75,680.00	75680.00
8.25	Providing and fixing approved make 'T' Junction for ladder type cable tray . Made from M.S sheet steel. The Junction should be bended as per IS 2062/1079. with coupler plate / Fish plate and GI hardware like nut - bolt and washers etc. erected on existing support as per Specification and as per instruction of engineer in charge.. A 'T' Junction (8) 150 X 100 X 1.5 mm Thick 'T' Junction	14.00	Ea.	619.00	8,666.00	8666.00
8.25	Providing and fixing approved make 'T' Junction for ladder type cable tray . Made from M.S sheet steel. The Junction should be bended as per IS 2062/1079. with coupler plate / Fish plate and GI hardware like nut - bolt and washers etc. erected on existing support as per Specification and as per instruction of engineer in charge.. A 'T' Junction (9) 200 X 100 X 1.5 mm Thick 'T' Junction	14.00	Ea.	653.00	9,142.00	9142.00

8.26	Providing and fixing approved make 'T' Junction for ladder type cable tray . Made from M.S sheet steel. The Junction should be bended as per IS 2062/1079. with coupler plate / Fish plate and GI hardware like nut - bolt and washers etc. erected on existing support as per Specification and as per instruction of engineer in charge.. A 'T' Junction (10) 300 X 100 X 2.0 mm Thick 'T' Junction	10.00	Ea.	700.00	7,000.00	7000.00
8.27	Providing and fixing approved make 'T' Junction for ladder type cable tray . Made from M.S sheet steel. The Junction should be bended as per IS 2062/1079. with coupler plate / Fish plate and GI hardware like nut - bolt and washers etc. erected on existing support as per Specification and as per instruction of engineer in charge.. A 'T' Junction (12) 500 X 100 X 2.0 mm Thick 'T' Junction	22.00	Ea.	967.00	21,274.00	21274.00
8.28	Providing and fixing approved make 'T' Junction for ladder type cable tray . Made from M.S sheet steel. The Junction should be bended as per IS 2062/1079. with coupler plate / Fish plate and GI hardware like nut - bolt and washers etc. erected on existing support as per Specification and as per instruction of engineer in charge.. A 'T' Junction (13) 600 X 100 X 2.0 mm Thick 'T' Junction	2.00	Ea.	1,077.00	2,154.00	2154.00
8.29	Providing and fixing approved make '90° Elbow' for ladder type cable tray . Made from M.S sheet steel. The Junction should be bended as per IS 2062/1079. with coupler plate / Fish plate and GI hardware like nut - bolt and washers etc. erected on existing support as per Specification and as per instruction of engineer in charge.. (8) 150 X 100 X 1.6 mm Thick	3.00	Ea.	437.00	1,311.00	1311.00
8.29	Providing and fixing approved make '90° Elbow' for ladder type cable tray . Made from M.S sheet steel. The Junction should be bended as per IS 2062/1079. with coupler plate / Fish plate and GI hardware like nut - bolt and washers etc. erected on existing support as per Specification and as per instruction of engineer in charge.. (9) 200 X 100 X 2.0 mm Thick	80.00	Ea.	467.00	37,360.00	37360.00
8.30	Providing and fixing approved make '90° Elbow' for ladder type cable tray . Made from M.S sheet steel. The Junction should be bended as per IS 2062/1079. with coupler plate / Fish plate and GI hardware like nut - bolt and washers etc. erected on existing support as per Specification and as per instruction of engineer in charge.. (10) 300 X 100 X 2.0 mm Thick	22.00	Ea.	531.00	11,682.00	11682.00
8.31	Providing and fixing approved make '90° Elbow' for ladder type cable tray . Made from M.S sheet steel. The Junction should be bended as per IS 2062/1079. with coupler plate / Fish plate and GI hardware like nut - bolt and washers etc. erected on existing support as per Specification and as per instruction of engineer in charge.. (12) 500 X 100 X 2.0 mm Thick	51.00	Ea.	721.00	36,771.00	36771.00

8.32	Providing and fixing approved make '90° Elbow' for ladder type cable tray . Made from M.S sheet steel. The Junction should be bended as per IS 2062/1079. with coupler plate / Fish plate and GI hardware like nut - bolt and washers etc. erected on existing support as per Specification and as per instruction of engineer in charge.. (13) 600 X 100 X 2.0 mm Thick	9.00	Ea.	806.00	7,254.00	7254.00
8.33	Providing and fixing approved make 'Cross over Junction' for ladder type cable tray . Made from sheet steel. The Junction should be bended as per IS 2062/1079 and shall be coated with hot dip galvanizing as per IS 2629/4759. with coupler plate / Fish plate and GI hardware like nut - bolt and washers etc. erected on existing support as per Specification and as per instruction of engineer in charge.. (8) 150 X 100 X 1.6 mm Thick	5.00	Ea.	729.00	3,645.00	3645.00
8.34	Providing and fixing approved make 'Cross over Junction' for ladder type cable tray . Made from sheet steel. The Junction should be bended as per IS 2062/1079 and shall be coated with hot dip galvanizing as per IS 2629/4759. with coupler plate / Fish plate and GI hardware like nut - bolt and washers etc. erected on existing support as per Specification and as per instruction of engineer in charge.. (9) 200 X 100 X 2.0 mm Thick	5.00	Ea.	759.00	3,795.00	3795.00
8.35	Providing and fixing approved make 'Cross over Junction' for ladder type cable tray . Made from sheet steel. The Junction should be bended as per IS 2062/1079 and shall be coated with hot dip galvanizing as per IS 2629/4759. with coupler plate / Fish plate and GI hardware like nut - bolt and washers etc. erected on existing support as per Specification and as per instruction of engineer in charge.. (10) 300 X 100 X 2.0 mm Thick	5.00	Ea.	823.00	4,115.00	4115.00
8.36	Providing and fixing approved make 'Cross over Junction' for ladder type cable tray . Made from sheet steel. The Junction should be bended as per IS 2062/1079 and shall be coated with hot dip galvanizing as per IS 2629/4759. with coupler plate / Fish plate and GI hardware like nut - bolt and washers etc. erected on existing support as per Specification and as per instruction of engineer in charge.. (12) 500 X 100 X 2.0 mm Thick	5.00	Ea.	1,069.00	5,345.00	5345.00
8.37	Providing and fixing approved make 'Cross over Junction' for ladder type cable tray . Made from sheet steel. The Junction should be bended as per IS 2062/1079 and shall be coated with hot dip galvanizing as per IS 2629/4759. with coupler plate / Fish plate and GI hardware like nut - bolt and washers etc. erected on existing support as per Specification and as per instruction of engineer in charge.. (13) 600 X 100 X 2.0 mm Thick	5.00	Ea.	1,174.00	5,870.00	5870.00
8.38	Supplying , fabricating and installation of various sizes clamps for cable tray supports using available M.S. sections & rod as per drawings or instructions of engineer in charge or consultant including applying zinc chromate yellow oxide and two to three coats of required enamel paints with anchor fasteners etc.	7753.00	Kg	77.00	5,96,981.00	596981.00
Total						3454493.00

9	INTERNAL WIRING					
9.1	<p>Point wiring for Tissino / Modular secondary light point with 2-1.5 sq.mm & earth wire of 1.5 sq.mm (green) both are of ISI marked 1.1 KV grade ZHFR/ HRFR PVC insulated multi strand copper wires, in below type of pipe to be erected complete with earth continuity and necessary connection with primary light with accessories erected on Metal / PVC / wooden box covered with 3 mm thick PC(Polycarbonate) / Acrylic sheet for open / concealed wiring. with necessary Lamp holder / ceiling rose / H.D.Connector as directed.</p> <p>(f) with medium class Rigid PVC pipe and accessories erected concealed in wall/ceiling complete</p> <p>NOTE:1. For use of ZHFR/HRFR Copper wires in place of FRLS PVC wires add 5% in Item of Point wiring Item No 1-1-1 to 1-2-6 & 1-5-1 & 1-5-2.</p>	1699.00	Pt.	174.30	2,96,135.70	296135.70
9.2	<p>Point wiring for Light / Bell with 2-1.5 sq.mm & earth wire of 1.5 sq.mm (Green) both are of ISI marked 1.1 KV grade ZHFR/ HRFR PVC insulated multi strand copper wires up to 10 mtr length , in below type of pipe erected with 6A Modular type switch / bell push & accessories and earth continuity of following type, erected on PVC / Metallic/Wooden box, single mounting base frame covered with textured/metallic/white front plate modules erected on / in wall / ceiling as per pipe erected, with necessary Lamp holder/ceiling rose / H.D.Connector as directed.</p> <p>(f) with medium class Rigid PVC pipe and accessories erected concealed in wall/ceiling complete(cat III)</p> <p>NOTE:1. For use of ZHFR/HRFR Copper wires in place of FRLS PVC wires add 5% in Item of Point wiring Item No 1-1-1 to 1-2-6 & 1-5-1 & 1-5-2.</p>	540.00	Pt.	505.05	2,72,727.00	272727.00
9.3	<p>Point wiring for FAN with 2-1.5 sq.mm & earth wire of 1.5 sq.mm (Green) both are of .ISI marked 1.1 KV Grade ZHFR/ HRFR PVC insulated multi strand copper wires up to 10 mtr length, in below type of pipe erected with 6A Modular type switch and hum free EME step type electronic fan regulator mounted and accessories with earth continuity of following type erected on PVC / Metallic/Wooden box, single mounting base frame covered with textured/metallic/white front plate modules erected on / in wall / ceiling as per pipe erected. with necessary ceiling rose / H.D.Connector as directed.</p> <p>(f) with medium class Rigid PVC pipe and accessories erected concealed in wall/ceiling complete(cat III)</p> <p>NOTE:1. For use of ZHFR/HRFR Copper wires in place of FRLS PVC wires add 5% in Item of Point wiring Item No 1-1-1 to 1-2-6 & 1-5-1 & 1-5-2.</p>	5.00	Pt.	701.40	3,507.00	3507.00
9.4	<p>Point wiring for Individual Plug with & earth wire of 1.5 sq.mm (Green) both are of ISI marked 1.1 KV grade ZHFR/ HRFR PVC insulated multi strand copper wires up to 10 mtr length, in below type of pipe erected complete with Modular type switch & 5 pin Plug erected on PVC / Metallic/Wooden box covered with appropriate front plate modules erected on / in wall / ceiling as per pipe erected with following type of accessories.</p> <p>[I] For 6A Plug and 6 a switch with 2-1.5 sq.mm Cu. Wire from nearby switchboard/mcb db board</p> <p>(f) with medium class Rigid PVC pipe and accessories erected concealed in wall/ceiling complete (cat III)</p> <p>NOTE:1. For use of ZHFR/HRFR Copper wires in place of FRLS PVC wires add 5% in Item of Point wiring Item No 1-1-1 to 1-2-6 & 1-5-1 & 1-5-2.</p>	10.00	Pt.	530.25	5,302.50	5302.50

9.5	<p>Point wiring for Individual Plug with & earth wire of 1.5 sq.mm (Green) both are of ISI marked 1.1 KV grade ZHFR/HRFR PVC insulated multi strand copper wires up to 10 mtr length, in below type of pipe erected complete with Modular type switch & 5 pin Plug erected on PVC / Metallic/Wooden box covered with appropriate front plate modules erected on / in wall / ceiling as per pipe erected with following type of accessories.</p> <p>[II] For 16A Plug and 16 amp switch with 2-2.5 sq.mm Cu. Wire from mcb db board. (f) with medium class Rigid PVC pipe and accessories erected concealed in wall/ceiling complete (cat III) NOTE:1. For use of ZHFR/HRFR Copper wires in place of FRLS PVC wires add 5% in Item of Point wiring Item No 1-1-1 to 1-2-6 & 1-5-1 & 1-5-2.</p>	214.00	Pt.	774.90	1,65,828.60	165828.60
9.6	<p>Point wiring for Individual Plug with & earth wire of 1.5 sq.mm (Green) both are of ISI marked 1.1 KV grade ZHFR/HRFR PVC insulated multi strand copper wires up to 10 mtr length, in below type of pipe erected complete with Modular type switch & 5 pin Plug erected on PVC / Metallic/Wooden box covered with appropriate front plate modules erected on / in wall / ceiling as per pipe erected with following type of accessories.</p> <p>[III] For 16A Plug and 16 amp switch with 2-4 sq.mm Cu. Wire with 2.5 sq.mm (green) earthing wire from mcb d b board. (f) with medium class Rigid PVC pipe and accessories erected concealed in wall/ceiling complete (cat III) NOTE:1. For use of ZHFR/HRFR Copper wires in place of FRLS PVC wires add 5% in Item of Point wiring Item No 1-1-1 to 1-2-6 & 1-5-1 & 1-5-2.</p>	10.00	Pt.	906.15	9,061.50	9061.50
9.7	<p>Point wiring for on board Looped Plug with 6A Modular type switch & 5 pin socket erected on PVC / Metallic/Wooden box, single mounting base frame covered with textured / metallic/white front plate modules erected on / in wall / ceiling with following type accessories Cat. III NOTE:1. For use of ZHFR/HRFR Copper wires in place of FRLS PVC wires add 5% in Item of Point wiring Item No 1-1-1 to 1-2-6 & 1-5-1 & 1-5-2.</p>	140.00	Pt.	250.95	35,133.00	35133.00
9.8	<p>Point wiring for Two Way Controlled Light Point with 2-1.5 sq.mm & earth wire of 1.5 sq.mm (green) both are of .ISI marked 1.1 KV grade ZHFR/ HRFR PVC insulated multi strand copper wires erected in below type of pipe with 6A Modular type switches and following type of accessories erected on PVC / Metallic/Wooden box, single mounting base frame covered with textured / metallic/white front plate modules erected on / in wall / ceiling as per pipe erected. with necessary batten/angle holder or ceiling rose or H.D.Connector as directed. (f) with medium class Rigid PVC pipe and accessories erected concealed in wall/ceiling complete(cat III) NOTE:1. For use of ZHFR/HRFR Copper wires in place of FRLS PVC wires add 5% in Item of Point wiring Item No 1-1-1 to 1-2-6 & 1-5-1 & 1-5-2.</p>	10.00	Pt.	627.90	6,279.00	6279.00
9.9	<p>Providing and erecting Mains with 1.1 KV grade FRLS PVC insulated ISI marked stranded Copper conductor wire in following type of pipe to be erected concealed in /flushed on wall/ceiling, with 1.5 sq. mm copper conductor FRLS PVC insulated stranded wire of green colour for earth continuity of following size (A) With medium class Rigid PVC pipe and accessories (a) 2 wire 1.5 sq. mm</p>	23748.00	Rmt.	62.00	14,72,376.00	1472376.00

9.10	Providing and erecting Mains with 1.1 KV grade FRLS PVC insulated ISI marked stranded Copper conductor wire in following type of pipe to be erected concealed in /flushed on wall/ceiling, with 1.5 sq. mm copper conductor FRLS PVC insulated stranded wire of green colour for earth continuity of following size (A) With medium class Rigid PVC pipe and accessories (b) 2 wire 2.5 sq. mm	27582.00	Rmt.	82.00	22,61,724.00	2261724.00
9.11	providing and erecting Mains with 1.1 KV grade FRLS PVC insulated ISI marked stranded Copper conductor wire in following type of pipe to be erected in / on wall / ceiling with 2.5 sq. mm copper conductor FRLS PVC insulated stranded wire of green colour for earth continuity of following size (A) with medium class Rigid PVC pipe and accessories (a) 2 wire 4 sq. mm	300.00	Rmt.	111.00	33,300.00	33300.00
9.12	Providing & erecting Switch board for Computer or electric apparatus consisting of following modular type accessories mounted with PVC / Metallic concealed/open box with single mounting base frame covered with textured/metallic /white front plate,modules erected with necessary connections as directed 1 no. 6A/16A universal plug-switch combined. 3 nos. 6A Switch 3 nos. 6A 5 pin Plug For Modular Type accessories Cat. III	5.00	Pt.	1,122.00	5,610.00	5610.00
9.13	SITC of following type of Modular Type accessories mounted with PVC / metallic/Wooden box, single mounting base frame covered with textured / metallic/white front plate , modules erected with necessary connections as per site situation directed by Engineer In charge. (5) Electronic hum Free four or more steps EME Fan regulator (cat III)	5.00	Ea.	395.00	1,975.00	1975.00
9.14	SITC of following type of Modular Type accessories mounted with PVC / metallic/Wooden box, single mounting base frame covered with textured / metallic/white front plate , modules erected with necessary connections as per site situation directed by Engineer In charge. (7) Blank Plate Single (cat III)	20.00	Ea.	25.00	500.00	500.00
9.15	Providing and erecting ISI mark Medium class RIGID PVC PIPES of following size complete to be erected on/in wall or ceiling erected with necessary PVC fittings & Junction boxes fixed with adhesive solution & Clamps with following dia of pipes, in approved manner as directed (b) 25 mm	9194.00	Ea.	33.00	3,03,402.00	303402.00
9.16	Providing and erecting ISI mark Medium class RIGID PVC PIPES of following size complete to be erected on/in wall or ceiling erected with necessary PVC fittings & Junction boxes fixed with adhesive solution & Clamps with following dia of pipes, in approved manner as directed (c) 32 mm	100.00	Ea.	54.00	5,400.00	5400.00
9.17	Providing and erecting ISI mark Medium class RIGID PVC PIPES of following size complete to be erected on/in wall or ceiling erected with necessary PVC fittings & Junction boxes fixed with adhesive solution & Clamps with following dia of pipes, in approved manner as directed (d) 40 mm	100.00	Ea.	67.00	6,700.00	6700.00
TOTAL						4884961.30

10	INDOOR LIGHT FIXURE					
10.1	Supply, Installation Testing and Commissioning of 20W CEILING/WALL MOUNTED TUBE LIGHT POINT (A) Tube Light with integral driver (iii) 18-20 Watts, Surge - 2KV,IP-20, conventional 4 feet	354.00	Each	293.00	1,03,722.00	103722.00
10.2	Supply, Installation Testing and Commissioning of 36W CEILING/WALL MOUNTED TUBE LIGHT POINT (A) Tube Light with integral driver (v) 36-40 Watts, Surge-2 KV, IP-20, conventional 4 feet	439.00	Each	530.00	2,32,670.00	232670.00
10.3	Supply, Installation Testing and Commissioning of 10W WALL MOUNTED MIRROR LIGHT POINT (H) Mirror Light 9 Watts, wall mounted minimum 1 feet long	80.00	Each	309.00	24,720.00	24720.00
10.4	Supply, Installation Testing and Commissioning of 24W CEILING SURFACE MOUNTED LIGHT POINT (A) Square/ Circular shaped Surface/Recessed Mount Downlight with provision for spring loaded mounting clips complete.IP20 (iv) 22-24 watts, Surge-2 KV	29.00	Each	751.00	21,779.00	21779.00
10.5	Supply, Installation Testing and Commissioning of 24W CEILING RECESSED MOUNTED LIGHT POINT (A) Square/ Circular shaped Surface/Recessed Mount Downlight with provision for spring loaded mounting clips complete.IP20 (iv) 22-24 watts, Surge-2 KV	400.00	Each	751.00	3,00,400.00	300400.00
10.6	Supply, Installation Testing and Commissioning of 18W CEILING SURFACE MOUNTED LIGHT POINT (A) Square/ Circular shaped Surface/Recessed Mount Downlight with provision for spring loaded mounting clips complete.IP20 (iii) 16-20 watts, Surge-2 KV	9.00	Each	584.00	5,256.00	5256.00
10.7	Supply, Installation Testing and Commissioning of 18W CEILING RECESSED MOUNTED LIGHT POINT (A) Square/ Circular shaped Surface/Recessed Mount Downlight with provision for spring loaded mounting clips complete.IP20 (iii) 16-20 watts, Surge-2 KV	90.00	Each	584.00	52,560.00	52560.00
10.8	Supply, Installation Testing and Commissioning of 10W CEILING SURFACE MOUNTED LIGHT POINT (A) Square/ Circular shaped Surface/Recessed Mount Downlight with provision for spring loaded mounting clips complete.IP20 (ii) 11-15 watts, Surge-2 KV	37.00	Each	423.00	15,651.00	15651.00
10.9	Supply, Installation Testing and Commissioning of 10W CEILING RECESSED MOUNTED LIGHT POINT (A) Square/ Circular shaped Surface/Recessed Mount Downlight with provision for spring loaded mounting clips complete.IP20 (ii) 11-15 watts, Surge-2 KV	300.00	Each	423.00	1,26,900.00	126900.00
10.10	Supply, Installation Testing and Commissioning of Flood Light: (B) Flood Light (IP-65), Surge protection -4KV integral and ,Light must have 440VAC line supply with over-voltage protection. (vi) above 160 to 200 watts	1.00	Each	9,552.00	9,552.00	9552.00
10.11	Type -A (with Basic Rate of Rs.1000/-) up to Rs. 1500	0.00	Each	800.00	-	0.00
10.12	Type -B (with Basic Rate of Rs.2000/-) Rs. 1501 to Rs. 2500	0.00	Each	1,800.00	-	0.00
10.13	Type – C (with Basic Rate of Rs.3000/-) Rs. 2501 to Rs. 3500	0.00	Each	3,000.00	-	0.00
10.14	Type – D (with Basic Rate of Rs.4000/-) Rs. 3501 to Rs. 5000	0.00	Each	4,200.00	-	0.00
10.15	Type – E (with Basic Rate of Rs.5000/-) Rs. 5001 to Rs. 10500	90.00	Each	8,500.00	7,65,000.00	765000.00
10.16	Type – F (with Basic Rate of Rs.10000/-) Rs. 10501 to Rs.15000	3.00	Each	13,500.00	40,500.00	40500.00

10.17	Ceiling Fan: Supply, Installation, Testing and Commissioning of suitable sweep, BEE 5 Star rated, Ceiling fan with Brush Less Direct Current (BLDC) permanent ferrite magnet Motor, class of insulation: B, Rust free 3 nos. Aluminium blades, 2 nos. canopies, shackle kit with earthing provision, copper winding, Power factor not < 0.9, Service Value (CMM/W) minimum 6.85, Air delivery minimum 215 CMM, 350 RPM, 230v (tolerance as per IS : 374-2019), THD < 10%, with remote unit for Speed Control and all remaining accessories including safety pin, nut bolts, washers, temperature rise = 75 degree C (Max.), suitable for 140 to 285 Voltage and rectifier circuit with surge, over current and overload protection, 50 Hz, Single phase AC Supply, earthing etc. Complete as required.[Make shall be approved by Engineer in Charge] (B) 1200 mm Sweep (48")	5.00	Each	2,857.00	14,285.00	14285.00
10.18	Wall bracket fan: Supplying and erecting approved make oscillating type bracket fan A.C. 230V. 50cy/s 400/450 mm sweep wall mounted with height adjustment and rotary tilting device complete with guard, flexible Core plug top complete erected with lead wires as directed. Cat ii	1.00	Each	2,509.00	2,509.00	2509.00
Total						1715504.00
11 EARTHING						
11.1	SITC of required size HOT deep Galvanised iron strip for earthing of H.T. , OCB/ ACB/ Transformer LT panel board, Motors etc. using proper clamp.	5063.50	Kg.	77.00	3,89,889.50	389889.50
11.2	SITC of required size Copper strip for earthing of H.T. OCB / ACB/ Transformer, LT panel board, Motors etc. using copper clamp.	589.60	Kg.	787.00	4,64,015.20	464015.20
11.3	SITC of Annealed bare Copper wire 8 to 16 SWG.	186.30	Kg.	787.00	1,46,618.10	146618.10
11.4	SITC of HOT deep Galvanised iron strip wire 8 to 16 SWG.	10.00	Kg.	77.00	770.00	770.00
11.5	Supplying & erecting earth pit of minimum bore dia.150mm size approved make Earthing Electrode consisting Pipe-in-Pipe Technology as per IS 3043-1987 made of corrosion free hot dipped G.I.Pipes having Outer pipe dia of 50mm having 80-200 Micron galvanising, Inner pipe dia of 25 mm having 200-250 Micron galvanising, connection terminal dia of 12mm with constant ohmic value surrounded by highly conductive compound with high charge dissipation suitable for following type of applications with chamber and heavy duty cover. (A)(approved make OEM has to submit test certificate including value of earth resistance of installation duly stamped and signed by agency and officer Incharge has to ensure the value of earthing resistance mentioned in test Certificate) & having back filling compound of (B) Inner chemical (CCM Compound)- Resistivity:- 0.2 ohm / meter testing as per IEC 62561-2017, Voltage drop:- < 1 volt at no load & dry form, Sulphar content:- <2%(C) Back fill Compound :- Earthing compound should be capable to retain moisture for long time Necessary test report must be submitted by Agency. (c) For Electrical Installation covering Transformer Neutrals, Lightning arrester Earthing, A.C.Plant & Sensitive Computer System(like Automation, SCADA) i.e independent Earthing in normal soil. Length of Pipe : 3.00 mtrs Back filling Compound :2 nos Bags of 25 Kg.	89.00	Each	8,551.00	7,61,039.00	761039.00
Total						1762331.80

12	UPS					
12.1	Supplying and erecting approved make online Un-interruptible Power Supply system comprising flat cum-boost charger with IGBT base rectifier & Inverter & sealed maintenance free SMF batteries. The charger having operating capacity for input 160-270V AC & inverter having output 230V,50 Hz Ac with 0.8 load power factor with battery, over/under voltage output with over load & short circuit protection equipment. The system housed in CRC sheet duly powder coated paint with following power backup.with MS painted batteries stand, 10% Overload capacity for momentary load. (D) 5KVA with 1Hr Backup	9.00	Each	1,28,815.00	11,59,335.00	1159335.00
	Total					1159335.00
13	SAFETY ITEMS					
13.1	SITC of metallic vitrified danger notice board as per language suggested by engineer incharge for MEDIUM VOLTAGE installation to be erected as per IS-2551.	10.00	Ea.	69.00	690.00	690.00
13.2	SITC of metallic vitrified danger notice board as per language suggested by engineer incharge for HIGH VOLTAGE installation to be erected as per IS.2551.	2.00	Ea.	81.00	162.00	162.00
13.3	SITC of printed instruction chart both in English and Gujarati and duly framed with front glasses, for treatment of person suffering from Electric shock with minimum 50" diagonally size.	2.00	Ea.	129.00	258.00	258.00
13.4	SITC of pair of rubber hand gloves suitable for working on 11 KV supply.	2.00	Ea.	212.00	424.00	424.00
13.5	SITC of rubber matting of 3 mm thickness as per IS 15652 and IEC 61111. (A) 3 mm	20.00	Sq.mtr	763.00	15,260.00	15260.00
13.6	SITC of stand first AID box with antiseptic cream, medicine for use on wounds due burn, crepe bandage, gauge bandage, medicated ready to use bandage (Band-aid) adhesive tape for medicinal user, ScisR&BR&BSORs, anti-septic solution (Savlon or similar) etc. (All above contents shall be of standard makes)	10.00	Ea.	297.00	2,970.00	2970.00
13.7	SITC of FIREbucket round bottom of9 litres capacity made out of 24 gauge G.I. sheet with extra handle at bottom duly painted white inside andRed out side with FIRE mark, filled with dry-sand and kept on existing stand provided or hung on wall hook.	2.00	Ea.	212.00	424.00	424.00
13.8	SITC of floor mounting stand for keeping four nos. of FIRE buckets comprising 1500 mm in length, 900 mmheight frame made out of 30mm X30 mm X 4 mm angle iron with cross supports for legs, welded with 4 hooks and duly painted with one coat of red lead and two coats of approved enamelled silver paint.	2.00	Ea.	933.00	1,866.00	1866.00
13.9	Wall hook 22 to 25 cms. projection for keeping fire buckets made out of 15 mm dia. M.S rod grouted in wall to a depth of minimum 15 cms.	2.00	Ea.	60.00	120.00	120.00
13.10	Supplying & erecting D.C.P. type fire extinguisher for following capacity cartridge type with gun metal cap 150 gram CO2 gas cartridge, powder and brackets conforming to IS 2171 1985 and complete erected with necessary clamps made from 50 x 6 mm M S Flat with nuts and bolts grouted in wall complete. [A] For 5 Kg Capacity	2.00	Ea.	1,696.00	3,392.00	3392.00

13.11	Supply and installtion of expanding firestop foam equivalent to Hilti CP 620 on both sides of wall, with minimum 2 hours fire rating when tested in accordance with UL 1479/ASTM-E 814, for horizontal openings in floors or slabs made of concrete/ masonry or Gypsum after passing service lines like cable trays or cables/cable bundles. The expanding foam expands seven times its volume to fill the cavity at the time of dispensing the material and shall fully cure within two minutes after dispensing. The product shall be age tested as per Dafstb and DIBT standards. The product shall provide water tightness when tested for W rating as per UL standards and shall carry test certificate for sound insualtion of 50 db when tested in accordance with ASTM E 90. The product shall carry test certificate for mold resistance rating of 0 as determined by ASTM G21-96 and shall have a VOC content of approx. 1.3 g/l as per LEED 2009. The product shall be tested in accordance with IEC 60068-2-57:1999-11 (Environmental Testing) as per Part 2-57: Test for Vibration-Time-history method and VERTEQII for seismic zone 4. The system shall be UL listed & classified. The system shall be UL & FM approved.	5.00	Ea.	8,490.45	42,452.25	42452.25
13.12	Supply and installation of Fire stop mortar system equivalent to Hilti CP 636 , with minimum 2 hours fire rating when tested in accordance with UL 1479/ASTM-E 814 standards, for horizontal openings in floors or slabs after passing service lines like cables/cable bundles, cable trays etc. The mortar shall be a light weight cementitious product and shall carry test certificate in accordance with IEC 60068-2-57:1999-11 (Environmental Testing) as per Part 2-57: Test for Vibration-Time-history method and VERTEQII for seismic zone 4. The product shall be age tested as per Dafstb and DIBT standards. The product shall carry test certificate for mold resistance rating of 0 as determined by ASTM G21-96. The product shall be age tested as per Dafstb and DIBT standards.The system shall be UL listed. The gaps around inaccessible or complicated openings shall be sealed with exapnding firestop foam.	10.00	Sq. mtr	13,043.30	1,30,433.00	130433.00
Total						198451.25
14	EXTERNAL LIGHT FIXTURE AND POLE					
14.1	PLANT UPLIGHTER SITC of Plant Uplighter: System Wattage : 12W LED,Driver Integral : Constant Current,Operating Voltage : 100-300Vac,Operating Temperature : -15°C~+50°C,Body : Die-cast Aluminium Alloy,Diffuser : Clear Toughened Glass,Mounting : Spike / Die-castAluminium BracketFinish : Powder coated.Light Source : CITIZEN.CRI (Ra) : ≥80.LED Colour Temperature : 3000K.Driver Power Supply : Integral.Input Voltage : 230-240Vac.Frequency : 50-60 Hz.Power Factor : >0.95. THD : <10%.Surge Protection : 4KV.Efficiency : >80%.Beam Angle : 25°.IP66	38.00	Each	1,846	70,138.50	70138.50

14.2	<p>POST TOP FIXTURE</p> <p>Supply, Installation, assembling, connection, testing & commissioning of Post Top light fixture equivalent to 20-30W LED module of NICHIA/Cree/Osram LED source of CCT 3000K/4000K/5700K. Constructed out of Extruded aluminium graphite grey pipe of grade-6063 (with test certificate) , mounting Ø70(PIPE DIA) x 2.5mm thickness, suitable for mounting 4 mtr high pole , having spun aluminium top cover.</p> <p>The mechanical resistance of the luminaire is IK08 and with ingress protection of IP65. This luminaire contains built-in LED modules. LED modules are engineered accordingly to the existing regulations of Lumen Maintenance (LM80) and Technical Memorandum (TM21), Lifespan of the luminaire > 50,000 hours at 40°C. Translucent polycarbonate opal diffuser of 1.8mm thickness with controlled downward light emission, lamp fixed position.</p> <p>Operating ambient temperature range is from -15°C to +50°C. Driver efficiency >85%, power factor >0.9, THD <10%, Colour Rendering Index: Ra>80 and SDCM MacAdam step 3. Input voltage of 140-280Vac at 50-60Hz frequency with Surge protection 5KV and have 360 Degree light distribution and simple electronic On-Off driver. The luminaire is BIS & CE certifications. (NOTE: Final wattage capacity, light fixture colour, light Colour Coding Temperature, Fixture sample is to be done and approved by the architect and Engineer incharge after sampling and mock-up before finalization.) GRAPHITE GREY/ANTHRACITE GREY/JET BLACK. Dimensions:-Ø527X151mm.</p>	130.00	Each	12,305	15,99,650.00	1599650.00
14.3	<p>Post top Pole</p> <p>[D] Overall length of 4 Mtr. Average Thickness: 7mm. Top/ Bottom OD Dia A/F 89/145 mm ± 2mm approx. Approx. Weight of Pole 19 kg approx. (Without Base) Anchor Base (Size 250X250 & 12mm th.)</p>	130.00	Each	9,696	12,60,480.00	1260480.00
14.4	<p>Bollard:</p> <p>Supply, Installation, assembling, connection, testing & commissioning of bollard light fixture equivalent to LB-14 Bollard 11W LED , LED source of CCT 3000K/4000K/5700K. Constructed out of Extruded circular extruded aluminium housing (with test certificate) Height: 840mm, dia. 100 mm thickness, SS fasteners & Pre-treated silicone gaskets. Finished with acid treatment & pure polyester powder coating with MARINE COATING. Mounting base made of Die-cast aluminium mounting. Base plate 150 x 150 x 4mm thick with 2 elongated holes 20 x 14 to suit 3 nos M10 bolts at CC 130mm with pure polyester powder coating. This mounting plate along with foundation bolts of suitable size to be used for ensuring firm grouting into the specially designed foudation with Hot dip galvanised foundation bolts. The mechanical resistance of the luminaire is IK06 and with ingress protection of IP65. This luminaire contains built-in LED modules. LED modules are engineered accordingly to the existing regulations of Lumen Maintenance (LM80), Lifespan of the luminaire > 50,000 hours at 40°C. High efficiency Transmission with specially designed extruded seamless Milky white PC diffuser, lamp fixed position. Operating ambient temperature range is from -15°C to +50°C. Driver efficiency >84%, power factor >0.9, THD <10%, Colour Rendering Index: Ra>80 . Input voltage of 230-240Vac at 50-60Hz frequency and have an operating voltage of 100-277Vac with Surge protection 2.5KV and have Asymmetrical light distribution and simple electronic On-Off driver. The luminaire is BIS & CE certifications. (NOTE: Final wattage capacity, light fixture colour, light Colour Coding Temperature, Fixture sample is to be done and approved by the architect and Engineer incharge after sampling and mock-up before finalization.)</p>	34.00	Each	4,883	1,66,009.22	166009.22
14.5	<p>Construction of Foundation for Post Top light pole of size 600mm dia, 1000mm depth including excavation, backfilling, watering, soling, compaction, Reinforcement etc. complete. It includes R.C.C work of M-25 for foundation also having 100mm thick PCC in M-15 at bottom level. It shall be completed with all respect in ture line level, plumb with neat & clean surface as per coordinated infrastructure detail drawing up to the level of satisfaction. (Foundation should be designed as per wind speed of local area guidelines.)</p>	130.00	Nos.	4,478	5,82,140.00	582140.00

14.7	STEP LIGHT SITC of Step Light: System Wattage : 12W LED,Driver Integral : Constant Current,Operating Voltage : 100-277Vac,Operating Temperature : -15°C~+50°C,Body : Die-Cast Aluminium,Diffuser : Clear Acrylic,Gasket : Silicone,Mounting Sleeve : ABS Plastic,Mounting : Wall - Recess,Finish : Powder coated,Light Source : NICHIA,CRI (Ra) : ≥80,LED Colour Temperature : 3000K,Driver Power Supply : Integral,Input Voltage : 230-240Vac,Frequency : 50-60 Hz,Power Factor : ≥0.90,THD : <10%,Surge Protection : 2KV / 2.5KV,Efficiency : >85%,IP65	364.00	Nos.	923	3,35,926.50	335926.50
14.8	Supply, Installation Testing and Commissioning of 9W ground flush light-IP67	5.00	Each	7,690.63	38,453.13	38453.13
Total						4052797.34
15 DWC PIPE AND CHAMBER						
15.1	SITC of R.C.C. Hume pipe for cable to be laid 90 cm. below ground across the road crossing or on floor with necessary material in an approved manner and making the ground as per original. (C)300 mm dia	10.00	Mtr.	340	3,400.00	3400.00
15.2	SITC of R.C.C. Hume pipe for cable to be laid 90 cms. below ground across the road crossing or on floor with necessary material in an approved manner and making the ground as per original. (E)150 mm dia	39.00	Mtr.	261	10,179.00	10179.00
15.3	SITC of approved make Double walled corrugated pipes (DWC) of polyethylene(conforming to IS 14930 II)with necessary connecting accessories of same material at required depth in existing trench for laying of cable. below ground / road surface for enclosing cable. (A)50 mm outer dia	100.00	Mtr.	62	6,200.00	6200.00
15.4	SITC of approved make Double walled corrugated pipes (DWC) of polyethylene(conforming to IS 14930 II)with necessary connecting accessories of same material at required depth in existing trench for laying of cable. below ground / road surface for enclosing cable. (B)63mm outer dia	650.00	Mtr.	73	47,450.00	47450.00
15.5	SITC of approved make Double walled corrugated pipes (DWC) of polyethylene(conforming to IS 14930 II)with necessary connecting accessories of same material at required depth in existing trench for laying of cable. below ground / road surface for enclosing cable. (D)120 mm outer dia	1271.00	Mtr.	136	1,72,856.00	172856.00
15.6	Excavating hard Murrum or Metal road by chiselling for preparing pit for poles or earth plates or for laying pipes & clearing the site by removing debris & making site good.	300.00	Cu.Mtr	238	71,400.00	71400.00
Total						311485.00

16	SOLAR SYSTEM					
	<p>Supply, Installation, Testing & Commissioning of following size of Grid Tied Solar Power Plant with Solar Panels (ALMM approved): Frame Material : Anodized Aluminum alloy Frame With Twin Wall Profile, Front Cover : High Transmission Low-Iron Tempered Glass (AR Coated), High efficiency and positive power tolerance Pmax: 0/+5, Module Efficiency should be approx. 18%-21%, Normal operating temperature 45°C, Junction Box with Waterproof IP67 & MC4 Compatible and Enclosed with Bypass diodes, 100% Electroluminescence test to ensure error free Modules, Thep. temp. co-efficient of the PV module shall equal or better than -0.45%/degree C. Solar PV modules of minimum fill factor 75% to be used. Unit Production:- 4 to 5 Unit /kw /day (Actual)(1Year Avg) With 10 year Product warranty and 25 year Linear Power Warranty.,</p> <p>Solar Inverter: MPPT Range: 80-1000 V, Max efficiency: 97.5% - 98.9%, O/p Frequency: 50/60Hz, Operating Altitude (m) ≤4000, O/p Power Factor: ~1, O/P THDi: <3%, Operating Temperature Range: -25~60°C, Anti-islanding Protection:</p> <p>Integrated, Input Reverse Polarity Protection Integrated, Insulation Resistor Detection Integrated, Residual Current Monitoring Unit Integrated, Output Over Current Protection Integrated, Output Short Circuit Protection Integrated, Output Over Voltage Protection Integrated, Protection Degree: IP65, User Interface LCD & APP,Datalogger & Communication: GPRS / Wi-Fi, Module Mounting Structure: Seamless Box Pipe / 'C' Channel of suitable size for rooftop solar installations with good stability agaist wind & weight load., Hot Dipped Galvanized steel coils. suitable arrangement for base plate for foundation , solar panel mounting, the structure should be suitable for carry the load of solar panel,wiring, sprinkler system etc. with necessary foundation work/wall mount, j bolt, anchor fastner etc. the nut bolt used for installtion of stucture should be (SS 304) quality. and Balane of System with necessary Swithgears (Suitabel size and protection of ACDB & DCDB), inter connecting wiring, earthing system, lightning arrester system, all liasoning work with various gov. dipartment like state nodal agency,DISCOM & CEIG is included in agency scope. (Excluding GEDA Application fees, Solar connectivity Charges, GEDA Meter connectivity Charges, Meter testing Charges.)</p> <p>(C) Grid Tied Solar Power System: 11 - 25 kW (3 - phase)</p>	150	PER KW	42035	63,05,250.00	6305250.00
	Total					6305250.00
17	MAINTENANCE & OPERATION FOR ELECTRICAL & ELV WORK					
17.1	Provide annual maintenance service (including supply of material) and operation for 3 years after handing over of work for electrical and ELV works as per schedule including necessary materials to be given under warantee free of cost, etc. 1st Year (During DLP Period)	1.00	Year	16,69,220.02	16,69,220.02	1669220.02
17.2	2nd Year (After DLP Period)	1.00	Year	15,71,659.30	15,71,659.30	1571659.30
17.3	3rd Year (After DLP Period)	1.00	Year	15,71,659.30	15,71,659.30	1571659.30
17.4	4rd Year (After DLP Period)	1.00	Year	15,71,659.30	15,71,659.30	1571659.30
17.5	5th Year (After DLP Period)	1.00	Year	15,71,659.30	15,71,659.30	1571659.30
	Total					7955857.21
18	LPS SYSTEM					
18.1	SITC of Vertical Air Termination Solid aluminium with Base- 10 mm dia and 1000 mm long. Air Termination Base tested for conditioning, Ageing Test & Lightning impulse current withstand test: 100 kA of 10/350µs waveform in an accredited Third party laboratory as per 6.3 & 6.4 of IEC 62561-1 2017 protocol with MAST 34mm dia 3000 mm long- Cold Galvanized	33.00	Nos.	9,323.00	3,07,659.00	307659.00

18.2	SITC of 8 mm dia solid Aluminium Conductor for roof top mesh grid and tested as per IEC 62561- 2 conducted in the Govt. accredited thirty party laboratory to meet the requirement of IS/IEC 62305 with Required Accessories - Aluminium Holding clamp at every 1 mtr distance, Aluminium/SS cross splicer at every crossing of Alu. conductor, Expansion piece with connectors at every 20 mtr distance, Aluminium straight Splicer to connect conductors. All Accessories should be tested as per IEC 62561-1 2018 Cl. 6.3 for conditioning & Ageing Test & 6.4 for Lightning impulse current withstand test: 100 kA of 10/350µs waveform(Ageing & Electrical test) conducted in a sequence manner & tested in the Govt. accredited Third party laboratory to meet the requirements of IS/IEC 6230	1530.00	Meter	297.00	4,54,410.00	454410.00
18.3	SITC of 10 mm MS Round Solid Conductor having smooth surface Should be tested and use exclusively for lightning protection (Vertical Riser/Down Conductor which shall be concealed in Column) to meet the requirement of IS IEC 62305 With Accessories - Earthing stud of dimension SS-75mm OD plate with 10mm dia tail connector used in structural steel ring earthing system to meet the requirements of IS/IEC 62305. (For Interconnecting the Column and the Terrace AL Conductor / Strip/Flat), SS Cross Connector to connect Earth fixing point to vertical raiser/Down conductor, SS Straight Splicer at every 4 Mtr to connect MS conductor in column, Bonding /Rebar Clamp at every 3 mtr suitable for interconnecting round conductor with reinforcement inside the concrete for structural earthing system, SS connector -To connect external conductor 8- 10 mm with earth fixing point. All Accessories should be tested as per IEC 62561-1 2018 Cl. 6.3 for conditioning & Ageing Test & 6.4 for Lightning impulse current withstand test: 100 kA of 10/350µs waveform(Ageing & Electrical test) conducted in a sequence manner & tested in the Govt. accredited Third party laboratory to meet the requirements of IS/IEC 6230	100.00	Meter	721.00	72,100.00	72100.00
18.4	SITC of Galvanized Steel Flat 25x6 mm thickness from earth electrode directly in ground as required. Zinc coating: 500 g/m square (Approx:70 micron coating) tested and used exclusively for lightning protection earthing system and ring equipotential bonding.	1090.00	Meter	153.00	1,66,770.00	166770.00
18.5	SITC of 14.2 mm dia 3 mtr long Earth electrode of High tensile steel electrode with 250 micron copper bonding & 1 bag of Carbon fill Based environment friendly backfill tested as per IEC 62561-7 in NABL accredited Laboratory and suitable stainless Steel double sided clamp. Eco Friendly rust proof heavy duty weather proof Polyethylene Earth Pit Chamber with following dimensions :254 mm dia (top), 330 mm dia (bottom) & 260 mm (height).	6.00	set	5,933.00	35,598.00	35598.00
Total						1036537.00
19 SERVICE WORK						
19.1	Service charges for Liason with supply company including submission of application forms, obtaining load sanction and other all associated works to complete the job. It is lumpsum job item and may vary as per requirement.	1.00	Job	1,00,000.00	1,00,000.00	100000.00
Total						100000.00

20	FIRE DETECTION & ALARM SYSTEM					
20.1	Supply, Installation, Testing and commissioning of Microprocessor based Networkable Analogue Addressable Fire Alarm Control Panel. The Panel shall be compliant with EN54-2, EN54-4 and approved by LPCB. The Fire Alarm Control Panel shall have inbuilt 10 loops and expandable capacity upto 16 loops. The Panel must have Full colour 800 x 480 LCD with resistive touch screen and automatic backlight dimming. The Panel must also have the capability to take Addressable Intelligent Wired and Wireless Devices on same loop. Each loop shall have a capacity of 127 analogue Addressable devices and 127 Base sounders/Base Sounder Beacons. The panel shall have an event log of minimum 10,000 events @ 1 second resolution, Filterable and Printable. The Panel shall have Three access levels. Panel shall support upto 5000 Cause & Effects entries, with upto 20,000 inputs controlling & 20,000 Controlling outputs across the network. The Panel shall have capability for Peer to Peer networking through RS485 network card. The Panel must have 4 inbuilt programmable sounder circuits, each circuit rated at 2.5A. The Panel must have inbuilt 3 programmable inputs and 5 inbuilt programmable relay outputs. The Panel shall have up to sub-addressable 512 programmable Inputs/Outputs via optional RS485 COMMS serially connected expansion cards. The Panel shall have 240 V AC power supply along with automatic Battery Charger. The Panel shall be fully expandable via common plug in loop driver boards. The user shall have a choice of using the panel with 5.25 Amp or 10.25 Amp power supply unit which is inbuilt in the FACP and should be approved to EN54-4. The Panel shall have configurable via USB port to PC or memory stick. The Panel shall have dedicated RS232 serial port for optional printer. Approved by LPCB	2.00	Each	₹ 6,97,599.98	13,95,199.96	1395199.96
20.1	Supply, Installation, testing and commissioning of Active Repeater Panel to be integrated with Fire Alarm Control Panel, larger display Full colour 800 x 480 LCD with resistive touch screen and automatic back-light dimming and the status of any Fire/Fault of Integrated Fire Alarm Panels, Panel should compliant with EN54-2, EN54-4 and Approved by LPCB	1.00	Each	₹ 88,974.99	88,974.99	88974.99
20.2	Supply, Installation, testing and commissioning of Analogue Addressable Multi- Sensor (Above/Below Ceiling) which is fully compatible with Analogue Addressable Protocol, having removable high performance chamber with Twin fire LED's allow 360 degree viewing, User selectable sensitivity modes 1% to 4.5% obs/m, Incorporate Optical and dual Heat elements, lock mechanism (sensor to base), Electronically addressed, Pulsing/non-pulsing controlled from panel. Approved by LPCB & VdS.	1170.00	Each	₹ 4,259.99	49,84,189.47	4984189.47
20.3	Supply, Installation, testing and commissioning of Analogue Addressable Multi- Heat Sensor which is fully compatible with Analogue Addressable Protocol, having removable high performance chamber with Twin fire LED's allow 360 degree viewing, User selectable sensitivity modes 0 to 88 degree celsius, Incorporates Fixed Temperature and Rate Of Rise Heat elements, lock mechanism (sensor to base), Electronically addressed, Pulsing/non-pulsing controlled from panel. Approved by LPCB (EN54: Part 5)	92.00	Each	₹ 3,881.00	3,57,051.72	357051.72
20.4	Supply, Installation, testing and commissioning of Multi-Criteria Sensor (Smoke+Heat+CO) Features, Low profile - only 2" high, Simple and reliable device addressing, Supports 16 operational modes, Automatic compensation for sensor contamination, Built in Fire test feature, Two built-in power/alarm LEDs, programmable non-polling LEDs, Non-directional Smoke chamber, Vandal resistant security locking feature, 10 years CO sensor life span, Approved by LPCB.	244.00	Each	₹ 15,713.49	38,34,090.34	3834090.34
20.5	Supply, Installation, Testing and commissioning of sensor common mounting base, includes stainless steel contacts, slim profile - only 8mm, quick connection via square cable clamps, facility for remote indicator, Approved by LPCB	1422.00	Each	₹ 284.25	4,04,197.10	404197.10
20.6	Supply, Installation, Testing and commissioning of sensor common mounting base, Features integral Short-Circuit isolator, slim profile, Approved by LPCB	84.00	Each	₹ 2,367.48	1,98,868.49	198868.49
20.7	Supply, Installation, Testing and commissioning of Response Indicator	300.00	Each	₹ 322.39	96,717.30	96717.30
20.8	Supply, Installation, testing and commissioning of Analogue Addressable Manual Call Point with Integral Short Circuit Isolator, Analogue Addressable Protocol having, Bi-coloured status LED (red for alarm, amber for (short-circuit), Non-frangible element fitted as standard (conforms to EN54), pulsing/non-pulsing can selectable via panel, Electronically addressed, Approved by LPCB.	61.00	Each	₹ 5,869.49	3,58,038.59	358038.59

20.9	Supply, Installation, testing and commissioning of Intelligent Loop Powered Wall Sounder Beacon, Variable Sound Output 90 ~ 102 dB(A) (± 2 dB(A)) output at 1 metre, High Intensity LED technology, 51 User-Selectable Tones (all tones EN54-3 compatible). Approved by LPCB & VdS	61.00	Each	₹ 9,466.24	5,77,440.43	577440.43
20.10	Supply, Installation, testing and commissioning of Analogue Addressable Single Input Module. which Includes a single monitored input, flying leads for easy installation. Electronically addressed, Approved by LPCB & Vds.	25.00	Each	₹ 4,685.74	1,17,143.60	117143.60
20.11	Supply, Installation, testing and commissioning of Analogue Addressable Single Output Module . which Includes a single output, flying leads for easy installation. Electronically addressed, Approved by LPCB & Vds.	25.00	Each	₹ 5,111.50	1,27,787.43	127787.43
20.12	Supply, Installation, Testing and Commissioning of 2Core x 1.5 sqmm, Copper Conductor, XLPE Insulated, Unshielded, Armoured, FRLS cable	21500.00	Mtr	₹ 171.04	36,77,349.25	3677349.25
Total						16217048.67
21	CCTV SYSTEM					
21.1	Supply, Installation, Testing and Commissioning of 5MP IR Dome Camera with 2.8mm Lens with Audio, Resolution 5 MP (2592 x 1944), 1/2.8" SONY - CMOS 5MP Active Pixel, Minimum Illumination Color - 0.01 Lux @ F1.2 (AGC ON) Monochrome - 0 Lux, Focal Length 2.8mm, IR Range Up to 30m, Two-way Audio, SD Card Up to 512GB, Video Compression H.265, H.264, MJPEG, STQC,CE, IP67, IK10	39	Nos.	₹ 10,791.49	4,20,867.92	420867.92
21.2	Supply, Installation, Testing and Commissioning of 5MP IR Bullet Camera with 2.8mm Lens with Audio, Resolution 5 MP (2592 x 1944), 1/2.8" SONY - CMOS 5MP Active Pixel, Minimum Illumination Color - 0.01 Lux @ F1.2 (AGC ON), Monochrome - 0 Lux, Focal Length 2.8mm, IR Range Up to 30m, Two-way Audio, SD Card Up to 512GB, STQC,CE, IP67, IK10	109	Nos.	₹ 10,791.49	11,76,271.87	1176271.87
21.3	Supply, Installation, Testing and Commissioning of 96 IP Channel Inputs; 4K HDMI, 1/1 Audio I/O and 2/1 Alarm I/O, 12MP, 8MP, 5MP, 4MP, 3MP, 2MP, 720p, D1 and CIF Recording Resolution, 8 SATA HDD Support (Maximum 18TB Capacity per Slot), throughput - 512Mbps Uplink, 512Mbps Downlink, ONVIF and support for other camera brands	3	Nos.	₹ 1,23,050.00	3,69,150.00	369150.00
21.4	Supply, Installation, Testing and Commissioning of 10TB hard Disk for 30 days recording 24 hours @25FPS with 2Mbps Data rate	18	Nos.	₹ 44,487.50	8,00,774.95	800774.95
21.5	Supply, Installation, Testing and Commissioning of 55 Inch, UHD Professional display With Web OS, IPS Panel, 500 Nits, Resolution 3840X2160, 1000000 : 1 Dynamic Contrast Ratio, 24*7 Operation Time, Inbuilt WIFI, HDMI 3/DVI-D/ SB/DP Ports RS232C In/Out, RJ45 (LAN) In, IR In, Screen Share, Time Scheduler, Clear View with Non Anti-glare Coating, IP5X Dust Proof Certified Design, Built in Speaker	2	Nos.	₹ 1,04,498.98	2,08,997.96	208997.96
21.6	Supply, Installation, Testing and Commissioning of Workstation - Industry standard Intel based x64 platform computer system. Intel Core i7 12th generation 8C Processor, 16 GB of RAM DDR3/4, 512GB NVME SSD for Operating System, 1600 x 1200 or higher screen resolution, 24" Display, 1 x 1000Mbps ethernet network interface card along with appropriate licenced Operating System, licenced applications suites from OEM as per the technical requirement	1	Nos.	₹ 3,81,455.00	3,81,455.00	381455.00
Total						3357517.69
22	PUBLIC ADDRESS SYSTEM					
22.1	SITC of Controller Public address and emergency sound system control unit Control and routing of 4 simultaneous audio channels One controller supports 12 zones, expandable up-to 492 zones with 24-zone routers Four controllers can be networked using OMNEO interface module EN 54-16 and ISO 7240-16 system certification [Approved by Competent Authority i.e. not Below the rank of Executive Engineer]	1	Each	₹ 2,20,124.00	2,20,124.00	220124.00

22.2	SITC of Router Expansion of PAVIRO system by 24 zones Total 4000 W speaker load, max 500W per zone 20 GPI, 24 GPO and 2 control relays Up to 20 routers per controller EN 54-16 and ISO 7240-16 system certification [Approved by Competent Authority i.e. not Below the rank of Executive Engineer]	1	Each	₹ 1,88,860.00	1,88,860.00	188860.00
22.3	SITC of Power amplifier, 2x500W 2 X 500 W class-D power amplifier (70/100 V output) Low power consumption in standby mode Excellent sound quality, high signal-to-noise ratio EN 54-16 and ISO 7240-16 system certification [Approved by Competent Authority i.e. not Below the rank of Executive Engineer]	5	Each	₹ 2,17,686.00	10,88,430.00	1088430.00
22.4	SITC of Call station Call station with soft touch button for PAVIRO system 15 freely programmable buttons Customization via built-in display and keys Provision for installing emergency button and key switch EN 54-16 and ISO 7240-16 system certification [Approved by Competent Authority i.e. not Below the rank of Executive Engineer]	1	Each	₹ 78,156.00	78,156.00	78156.00
22.5	SITC of Call station extension Call station extension keypad with 20 freely programmable buttons Soft-touch selection buttons Up to 5 extension keypads can be connected to one call station EN 54-16 and ISO 7240-16 system certification [Approved by Competent Authority i.e. not Below the rank of Executive Engineer]	1	Each	₹ 46,891.00	46,891.00	46891.00
22.6	SITC of Ceiling loudspeaker 6W, ABS with clamps [Approved by Competent Authority i.e. not Below the rank of Executive Engineer]	438	Each	₹ 732.00	3,20,616.00	320616.00
22.7	SITC of Plastic speaker dome [Approved by Competent Authority i.e. not Below the rank of Executive Engineer]	438	Each	₹ 592.00	2,59,296.00	259296.00
22.8	SITC of Cabinet loudspeaker, 15W, black High-fidelity music and speech reproduction Selectable 8 ohm, 70 V and 100 V inputs Compact yet robust ABS enclosure Supplied with adjustable mounting bracket Complies with international installation and safety regulations [Approved by Competent Authority i.e. not Below the rank of Executive Engineer]	16	Each	₹ 9,288.00	1,48,608.00	148608.00
22.9	SITC of Horn loudspeaker 30W, circular, ABS [Approved by Competent Authority i.e. not Below the rank of Executive Engineer]	46	Each	₹ 3,346.00	1,53,916.00	153916.00
23	Supply, Installation, Testing and Commissioning of 2Core x 1.5 sqmm, Copper Conductor, XLPE Insulated, Unshielded, Armoured, FRLS cable	6500	Mtr.	₹ 171.04	11,11,756.75	1111756.75
Total						3616653.75
23	NETWORKING SYSTEM					
23.1	SITC of 42U (800W X 1000D)MM floor rack with PDU, Horizontal Cable manager, self, mounting hardware and cooling fan with standard accessories. UL Certified. Racks should be manufactured by ISO9001:2015, ISO14001:2004 & OHSAS 18001 : 2007, DIN41494 and Equivalent EIA/ISO/EN /CEA Certified company and should have proper EHS Policy.	2	Each	₹ 1,00,617.99	2,01,235.97	201235.97

23.2	SITC of 6U/600 Rack/ Welded/WM/Off White,Glass Door/6U/WM/Gray,Server /IT Rack mount power distribution unit, 1Ph, 230V, 16A, 50/60Hz, 2U standard with 6 X Indian Round Pin 5/15A, Inlet Plug type 16A Indian Round Pin, 16A MCB - PDU Rating 3.6KVA/Side feed-1.5Mt/ Black,Horz. Cable Organiser/1U/Loop,Cantilever Shelf/Type2/1U/Off White,Mounting Hardware-CR (Pack of 20),ITE / Server Rack Air Circulation module/90CFM	28	Each	₹ 20,123.60	5,63,460.72	563460.72
23.3	SITC of 6U/600 Rack/WMOD/Metal Door/ IP56/Off White,Pole Mounting Bracket,Server /IT Rack mount power distribution unit, 1Ph, 230V, 16A, 50/60Hz, 2U standard with 6 X Indian Round Pin 5/15A, Inlet Plug type 16A Indian Round Pin, 16A MCB - PDU Rating 3.6KVA/Side feed-1.5Mt/ Black,Horz. Cable Organiser/1U/Loop,Horz. Cable Organiser/1U/Loop,Cantilever Shelf/Type2/1U/Off White,Mounting Hardware-CR (Pack of 10),ITE / Server Rack Air Circulation module/90CFM,Filter Unit/Double louvered Module/IP56/Off White,Universal Rack Ground Kit-Type 1	24	Each	₹ 42,594.99	10,22,279.71	1022279.71
23.4	SITC of O. F.Cable 06F Outdoor - Armoured Unitube SM - HDPE Sheath [Approved by Competent Authority i.e. not Below the rank of Executive Engineer]	4800	Mtr.	₹ 50.00	2,40,000.00	240000.00
23.5	SITC of LIU 12 PORT Rack Mount - Loaded (LC) SM [Approved by Competent Authority i.e. not Below the rank of Executive Engineer]	56	Each	₹ 6,833.00	3,82,648.00	382648.00
23.6	SITC of PIGTAIL LC SM SIMPLEX LENGTH- 1m [Approved by Competent Authority i.e. not Below the rank of Executive Engineer]	672	Each	₹ 772.00	5,18,784.00	518784.00
23.7	SITC of PATCH CORD LC-LC SM DUPLEX LENGTH- 3m [Approved by Competent Authority i.e. not Below the rank of Executive Engineer]	120	Each	₹ 1,883.00	2,25,960.00	225960.00
23.8	SITC of CAT6 UTP 23AWG Solid: Per Meter [Approved by Competent Authority i.e. not Below the rank of Executive Engineer]	16165	Mtr.	₹ 43.00	6,95,095.00	695095.00
23.9	SITC of Patch Panel Cat 6 UTP Keystone Type- 24 Port-Fully Loaded [Approved by Competent Authority i.e. not Below the rank of Executive Engineer]	22	Each	₹ 4,357.00	95,854.00	95854.00
23.10	SITC of CAT6 UTP 24AWG PATCH CORD:1M,Plug 30U' Snag less [Approved by Competent Authority i.e. not Below the rank of Executive Engineer]	240	Each	₹ 155.00	37,200.00	37200.00
23.11	SITC of Cat 6 RJ 45 Connectors	330	Each	₹ 38.15	12,588.02	12588.02
23.12	SITC of PVC Pipe 25 MM	10508	Mtr.	₹ 94.75	9,95,617.24	995617.24
23.13	SITC of HDPE Pipe 25 MM	4500	Mtr.	₹ 94.75	4,26,368.25	426368.25
23.14	SITC of Flexible Pipe 32 MM	350	Mtr.	₹ 91.06	31,869.95	31869.95
23.15	SITC of Flexible Pipe 50 MM	100	Mtr.	₹ 123.05	12,305.00	12305.00
23.16	SITC of 100 x 50 mm trunking	60	Each	₹ 757.99	45,479.28	45479.28
23.17	SITC of 20 x SFP ports 4 x Combo 10/100/1000BASE-T/SFP ports 4 x 10G SFP+ ports 6 kV surge protection on all RJ-45 access ports Switch Resource Management (SRM) for flexible management of system resources Redundant Power Supply (RPS) support MPLS L2VPM/L3 VPN support Full L3 routing protocol support including OSPF, BGP, and ISIS for IPv4/IPv6 SDN-enabled switch, compatible with Openflow 1.3 10-GbE SFP+ to SFP+ 1M Direct Attach Cable [Approved by Competent Authority i.e. not Below the rank of Executive Engineer]	2	Each	₹ 6,41,524.00	12,83,048.00	1283048.00

23.18	SITC of 24 x 10/100/1000BASE-T PoE ports 4 x Gigabit RJ45/SFP Combo ports Advanced L2 switching and security features L2+ Static Routing Optional "standard mode" or "surveillance mode" management user interface 193 W PoE budget [Approved by Competent Authority i.e. not Below the rank of Executive Engineer]	22	Each	₹ 31,680.00	6,96,960.00	696960.00
23.19	SITC of Maximum distance of up to 10 km Hot-pluggable Single-mode fiber 1000BASE-LX (IEEE 802.3z standard) Duplex LC connector MSA, RoHS-compliant [Approved by Competent Authority i.e. not Below the rank of Executive Engineer]	64	Each	₹ 4,754.00	3,04,256.00	304256.00
23.20	SITC of 8 x 10/100/1000BASE-T PoE ports 2 x Gigabit SFP ports Advanced L2 switching and security features L2+ Static Routing Optional "standard mode" or "surveillance mode" management user interface 65W PoE budget [Approved by Competent Authority i.e. not Below the rank of Executive Engineer]	6	Each	₹ 18,218.00	1,09,308.00	109308.00
23.21	SITC of 8 Port industrial grad switch, on Port 1 (90W max power per port) with IEEE 802.3at PoE+ on Ports 2-8 (30W max per port), Uplink Port 2*1000M SFP	24	Each	₹ 28,396.25	6,81,509.96	681509.96
23.22	SITC of 1000Base Single-Mode , 20Km	48	Each	₹ 3,503.23	1,68,155.21	168155.21
Total						8749982.30

24	Façade Lighting					
24.1	<p>O11 Supply, Installation, Testing and Commissioning of IP67 Outdoor integrated into facade grooves and bands LED diffuse encapsulated dual/two way/3D bendable flexible striplight with flexible mounting profile, CCT : 2700K (as required)</p> <p>Luminaire to have 220-240V AC supply with appropriate low voltage (24V DC) transformer, Minimum delivered luminous flux is 605lm/m, Minimum luminaire efficacy 67lm/W, Lamp life ≥50,000 hrs L80 B10, SDCM≤ 3, CRI ≥ 80, THD < 10%, Power factor 0.9 or above, Remote DALI/1-10V Dimmable Drivers.</p> <p>Dual/3D/Two way bendable, flexible dot free and perfectly homogeneous linear LED light line, to be mounted in the curved/ flexible aluminum/ SS profile with matching finish as the adjoining surface's finish. Opal polyurethane encapsulation offering a premium water proof sealing, UV resistance, chemical stability against urban gazes and protection against abrasion. Vertical and Horizontal bending ,with radius of 150 mm offering the ideal solution for outdoor locations. Light source should be assembled using state of the art automated Reel to Reel (R2R) production process with LED packages that helps optimal heat dissipation (junction to installation surface) is achieved. Luminaire to have Exceptional color consistency and light quality over the rated lifetime. Consistent light intensity all along the strip length is obtained with active current regulation operated by dedicated integrated circuits (ICs) on each step. Protected against electrostatic discharge +/- 2,000 V and polarity miss wiring. Installation accessories like flexible mounting profile/clips & end caps made out from aluminum or manufacturers standard end cap which comes with standard luminaire. Maximum linear lengths shall be provided have a seamless effect of light, and to reduce number of joints. Leader cable lengths as per site.</p> <p>Final selection of CCT, Finish color and Accessories is to be done after sampling and mock-up, as per Lighting Architect and Engineer in charge. Designer should have a freedom to change the design within the given budget.</p> <p>±5% variation in the dimensions will be allowed after mockup. Contractor to Supply Luminaire with LED, Non-dimmable power supply and control unit, all mounting and installation accessories. 1) All IP rated driver and power supply box, gel connectors, Surge protection devices (SPD), secondary cable and conduit from junction box to the Luminaire shall be provided by the lighting contractor.</p> <p>Luminaire dimensions L: Varies in running meter as per plan provided and limitations of power supply and site condition, W: 16mm , H: 16mm , F: To be decided after Mock-Up</p> <p>Location: Facade grooves and bands</p>	2942	Mtr.	₹ 17,223.83	5,06,72,501.49	50672501.49
24.2	<p>Façade Lighting Austomation</p> <p>Supply, Installation, Testing and Commissioning of IP20 Façade lighting automation system with Computer System, Professional Software Key, Splitter and Data Cable as required.</p>	1	Set	₹ 10,35,336.63	10,35,336.63	1035336.63
Total						51707838.12
Total Electrical & ELV Amount						13,38,24,679.28

NAME OF WORK:-CONSTRUCTION OF RIVERSIDE SAVORIES I.E. BUILDING WITH UNDERGROUND ROAD BETWEEN NEHRU BRIDGE AND ELLISBRIDGE AND CONSTRUCTION OF PUBLIC PLAZA AND UNDERGROUND PARKING FACILITY AT SANSKAR KENDRA - TAGORE HALL CAMPUS CONNECTING RIVERFRONT ON WESTBANK FOR SRFDCL.

ELEVATORS Work

S.N.	DESCRIPTION	UNIT	QTY	TOTAL RATE IN RS.	TOTAL AMOUNT IN RS.
	<p>Machine room Less LIFT Supplying, Erecting, Testing & Commissioning the passenger / stretcher lift having following main features: [1] GEAR LESS LIFT DRIVE comprising of High Starting torque Lift duty 3 phase 440 V A. C. Permanent magnetic synchronous motor of proper rating with high efficiency shall be used. [2] Micro processor based / PLC, ACVVV, vector control drive with encoder feedback closed loop system shall be used for lift car and door operation which shall be full collective selective operation hall call demand response, UP/DOWN hall stops, Main, Up/ Down Contactor with overload and phase reversal relay and safety controls. [3] Car with M S platform with bracings of adequate size and to sustain the impact load cabin + passenger with safety factor of fire for steel and side panels of Stainless steel of sheet of grade 304 duty. Car ceiling will be S.S. finishes with aesthetic appearance with LED ceiling lights. Car flooring shall be of anti skid PVC with choice of colour of engineer in charge. Car doors shall be of stainless steel grade 304, hairline finish with centre opening / telescopic automatic doors.</p>				
	<p>Car panel will also be S.S. 304 finished with emergency stop device, mechanical door safety device, facility of auto/ attended mode. All car panel buttons and all floor switches must be with brail language as per lift act. [4] All landing doors shall be fully automatic centre opening/ telescopic opening made of hairline finish steel grade of 304 with key holes and infrared curtains with Unlocking facility from outside. [5] Appropriate battery operated emergency light in the car along with alarm switch shall be provided. [6] Digital scrolling indicator system for up-down arrow along with floor position indicator shall be provided inside the car and at all floors. [7] Full height infra red curtain with multiple criss / crossing light beams shall be provided. [8] Automatic Rescue Device (ARD) shall be provided accordingly of passenger capacity. [9] Audio visual indication in the lift car showing over loading shall be provided such that doors kept open till excess load is removed.</p>				
	<p>[10] Spring buffers/PU Buffers shall be provided. [11] Car fan with automatic sleep timer shall be provided. [12] Voice annunciater with suitable music shall be provided in lift car. [13] Self diagnostics system for operational and safety parameters shall be provided in control panel. [14] Mechanical over speed governor, door key holes in the floor doors, fireman switch shall be provided. [15] Lift machine hoisting arrangement in the lift machine room and monkey ladder for lift pit should be provided by the lift agency, along with the other steel structure works, foundations for the machine etc.. [16] In the hoist way fascia plate shall be provided without any extra cost, where ever required as / if directed by engineer in charge. [17] Permanent wiring in lift machine room and lift well with proper numbers of light points, with fixtures, exhaust fan and plug points shall be provided by the agency. Power supply of 3 phase 440 V shall be made available by department in lift machine room. [18] Any civil/ electrical works for additional and alteration in lift shaft and machine room related to erection of lift shall be made by lift agency without any extra cost.(granite/marble fixing around all landing door openings are not in lift agency's scope.)</p>				

	<p>19] Agency has to provide all working drawings and documents and liaison services for obtaining all necessary permission from lift inspector and other authorities.</p> <p>[20] As per statutory requirement of Got. Of Gujarat lift & escalator act 2000, lift</p> <p>[20A] As per statutory requirement of Govt. Of Gujarat lift & escalator act 2000, lift agency has to provide</p> <ol style="list-style-type: none"> 1. Car top safety barricade 2. Push & talk communication system. 3. Fireman's switch operation at Ground Floor. 4. carrying out third party lift inspection during/after lift erection and provide report by third party authorized by concern licensing authority 5. agency has to provide third party insurance upto completion of free maintenance period and submit the document for the same. <p>[21] Car Panel Operating Buttons with floor position indicator/buttons must be of Auto Glow type clearly visible when view from inside cabin.</p> <p>[22] For Physically Handicapped person Full Length Handrails of hairline finish steel grade of 304 should be provided at appropriate height on the Rear & Side Wall Panels in Lift Car.</p>				
	<p>agency has to provide</p> <ol style="list-style-type: none"> 1. Car top safety barricade 2. Push & talk communication system. 3. Fireman's switch operation at Ground Floor <p>Note: 1 - Advanced control system dual 32bit embedded microprocessor with CANBUS Serial Communication mode including Regenerative power efficient operation on site programming facility, Anti nuisance, Pre-opening, BMS/RMS system supporting hardware & Software.</p> <ol style="list-style-type: none"> 2. Floor indication LCD Display with call registration & brail mark with arrival gong and hall lantern & TFT Screen in the car with MP3 Voice Announcer. 3. CAR PANEL should be scratch resistive SS Moonrock finish for car and all Doors, All landing doors must have fire rating up to 1 hours and car door must have multi-level crisscross beam door protection. 4. To & Fro communication system & wiring (i.e. car, control room, guard room) 				
1.0	13 Passengers,. Basement+ Ground plus 2 upper floors with Rated Speed of 1.0 m/sec., (C) With General PLUS ADDITIONAL SPECIAL FEATURES attached herewith. Prem. Cat.	Nos	6.00	16,84,815.00	1,01,08,890.00
2.0	8 / 10 Passengers, Basement+ Ground plus 2 upper floor with Rated Speed of 1.0 m/sec., (A) With General Specification attached herewith. Cat.II	Nos	6.00	10,94,657.00	65,67,942.00
2.0	Provide Comprehensive Service & Maintenance of Lift including part, spare, labour, licence renewal (Liaison) etc. complete as directed. 15/16 Passangers lift [The Contractor is required to renew the bank gurantee submitted for defect liability period during the course of AMC] AMC will commence after defect liability period For 1st Year (During DLP Period)				-
	2nd Year (After DLP Period)	Nos	12.00	97,281.52	11,67,378.24
	3rd Year (After DLP Period)	Nos	12.00	97,281.52	11,67,378.24
	4th Year (After DLP Period)	Nos	12.00	1,11,178.88	13,34,146.56
	Total				2,03,45,735.04

NAME OF WORK:-CONSTRUCTION OF RIVERSIDE SAVORIES I.E. BUILDING WITH UNDERGROUND ROAD BETWEEN NEHRU BRIDGE AND ELLISBRIDGE AND CONSTRUCTION OF PUBLIC PLAZA AND UNDERGROUND PARKING FACILITY AT SANSKAR KENDRA - TAGORE HALL CAMPUS CONNECTING RIVERFRONT ON WESTBANK FOR SRFDCL.

SR. NO.	DESCRIPTION	Qty	UNIT	Unit Rate (W/O GST)	Total Amount in Rs.
HVAC WORK					
MECHANICAL WORKS					
1.0	DX UNITS				
1.1	Providing and erecting Inverter based approved make split air-conditioning unit consisting of condensing unit with variable speed fan motor, inverter type hermetically sealed rotary compressor with accessories etc. duly connected separately erected evaporating unit and blower motor with its accessories by means of extra supplied proper insulated copper tubing, drain PVC pipes suitable for (cost includes Eco Friendly green gas charging and 15A plug top & Remote Control & MS Stand) with necessary core cutting.				
	(1)For ISEER Range (KWH/KWH)(4.0 to 4.99) Premium Category				
1.1.1	[a] For 0.8 to 1.0 Ton Capacity- premium Category	1	NOS	44,217.0	44,217.0
1.1.2	(b) for 1.5 ton capacity- premium Category	6	NOS	54,643.0	3,27,858.0
1.2	Supplying & installing MS standard type stand mounting for outdoor unit of Split A.C. upto 4 TR capacity erected with necessary hardware materials as directed.	7	Each	739	5,173.0
1.3	Supplying and erecting insulated pair of soft copper tubing open or concealed including power and control cable, necessary PVC drain pipes for Split AC machine up to 4 TR capacity	35	Rmt	1,348	47,180.0
1.4	Supplying and installing MS angle , powder coated / Painted standard type of wall/floor stand mount for outdoor unit of split AC of following capacity, erected with necessary hardware materials as directed.				
1.4.1	(A) 25mm*25mm*3mm thick M.S angle suitable for upto 2 TR. Capacity of ac machine	7	Each	1,305	9,135.0
1.5	Rigid UPVC drain pipe of 10 Kg/cm2. rating with 9 mm thick.nitrile rubber insulation. 40 mm dia.	5	Rmt	108	540.0

NAME OF WORK:-CONSTRUCTION OF RIVERSIDE SAVORIES I.E. BUILDING WITH UNDERGROUND ROAD BETWEEN NEHRU BRIDGE AND ELLISBRIDGE AND CONSTRUCTION OF PUBLIC PLAZA AND UNDERGROUND PARKING FACILITY AT SANSKAR KENDRA - TAGORE HALL CAMPUS CONNECTING RIVERFRONT ON WESTBANK FOR SRFDCL.

SR. NO.	DESCRIPTION	Qty	UNIT	Unit Rate (W/O GST)	Total Amount in Rs.
1.6	Rigid UPVC drain pipe of 10 Kg/cm2. rating with 9 mm thick.nitrile rubber insulation. 32 mm dia.	10	Rmt	87	870.0
1.7	Rigid UPVC drain pipe of 10 Kg/cm2. rating with 9 mm thick.nitrile rubber insulation. 25 mm dia.	35	Rmt	87	3,045.0
1.0	SUB TOTAL - DX UNITS				4,38,018.0
2.0	VENTILATION FAN				
2.1	CABINET TYPE INLINE CENTRIFUGAL EXHAUST AIR FAN				
	Supply, Installation, testing & Commissioning of Cabinet type Centrifugal Fans / Inline Fan for Exhaust Air System complete with SISW/DIDW Forward Curved blower, fan assembly shall be AMCA certified (AMCA certification requird for Air Performance & Sound) & totally enclosed, fan-cooled, provided with class F insulation, and of approved make.,				
	Fan shall be provided with TEFC Sq.cage, direct driven F' Class induction motor with minimum IP-55 protection Motor shall be suitable for 220 ± 5% volts, Single phase, 50 cycles electric supply- I OR 415+/-10% V, 50 hz, 3 phase AC. The motor (Eff1 Class-Motor must be VFD Compatible) Max. noise level shall be 56 dBA at 1.5 meter in hemispherical reverberant room condition.				
	The complete fan assembly shall be CE Certified in accordance with EN-12101-3:2015 (Vendor shall submit the certifications for below listed fans)				
	The Fan units shall be designed as per the criteria mentioned in the specifications and selected so as to operate in the best efficiency zone; the units shall be statically and dynamically balanced.				
	Necessary starter shall be in scope of HVAC Contract. Power cable will be available up to starter panel. The controller will be BMS compatible with all required open protocol and required licence softwares.				
2.1.1	8500 CFM / 40 MM ESP	R.O.	NOS	90,000.0	
2.1.2	6000 CFM / 40 MM ESP	6	NOS	70,000.0	4,20,000.0
2.1.3	1000 CFM / 30 MM ESP	6	NOS	25,000.0	1,50,000.0

NAME OF WORK:-CONSTRUCTION OF RIVERSIDE SAVORIES I.E. BUILDING WITH UNDERGROUND ROAD BETWEEN NEHRU BRIDGE AND ELLISBRIDGE AND CONSTRUCTION OF PUBLIC PLAZA AND UNDERGROUND PARKING FACILITY AT SANSKAR KENDRA - TAGORE HALL CAMPUS CONNECTING RIVERFRONT ON WESTBANK FOR SRFDCL.

SR. NO.	DESCRIPTION	Qty	UNIT	Unit Rate (W/O GST)	Total Amount in Rs.
2.2	CABINET TYPE INLINE CENTRIFUGAL FRESH AIR FANFILTER UNIT				
	SITC of Cabinet (Square) Type Inline Centrifugal Fresh Air Fan AMCA Certified (For Air and Sound Performance) suitable for installing in any position in vertical or horizontal ducts. The casing shall be single skin, internally acoustically lined and constructed of galvanised steel. The inline fan shall be with Farword curve up to 1500 CFM & above shall be backward curve centrifugal impeller fitted with maintenance free external rotor motor, flexible connections at the discharge & inlet. The motor shall be suitable for 220 / 415±10% volt single/three phase 50 Hz AC supply. 3 phase fans quoted price shall be inclusive of DOL starter panel with cabling between starter panel and fan. The fan shall have low sound level exceeding not more than 65 DBA at 3 meter distance.				
	The fan shall have easily washable 20 micron fresh air filter The Fan units shall be designed as per the criteria mentioned in the specifications and selected so as to operate in the best efficiency zone; the units shall be statically and dynamically balanced.				
	Necessary starter shall be in scope of HVAC Contract. Power cable will be available up to starter panel. The controller will be BMS compatible with all required open protocol and required licence softwares.				
2.2.1	7000 CFM / 40 MM ESP	R.O	NOS	92,000.0	
2.3	WALL MOUNTED PROPELLER EXHAUST FAN WITH GRAVITY LOUVERS				
	Supply, Installation, testing & Commissioning of Propeller fan for wall or panel mounting suitable for supply or exhaust use having casing, protection guard and impeller. Impeller shall be made with galvanized steel. Entire assembly shall be black enamel painted to avoid the rust. The fan should have sickle blade impellers with external rotor motor, fan assembly shall be AMCA certified (AMCA certification requird for Air Performance & Sound) & totally enclosed, fan-cooled, provided with class F insulation, and of approved make.,				

**NAME OF WORK:-CONSTRUCTION OF RIVERSIDE SAVORIES I.E. BUILDING WITH UNDERGROUND ROAD BETWEEN NEHRU BRIDGE AND ELLISBRIDGE AND
CONSTRUCTION OF PUBLIC PLAZA AND UNDERGROUND PARKING FACILITY AT SANSKAR KENDRA - TAGORE HALL CAMPUS CONNECTING RIVERFRONT ON
WESTBANK FOR SRFDCL.**

SR. NO.	DESCRIPTION	Qty	UNIT	Unit Rate (W/O GST)	Total Amount in Rs.
	Fan shall be provided with TEFC Sq.cage, direct driven B' Class induction motor with minimum IP-54 protection Motor shall be suitable for 230 ± 5% volts, Single phase, 50 cycles electric supply- I. The motor (Eff1 Class-Motor must be VFD Compatible) Max. noise level shall be 60 dBA at 3 meter in hemispherical reverberant room condition.				
	The complete fan assembly shall be CE Certified in accordance with EN-12101-3 (Vendor shall submit the certifications for below listed fans)				
	The Fan units shall be designed as per the criteria mentioned in the specifications and selected so as to operate in the best efficiency zone; the units shall be statically and dynamically balanced.				
	Necessary starter shall be in scope of HVAC Contract. Power cable will be available up to starter panel.				
2.3.1	1000 CFM / 15 TSP	8	Set	20,000.0	1,60,000.0
2.3.2	300 CFM / 15 TSP	26	Set	6,000.0	1,56,000.0
2.3.3	100 CFM / 15 TSP	6	Set	3,000.0	18,000.0
2.0	SUB TOTAL - VENTILATION FANS				9,04,000.0
3.0	AIR DISTRIBUTION NETWORK				
3.1	Supply, installation, balancing and commissioning of factory fabricated GSS sheet metal rectangular/round ducting complete with neoprene rubber gaskets, elbows, splitter dampers, vanes, hangers, supports etc. as per approved drawings and specifications of following sheet thickness complete as required.				
3.1.1	24 G	1210	SQM	1,100.0	13,31,000.0
3.1.2	22 G	800	SQM	1,296.0	10,36,800.0

NAME OF WORK:-CONSTRUCTION OF RIVERSIDE SAVORIES I.E. BUILDING WITH UNDERGROUND ROAD BETWEEN NEHRU BRIDGE AND ELLISBRIDGE AND CONSTRUCTION OF PUBLIC PLAZA AND UNDERGROUND PARKING FACILITY AT SANSKAR KENDRA - TAGORE HALL CAMPUS CONNECTING RIVERFRONT ON WESTBANK FOR SRFDCL.

SR. NO.	DESCRIPTION	Qty	UNIT	Unit Rate (W/O GST)	Total Amount in Rs.
3.2	SUPPLY INSTALLATION TESTING AND COMMISSIONING OF DIFFUSERS/ GRILLES AS PER FOLLOWING SCHEDULE				
3.2.1	Supplying & fixing of powder coated extruded aluminium Supply Air Grills with aluminium volume control dampers complete as per specifications and size & shape as per site requirement and approved design.	4	SQM.	10,328.0	41,312.0
3.2.2	Supplying & fixing of powder coated extruded aluminium Return Air Grills with louvers but without volume control dampers complete as per specifications and size & shape as per site requirement and approved design.	13	SQM.	7,003.0	91,039.0
3.3	SITC of Gravity Louvers	6	SQM	4,000.0	24,000.0
3.4	SUPPLY, INSTALLATION, TESTING, COMMISSIONING OF DUCT DAMPERS				
3.4.1	Supply, installation, testing and commissioning of GI volume control duct damper complete with neoprene rubber gaskets, nuts, bolts, screws linkages, flanges etc, as per specifications.	4	SQM	8,298.0	33,192.0
3.0	SUB TOTAL - AIR DISTRIBUTION NETWORK				25,57,343.0
4.0	CIVIL SUPPORT STRUCTURE				
4.1	Engineering Support to hang the fan from 5000 mm height/ mount on roof terrace and fan stable operation for 60 Kg weight of Fan	12	Each	5,000.0	60,000.0
4.2	Core Cut up to 150mm Dia	5	Each	1,350.0	6,750.0
4.0	SUB TOTAL - CIVIL SUPPORT STRUCTURE				66,750.0
5.0	JET FANS AND CO SENSORS FOR ROAD TUNNEL VENTILATION				
	Ductless Ventilation System for Road Tunnel				
	Supply, installation, testing, programming and commissioning				

NAME OF WORK:-CONSTRUCTION OF RIVERSIDE SAVORIES I.E. BUILDING WITH UNDERGROUND ROAD BETWEEN NEHRU BRIDGE AND ELLISBRIDGE AND CONSTRUCTION OF PUBLIC PLAZA AND UNDERGROUND PARKING FACILITY AT SANSKAR KENDRA - TAGORE HALL CAMPUS CONNECTING RIVERFRONT ON WESTBANK FOR SRFDCL.

SR. NO.	DESCRIPTION	Qty	UNIT	Unit Rate (W/O GST)	Total Amount in Rs.
	Ductless Jet fans for Road Tunnel Ventilation as per attached specifications for normal ventilation suitable for Normal ventilation and Smoke Extraction application. The complete fan assembly with its Casing, impeller & motor (not only the motor or one of the item) shall be imported from manufacturer and certified as tested for 300 Deg C for 2 hours operation.				
	The jet fans as shown in the drawing*. Each fan shall be complete with dual speed motor. Casing shall be made of Hot Dipped Galvanized Steel. The Motor shall run on the electrical power suitable for 1 Ph/ 50Hz.				
5.1	450mm Dia dual speed jet fans for Road Tunnel	30	No.	65,000.0	19,50,000.0
5.2	Supply, installation, testing, and commissioning of Analog type Carbon Monoxide (CO) sensors designed for accurate detection of low-level CO concentrations in enclosed parking areas. Sensor range: 0–250 PPM, with accuracy of ±5% FS (0–100 PPM) and ±10% FS (100–250 PPM). Warm-up time: ≤30 seconds to reach 90% of final value. Sensors shall be installed at mid-height on columns for optimal air sampling. Sensors shall interface with the master control panel to initiate ventilation fan operation based on CO levels, enabling energy-efficient operation of the ventilation system.	15	NO.	9,000.0	1,35,000.0
5.3	SITC of Power & Control cabling between Jet Fans and Panel / Signal & Control Cabling between CO Sensors and Jet Fan Panel PLC/Power Cabling, Cable tray . The same shall be BMS communicable. (Suitable Core and Cable size to be considered)	1	LOT	75,000.0	75,000.0
5.4	Duly internally wired and tested Electrical Power Panel with feeders and starters suitable for operation of total Jet Fans with necessary accessories / relays / auto-manual provision etc as per above fan quantity	1	SET	1,35,000.0	1,35,000.0
5.5	SITC of Control Module housed within the electrical panel comprising of Programmable logic controller / signal wiring / hard wired integration with fan relays of Power panel for control of Jet fans and CO sensors input signal	1	SET	40,000.0	40,000.0
5.0	SUB TOTAL - JET FANS AND CO SENSORS FOR ROAD TUNNEL VENTILATION				23,35,000.0

**NAME OF WORK:-CONSTRUCTION OF RIVERSIDE SAVORIES I.E. BUILDING WITH UNDERGROUND ROAD BETWEEN NEHRU BRIDGE AND ELLISBRIDGE AND
CONSTRUCTION OF PUBLIC PLAZA AND UNDERGROUND PARKING FACILITY AT SANSKAR KENDRA - TAGORE HALL CAMPUS CONNECTING RIVERFRONT ON
WESTBANK FOR SRFDCL.**

SR. NO.	DESCRIPTION	Qty	UNIT	Unit Rate (W/O GST)	Total Amount in Rs.
6.0	HVAC WORK - AMC CHARGES				
	ANNUAL MAINTENANCE CONTRACT (Note : From Each RA Bill, 5% retaination money to be deduct during O&M Period)				
	Comprehensive AMC for SITC of High Side units and Ventilation System				
	It includes all preventive maintainance , break down maintainance with all spares - repair or replacement of the defactive part or parts , this includes all cosumable if any applicable.				
	1st year (From the date of Completion of DLP)	12.0	Months	1,57,528	1,57,528.0
	2nd year (From the date of Completion of DLP)	12.0	Months	1,57,528	1,57,528.0
	3rd year (From the date of Completion of DLP)	12.0	Months	1,57,528	1,57,528.0
	4th year (From the date of Completion of DLP)	12.0	Months	1,57,528	1,57,528.0
6.0	Sub Total - Comprehensive Maintenance				6,30,111.10
	TOTAL HVAC VALUE				69,31,222.10

PROJECT NAME : RIVERSIDE SAVORIES, AHMEDABAD

CLIENT NAME : SRFDCL

IT.NO	Item Discription	Unit	Quantity	Total Rate W/O GST	Total AMOUNT IN RS. W/O GST
FIRE PROTECTION WORK					
A	FIRE EXTINGUISHERS AND SIGNAGES				
1	6 Kg ABC (Powder Type) Fire Extinguisher. In HP Mild Steel Cylinders ISI marked fitted with pressure indicating gauge, internal tube, squeeze lever type valve fully charged with ABC powder (Mono Ammonium Phosphate--MAP 90%) pressured by Nitrogen complete in all respects including wall suspension bracket and conforming to IS:15683 Providing and Fixing of fire extinguishers with necessary accessories, stand, trolley, etc.	Nos.	53.00	3,770.00	1,99,810
2	ISI Marked portable fire extinguisher, 4.5 kg CO2 type fire extinguishers complete in all respect including initial fill and wall suspension brackets and shall conform to IS 2878 Providing and Fixing of fire extinguishers with necessary accessories, stand, trolley, etc.	Nos.	53.00	5923.00	3,13,919
3	Supplying, installation testing and commissioning of CLEAN AGENT FK 5-1-12 Automatic Modular(Self Activated) fire extinguisher Automatic type 15 kg Fire Extinguishers Applicable fire classes A,B & C, UGTS Pressure Gauge, Empty Weight 6.40 kg, Full weight 21.40 kg. Can Height 425mm, Diameter 400 ± 10mm, Made up from 2 mm thick sheet., Body Construction Deep Drawn with MIG Welding technology, Brass forged sprinkler valves with Nozzle is specially designed to give more than 99% discharge. Together with orifice characteristic to cover adequately fire risks with scattering cone of 40 to 45° Angle. Internal & External Pure polyester (UV Resistant) powder coated, Heat Sensitive Glass bulb of 68 °C. including pressure indicating gauge , celling mounted bracket.	No.	24.00	66600.00	15,98,400
4	Supplying, installation testing and commissioning of 6 liter K type Fire Extinguisher. In Stainless Steel Cylinders ISI marked fitted with pressure indicating gauge, internal tube, squeeze lever type brass valve fully charged with wet type chemical complete in all respects including wall suspension bracket.	Nos.	18.00	13136.00	2,36,448
5	Design, supply and installation of safety signages made of zinc base glow in the dark rigid sheet with high luminous with pasted on 3mm thick on rigid PVC foam sheet. Providing AUTOGLOW Signages in Block / Small Letters of Specified Sizes: Fire Hydrant: 4" X 12"	Nos.	53.00	410.00	21,730
6	Design, supply and installation of safety signages made of zinc base glow in the dark rigid sheet with high luminous with pasted on 3mm thick on rigid PVC foam sheet. Providing AUTOGLOW Signages in Block / Small Letters of Specified Sizes: "ABC" Extinguisher: 8" X 4"	Nos.	53.00	295.00	15,635
7	Design, supply and installation of safety signages made of zinc base glow in the dark rigid sheet with high luminous with pasted on 3mm thick on rigid PVC foam sheet. Providing AUTOGLOW Signages in Block / Small Letters of Specified Sizes: "CO2" Extinguisher: 8" x 4"	Nos.	53.00	295.00	15,635

IT.NO	Item Discription	Unit	Quantity	Total Rate W/O GST	Total AMOUNT IN RS. W/O GST
8	Design, supply and installation of safety signages made of zinc base glow in the dark rigid sheet with high luminous with pasted on 3mm thick on rigid PVC foam sheet. Providing AUTOGLOW Signages in Block / Small Letters of Specified Sizes: "K-type" Extinguisher: 8" x 4"	Nos.	18.00	295.00	5,310
Total of FIRE EXTINGUISHERS AND SIGNAGES					24,06,887
B	FIRE PIPING AND ACCESSORIES				
9	Supplying, installation testing and commissioning of the following 'C' class MS pipe as per IS1239 with welded / flanged / screwed joints and with all the engineered support as per detail technical specification, heavy clamps, hangers, brackets or pipe supports (all with screwed/welded joints) as required including MS C class pipe of shorter lengths, tapering connecting pieces, short or long bends, MS C class specials like sockets, union nuts, elbows, reducers, plugs, Tees etc. complete to make the system operative as required by LFA authorities. The pipes will have to be laid and fixed on walls, ceilings, into brick walls or RCC with lead anchor fastners. The work includes making holes in brick or RCC walls, slabs/ roofs and making good the damages by bringing to the original condition to the satisfaction of the Architect/Consultant/Client and painting two coats of approved shade(Post office red)of enamel paint over a coat of approved primer for over ground / overheads pipes. Note : The piping installation has to be put to hydraulic test to 1.5 times the working pressure & as per latest codes & standars before applying the paint 250 mm dia. Pipe	Mtr.	5.00	7,025.00	35,125
10	Supplying, installation testing and commissioning of the following 'C' class MS pipe as per IS1239 with welded / flanged / screwed joints and with all the engineered support as per detail technical specification, heavy clamps, hangers, brackets or pipe supports (all with screwed/welded joints) as required including MS C class pipe of shorter lengths, tapering connecting pieces, short or long bends, MS C class specials like sockets, union nuts, elbows, reducers, plugs, Tees etc. complete to make the system operative as required by LFA authorities. The pipes will have to be laid and fixed on walls, ceilings, into brick walls or RCC with lead anchor fastners. The work includes making holes in brick or RCC walls, slabs/ roofs and making good the damages by bringing to the original condition to the satisfaction of the Architect/Consultant/Client and painting two coats of approved shade(Post office red)of enamel paint over a coat of approved primer for over ground / overheads pipes. Note : The piping installation has to be put to hydraulic test to 1.5 times the working pressure & as per latest codes & standars before applying the paint 200 mm dia. Pipe	Mtr.	23.00	6386	1,46,878
11	Supplying, installation testing and commissioning of the following 'C' class MS pipe as per IS1239 with welded / flanged / screwed joints and with all the engineered support as per detail technical specification, heavy clamps, hangers, brackets or pipe supports (all with screwed/welded joints) as required including MS C class pipe of shorter lengths, tapering connecting pieces, short or long bends, MS C class specials like sockets, union nuts, elbows, reducers, plugs, Tees etc. complete to make the system operative as required by LFA authorities. The pipes will have to be laid and fixed on walls, ceilings, into brick walls or RCC with lead anchor fastners. The work includes making holes in brick or RCC walls, slabs/ roofs and making good the damages by bringing to the original condition to the satisfaction of the Architect/Consultant/Client and painting two coats of approved shade(Post office red)of enamel paint over a coat of approved primer for over ground / overheads pipes. Note : The piping installation has to be put to hydraulic test to 1.5 times the working pressure & as per latest codes & standars before applying the paint 150 mm dia. Pipe	Mtr.	2788.00	3970	1,10,68,360

IT.NO	Item Discription	Unit	Quantity	Total Rate W/O GST	Total AMOUNT IN RS. W/O GST
12	<p>Supplying, installation testing and commissioning of the following 'C' class MS pipe as per IS1239 with welded / flanged / screwed joints and with all the engineered support as per detail technical specification, heavy clamps, hangers, brackets or pipe supports (all with screwed/welded joints) as required including MS C class pipe of shorter lengths, tapering connecting pieces, short or long bends, MS C class specials like sockets, union nuts, elbows, reducers, plugs, Tees etc. complete to make the system operative as required by LFA authorities. The pipes will have to be laid and fixed on walls, ceilings, into brick walls or RCC with lead anchor fasteners. The work includes making holes in brick or RCC walls, slabs/ roofs and making good the damages by bringing to the original condition to the satisfaction of the Architect/Consultant/Client and painting two coats of approved shade(Post office red)of enamel paint over a coat of approved primer for over ground / overheads pipes. Note : The piping installation has to be put to hydraulic test to 1.5 times the working pressure & as per latest codes & standars before applying the paint 100 mm dia. Pipe</p>	Mtr.	795.00	2690	21,38,550
13	<p>Supplying, installation testing and commissioning of the following 'C' class MS pipe as per IS1239 with welded / flanged / screwed joints and with all the engineered support as per detail technical specification, heavy clamps, hangers, brackets or pipe supports (all with screwed/welded joints) as required including MS C class pipe of shorter lengths, tapering connecting pieces, short or long bends, MS C class specials like sockets, union nuts, elbows, reducers, plugs, Tees etc. complete to make the system operative as required by LFA authorities. The pipes will have to be laid and fixed on walls, ceilings, into brick walls or RCC with lead anchor fasteners. The work includes making holes in brick or RCC walls, slabs/ roofs and making good the damages by bringing to the original condition to the satisfaction of the Architect/Consultant/Client and painting two coats of approved shade(Post office red)of enamel paint over a coat of approved primer for over ground / overheads pipes. Note : The piping installation has to be put to hydraulic test to 1.5 times the working pressure & as per latest codes & standars before applying the paint 80 mm dia. Pipe</p>	Mtr.	1234.00	1890	23,32,260
14	<p>Supplying, installation testing and commissioning of the following 'C' class MS pipe as per IS1239 with welded / flanged / screwed joints and with all the engineered support as per detail technical specification, heavy clamps, hangers, brackets or pipe supports (all with screwed/welded joints) as required including MS C class pipe of shorter lengths, tapering connecting pieces, short or long bends, MS C class specials like sockets, union nuts, elbows, reducers, plugs, Tees etc. complete to make the system operative as required by LFA authorities. The pipes will have to be laid and fixed on walls, ceilings, into brick walls or RCC with lead anchor fasteners. The work includes making holes in brick or RCC walls, slabs/ roofs and making good the damages by bringing to the original condition to the satisfaction of the Architect/Consultant/Client and painting two coats of approved shade(Post office red)of enamel paint over a coat of approved primer for over ground / overheads pipes. Note : The piping installation has to be put to hydraulic test to 1.5 times the working pressure & as per latest codes & standars before applying the paint 65 mm dia. Pipe</p>	Mtr.	760.00	1525	11,59,000

IT.NO	Item Discription	Unit	Quantity	Total Rate W/O GST	Total AMOUNT IN RS. W/O GST
15	Supplying, installation testing and commissioning of the following 'C' class MS pipe as per IS1239 with welded / flanged / screwed joints and with all the engineered support as per detail technical specification, heavy clamps, hangers, brackets or pipe supports (all with screwed/welded joints) as required including MS C class pipe of shorter lengths, tapering connecting pieces, short or long bends, MS C class specials like sockets, union nuts, elbows, reducers, plugs, Tees etc. complete to make the system operative as required by LFA authorities. The pipes will have to be laid and fixed on walls, ceilings, into brick walls or RCC with lead anchor fasteners. The work includes making holes in brick or RCC walls, slabs/ roofs and making good the damages by bringing to the original condition to the satisfaction of the Architect/Consultant/Client and painting two coats of approved shade(Post office red)of enamel paint over a coat of approved primer for over ground / overheads pipes. Note : The piping installation has to be put to hydraulic test to 1.5 times the working pressure & as per latest codes & standars before applying the paint 50 mm dia. Pipe	Mtr.	935.00	1200	11,22,000
16	Supplying, installation testing and commissioning of the following 'C' class MS pipe as per IS1239 with welded / flanged / screwed joints and with all the engineered support as per detail technical specification, heavy clamps, hangers, brackets or pipe supports (all with screwed/welded joints) as required including MS C class pipe of shorter lengths, tapering connecting pieces, short or long bends, MS C class specials like sockets, union nuts, elbows, reducers, plugs, Tees etc. complete to make the system operative as required by LFA authorities. The pipes will have to be laid and fixed on walls, ceilings, into brick walls or RCC with lead anchor fasteners. The work includes making holes in brick or RCC walls, slabs/ roofs and making good the damages by bringing to the original condition to the satisfaction of the Architect/Consultant/Client and painting two coats of approved shade(Post office red)of enamel paint over a coat of approved primer for over ground / overheads pipes. Note : The piping installation has to be put to hydraulic test to 1.5 times the working pressure & as per latest codes & standars before applying the paint 40 mm dia. Pipe	Mtr.	1350.00	870	11,74,500
17	Supplying, installation testing and commissioning of the following 'C' class MS pipe as per IS1239 with welded / flanged / screwed joints and with all the engineered support as per detail technical specification, heavy clamps, hangers, brackets or pipe supports (all with screwed/welded joints) as required including MS C class pipe of shorter lengths, tapering connecting pieces, short or long bends, MS C class specials like sockets, union nuts, elbows, reducers, plugs, Tees etc. complete to make the system operative as required by LFA authorities. The pipes will have to be laid and fixed on walls, ceilings, into brick walls or RCC with lead anchor fasteners. The work includes making holes in brick or RCC walls, slabs/ roofs and making good the damages by bringing to the original condition to the satisfaction of the Architect/Consultant/Client and painting two coats of approved shade(Post office red)of enamel paint over a coat of approved primer for over ground / overheads pipes. Note : The piping installation has to be put to hydraulic test to 1.5 times the working pressure & as per latest codes & standars before applying the paint 32 mm dia. Pipe	Mtr.	359.00	760	2,72,840

IT.NO	Item Discription	Unit	Quantity	Total Rate W/O GST	Total AMOUNT IN RS. W/O GST
18	<p>Supplying, installation testing and commissioning of the following 'C' class MS pipe as per IS1239 with welded / flanged / screwed joints and with all the engineered support as per detail technical specification, heavy clamps, hangers, brackets or pipe supports (all with screwed/welded joints) as required including MS C class pipe of shorter lengths, tapering connecting pieces, short or long bends, MS C class specials like sockets, union nuts, elbows, reducers, plugs, Tees etc. complete to make the system operative as required by LFA authorities. The pipes will have to be laid and fixed on walls, ceilings, into brick walls or RCC with lead anchor fasteners. The work includes making holes in brick or RCC walls, slabs/ roofs and making good the damages by bringing to the original condition to the satisfaction of the Architect/Consultant/Client and painting two coats of approved shade(Post office red)of enamel paint over a coat of approved primer for over ground / overheads pipes.</p> <p>Note : The piping installation has to be put to hydraulic test to 1.5 times the working pressure & as per latest codes & standars before applying the paint</p> <p>25 mm dia. Pipe</p>	Mtr.	4130.00	585	24,16,050
19	<p>Supplying, installation testing and commissioning of the following 'C' class MS Pipe as per IS : 1239-1973 tested to 200 PSI complete with fitting & welding of pipes & fittings wherever required complete with flanges & painting , with all the engineered support as per detail technical specification. underground/overground pipes with welded / flanged connection with saddles, supports (all with screwed/welded joints) as required including pipe of shorter lengths, tapering connecting pieces, short or long bends, specials like sockets, union nuts, elbows, reducers, plugs, Tees etc. complete to make the system operative as required by LFA authorities the pipes will have to be laid and fixed in trenches. The work includes excavation in all types of soils and back filling, dewatering, etc., making holes in brick or RCC walls, slabs/ roofs and making good the damages by bringing to the original condition to the satisfaction of the Architect and painting two coats of approved shade(Post office red)of enamel paint over a coat of approved primer for over heads pipes and providing and fixing pypkote (corrosion protection tape) including supply and application of pipe coating and spiral Wrapping for underground piping (wrapping should have overlap of 15 to 20 mm) etc.</p> <p>complete as per ASTM standards/IS:10221 for corrosion protection of pipes for the under ground installation.</p> <p>Note : The piping installation has to be put to hydraulic test to 1.5 times the working pressure & as per latest applicable codes & standard before applying paint or pipe coating or wrapping etc. complete.</p> <p>150 mm dia. Pipe</p>	Mtr.	950.00	4,367.00	41,48,650
20	<p>Supplying, installation testing and commissioning of the following 'C' class MS Pipe as per IS : 1239-1973 tested to 200 PSI complete with fitting & welding of pipes & fittings wherever required complete with flanges & painting , with all the engineered support as per detail technical specification. underground/overground pipes with welded / flanged connection with saddles, supports (all with screwed/welded joints) as required including pipe of shorter lengths, tapering connecting pieces, short or long bends, specials like sockets, union nuts, elbows, reducers, plugs, Tees etc. complete to make the system operative as required by LFA authorities the pipes will have to be laid and fixed in trenches. The work includes excavation in all types of soils and back filling, dewatering, etc., making holes in brick or RCC walls, slabs/ roofs and making good the damages by bringing to the original condition to the satisfaction of the Architect and painting two coats of approved shade(Post office red)of enamel paint over a coat of approved primer for over heads pipes and providing and fixing pypkote (corrosion protection tape) including supply and application of pipe coating and spiral Wrapping for underground piping (wrapping should have overlap of 15 to 20 mm) etc.</p> <p>complete as per ASTM standards/IS:10221 for corrosion protection of pipes for the under ground installation.</p> <p>Note : The piping installation has to be put to hydraulic test to 1.5 times the working pressure & as per latest applicable codes & standard before applying paint or pipe coating or wrapping etc. complete.</p> <p>100 mm dia. Pipe</p>	Mtr.	35.00	2,960.00	1,03,600

IT.NO	Item Discription	Unit	Quantity	Total Rate W/O GST	Total AMOUNT IN RS. W/O GST
21	<p>Supplying, installation testing and commissioning of the following 'C' class MS Pipe as per IS : 1239-1973 tested to 200 PSI complete with fitting & welding of pipes & fittings wherever required complete with flanges & painting , with all the engineered support as per detail technical specification. underground/overground pipes with welded / flanged connection with saddles, supports (all with screwed/welded joints) as required including pipe of shorter lengths, tapering connecting pieces, short or long bends, specials like sockets, union nuts, elbows, reducers, plugs, Tees etc. complete to make the system operative as required by LFA authorities the pipes will have to be laid and fixed in trenches. The work includes excavation in all types of soils and back filling, dewatering, etc., making holes in brick or RCC walls, slabs/ roofs and making good the damages by bringing to the original condition to the satisfaction of the Architect and painting two coats of approved shade(Post office red)of enamel paint over a coat of approved primer for over heads pipes and providing and fixing pypkote (corrosion protection tape) including supply and application of pipe coating and spiral Wrapping for underground piping (wrapping should have overlap of 15 to 20 mm) etc.</p> <p>complete as per ASTM standards/IS:10221 for corrosion protection of pipes for the under ground installation.</p> <p>Note : The piping installation has to be put to hydraulic test to1.5 times the working pressure & as per latest applicable codes & standard before applying paint or pipe coating or wrapping etc. complete.</p> <p>80 mm dia. Pipe</p>	Mtr.	55.00	2,079.00	1,14,345
22	<p>Providing and erecting BUTTERFLY VALVE (MANUAL) with C I body SS disc nitrile sheet & O - ring & PN 16 pressure rating as specified.</p> <p>250 mm dia</p>	Ea.	2.00	27,800.00	55,600
23	<p>Providing and erecting BUTTERFLY VALVE (MANUAL) with C I body SS disc nitrile sheet & O - ring & PN 16 pressure rating as specified.</p> <p>200 mm dia. Pipe</p>	Ea.	4.00	14,623.00	58,492
24	<p>Providing and erecting BUTTERFLY VALVE (MANUAL) with C I body SS disc nitrile sheet & O - ring & PN 16 pressure rating as specified.</p> <p>150 mm dia. Pipe</p>	set	58.00	6,910.00	4,00,780
25	<p>Providing and erecting BUTTERFLY VALVE (MANUAL) with C I body SS disc nitrile sheet & O - ring & PN 16 pressure rating as specified.</p> <p>100 mm dia. Pipe</p>	set	60.00	5,210.00	3,12,600
26	<p>Providing and erecting BUTTERFLY VALVE (MANUAL) with C I body SS disc nitrile sheet & O - ring & PN 16 pressure rating as specified.</p> <p>80 mm dia. Pipe</p>	set	56.00	3,826.00	2,14,256
27	<p>Providing and erecting BUTTERFLY VALVE (MANUAL) with C I body SS disc nitrile sheet & O - ring & PN 16 pressure rating as specified.</p> <p>65 mm dia. Pipe</p>	set	20.00	3,615.00	72,300
28	<p>Supplying and fixing single headed internal hydrant valve with instantaneous Gunmetal coupling of 63 mm dia with cast iron wheel ISI marked conforming to IS 5290 (Type -A) with blank Gunmetal cap and chain as required : Single Headed Gunmetal</p>	set	65.00	6,956	4,52,136

IT.NO	Item Discription	Unit	Quantity	Total Rate W/O GST	Total AMOUNT IN RS. W/O GST
29	Supplying and fixing Single headed external yard hydrant valve with 1No. 63 mm dia instantaneous FM GunmetaVstainless Steel coupling andcast iron wheel, ISI marked, conforming to IS 5290 (type A) with blank Gunmetal/Stainless Steel cap and chain as required : Single Headed Gunmetal	set	15.00	6,956	1,04,339
30	"Supplying and fixing 63 mm dia, 15 m long RRL hose pipe with 63 mm dia male and female couplings duly bound with GI wire, rivets etc. conforming to IS 636 (type-A) as required : Gun Metal"	set	53.00	4,623	2,45,013
31	Providing and fixing as per ISO fire hose cabinet size 600x 750x 250mm to house fire hydrant and hose, including all other related accessories fabricated from M.S. sheet (16 Gauge) of fully welded construction having front door with locking arrangement, partially glazed with 4 mm thick glass. Cabinet shall be powder coated and painted with post office red colour of size as shown in the drawing (or as approved by Architect) to house the hydrant valve, 15m x 2 No. hose and hose reel.	Nos.	53.00	6,310	3,34,430
32	Providing and fixing approved fire hose cabinet stand mount type for external size 600x 750x 250mm to house fire hydrant and hose, including all other related accessories fabricated from M.S. sheet (14 Gauge) of fully welded construction having front door with locking arrangement, partially glazed with 4 mm thick glass. Cabinet shall be powder coated and painted with post office red colour of size as mentioned in drawing (or as approved by the Architect) to house 15m x 2 No. hoses.	Nos.	15.00	6,941	1,04,115
33	Supplying and fixing first-aid Hose Reel with MS construction spray painted in post office red, conforming to IS 884 complete with the following as required. 20 mm nominal internal dia water hose thermoplastic (Textile reinforced) type -2 as per IS: 12585 20 mm nominal internal dia gun metal globe valve & nozzle. Drum and brackets for fixing the equipments on wall. Connections from riser with 25 mm dia stop gun metal valve & M.S. Pipe and socket. 40m	set	53.00	14,436	7,65,086
34	Supplying and fixing stand mount first-aid Hose Reel with MSEP Fabricated Stand MS construction and spray painted in post office red, conforming to IS 884 complete with the following as required 20 mm nominal intenal dia water hose thermoplastic (Textile reinforced) We -2 as per IS: 12585, 20 mm nominal internal dia gun metal globe valve & nozzle. Drum and brackets for fixing the equipments on stand. connections from riser with 25 mm dia stop gun metal valve & M.s Pipe and socket including faricated stand for mount hose reel in external. 40m	set	15.00	11,272	1,69,080
35	Supplying and fixing orifice plate made out of 6 mm thick stainless steel (Grade 304) with orifice of required size to be fitted between flange & landing valve of external and internal hydrants to reduce pressure at the outlet to the level of 3.5 kg/cm2 complete as required.	Each	80.00	1,217	97,356
36	Providing, fixing and testing forged brass 25 mm dia screwed inlet single acting air release valve PN 16 with 25 mm dia ball valve on inlet side and pressure gauge with isolating cock.	Nos.	24.00	2,759	66,216
37	Supplying & fixing 63 mm dia gun metal short branch pipe with 20 mm nominal internal diameter size nozzle conforming to IS 903 suitable for instantaneous connection to interconnect hose pipe coupling as required : Gun metal	NOS.	68.00	4,444	3,02,175
38	Providing and fixing of pump trigger system On / Off switch for Fire Hydrant Main Pump as per CFO requirement.	Nos.	53.00	844	44,732
Total of FIRE PIPING AND ACCESSORIES					3,00,30,864

IT.NO	Item Discription	Unit	Quantity	Total Rate W/O GST	Total AMOUNT IN RS. W/O GST
C	PUMP & ACCESSORIES				
39	<p>Supplying & installing completely testing & commissioning of centrifugal main fire pump(electrical driven) for hydrant main / sprinkler main with cast iron casing & bronze impeller & internal parts, make as approved by ISO/CFO for fire duty, complete with coupling, coupling guard necessary base frame, foundation bolts, RCC foundation, antivibration paid , capable of discharging 2280 lt/min against 70 mtr. head against all losses complete. The scope shall also include electrical TEFC motor, operated on 3-ph, 440-V, 50 Hz, 2900 RPM Syn. speed with 'B' class winding, make as approved by LFA. The pump shall be capable of giving not less than 150% discharge at a head not less than 65% of the rated head. Motor to be of continuous rating etc. complete.</p> <p>Each incomer and Outgoing feeder should be capable for protection against Overload, Short Circuit and Phase reversal condition and shall be capable to communicate with BMS . System should be capable to compensate for frictional losses at lower flows. All alarms should be displayed in the controller and BMS. System should be equipped with dry running protection. Indication of all type of faults / on-off status / electrical parameters shall be available on panel and central IBMS monitors. On-off operation for all pumps shall be available on BMS system.</p> <p>Main Pump - Motor : Discharge : 2280 LPM, Head 70 mtr.</p>	set	2.00	4,25,000.00	8,50,000
40	<p>Supplying & installing completely testing & commissioning of End suction long-coupled fire pump (electrical driven) for Water curtain main with cast iron casing & bronze impeller & internal parts, make as approved by ISO/CFO for fire duty, complete with coupling, coupling guard necessary base frame, foundation bolts, RCC foundation, antivibration paid , capable of discharging 1620 lt/min against 70 mtr. head against all losses complete. The scope shall also include electrical TEFC motor, operated on 3-ph, 440-V, 50 Hz, 2900 RPM Syn. speed with 'B' class winding, make as approved by LFA. The pump shall be capable of giving not less than 150% discharge at a head not less than 65% of the rated head. Motor to be of continuous rating etc. complete.</p> <p>Each incomer and Outgoing feeder should be capable for protection against Overload, Short Circuit and Phase reversal condition and shall be capable to communicate with BMS . System should be capable to compensate for frictional losses at lower flows. All alarms should be displayed in the controller and BMS. System should be equipped with dry running protection. Indication of all type of faults / on-off status / electrical parameters shall be available on panel and central IBMS monitors. On-off operation for all pumps shall be available on BMS system.</p> <p>Water curtain main Pump - Motor : Discharge : 1620 LPM, Head 70 mtr</p>	set	1.00	4,25,000.00	4,25,000
41	<p>Supplying & installing completely testing & commissioning centrifugal main fire pump (diesel driven) with cast iron casing & bronze or phosphor bronze internal parts, make as approved by ISO/CFO for fire duty, complete with coupling, coupling guard necessary base frame, foundation bolts, RCC foundation, antivibration paid , capable of discharging 2280 lt/min against 70 mtr. head against all losses complete with suitable diesel engine of speed matching the pump speed ,auto start facility with battery & battery charger, necessary wiring, fuel tank ,exhaust system, foundation gauges & wired for automatic start of the water pump on drop of pressure in the hydrant and sprinkler system. The pump should confirm to LFA / SEB & and IE Regulations. The pump shall be capable of giving not less than 150% discharge at a head not less than 65% of the rated head.</p> <p>Pumping System shall be capable to communicate with BMS . System should be capable to compensate for frictional losses at lower flows. All alarms should be displayed in the controller and BMS. Indication of on-off status parameters shall be available on panel and central IBMS monitors. On-off operation for all pumps shall be available on BMS system.</p> <p>Pump - Diesel Engine : Discharge : 2280 LPM, Head : 70 mtr.</p>	set	1.00	5,75,000.00	5,75,000

IT.NO	Item Discription	Unit	Quantity	Total Rate W/O GST	Total AMOUNT IN RS. W/O GST
42	<p>Supplying, installing, testing and commissioning of Vetricral Centrifugal jockey pump-motor with discharge 180 lpm against 70 mtr. head with 3 phase, 415 V, 50 Hz motor having 2900 RPM, complete with coupling, coupling guard necessary base frame, foundation bolts, RCC foundation,antivibration paid , as per site conditions and instructions of site engineer-in-charge including proper fixing, The electrical motor for the pump should comply as per Specification. The scope shall also include necessary coupling, coupling guard, base frame, foundation bolts, RCC foundation, etc. complete.</p> <p>Each incomer and Outgoing feeder should be capable for protection against Overload, Short Circuit and Phase reversal condition and shall be capable to communicate with BMS . System should be capable to compensate for frictional losses at lower flows. All alarms should be displayed in the controller and BMS. System should be equipped with dry running protection. Indication of all type of faults / on-off status / electrical parameters shall be available on panel and central IBMS monitors. On-off operation for all pumps shall be available on BMS system.</p> <p>Jockey Pump - Motor : Discharge : 180 LPM, Head :70 mtr.</p>	set	2.00	1,20,000.00	2,40,000
43	<p>Supplying & installing completely testing & commissioning of centrifugal type fire Electric Booster pump of cast iron body and bronze/SS 316 impeller with stainless shaft complete with coupling, coupling guard necessary base frame, foundation bolts, RCC foundation, Suitable cement concrete foundation duly plastered and with anti-vibration pads. and suitable air veesel tank as rrequired size and required accesories capable of discharging 900 LPM/min against 40 mtr. head against all losses complete. The scope shall also include electrical TEFC motor, operated on 3-ph, 440-V, 50 Hz, 2900 RPM Syn. speed with 'B' class winding, as approved by LFA.</p> <p>Each incomer and Outgoing feeder should be capable for protection against Overload, Short Circuit and Phase reversal condition and shall be capable to communicate with BMS . System should be capable to compensate for frictional losses at lower flows. All alarms should be displayed in the controller and BMS. System should be equipped with dry running protection. Indication of all type of faults / on-off status / electrical parameters shall be available on panel and central IBMS monitors. On-off operation for all pumps shall be available on BMS system.</p> <p>Booster Electric Pump - Motor : Discharge : 900 LPM, Head : 40 mtr.</p>	set	6.00	1,15,000.00	6,90,000
44	<p>SITC of precharged MSEP air vessel (size 600mm dia x 2000 mm height) with adequate pressure switches with valves to operate as per operating sequence including 25 mm drain valve, air release valve with stop cock on top, 25 mm inlet with isolation valve & the vessel shall be painted inside & outside. The tank shall be fabricated from 8 mm thick MS plate with painting</p> <p>Air Vessel : 600 mm dia x 2000 mm h</p>	set	2.00	69,600.00	1,39,200
45	<p>providing and erecting NON - RETURN VALVE with dual plate of C I body SS plates vulcanized NBR seal flanged end & PN 16 pressure rating as specified.</p> <p>200 mm dia.</p>	set	1.00	15,418.00	15,418
46	<p>providing and erecting NON - RETURN VALVE with dual plate of C I body SS plates vulcanized NBR seal flanged end & PN 16 pressure rating as specified.</p> <p>150 mm dia.</p>	set	17.00	9,077.00	1,54,309
47	<p>providing and erecting NON - RETURN VALVE with dual plate of C I body SS plates vulcanized NBR seal flanged end & PN 16 pressure rating as specified.</p> <p>100 mm dia.</p>	set	1.00	5,801.00	5,801

IT.NO	Item Discription	Unit	Quantity	Total Rate W/O GST	Total AMOUNT IN RS. W/O GST
48	providing and erecting NON - RETURN VALVE with dual plate of C I body SS plates vulcanized NBR seal flanged end & PN 16 pressure rating as specified. 80 mm dia.	set	2.00	3,969.00	7,938
49	providing and erecting NON - RETURN VALVE with dual plate of C I body SS plates vulcanized NBR seal flanged end & PN 16 pressure rating as specified. 65 mm dia.	set	2.00	3,656.00	7,312
50	Providing, installation, testing and commissioning of stainless steel Ystrainer fabricated out of 1.6 mm thick stainless steel, Grade 304' sheet with.3 mm dia holes with stainless steel flange 250 mm dia	each	2.00	24,564	57,970
51	Providing, installation, testing and commissioning of stainless steel Ystrainer fabricated out of 1.6 mm thick stainless steel, Grade 304' sheet with.3 mm dia holes with stainless steel flange 150 mm dia	each	6.00	9,900	70,092
52	Providing & fixing of pressure switch in M.S. pipe line including connection etc. as required.	Each	12.00	1,415	20,040
53	Providing and fixing in position the industrial type pressure gauges with gun metal / brass valves complete as required	Nos.	12.00	1,264	15,163
54	Supply, installation, testing & commissioning of metallic SS 304 bellows on suction side, discharge side of pump & at expansion joints of building conforming to EJMA with all hardwares, companion flanges & gaskets, etc. Size : 200 mm	Nos.	4.00	27,000	1,08,000
55	Supply, installation, testing & commissioning of metallic SS 304 bellows on suction side, discharge side of pump & at expansion joints of building conforming to EJMA with all hardwares, companion flanges & gaskets, etc. Size : 150 mm	Nos.	4.00	24,595	98,380
56	Supply, installation, testing & commissioning of metallic SS 304 bellows on suction side, discharge side of pump & at expansion joints of building conforming to EJMA with all hardwares, companion flanges & gaskets, etc. Size : 100 mm	Nos.	1.00	19,600	19,600
57	Supply, installation, testing & commissioning of metallic SS 304 bellows on suction side, discharge side of pump & at expansion joints of building conforming to EJMA with all hardwares, companion flanges & gaskets, etc. Size : 80 mm	Nos.	2.00	15,600	31,200
58	Supply, installation, testing & commissioning of metallic SS 304 bellows on suction side, discharge side of pump & at expansion joints of building conforming to EJMA with all hardwares, companion flanges & gaskets, etc. Size : 65 mm	Nos.	2.00	12,500	25,000

IT.NO	Item Discription	Unit	Quantity	Total Rate W/O GST	Total AMOUNT IN RS. W/O GST
59	Supplying and fixing of fire brigade connection of casliron body with gun-metal male instantaneous inlet couplings complete wiih cap and chain as reqd. for suitable dia MS pipe c onnection conforming to IS 904 as required : 2 way-100 mm dia M.S. Pipe	set	1.00	6,154	7,262
60	Supplying and fixing of fire brigade connection of casliron body with gun-metal male instantaneous inlet couplings complete wiih cap and chain as reqd. for suitable dia MS pipe c onnection conforming to IS 904 as required : 4 way-150 mm dia M.S. Pipe	set	1.00	12,559	14,820
61	SITC of fire brigade draw out connection with 100 mm MS suction pipe and 100 mm dia Cast iron foot valve. The scope shall also include required valves, piping, M.S cabinet as required.	set	1.00	9,500	9,500
62	<p>MCC for Fire power panel :</p> <p>Design, manufacture, supply ,installation, testing and commissioning of following MCC panels suitable for 415V, 3 phase, 4 wire, 50 hz power distribution system.the panel should be indoor/outdoor, free standing, floor mounting, sheet metal clad, Cubicle, dead front, dust and vermin proof conforming to min IP-55 enclosure, compartmentalized design fabricated out of 14 SWG sheet steel complete with Al busbars, separate earth bus bar to be provided through out the length of the panel. The incoming and outgoing feeders shall be accommodated in a modular multitier arrangement, adequate size cable alley, painting, earthing numbering, damper plate etc. as required as per specifications and drawings. The panel shall withstand a require fault level as per SLD (Cost of PLC and related wiring for switching on and switching off the pumps as per the drawing & as per local CFO requirement)</p> <p>Each incomer and Outgoing feeder should be capable for protection against Overload, Short Circuit and Phase reversal condition and shall be capable to communicate with BMS . System should be capable to compensate for frictional losses at lower flows. All alarms should be displayed in the controller&BMS. System should be equipped with dry running protection. Indication of all type of faults / on-off status / electrical parameters shall be available on panel and central IBMS monitors. On-off operation for all pumps shall be available on BMS system.</p> <p>NOTE :</p> <ol style="list-style-type: none"> 1). Separate neutral link to be provided wherever TP MCCB are used. 2). All MCCB shall have breaking capacity of 25 KA unless otherwise specified. 3). Necessary cabling, wiring, earthing from panel to individual equipment shall be included in the quoted price. 4). following provisions to be made in the fire panel: 5). Audio visual alarm and indications having disconnect/reset facilities with a range of 1/2 Km. The indication shall come on when electrical driven pump set fails to start on pressure drop 6). Facility for more selections i.e. auto or manual and local remote as per SLD. 7). Protection failure and control cabling. 8). Interlocking with Diesel engine pump / D.G. set 9).Local Push button (Start STOP) for fire equipment at each floor, if require, shall be provided as per drawing and as per direction of Local fire regulation. 10). The above requirement is general, in addition to that the vendor shall provide all the component/system/work for the proper operation of fire pumps as per fire rules and regulations <p>Incomer : As per SLD , Outgoing : As per SLD</p> <p>Supply, installation, assembly, connection, testing and commissioning of Fire power panel as per Drawing, Remote On OFF switch operation , Specification, Technical Data sheet & IS. & Single Line Diagram and other equipments required to complete the job.</p>	Set.	1.00	4,61,333	4,61,333

IT.NO	Item Discription	Unit	Quantity	Total Rate W/O GST	Total AMOUNT IN RS. W/O GST
63	<p>Starter Panel for Fire Terrace Booster Pump :</p> <p>Design, manufacture, supply ,installation, testing and commissioning of star delta starter control panels suitable for 415V, 3 phase, 4 wire, 50 hz power distribution system . Control panel shall consists of 40A Breaker , contactor, Over load relay and other require components to finish satisfactory work. Control panel should be communicate with pressure switch. Necessasary integration between control panel and pressure switch shall be part of scope. scope shall also include all required accessories for dry run protection & shall prevent the pump from dry running</p> <p>All components in the control panel shall be as per type 2 coordination of respective OEM. (Fire Booster Pump Panel). (Cost of wiring with pressure switches / switching on and switching off the pumps locally and remotely as per the drawing and as per local CFO requirement) .</p> <p>NOTE :</p> <ol style="list-style-type: none"> 1). Separate neutral link to be provided wherever TP MCCB are used. 2). All MCCB shall have breaking capacity of 25 KA unless otherwise specified. 3). Necessary cabling, wiring, earthing from panel to individual equipment shall be included in the quoted price. 4). following provisions to be made in the fire panel: 5). Audio visual alarm and indications having disconnect/reset facilities with a range of 1/2 Km. The indication shall come on when electrical driven pump set fails to start on pressure drop 6). Facility for more selections i.e. auto or manual and local remote as per SLD. 7). Protection failure and control cabling. 8). Interlocking with Diesel engine pump / D.G. set 9).Local Push button (Start STOP) for fire equipment at each floor, if require, shall be provided as per drawing and as per direction of Local fire regulation. 10). The above requirement is general, in addition to that the vendor shall provide all the component/system/work for the proper operation of fire pumps as per fire rules and regulations <p>Incomer : As per SLD , Outgoing : As per SLD</p> <p>Supply, installation, assembly, connection, testing and commissioning of Fire power panel as per Drawing, Remote On OFF switch operation , Specification, Technical Data sheet & IS. & Single Line Diagram and other equipments required to complete the job.</p>	Set.	3.00	1,49,754	4,49,262
	Earthing				
64	<p>Supplying & erecting earth pit of minimum bore dia.150mm size approved make Earthing Electrode consisting Pipe-in-Pipe Technology as per IS 3043-1987 made of corrosion free hot dipped G.I.Pipes having Outer pipe dia of 50mm having 80-200 Micron galvanising, Inner pipe dia of 25 mm having 200-250 Micron galvanising, connection terminal dia of 12mm with constant ohmic value surrounded by highly conductive compound with high charge dissipation suitable for following type of applications with chamber and heavy duty cover. (A)(approved make OEM has to submit test certificate including value of earth resistance of installation duly stamped and signed by agency and officer Incharge has to ensure the value of earthing resistane mentioned in test Certificate) & having back filling compound of (B) Inner chemical (CCM Compound)- Resistivity:- 0.2 ohm / meter testing as per IEC 62561-2017, Voltage drop:- < 1 volt at no load & dry form, Sulphar content:- <2%(C) Back fill Compound :- Earthing compound should be capable to retain moisture for long time Necessary test report must be submitted by Agency.</p> <p>(c) For Electrical Installation covering Transformer Neutrals, Lightning arrester Earthing, A.C.Plant & Sensitive Computer System(like Automation, SCADA) i.e independent Earthing in normal soil.</p> <p>Length of Pipe : 3.00 mtrs</p> <p>Back filling Compound :2 nos Bags of 25 Kg.</p>	No.	5.00	8,551	42,755
65	Providing and erecting required size HOT deep Galvanised iron strip for earthing of H.T. , OCB/ ACB/ Transformer LT panel board, Motors etc. using proper clamp.	Kg.	266.00	77	20,482

IT.NO	Item Discription	Unit	Quantity	Total Rate W/O GST	Total AMOUNT IN RS. W/O GST
66	Providing and erecting Annealed bare Copper wire 8 to 16 SWG.	Kg.	92.00	787	72,404
	LT CABLES & TERMINATIONS				
	Providing and erecting XLPE(IS:7098)(I)-88 ISI armoured cable multistrand Aluminium conductor for 1.1 KV. to be laid on wall with necessary clamps or in existing trench / pipe of following size of cables				
67	(H) 3 1/2 core 185 Sq. mm (95 Sq. mm 1/2 core) (Fire Fighting Panel Incomer)	Mtr.	432.00	896	3,87,072
68	(A) 3 1/2 core 35 Sq. mm (16 Sq. mm 1/2 core) (Hydrant Pump + Sprinkler Pump+Fire Water Curtain Pump)	Mtr.	57.60	218	12,557
	Providing and erecting XLPE(IS:7098)(I)-88 ISI armoured cable multistrand / Solid Copper conductor for 1.1 KV. to be laid on wall with necessary clamps or in existing trench / pipe at road crossing or floor of following size of cables.				
69	Providing and erecting XLPE(IS:7098)(I)-88 ISI armoured cable multistrand / Solid Copper conductor for 1.1 KV. to be laid on wall with necessary clamps or in existing trench / pipe at road crossing or floor of following size of cables. (C) 4 core 6 Sq. mm (Hydrant + Sprinkler Jockey Pump)	Mtr.	156.00	505	78,780
70	Providing and erecting XLPE(IS:7098)(I)-88 ISI armoured cable multistrand / Solid Copper conductor for 1.1 KV. to be laid on wall with necessary clamps or in existing trench / pipe at road crossing or floor of following size of cables. (B) 4 core 16 Sq. mm (Booster Pump Panel)	Mtr.	2040.00	978	19,95,120
	Providing and erecting XLPE(IS:7098)(I)-88 ISI armoured cable multistrand Copper conductor for 1.1 KV. to be laid on wall with necessary clamps or in existing trench / pipe at road crossing or floor of following size of cable.				
71	(B) 3 core 4 Sq. mm (for diesel pump battery)	Mtr.	20.00	285	5,700
72	(A) 3 core 2.5Sq. mm (Control Cable) FHC from Fire Panel	Mtr.	50.00	211	10,550
	Providing and, fixing heavy duty flange type brass double compression type cable gland with rubber ring for PVC insulated armoured cable complete with out going tails, insulating tape etc for following size of cables.				
73	(G) 3 & 1/2 core 185 Sq. mm	Nos	4.00	236	944
74	(B) 3 & 1/2 core 35/50 Sq. mm	Nos	6.00	75	450

IT.NO	Item Discription	Unit	Quantity	Total Rate W/O GST	Total AMOUNT IN RS. W/O GST
	Providing and, fixing heavy duty flange type brass cable gland with rubber ring for PVC insulated armoured cable complete with out going tails, insulating tape etc for following size of cables.				
75	(D) 2 to 4 core 16 Sq. mm	Nos	12.00	47	564
76	(B) 2 to 4 core 6 Sq. mm	Nos	16.00	38	608
77	(A) 2 to 4 core 2.5 / 4 Sq. mm	Nos	4.00	33	132
	Solder less crimping type Aluminium lugs conforming to IS suitable for cable of following size evenly crimped with high pressure tool & connected to switchgear terminals with brass/cadmium plated nut bolts in an approved manner.				
78	(I) 185 Sq.mm.	Nos	16.00	80	1,280
79	(D) 35/50 Sq.mm.	Nos	24.00	20	480
	Solder less crimping type Copper lugs conforming to IS suitable for cable of following size evenly crimped with high pressure tool & connected to switchgear terminals with brass/cadmium plated nut bolts in an approved manner.				
80	(A) 1.5/2.5 to 6 Sq.mm	Nos	80.00	8	640
81	(C) 16 Sq.mm.	Nos	48.00	8	384
82	Supplying & erecting XLPE(IS:7098)(I)-88 ISI unarmoured copper cable 1.1 KV grade to be erected as directed of following size. (E) 12 core 2.5 sq.mm	Mtr.	100.00	393	39,300
83	Providing and erecting ISI mark Medium class RIGID PVC PIPES of following size complete to be erected on/in wall or ceiling erected with necessary PVC fittings & Junction boxes fixed with adhesive solution & Clamps with following dia of pipes, in approved manner as directed (b) 25 mm	Mtr.	100.00	33	3,300
Total of PUMP & ACCESSORIES					71,71,102

IT.NO	Item Discription	Unit	Quantity	Total Rate W/O GST	Total AMOUNT IN RS. W/O GST
D	SPRINKLER & RELATED ACCESSORIES				
84	Providing, fixing, testing & commissioning of 15 mm dia quartzoid bulb type sprinklers of rating 57 degree centigrade with required accessories : Pendent Sprinkler Standard Coverage 5.6 K-factor	Each	3030.00	508	15,38,111
85	Providing, fixing, testing & commissioning of 15 mm dia quartzoid bulb type sprinklers of rating 57 degree centigrade with required accessories : Upright Sprinkler Standard Coverage 5.6 K-factor	Each	672.00	508	3,41,126
86	SITC of 3 mm quick response glass bulb type UL approved and FM approved 79 degree rated for Kitchen brass pendent sprinklers having 15 mm NPT connection 3 mm glass bulb 79 degree rated for Kitchen Pendent Sprinkler 5.6 K-factor	Each	114.00	979.00	1,11,606
87	SITC of test & drain assembly with all piping & sight glass including 25mm diameter 2 nos drain valve, union, required 25mm diameter drain pipe etc. complete	Set	47.00	13,882.00	6,52,454
88	Providing & fixing flow switch in following sizes pipe including connection etc as required. Header size : 150 mm	Each	24.00	8,173	1,96,150
89	Providing & fixing flow switch in following sizes pipe including connection etc as required. Header size : 100 mm	Each	19.00	6,838	1,29,925
90	Supplying, installation, testing & commissioning of sprinkler flexible pipe (UL Listed) of stainless steel complete with 15 NPT on reducer thread with maximum working pressure of 175 PSI test pressure of 875 PSI (Burst) with branch line (Inlet) 25mm NPT male thread to sprinkler head (Outlet) 15mm NPT female thread with reducer, nipple, 2 side brackets, center bracket, stockbar of following sizes complete as required. 1000 MM	set	336.00	1,443	4,84,923
91	Supplying, installation, testing & commissioning of sprinkler flexible pipe (UL Listed) of stainless steel complete with 15 NPT on reducer thread with maximum working pressure of 175 PSI test pressure of 875 PSI (Burst) with branch line (Inlet) 25mm NPT male thread to sprinkler head (Outlet) 15mm NPT female thread with reducer, nipple, 2 side brackets, center bracket, stockbar of following sizes complete as required. 1500 MM	set	336.00	1,669	5,60,665
92	Providing, installation, testing & commissioning of adjustable rosette plate for 15mm dia in white finish UL Listed or FM approved complete as required.	Each	672.00	224	1,50,346
93	Providing, installation, testing & commissioning of water curtain nozzle 15mm dia nickel chrome plated brass, BSpr, K-factor as per design consideration complete as required. K-42	Each	12.00	667	8,004

IT.NO	Item Discription	Unit	Quantity	Total Rate W/O GST	Total AMOUNT IN RS. W/O GST
94	Supplying, installation, testing & commissioning of deluge valve (to be used for water curtains) uL listed with wet pilot basic trim assembly for DVA with test and alarm, drip and drain valve with water motor gong complete as required. 150mm dia	Set	1.00	1,02,797	1,02,798
95	Providing, installation, testing & commissioning of electric release trim assembly for deluge wall with two way solenoid valve, weather proof operation on 24 volts DC supply complete as required.	Set	1.00	6,572	6,573
96	Supply, Installation, Testing and Commissioning of Deluge Valve Local control Panel consisting of Panel fabrication MS 16 SWG, CRCA sheet, panel cubical, front access, wall mounting, bottom side cable entry, indoor type IP 54, MCB 6 Amp, 24V DC 1 Amp SMPS Power Supply, Glass fuse 2 Amp, 24V DC 8 pin relay with base, Push button for Manual & Test mode with break glass, Connector 4 sq.mm, Power & control wiring laying, termination 1 sq.mm, Incoming power cable for panel - 3 core x 1.5 sq.mm copper armoured FRLS cable, Double compression brass cable gland etc. complete as per specification/drawings and as directed by Architect / Engineer in charge .	Set	1.00	12,543.00	12,543

IT.NO	Item Discription	Unit	Quantity	Total Rate W/O GST	Total AMOUNT IN RS. W/O GST
97	Providing, fixing, testing & commissioning of installation control valve of cast iron body, brass/bronze working parts comprising of water motor alarm . bronze seat clapper, clapper arm and hydraulically driven mechanical gong bell to sound continuous alarm when the wet riser/sprinkler system activates, pressure gauges, emergency releases, strainer, pressure switch, cock valve complete with drain valve and bypass, test control box, ball valves, MS pipe of required size, flanges, orifice plate, BFV, gasket etc of follwing sizes as required: 150 mm dia	set	2.00	43,055	86,111
98	Full Bore Electromagnetic Flow Meter- Inbuilt Battery Power operated - PN 16 Design, Supply, Installation, Testing, Commissioning of Full Bore Electromagnetic flow meter with factory calibration, Inbuilt Battery Power Operated, flanged connection, Flow sensor, Indicator, transmitter and totaliser with all accessories viz. surge arrestor, associated cables, cabinets, hardwares, etc complete as per following specifications: Flow Meter/ Sensor: DC pulsed type, IP 68 Protection, Flanged process connection as per IS 1538 or equivalent standard, SS304/ Metallic Alloy Flow Tube, SS316/ SS 316 L/ Hastelloy Sensor, SS316/ Hastelloy Grounding Ring/ Inbuilt Grounding Electrode, Neoprene/Polyurethane/ Hard Rubber/ Rilsan lining, SS304/ Die Cast Aluminium/ Carbon steel with Anticorrosive Paint Coil Housing with Junction Box, CS flanges. Flow Transmitter/ Converter (Remote Field Mounted): Microprocessor based, Modular design, 2 line LCD for indication of actual flow rate, forward, reverse, sum totaliser display, accuracy at 0.3 to 4 m/sec velocity, One scalable pulse/ one status, one Modbus output, one GPRS/ GSM output, IP 67 protection, Die cast aluminium/ polycarbonate/ SS316 with Anticorrosive Paint/ PU finish with glass window enclosure, Inbuilt EEPROM and Data Logger, 20 meters cable length for sensor to transmitter communication, Minimum 5 years battery lifetime, 3.6 VDC Non Rechargeable Lithium-thionyl chloride/ Ni-Cd high power batteries, Hourly Basis Worldwide transmission of measured data and events via e-mail and SMS by integrated GSM/GPRS modem, Reliable data storage facility through integrated SD card etc alongwith wall mounted/ stand mounted cabinet.	No.	1.00	1,27,483.00	1,27,483
Total of SPRINKLER & RELATED ACCESSORIES					45,08,818
E	CHARGES FOR LIASONING WITH CFO AND GETTING ALL APPROVALS				
99	Charges for Liasoning with CFO and getting all approvals and permissions and NOC 's required for fire fighting at various stages and after completion of the project including All official payments. (All official and receipted payments would be submitted and Re-imbursed)	JOB	1.00	1,50,000.00	1,50,000
Total of CHARGES FOR LIASONING WITH CFO AND GETTING ALL APPROVALS					1,50,000
Total of Firefighting Works					4,42,67,671

NAME OF WORK:-CONSTRUCTION OF RIVERSIDE SAVORIES I.E. BUILDING WITH UNDERGROUND ROAD BETWEEN NEHRU BRIDGE AND ELLISBRIDGE AND CONSTRUCTION OF PUBLIC PLAZA AND UNDERGROUND PARKING FACILITY AT SANSKAR KENDRA - TAGORE HALL CAMPUS CONNECTING RIVERFRONT ON WESTBANK FOR SRFDCL.

SCHEDULE OF QUANTITIES

Item No.	Description of Item	Unit	Total QTY	Rate(Rs.)	Amount(Rs.)
HORTICULTURE WORK					
LANDSCAPING WORK					
1	Excavation for foundation by mechanical / manual means in all kind of soils & soft rock up to 0.9mtx 0.9 mt x 1.5mt. depth including backfilling, shoring, strutting dewatering as necessary, sorting out and stacking of useful materials and disposing of the surplus excavated material within campus etc complete all as per specifications and as directed by EIC.	cum	540.00	198.00	1,06,920.00
2	Supplying and filling of tree pits, shrub bed & lawn beds with Fertile Soil Mix with Farm Yard Manure on datum level in the following percentage - 15% Farm yard Manure, 20% river sand or locally available "Dhaap", and 65% Black Cotton Soil by volume graded towards the drains & chambers located at site with a minimum slope of 1%. (Black cotton soil to be taken from the Emcure site) etc. complete as directed by EIC. Recommended fill of the beds are as follows: 1. Tree/ Palm Pits - 900x900x900mm; 2. Shrub beds/ground cover - To a depth of 300mm; 3. Lawn beds - To a depth of 200mm.	cum	1,500.00	475.00	7,12,500.00
3	Providing and planting (as directed by the consultants / Engineer in charge) well grown saplings of big trees species (as listed below) and planting the same as directed and maintained till well established. (About 45 Days)				
3.1	Bauhinia purpurea	NOS	53.00	282.00	14,946.00
3.2	Erythrina variegata	NOS	25.00	225.00	5,625.00
3.3	Plumeria obtusa	NOS	18.00	1,350.00	24,300.00
3.4	Plumeria rubra	NOS	4.00	1,350.00	5,400.00
3.5	Terminalia mantaly	NOS	13.00	450.00	5,850.00
3.6	Lagerstroemia speciosa	NOS	33.00	282.00	9,306.00
3.7	Cassia fistula	NOS	17.00	338.00	5,746.00
3.8	Alstonia scholaris	NOS	33.00	282.00	9,306.00
4	Supplying and planting Saplings (as directed by the Consultants / Engineer in Charge) of shrubs				
4.1	Alpinia purpurata	Nos	750.00	394.00	2,95,500.00
4.2	Alpinia zerumbet variegata	Nos	2,143.00	394.00	8,44,342.00
4.3	Angelonia angustifolia dwarf	Nos	1,091.00	113.00	1,23,283.00
4.4	Canna indica	Nos	664.00	169.00	1,12,216.00
4.5	Dieffenbachia wilson's delight	Nos	750.00	169.00	1,26,750.00
4.6	Eranthemum purpureum	Nos	750.00	169.00	1,26,750.00
4.7	Leucophyllum frutescens	Nos	750.00	169.00	1,26,750.00
4.8	Murraya paniculata	Nos	1,285.00	79.00	1,01,515.00
4.9	Mussaenda philippica rosea	Nos	3,267.00	169.00	5,52,123.00

4.10	Pandanus variegated	Nos	1,081.00	34.00	36,754.00
4.11	Pseudoanthemum reticulatum	Nos	950.00	113.00	1,07,350.00
4.12	Schefflera arboricola green	Nos	490.00	169.00	82,810.00
4.13	Hymenocallis littoralis	Nos	5,657.00	250.00	14,14,250.00
4.14	Russelia equisetiformis	Nos	1,944.00	250.00	4,86,000.00
4.15	Bougainvillea	Nos	2,686.00	20.00	53,720.00
4.16	Tecomaria capensis	Nos	4,178.00	100.00	4,17,800.00
4.17	Liriope muscari	Nos	6,798.00	250.00	16,99,500.00
4.18	Allamanda cathartica 'Compacta'	Nos	3,397.00	250.00	8,49,250.00
5	Supplying and planting (as directed by the Consultants / Engineer in Charge) of Climbers				
5.1	Ipomoea palmata	Nos	176.00	500.00	88,000.00
5.2	Ipomoea horsfalliae	Nos	80.00	500.00	40,000.00
5.3	Bignonia gracillis	Nos	109.00	500.00	54,500.00
5.4	Antigonon leptopus	Nos	109.00	500.00	54,500.00
5.5	Philodendron Oxycardium Brasil	Nos	424.00	800.00	3,39,200.00
5.6	Philodendron hederaceum	Nos	581.00	900.00	5,22,900.00
5.7	Epipremnum aureum	Nos	148.00	500.00	74,000.00
5.8	Syngonium	Nos	132.00	800.00	1,05,600.00
5.9	Trachelospermum jasminoides	Nos	148.00	800.00	1,18,400.00
6	Supplying and planting Saplings (as directed by the Consultants / Engineer in Charge) of Ground Cover				
6.1	Wedelia trilobata	Nos	17,140.00	50.00	8,57,000.00
6.2	Cuphea hyssopifolia	Nos	5,280.00	300.00	15,84,000.00
7	Supplying and planting Saplings (as directed by the Consultants / Engineer in Charge) of Grasses				
7.1	Pennisetum rubra	NOS	500.00	400.00	2,00,000.00
7.2	Pennisetum setaceum	NOS	500.00	400.00	2,00,000.00
				SUB TOTAL	1,26,94,662.00

NAME OF WORK:-CONSTRUCTION OF RIVERSIDE SAVORIES I.E. BUILDING WITH UNDERGROUND ROAD BETWEEN NEHRU BRIDGE AND ELLISBRIDGE AND CONSTRUCTION OF PUBLIC PLAZA AND UNDERGROUND PARKING FACILITY AT SANSKAR KENDRA - TAGORE HALL CAMPUS CONNECTING RIVERFRONT ON WESTBANK FOR SRFDCL.

SCHEDULE OF QUANTITIES

Item No.	Description of Item	Unit	Total QTY	Rate(Rs.)	Amount(Rs.)
CIVIL WORK					
EARTH WORKS					
1	Clearing and grubbing road land including uprooting rank vegetation grass bushes,shrubs,sapling and trees girth up to 300 mm removal of stumps of trees cut earlier and disposal of unserviceable materials. (C) By mechanical means in area of light jungle	Sqm	11,814.74	2.81	33,199.42
2	Cutting and felling trees of girth as specified below (measured at a height of 1 m above ground level) including cutting of trunks and branches, removing the roots and stacking of serviceable material and disposal of unserviceable materials within campus at directed place etc complete all as per specifications and as directed by the Engineer-in-charge Girth beyond 30 cm, up to and including 60 cm girth.	Nos	5.00	451.00	2,255.00
2.1	Girth beyond 60 cm, up to and including 120 cm girth.	Nos	10.00	2,011.00	20,110.00
3	Excavation for foundation upto 1.5 m depth including sorting out and stacking of useful materials and disposing off the excavated stuff upto 50 Meter lead.(A) Loose or soft soil	Cum	14,000.00	115.92	16,22,880.00
4	Excavation for foundation for depth from 1.5 m to 3.0 m including sorting out and stacking of useful materials and disposing off the excavated stuff upto 50 Meter lead.(A) Loose or soft soil	Cum	13,610.00	128.52	17,49,157.20
5	Excavation for foundation for depth from 3.0 m to 5.0 m including sorting out and stacking of useful materials and disposing off the excavated stuff upto 50 Meter lead.(A) Loose or soft soil	Cum	18,000.00	141.11	25,39,980.00
6	Extra for additional depth more than 5.0 m for excavation for foundation including sorting out and stacking of useful materials and disposing of the excavated stuff upto 50 m lead.(A) Loose or soft soil	Cum	13,610.00	162.02	22,05,092.20
7	Extra for additional depth more than 6.0 m for excavation for foundation including sorting out and stacking of useful materials and disposing of the excavated stuff upto 50 m lead.(A) Loose or soft soil	Cum	1.00	182.93	182.93

8	Uncoursed Rubble Masonry with hard stone of approved quality in foundations and plinth in Cement Mortar 1:6 (1-cement : 6-coarse sand including levelling up etc. complete	Cum	50.00	2,475.26	1,23,763.00
9	Conveyance charges of earth lime, murrum, building rubbish, manure, garbage, sludge, excavated rock, fly ash, aggregate of any kind etc. comp. upto any lead. up to 1.0 km	Cum	1,000.00	256.16	2,56,160.00
9.1	Above 1.0km & up to 5 km	Cum	20,000.00	326.73	65,34,600.00
9.2	Above 5.0 km & up to 10.00 km	Cum	20,000.00	363.78	72,75,600.00
10	Filling available excavated earth (excluding rock) in trenches. plinth, sides of foundations etc. in layers not exceeding 20 cm. in depth consolidating each disposed layer by ramming and watering.	Cum	4,222.00	129.10	5,45,060.20
11	Filling in plinth with sand under floors including watering ramming, consolidating and dressing complete	Cum	250.00	455.63	1,13,907.50
12	Carring out plinth treatment to pre or post construction / existing structure by spraying chemical solution for termite control treatment including labour and material consistment with I.S.I specification. Using Chlordene and Chiorpurfiles 20 EC. As Per 6131_paret-II Concentration Weight one percent is recommended i.e one litre 20 EC chemical emulsion with 19 liter give 1 % concentration inclusive of one litre chemical emulsion appication at the rate of 5 Litre chemical / Sqm of surface is recommended as per I.S and as per directions of Clerk-of-Work. For all levels and leads.	Sqm	1,000.00	104.90	1,04,900.00
13	Demolition and disposal of unserviceable materials with all lead and lift.(i) Cement concrete.	Cum	100.00	603.23	60,323.00
14	Demolition including stacking of serviceable materilas and disposal of unserviceable materials with all lead and lift. (i) R.C.C. work	Cum	250.00	1,047.38	2,61,845.00
15	Dismantling barbed wire in fencing including making rolls and also including dismantling fencing posts including all earth work concrete in base and making good the disturbed ground stacking useful materials as directed and disposing as directed and disposing of the unserviceable materials with all lead and lift	Rmt	500.00	66.15	33,075.00
16	Demolition of Brick work and stone masonry including stacking of serviceable materilas and disposal of unserviceable materials with all lead and lift.(ii) In Cement Mortar.	Cum	500.00	544.95	2,72,475.00
17	Dismantling and stacking within 50 metres lead, fencing posts or struts including all earth work and dismantling of concrete etc. in base of : T' or 'L' iron or pipe	Nos	20.00	230.90	4,618.00
18	Dismantling steel work including distempering and stacking the materials with all lead and lift.	Kg	10,000.00	3.63	36,300.00

19	Scarifying gravelled macadam or bitumen macadam surface 6cm to 10cm .depth including stacking useful materials on roadside and disposing off remaining stuff.	Sqm	1,500.00	39.23	58,845.00
20	Dismantling barbed wire in fencing including making rolls and also including dismantling fencing posts including all earth work concrete in base and making good the disturbed ground stacking useful materials as directed and disposing as directed and disposing of the unserviceable materials with all lead and lift	Rmt	500.00	66.15	33,075.00
21	Dismantling kerb stone by manual means and disposal of dismantled material with all lifts and up to a lead of 1000 metre as per MoRT&H specification clause 202.	Rmt	500.00	30.00	15,000.00
22	Removing rough/ smooth finished interlocking paver blocks of 60/80 mm thickness for pavement in footpath / parking at required loactions including cleaning the surface, stacking and storing serviceable materials at directed place within campus and disposing off the debris at directed place within campus etc. complete all as per specification and as directed by the Engineer- in- Charge.	Sqm	320.00	48.00	15,360.00
				SUB TOTAL	2,39,17,763.45
PLAIN AND REINFORCED CEMENT CONCRETE					
23	Providing and laying cement concrete 1:2:4 (1-Cement:2-Coarse sand:4-graded stone aggregates 20mm nominal size) and curing complete excluding cost of formwork in (A) Foundation and Plinth	Cum	1,458.70	3,661.30	53,40,738.31
24	Bored cast-in-situ M30 grade R.C.C. pile excluding reinforcement complete as per drawing and technical specifications and removal of excavated earth with all lifts and lead upto 1000 m. (Pile diameter- 750 mm)	RMT	7,200.00	6,413.68	4,61,78,496.00
25	Providing and laying in position M- 250 grade concrete for reinforced cement conctere work , using cement content as per approved Design Mix manufactured in fully automatic batching plant and transporting the concrete from Plant to point 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. Without Fly (GRADE SLAB)	Cum	896.50	4,853.56	43,51,216.54

26	Providing and laying in position M-300 grade concrete for reinforced cement concrete work , using cement content as per approved Design Mix manufactured in fully automatic batching plant and transporting the concrete from Plant to point 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. Without Fly Ash (FOOTING)	Cum	3,800.00	5,043.66	1,91,65,908.00
27	Providing and laying in position M-300 grade concrete for reinforced cement concrete work , using cement content as per approved Design Mix manufactured in fully automatic batching plant and transporting the concrete from Plant to point 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. Without Fly Ash (RCC BEAM WITH SLAB DEPTH DEDUCTED)	Cum	3,100.00	5,043.66	1,56,35,346.00
28	Providing and laying in position M-300 grade concrete for reinforced cement concrete work , using cement content as per approved Design Mix manufactured in fully automatic batching plant and transporting the concrete from Plant to point 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. Without Fly Ash (RCC COLUMN)	Cum	813.90	5,043.66	41,05,034.87
29	Providing and laying in position M-300 grade concrete for reinforced cement concrete work , using cement content as per approved Design Mix manufactured in fully automatic batching plant and transporting the concrete from Plant to point 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. Without Fly Ash (RCC WALL)	Cum	459.90	5,043.66	23,19,579.23

30	Providing and laying in position M-300 grade concrete for reinforced cement concrete work , using cement content as per approved Design Mix manufactured in fully automatic batching plant and transporting the concrete from Plant to point 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. Without Fly Ash (RCC SLAB)	Cum	3,112.70	5,043.66	1,56,99,400.48
31	Providing and laying cushioning layer on R.C.C. Slab consisting of 75mm thick lime, concrete using brick aggregate of 20mm nominal size mortar comprising of 1-Lime : 2- fine sand	Sqm	9,185.00	234.68	21,55,535.80
32	Providing and laying in position M-300 grade concrete for reinforced cement concrete work , using cement content as per approved Design Mix manufactured in fully automatic batching plant and transporting the concrete from Plant to point 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. Without Fly Ash (STAIRCASE)	Cum	20.55	5,043.66	1,03,647.21
33	Providing TMT Bar FE 550D reinforcement for R.C.C. work including bending, binding and placing in position complete upto floor two level	Kg	15,91,960.45	75.46	12,01,29,335.56
34	Providing formwork of ordinary timber planking so as to give a rough finish including centering shuttering strutting and propping etc. Height of propping and centering below supporting floor to ceiling not exceeding 4 M. and removal of the same for in situ reinforced concrete and plain concrete work in. (A) Foundations Footings Bases of Columns etc. and Mass concrete.	Sqm	3,199.00	171.68	5,49,204.32
35	Providing, erecting, fixing, in position, striking/removing and cleaning shuttering & centering for formwork of with Sheathing Steel sheets or Plywood Sheets (Using Minimum 12 mm thick Shuttering Plywood, conforming to IS:4990) so as to give a Fair Exposed F3 finish including centering shuttering strutting and propping etc. height of propping and centering below supporting floor to ceiling not exceeding 4 M. and removal of the same for in situ reinforced concrete and plain concrete work in. (G) Columns Pillars Posts and struts. (1) Square Rectangular Polygonal in plan. (2) Circular or curved in Plan.	Sqm	967.00	391.70	3,78,773.90
36	Extra for additional height of propping and centering where the height of propping and centering exceeds 4 .0 M between supporting floor to ceiling including temporary brick or stone pillars for supporting as required. (ii) Height more than 5.0M.and upto 6.0 M.	Sqm	36.00	776.03	27,937.08

37	Providing formwork of ordinary timber planking so as to give a rough finish including centering shuttering strutting and propping etc. height of propping and centering below supporting floor to ceiling not exceeding 4 M. and removal of the same for in situ reinforced concrete and plain concrete work in. (C) Vertical surface such as walls (any thickness) partitions and the like including attached buttresses & string course & the like.	Sqm	4,950.00	229.95	11,38,252.50
38	Providing, erecting, fixing, in position, striking/removing and cleaning shuttering & centering for formwork of with Sheathing Steel sheets or Plywood Sheets (Using Minimum 12 mm thick Shuttering Plywood, conforming to IS:4990) so as to give a Fair Exposed F3 finish including centering shuttering strutting and propping etc. Height of propping and centering below supporting floor to ceiling not exceeding 4 M. and removal of the same for in situ reinforced concrete and plain concrete work in. (B) Flat surfaces such as soffits of supspened floors slabs Landings and the like. (1) Floors etc. upto 200 mm in thickness.	Sqm	20,751.50	346.02	71,80,434.03
39	Providing, erecting, fixing, in position, striking/removing and cleaning shuttering & centering for formwork of with Sheathing Steel sheets or Plywood Sheets (Using Minimum 12 mm thick Shuttering Plywood, conforming to IS:4990) so as to give a Fair Exposed F3 finish including centering shuttering strutting and propping etc. height of propping and centering below supporting floor to ceiling not exceeding 4 M. and removal of the same for in situ reinforced concrete and plain concrete work in. (H) (1) Sides and soffits of Beams Beam Haunchings cantilevers Girders Bressumers and Lintels not exceeding 1 M. in Depth	Sqm	24,228.00	286.16	69,33,084.48
40	Providing, erecting, fixing, in position, striking/removing and cleaning shuttering & centering for formwork of with Sheathing Steel sheets or Plywood Sheets (Using Minimum 12 mm thick Shuttering Plywood, conforming to IS:4990) so as to give a Fair Exposed F3 finish including centering shuttering strutting and propping etc. Height of propping and centering below supporting floor to ceiling not exceeding 4 M. and removal of the same for in situ reinforced concrete and plain concrete work in. (B) Flat surfaces such as soffits of supspened floors slabs Landings and the like. (1) Floors etc. upto 200 mm in thickness. (Stair Case)	Sqm	139.78	346.02	48,366.68

41	<p>Expansion Joint Floor to Floor Applying and providing Expansion joint sealing System on 100 mm wide joint including cleaning of expansion joint by mechanical means provision of adhesive and flexible membrane with required bond length as per manufacturer specification and 4mm thick aluminium strip covering with one side slotted and bolted with suitable system, inclusive of all manpower, machinery and material as per specification and as directed.</p>	RMT	319.50	4,724.75	15,09,557.63
42	<p>Expansion Joint Floor to Floor at Terrace Applying and providing Expansion joint sealing System on 100 mm wide joint including cleaning of expansion joint by mechanical means provision of adhesive and flexible membrane with required bond length as per manufacturer specification and 4mm thick aluminium strip covering with one side slotted and bolted with suitable system, inclusive of all manpower, machinery and material as per specification and as directed.</p>	RMT	159.75	4,724.75	7,54,778.81
43	<p>Expansion Joint Wall to Wall Applying and providing Expansion joint sealing System on 100 mm wide joint including cleaning of expansion joint by mechanical means provision of adhesive and flexible membrane with required bond length as per manufacturer specification and 4mm thick aluminium strip covering with one side slotted and bolted with suitable system, inclusive of all manpower, machinery and material as per specification and as directed.</p>	RMT	50.00	4,724.75	2,36,237.50
44	<p>Providing and fixing expansion joint 100 mm thick expansion joint board of best quality and approved make including cutting to required size and shape at all levels etc. complete as directed by EIC.</p>	SQM	1.00	5,170.00	5,170.00
45	<p>Earthwork for embankment including breaking clods, dressing with all lead and lift and including watering rolling and consolidation of subgrade in layers at O.M.C. to required dry density including filling the depression which occur during the process using power roller 8T to 10T.(E) From Borrow area within 3.0KM. lead</p>	Cum	637.50	167.76	1,06,947.00
46	<p>Construction of 300mm (as per IRC 37) Thick Grannular sub base(GSB-I) by providing coarse graded material using B.T Metal 53 mm to 26.50 mm @ 35 % ,26.50 mm to 4.75mm 45% & Coarse sand below 2.36 mm 20 % in uniform layer with motor grader on prepared surface mxing by mix in place method with vibratory roller to achive the desired density complete as per close 401</p>	Cum	335.01	1,143.27	3,83,006.88

47	Construction of Dry Lean Cement Concrete Sub-base over a prepared sub-grade with coarse and fine aggregate conforming to IS: 383, the size of coarse aggregate not exceeding 25 mm, aggregate cement ratio not to exceed 15:1, aggregate gradation after blending to be as per table 600-1, cement content not to be less than 150 kg/ cum, optimum moisture content to be determined during trial length construction, concrete strength not to be less than 10 Mpa at 7 days, mixed in a batching plant, transported to site, laid with a paver with electronic sensor, compacting with 8-10 tonnes vibratory roller, finishing and curing.	Cum	191.25	3,335.86	6,37,983.23
48	Construction of reinforced, dowel jointed, plain cement concrete of M40, pavement over a prepared sub base with Ordinary Portland Cement @ 400 kg per cum, coarse and fine aggregate conforming to IS 383, maximum size of coarse aggregate not exceeding 25 mm, mixed in a batching and mixing plant as per approved mix design, transported to site, laid with a fixed form or slip form paver, spread, compacted and finished in a continuous operation including provision of contraction, expansion, construction and longitudinal joints, joint filler, separation membrane, sealant primer, joint sealant, debonding strip, dowel bar, tie rod, admixtures as approved, curing compound, finishing to lines and grades as per drawing.	Cum	382.50	7,491.00	28,65,307.50
49	Providing and laying cement concrete 1:2:4 (1-Cement:2-Coarse sand:4-graded stone aggregates 20mm nominal size) and curing complete excluding cost of formwork in Footpath.	Cum	15.18	3,661.30	55,578.53
				SUB TOTAL	25,79,94,858.07
MASONRY WORK					
50	Masonry work using Aerated light weight concrete block having crushing strength not less than 35 kg/sqcm for super structure above plinth level in cement mortar 1:5 (1 cement : 5 fine sand) complete as per Technical Specification.	CUM	332.99	4,483.73	14,93,021.56
51	Brick work using common burnt clay building bricks having crushing strength not less than 35 kg./Sq.Cm. in Super Strucutre above plinth level in Cement Mortar 1:5. (1- Cement : 5 - fine sand)(A) Modular	CUM	1,085.10	4,607.37	49,99,435.07
				SUB TOTAL	64,92,456.63

PLASTERING AND PAINTING

52	Internal Plaster Providing 15 mm. thick cement plaster in single coat on fair side of brick wall for interior plastering upto floor two level finished even and smooth in Cement mortar 1:4 (1 cement : 4 fine sand) For all levels, hights and leads of works. etc, complete for all floor heights as directed. Rate shall be inclusive of hexagonal chickenmesh at junction of concrete and brick work. Minimum width of the chicken mesh shall be 150 mm covering the brick / concrete surface equally, as directed by EIC.	SQM	10,937.79	155.61	17,02,029.04
53	Ceiling Plaster Providing 10mm thick cement plaster in single coat on brick/concrete ceilings and soffits of stairs upto floor two level and finished even and smooth in (ii) Cement mortar 1:4 (1-cement :4-sand)	SQM	500.00	139.23	69,615.00
54	External Plaster Providing and laying average 20 mm. thick double coat Sand face plaster on external walls upto any height above ground level and for all shapes consisting of average 14 mm. thick backing coat of CM 1:3 (1 cement: 3 coarse sand) and average 6 mm. thick uniform grained textured finish coat using wooden Gutka, in CM 1:1 (1 cement: 1 sand),with line , level & plumb, including scaffolding, forming grooves, drip moulds, pattas, hacking RCC surface, curing etc. complete. as directed by EIC. Rate shall be inclusive of hexagonal chickenmesh at junction of concrete and brick work. Minimum width of the chicken mesh shall be 150 mm covering the brick / concrete surface equally.	SQM	454.79	297.68	1,35,380.85
55	Putty & Primer Applying two coats of acrylic putty & two coats of primer of approved brand and manufacture on new wall surface to give an even shade including thoroughly brushing the surface free from mortar dropping and other foreign matter and sand papered smooth.	SQM	69,927.31	40.19	28,10,378.67

56	<p>Internal Paint Providing and painting internal walls with two coats of plastic emulsion paint of approved make & of shade. The rate shall include for all ladders, scaffolding and supports and including complete surface preparation, including scraping the surface off existing surface paint, loose particles and cleaning and applying primer and putty as necessary to achieve a surface in perfect line and level. Wherever necessary, POP punning or cement plastering needs to be done as per site condition, if the plastered surface has chipped off. The final finished surface should be smooth and in perfect line and level without undulations on surface. etc. complete as directed by EIC.</p>	SQM	69,927.31	78.44	54,85,098.35
57	<p>External Paint Providing, applying and finishing wall with weather proof exterior emulsion paint on wall surface (two coats) to give an required shape even shade after thoroughly brushing the surface to remove all dirt, and remains of loose powdered materials.etc complete. as directed by EIC.</p>	SQM	454.79	113.40	51,572.79
58	<p>Providing and applying External texture Wall painting (with Superior quality exterior emulsion paint 100% pure acrylic, anti-carbonation water-based of approved make and manufacture on the undecorated wall surface to give an even shade including thoroughly brushing the surface free from mortar droppings and other foreign matter and sand papered smooth. The texture paint shall be of premium quality as selected and approved by architect and EIC. Cost including with one coat of texture, followed by two coats of 100% acrylic water based anti-carbonation paint conforming to IRC SP 80 as certified by National Test House, Anticarbonation properties as demonstrated by > 50 m of CO2 diffusion resistance equivalent air layer thickness, Solar Reflective Index > 100 as tested by Building Energy Performance Laboratory, Chloride ion diffusion coefficient - Nil (ASTM C 1202), Adhesion Strength to Concrete > 1.5 N/mm2 (ASTM D 4541), min 200% elongation (ASTM D 2370). The overall system should have 7 years of performance warranty, and low VOC.</p>	SQM	251.00	600.00	1,50,600.00
SUB TOTAL					1,04,04,674.69

WATER PROOFING

59	Providing & laying broken white china mosaic flooring for plain and curved surfaces, comprising of 12 to 20 mm. size broken pieces of white glazed tiles laid over water proofing using cement mortar 1:3 bedding, The flooring shall be tampered to bring the mortar cream up to the surface, including rounding of the junctions and extending them upto 30 cm. along the parapet wall. The rate shall include bands, if different colour is used, any pattern or design as per drawing and direction, curing, cleaning with water and oxalic acid, etc. complete. as directed by EIC.	Sqm	115.45	739.89	85,421.56
60	Providing and laying integral cement based waterproofing treatment of the agency approved by department, including preparation of surface as required for treatment of roofs, terraces etc mixing with waterproofing compound as per IS:2645, with average thickness of 115mm and minimum thickness at drain point as 65 mm. Following works are included in above item (i) Applying and grouting a slurry coat of neat cement using 2.75 kg/sqm. of cement admixed with proprietary water proofing compound over the RCC slab including cleaning the surface before treatment. (ii) Laying cement concrete using broken bricks/brick bats 25 mm to 100 mm size with 50% of cement mortar 1:4 (1 cement : 4 coarse sand) using Ready mix mortar admixed with proprietary water proofing compound over 20 mm thick layer of cement mortar of mix 1:4 (1 cement : 4 coarse sand) using Ready mix mortar admixed with proprietary water proofing compound to required slope and treating similarly the adjoining walls up to 300 mm height including rounding of junctions of walls and slabs. (iii) After two days of proper curing applying a second coat of cement slurry admixed with proprietary waterproofing compound. (iv) Finishing the surfaces with 20 mm thick jointless cement mortar of mix 1:4 (1 cement : 4 coarse sand) using Ready mix mortar admixed with proprietary water proofing compound and finally finishing the surface to receive the China Mosaic waterproofing treatment. (v) 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.	Sqm	115.45	1,425.00	1,64,518.67

61	Podium/ Landscape Areas/Hardscape Waterproofing				
	<p>Surface Preparation : All surfaces shall be free from oil, grease, friable matter and general curing compounds .</p> <p>1. Tie rod holes should be filled with Medium-strength (40 MPa), compensated-shrinkage fibre-reinforced thixotropic mortar for repairing concrete..</p> <p>2. Honeycomb surface will be chipped out and cleaned and should be saturated before repairing with Medium-strength (40 MPa), compensated-shrinkage fibre-reinforced thixotropic mortar for repairing concrete.</p> <p>3. Any visible cracks, honeycombs need to be treated with Epoxy based injections grouting @ Highly fluid expanding Cementitious grout @1.5 kg/L of cavity to be filled. non shrink, polymeric grouting compound, using gravitational pressure / grout pump etc. complete. (Only Labour Rates; Material rates to be calculated on site as per consumption basis)</p>	SQM	1.00	280.00	280.00
	<p>Supply and installation of single component polyurethane on the surface after surface preparation. Priming the surface with two component epoxy resin based prefilled primer shall be applied at 0.2-0.3 Kg/sqm. Ensure surface moisture to be less than 4%. primers should possess properties such as Bond Strength: > 2.5 N/mm², Adhesion Strength: > 2.5 Mpa. Impact Strength: 20 Nm (ISO 6272) Shore D Hardness: 81 (DIN 53505), Solid Content: 100%, BCA wear-resistance: 13 µm, Compressive strength (after 7 days at +23°C): 65 Mpa, Mix Density: 1,100 kg/m³, Viscosity of the mix (mPa·s): 1,000 and Reaction to fire class should be B-s1. After carefully preparing and priming the substrate, apply at least two even coats of Pure Polyurethane with a trowel or by spray to form a total thickness 1.2-1.5 mm with consumption on 1.5-2kg/sqm/2 coats. For Pure Polyurethane surface drying time should be 4hrs. Properties Solid Content: 89%, Elongation at break: > 500% (ASTM D 412), Tensile Strength: > 3 Mpa (ASTM D 412), Adhesion Strength: > 1.5 Mpa, Watertightness: 0.3 Mpa, 120 Minutes, Impermeable, Density: 1.5, Pot Life: 4Hrs & Colour: Black or Green.</p>	SQM	27,252.29	1,111.00	3,02,77,294.19
	<p>Supplying & laying 150 gsm Geotextile (non woven polyester) with thickness range from 0.4-2 mm over the entire membrane maintaining proper overlaps.</p>	SQM	1.00	180.00	180.00
	<p><u>Horizontal protection with sloping screed:</u> Laying concrete screed of average 75-100 mm THK, by adding water proofing compound @200 ml per bag of cement, in desired thickness on the surfaces and extend it up to the height of 300 mm over the side walls – cure the screed as per standard method. Supplying and applying an avg of 75 mm thick M20 fibrated (polypropylene fibres) grade concrete screed including control joints of 3M X 4M size and filling the groove with PU Sealant and making angle fillet of 75mmX75mm using M20 grade concrete at the corners. The width of sealant fill shall not exceed 10mm.</p>	SQM	1.00	840.00	840.00

62	<p>Water Proofing (Retaining wall) (Cleaning and Preparation of surface with help of wire brush or grinder, wash the slab with clean water. Remove all loose concrete, grease, oil using wire brush and scrubber. Repair and fill all cracks, joints and annular space is included) Supplying and installalling of 1.2 mm thick polyurethane single-component with coverage of 1.8kg/sqm having solid content > 87%, VOC: 190g/L: Tensile Strength > 12 Mpa, Elongation: 550%; Tear Strength; >40 N/mm; Flexibility at Low Temperature: -35°C, No crack; Water Impermeability (0.3MPa,120min) - Water Impermeability; Adhesion Strength Hardness : ≥ 2.8.0MPa, The cleaning and preparation of the substrate to which the pure polyurea is applied must be carried out thoroughly to leave a sound base for the application. Concrete and other cementitious substrates must have a minimum pull off strength of 2 N/mm². Any laitance present on the surface must be removed mechanically. Release oil and other contaminants which may impair adhesion must be removed prior to the application of the primer, the system shall consist of filler epoxy based primer consumption of 350 grams with quartz sand broadcast for mechanical grip having density 1500 kg/m³, viscosity - 1100 MPa·s);,Covering this with a dimple board of around 8mm with closed cell.</p>	SQM	203.64	1,506.50	3,06,788.79
63	<p>Planter area waterproofing</p>				
63.1	<p>Supply and application of two-component, high flexible, elastic cementitious mortar made from cementitious binders, fine-grained selected aggregates, special admixtures and synthetic polymers in water dispersion with an elongation of 120% (DIN 53504), Static crack bridging ability of >2.8 mm (EN 1062-7), Permeability to water vapour sD = 3.6 m, μ = 1800 (EN ISO 7783-1), Impermeability to water < 0.05kg/m²·h0.5 (EN 1062-3), Permeability to CO₂ sDCO₂ >50m (EN 1062-6), Reaction to fire (Euroclass): E (EN 13501-1), adhesion to concrete after 28 days: 1.3N/mm² (EN 1542) when applied @ 2mm thickness (in 2 coats) min consupction should be 3.2 kg/sqm on the surface prepared for waterproofing to be carried out to ensure the mechanical properties of the product. The application of the product shall be carried out after the thorough preparation of the surface which includes cleaning, crack treatment, corner joint treatment, grouting. Additionally apply fiber net for reinforcing the waterproofing membrane and with Mapenet 150 tensile strength should be complied minimum 3.2 MPa after curing. 1. Tensile Strength : 3.2 Mpa 2. Crack Bridging: 2.8 mm Supplying & laying of HDPE drainage board of 8mm over the entire waterproofing membrane maintaining proper overlaps. Supplying & laying 300 gsm Geotextile (non woven polyester) over the entire membrane maintaining proper overlaps.</p>	SQM	6,699.67	1,100.00	73,69,633.43

64	<p>WET Areas - Sunk Slab, Bathroom, Kitchen, Podium, Terrace, OHT & UGT Water Proofing</p> <p>(Cleaning and Preparation of surface with help of wire brush or grinder, wash the slab with clean water. Remove all loose concrete, grease, oil using wire brush and scrubber. Repair and fill all cracks, joints and annular space is included)</p> <p>Supply and application of 2mm thick with a coverage of 3.2kg/sqm in 2 coats two-component, high flexible, elastic cementitious mortar made from cementitious binders, fine-grained selected aggregates, special admixtures and synthetic polymers in water dispersion with an elongation of 120% (DIN 53504), Static crack bridging ability of >2.5mm (EN 1062-7), Permeability to water vapour $s_D = 3.6 \text{ m}$, $\mu = 1800$ (EN ISO 7783-1), Impermeability to water $< 0.05 \text{ kg/m}^2 \cdot \text{h}^{0.5}$ (EN 1062-3), Permeability to CO_2 $s_{\text{DCO}_2} > 50 \text{ m}$ (EN 1062-6), Reaction to fire (Euroclass): E (EN 13501-1), adhesion to concrete after 28 days: 1.3 N/mm^2 (EN 1542) when applied @ 2mm thickness (in 2 coats) on the surface prepared for waterproofing to be carried out to ensure the mechanical properties of the product with Mapenet 150. The application of the product shall be carried out after the thorough preparation of the surface which includes cleaning, crack treatment, corner joint treatment, grouting and priming primer having Colour: opalescent Specific gravity (kg/l): 1.01 Dry solids content (%): 15 Brook field Viscosity # 1, rpm 10 (mPa·s): 20 in dilution with water {1:1}.</p> <p>Additionally apply fiber net for reinforcing the waterproofing membrane and with Mapenet 150 tensile strength should be complied minimum 3.2 MPa after curing.</p> <ol style="list-style-type: none"> 1. Tensile Strength : 3.2 Mpa 2. Crack Bridging: 2.8 mm 	SQM	155.13	1,127.00	1,74,834.89
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65	<p>Bore Packing Treatment</p> <p>Cleaning the surface area to ensure that it is free from oil, grease, dirt and contaminants, all loose materials to be removed and roughen the pipe with wire brush. Hydrophillic paste for pipe and the bore for better adhesion between the pipe and concrete member and fill the bore as per manufacturer's specification. Rate to include for packing the underside of core cut. After 24 hours, remove the backer rod from below and pack the gap using polymer modified mortar with compressive strength > 40 Mpa and Bond strength by pull-off (EN 1542): > 2.0 MPa & including finishing properly including testing for 24 hours and making good the defects if any, etc. The Hydrophillic paste should comprise the properties such as Consistency: thixotropic paste, Density: 1.25-1.30 g/cm³, Brookfield viscosity at +23°C: 700,000 mPa·s (rotor F - 5 RPM), Dry solids content: 90%</p> <p>Solubility: insoluble in water, Corrosiveness: non-corrosive, Volumetric expansion in water: minimum 100%</p> <p>, Formation of surface skin: after 180-200 minutes, Polymerisation time: 2 mm every 9 hours; Shore A hardness (DIN 53505): 32, Elongation (DIN 53504): > 700%, Load at break (DIN 53504): 2.5 N/mm², Modulus of elasticity at 100% elongation DIN 53504: 0.55 N/mm², Tear strength (ISO 34-1): 10 N/mm, Sealing of water: 1 ATM</p>	NOS	1.00	650.00	650.00
SUB TOTAL					3,83,80,441.53

PAVING AND FLOOR FINISHING					
66	<p>Granite Flooring(30mm thk,Leather Finish) Providing & laying machine cut & Leather finish 30 mm thick Granite Stone of Steel Grey / Sadarhalli / Brown or other approved colour at all floor & location in necessary cement mortar bedding /backing, close jointed & grouted with matching cement slurry and rounding of edges, finished to line, level,curing etc. as required, including cutting of stone slab, wastage, making cut outs, grooves wherever required, machine polishing/ hand polishing (where machine cannot have access) etc. complete all as per specifications, drawings and as directed by the Engineer in charge. Note: Top exposed surface on plan &exposed vertical finished face shall be measured for payment in Sqm.</p>				
66.1	<p>In flooring with Leather finished Granite stone of size 800mm x 800mm/ 1000mm x 1000mm / (and any other size and pattern as per drawing) laid over & including 20mm thick cement mortar1:4 (1 cement : 4 coarse sand) bedding. including cement slirry at 4.40 Kg/Sqm over bedding and matching slurry with white cement at 2.20 Kg/Sqm for grouting the joints..</p>	SQM	224.84	3,040.00	6,83,509.34
67	<p>Granite Flooring(18mm thk,Leather Finish) Providing & laying machine cut & Leather Finish 18mm - 20mm thick Granite Stone of Steel Grey /Sadarhalli / Z Brown / Brown or other approved colour at all floor & location in necessary cement mortar bedding /backing, close jointed & grouted with matching cement slurry and rounding of edges, finished to line, level,curing etc. as required, including cutting of stone slab, wastage, making cut outs, grooves wherever required, machine polishing/ hand polishing (where machine cannot have access) etc. complete all as per specifications, drawings and as directed by the Engineer in charge. Note: Top exposed surface on plan &exposed vertical finished face shall be measured for payment in Sqm.</p>				
67.1	<p>In flooring with machine Leather Finish Granite stone of size 800mm x 800mm/ 1000mm x 1000mm / (and any other size and pattern as per drawing) laid over & including 20mm thick cement mortar1:4 (1 cement : 4 coarse sand) bedding. (Using ready mix mortar) including cement slirry at 4.40 Kg/Sqm over bedding and matching slurry with white cement at 2.20 Kg/Sqm for grouting the joints.</p>	SQM	528.81	3,150.00	16,65,751.50
67.2	<p>Staircase Treads/riser 18 mm thick one side Leather finished granite stone of approved colour, shade and surface finish for dado/skirting/Tread/Riser stone slabs of various sizes in pattern including 12 mm thick 1:4 cement mortar (Using ready mix mortar) backing.</p>	SQM	622.49	3,600.00	22,40,973.00

68	<p>Granite Flooring Providing & laying machine cut & machine polished (mirror finish) 25mm thick Granite Stone of Steel Grey /Sadarhalli / Z Brown / Brown or other approved colour at all floor & location in necessary cement mortar bedding /backing, close jointed & grouted with matching cement slurry and rounding of edges, finished to line, level,curing etc. as required, including cutting of stone slab, wastage, making cut outs, grooves wherever required, machine polishing/ hand polishing (where machine cannot have access) etc. complete all as per specifications, drawings and as directed by the Engineer in charge. Note: Top exposed surface on plan &exposed vertical finished face shall be measured for payment in Sqm.</p>				
68.1	<p>Granite Jamb 18 mm thick one side machine polished granite stone of approved colour, shade and surface finish for door and window jamb /Facia/Top Ledge /Window sill with stone slabs of various sizes in pattern including 12 mm thick 1:4 cement mortar (Using ready mix mortar) backing, fixing of 6mm (approx.) size angular stone chips to the backside of granite after applying araldite to the unpolished surface of the granite to create a surface suitable for proper bond with backing and filling the space between granite and backing with cement slurry including adequate curing etc. complete as directed and including rounding & polishing all exposed edges in semicircle / chamfering / or as per drawing & as ditected.</p>	SQM	30.00	2,850.00	85,500.00
68.2	<p>For top of dwarf walls, parapets, seat wall, planter wall etc using machine polished Granite stone of approved colour, shade & size as per drawing laid over & including 20mm thick cement mortar1:4 (1 cement : 4 coarse sand) bedding. (Using ready mix mortar) including cement slurry at 4.40 Kg/Sqm over bedding and matching slurry with white cement at 2.20 Kg/Sqm for grouting the joints. including half round / semi circle / camfering moulding & polishing of exposed face etc complete.</p>	SQM	350.00	3,050.00	10,67,500.00
69	<p>Cobble Flooring Providing and fixing cobble stone of size 100 x 100 x 100 mm thick, in approved pattern and approved colour & shade, including providing & laying 20 mm thick bedding of cement mortar (using ready mix mortar having cement: sand, 1:4) finishing to line, level and slope, finally filling the joints with matching cement mortar and cleaning the surface etc. complete all as per specification and as directed by the Engineer- in- Charge.</p>	SQM	8,329.39	2,250.00	1,87,41,138.41

70	<p>Trimix flooring - BROOM / SMOOTH FINISH Providing and laying C.C. pavement of mix M-25 with batch mixed concrete from batching plant. The concrete shall be casted in panel and finished with screed board vibrator, vacuum dewatering (VDF) process and finally finished by floating, brooming with machine. Grooves to be made of size 5mm wide and one third of thickness of concrete within 48 Hours of concreting to form bay of 4 x 4 meters using heavy duty cutting machine with diamond cutting wheel and filling of the groove with appropriate sealant etc. complete as per specifications and as directed by the EIC. If trimix concrete shall be laid over on existing concrete surface, bonding agent shall be applied before laying of concrete at all basements floors. Reinforcement if required shall be paid in relevant tender item.</p>	Cum	1,515.90	6,043.00	91,60,586.96
71	<p>Parking Pavers Providing and fixing 80 mm thick (min.) factory made paver blocks of specified finish (shot blasted), approved make and colour, shade, size, shape laid in pattern manufactured with cement concrete grade not less than M-40 and conforming to IS:15658, including providing & laying 20 mm thick bedding of cement mortar (using ready mix mortar having cement:sand, 1:4) finishing to line, level and slope, finally filling the joints with matching cement mortar and cleaning the surface etc. complete all as per specification and as directed by the Engineer- in- Charge.</p>	SQM	1,189.86	1,600.00	19,03,770.96

72	<p>KERB Providing and fixing Pre cast Kerb blocks of various types (Half Batter, Bull nose, Flat, offlet, Transition, Dropper, etc.,) and size of 600x450x150mm steel mould Vacuum wet pressed for connecting roads, pathway-promenade area and other area with true line & level, including grading, geometrical shapes in curves, circles etc. at respective finish level etc. completed as specified in drawing and specification. It shall be of CC- M25 grade of concrete and fitted and jointed in C:M 1:1 with thoroughly curing, rendering with cement slurry, cleaning the joints neatly etc. completed as directed by EIC. It allows to satisfy respective IS-codes for materials, manufacturing process and test results.</p>	RMT	1,323.02	1,762.00	23,31,161.24
73	<p>KOTA Providing and laying machine cut Leather Finish Kotah stone flooring, skirting, riser, treads at all floors, levels & location including cement mortar (using ready mix mortar) bedding / backing, close jointed & grouted with matching cement slurry and finished to line, level, curing etc. as required, including cutting of stone slab, wastage, making cut outs, wherever required, and including providing and laying 6 mm thick POP during construction period etc. complete all as per specifications, drawings and as directed by the Engineer in charge.</p>				
73.1	<p>In flooring with 25 mm minimum thickness Leather Finish kotah stone slab of size 600mm x 600mm / 575mm x 575mm / (and any other size and pattern as per drawing) laid over bedding of 20 mm Ready mix mortar having Cement: Sand (1:4)</p>	Sqm	8,329.20	1,032.83	86,02,642.83
73.2	<p>For top of dwarf walls, parapets, seat wall, planter wall, Coping etc using Leather Finish Kotah stone of approved colour, shade & size as per drawing laid over & including 20mm thick cement mortar 1:4 (1 cement : 4 coarse sand) bedding. (Using ready mix mortar) including cement slurry at 4.40 Kg/Sqm over bedding and matching slurry with white cement at 2.20 Kg/Sqm for grouting the joints. including half round / semi circle / camfering moulding & polishing of exposed face etc complete.</p>	Sqm	701.73	1,082.00	7,59,267.26

74	<p>Providing & laying at all floors & locations Homogeneous Full body Vitrified tile/ Glazed vitrified tile/ Anti Skid Vitrified tile double charge/ multi charge (Glossy /Matt/ Satin)/ approved manufacturers of sizes 600 mm X 600mm / 800mm X 800mm / 1000 mm X 1000 mm size or as per approved size and having minimum thickness 8.5 mm or as specified by approved manufacturer tiles conforming to IS:15622 having water absorption less than or equal to 0.08% (Group B I a), in flooring/ skirting/ dado/ cladding / staircase tread/ riser at all floors and location, heights/ levels and lead in approved pattern and colour, shade laid over cement mortar bedding/ backing/ adhesive backing, including cleaning and preparing the surface for bedding/backing, spreading the neat cement slurry, close jointed and grouted with matching coloured readymade cement grout and approved pigment as per manufacturer's specifications, finished to level, line, slope and plumb, cutting of tiles, wastage, making openings / cut out if necessary, final cleaning of surfaces, curing etc. all as per drawings, specifications & as directed by Engineer in charge.</p>				
74.1	<p>In flooring using Glazed vitrified tile Matt / Anti Skid Finish of size 600 mm X 600 mm laid over 20 mm thick cement mortar 1:4 bedding (using reday mix mortar) and spreading neat cement slurry by using minimum cement about 2 kg/sqm prior to bedding and spreading cement paste using minimum cement of about 4.50 kg/sqm over bedding,, and including Providing and laying Durafloor protector XF 3 mm thick sheet of approved make and brand over the whole vitrified tile / stone flooring area along with removing and cleaning the same before handing over without damaging the finished surface & making good the damages, if any etc and including Providing in flooring & skirting 3 mm thick and 8.5 mm deep grout line using PVC spacers for creating true alignment and gap between vitrified tile work, if shown in the drawing & the 3 mm spacer joints filled with approved cement based tile grout including all labour material, wastage complete.</p>	SQM	162.89	1,383.99	2,25,437.65
74.2	<p>In dado / skirting / cladding / sloped skirting laid over 12 mm thick CM 1:4 (1 cement : 4 sand, using reday mix mortar) backing, including providing grooves as per drawing on top of skirting. (Using Double charge vitrifed tiles)</p>	SQM	508.75	1,575.00	8,01,274.95

75	Providing & laying machine cut machine polished natural stones as mentioned for the followings for kitchen / Basin platform topping, counter topping and facia over and including necessary cement mortar for backing / bedding, close jointed and grouted with matching cement slurry and finished to line, slope, level, plumb, curing etc, as required including cutting of stone slabs, wastages, making cut outs wherever required etc all as per specifications and as directed by the Engineer in charge. Notes : 1) Verticals, shelves, platform shall be embedded minimum 25 mm in wall/ flooring. 2) Top exposed surface on plan & exposed vertical finished face shall be measured for payment in sqm.				
75.1	For kitchen / Basin platform top, Vertical support for Counter, upto 750 mm wide and maximum length upto 1.80 m in single piece consisting machine cut machine polished 35 mm thick cuddappah stone at bottom and mirror polished machine cut 18mm thick Jet black/ approved Granite stone at top fixed with 47 mm thick 1:3 cement mortar (Using ready mix mortar), between two stone slabs (Double stone slab sandwich type) including providing cut out if any, moulding and polishing the edges etc complete.	SQM	5.88	5,449.00	32,040.12
75.2	For kitchen platform horizontal & vertical facia upto 100 mm wide machine cut machine polished on one side 18 mm thick Jet black/ approved Granite stone fixed with epoxy resin base (Araldite adhesive orequivalent) including round moulding and polishing the edges etc complete.	SQM	2.06	3,797.00	7,814.23
76	Providing and laying Riverwashed Kota stone slab flooring jointed with grey cement slurry including rubbing and polishing etc. complete. (B) 50 mm thick.	SQM	100.00	1,250.00	1,25,000.00
				SUB TOTAL	4,84,33,368.46

False Ceiling

77	<p>Providing and fixing tiled false ceiling of size (600x600)mm in true horizontal level suspended on inter locking metal grid of hot dipped galvanized steel sections. It consists of main "T" runner of size 24x32x0.3x3600mm, cross "T" of size 24x25x0.3x1200mm, secondary cross "T" of size 24x25x0.3x600mm and PPGI wall angle of size 24x24x0.4x3000mm. Bottom exposed capping of width 24 mm of all T-sections shall be of 0.25mm thick PPGI. PPGI wall angle 24x24x0.4x3000mm {Material-GI(IS513), YS-280Mpa, Finish-Galvanised 90GSM (IS277)} is fixed along the perimeter of the ceiling to Walls, partitions or columns etc., with wooden screws at 300mm centers or Hilti HPS 6x40mm placed at 600 mm c/c. soffit cleat 27x37x25x1.6mm {GI(IS513) YS-260Mpa, Finish-Galvanised 120GSM (IS277)} is fixed with Rawl Plug- Ø8x45mm {Material-IS 513 CR1 grade, Zinc coating (7 to 8 microns) pull out load- 6.8kN for M30 concrete grade} creating (1200x1200)mm grid. Main-T runners 24x32x0.3x3600mm are then suspended at 1200mm c/c from ceiling using 4mm zinc electroplated butterfly level clips of size 85x30x0.8mm spaced at maximum 1200mm center to center along main T and not more than 150mm from spliced joints. The last hanger at the end of each main runner should not be greater than 600mm from the adjacent wall. 24x25x0.3x1200mm cross T {Material- GI(IS513),YS-280Mpa, Finish-Galvanised 90GSM (IS277)} is interlocked between the main T at 600mm center to center to form a grid of 1200x600 mm and then secondary cross "T" 24x25x0.3x600mm {Material-GI(IS513), YS-280Mpa, Finish-Galvanised 90GSM(IS277)} is then interlocked at middle of the (1200x600)mm grid to form grids of (600x600)mm. Cross Tees at the ends having length more than 600mm are to be supported independently.</p>	Sqm	178.53	1,144.25	2,04,282.27
SUB TOTAL				2,04,282.27	

DOORS & WINDOWS

78	Doors Supplying & fixing in position the following type solid core block board flush door shutter (Single/ double leaf) with commercial ply facing / prelamination on both sides conforming to IS 2202 (Part-1) of approved make & brand with external / internal type second class teak wood lipping around of required width and depth (20 minimum thickness all around) of shutter as per IS/as specified, fixing shutters in position to HMPS door frames/ wooden frames/ granite frame works (door frames shall be paid separately under relevant item) at all floors by cutting/ planing if necessary including labour for fixing of the fittings & fixtures as per drawing with wooden packing pieces if necessary (but excluding the cost of fittings and fixtures with SS screws which shall be paid separately under relevant item), including view panel wherever required as per drawing, finishing as specified all as per specifications, drawings and as directed by Engineer In Charge.				
78.1	35 mm thick flush door shutter, With 1.0 mm thick decorative laminate sheet of approved colour, pattern & shade fixed on both faces of shutter	SQM	27.12	3,500.00	94,925.25
78.2	30 mm thick flush door shutter (for shaft doors), With 1.0 mm thick decorative laminate sheet of approved colour, pattern & shade fixed on one face of shutter and 1.0 mm thick white / off white lamination on another face.	SQM	3.91	3,100.00	12,108.60
79	Providing and fixing aluminium die cast body tubular type universal hydraulic door closer of approved make conforming to IS: 3564 with ISI mark including necessary accessories and screws etc for fixing with aluminium/ wooden/ steel doors with necessary bolts & nuts, labour, scaffolding etc complete all as per specifications and as directed by the Engineer-in-charge.	NOS	20.00	1,250.00	25,000.00
80	Providing, fixing & Supplying at site of work approved quality and manufacturer, confirmed & marked with relevant IS (wherever applicable), Stainless steel (SS-304) fittings, fixtures and fastenings along with Stainless steel screws/concealed SS screws, bolts, nuts, washers, wooden packing pieces if necessary etc. and other accessories etc complete all as per specifications and as directed by the Engineer-in-Charge. SS But hinges (Heavy Weight) of size (100 X 75 X 3.0 mm) , ball bearing type, (Two / Three leaf Hinges)	NOS	60.00	220.00	13,200.00

81	Providing, fixing & Supplying at site of work approved quality and manufacturer, confirmed & marked with relevant IS (wherever applicable), Stainless steel (SS-304) fittings, fixtures and fastenings along with Stainless steel screws/concealed SS screws, bolts, nuts, washers, wooden packing pieces if necessary etc. and other accessories etc complete all as per specifications and as directed by the Engineer-in-Charge. S. S. Tower bolt 300 mm long x 12 mm barrel	NOS	20.00	330.00	6,600.00
82	Providing, supplying, fixing approved make back to back stainless steel Handle-450 mm long (Set including a pair of handles), of minimum 25 mm dia, including accessories for fixing it to glass, aluminium, wood shutter, brackets etc. complete as directed by EIC. (Note:- Cost is for one set consists of two nos of handles to fix on shutter both side (Inside & Outside))	NOS	20.00	3,400.00	68,000.00
83	Providing & Fixing 6- lever Mortice lock of chromium plated SS-304 parts & body of approved brand & make, 200 mm Mortice latch & lock (without Handle Set) Lock Body CK mortice lock with chromium plated SS screws, with duplicate keys etc. lock shall be fitted as per manufacturer specification and as directed by Engineer in charge.	NOS	15.00	600.00	9,000.00
84	Providing and fixing Mortise shaft dead bolt with key (Alen Key lock) with 57mm backset and 25mm square forend in stainless steel satin finish of approved make including all labour, material etc complete all as per specifications and as directed by the Engineer-in-Charge.	NOS	5.00	400.00	2,000.00

85	<p>Providing & fixing Hollow Metal Pressed steel (HMPS) door frames of following profile fabricated out of 1.60 mm thick G.I sheet of coating (Class VIII of zinc coating) 120 gram/sqm, manufactured by Sail / Lloyds/ Jindal or equivalent of profiles / size generally conforming to IS 4351-2003 with suitable one/two set rebates for fixing shutters and also rebate suitable for fixing fixed glazing including hole for self tapping screws wherever shown in the drawing, each frame to contain hinge jamb, lock jamb and head all rigidly fixed together with welded /mechanical joints with back plates /angles to correct shape & angles including providing and fixing base ties with GI channel 50x25mm, 1.25mm thick suitable section to suit floor thickness / angle thresholds with MS angle 25x25x3mm, 6nos. of adjustable lugs per frame, providing and welding of 40x40x5mm,150mm long angle cleats for hinges with necessary tapped holes for fixing counter sunk headed machine screws to suit heavy duty oxidised / stainless steel hinges of size 125mm x 65mm x 2.8mm/125mm x 76mm x 2.80mm/ 100mm x59mm x2.6mm/75mm x 48mm x 2.45mm or shop type welding and self tapping screw for fixing hinges/ piano hinges etc.</p> <p>and finishing the same to smooth etc. (but excluding the cost of hinges which shall be paid under the relevant item) including providing each door frame with necessary lock strike plates, mortar guards, buffers, bushes etc. required for tower bolt/ baby latches, tadis, safety chains, aldrops etc including fixing the frame to brickwork/ concrete work with necessary PCCor bolted/ screwed to concrete work, painting a shop coat of polyurethane paint including etching the surface with ETCH primer etc. including painting the exposed surfaces with two coats of synthetic enamel paint of approved make and colour over a coat of red oxide/ zinc chromate primer and painting the unexposed surfaces with two coats of anti corrosive bituminous paint, after rectifying the damaged PU primer due to transport including filling the hollows of door frame with C.C.1:2:4 using 12 mm size downgraded stone aggregate, curing, finishing etc. all complete as per drawings, specifications and as directed by Engineer in charge.</p>	RMT	85.79	900.00	77,206.50
	<p>Note: The quoted rate shall include cost of base tie / angle and all accessories mentioned in the item description except iron mongeries (i.e. fittings and fixtures with wood and machine/ self taped screws as required, which shall be measured and paid separately under relevant item.)</p> <p>Profile 90mm x 60 mm with single rebate for doors.</p>				

86	<p>Steel Fire Rated Doors with HMPS Steel Frames. Fire Resistant Door (FRD) assembly having 120 minutes (2 hr) Fire rating, Metallic and conforming to IS 3614:2021 (Single / Double leaf Shutter)</p> <p>Providing and fixing factory made Fire rated door assembly of galvanised Iron Steel door frame with mettalic single / double leaf door shutter with accessories, the entire door assembly including shutter, frame and fittings shall be confirming to 1200 minutes (2 hr) fire rating as per IS 3614.</p> <p>Frame:- The door frame shall be made of minimum 1.20 mm thick GI Sheet with minimum 120 GSM coating as per IS:277. The frame shall be of grooved profile of minimum size 90 × 60 mm with inbuilt sealing system to take appropriate fire rated smoke seal. Frame shall be provided with appropriate reinforcement suitable for hardware and flush fixing. Frames shall be provided with stiffener pieces and mitred cut joints (self tab/screwed assembled at site). Fire rated EPDM smoke seal, confirming to IS 3614 : 2021 shall be fixed within the inbuilt groove or stuck with adhesive on the entire perimeter of the frame.</p>	Sq.m	35.24	20,200.00	7,11,765.18
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<p>Door frames shall be fixed to all round the opening with minimum 8 mm dia CSK headed fastner of minimum 80 mm long with 8mm dia Polyamide sleeves @ 3 Nos at each side.</p> <p>Finishing: Frame to be factory finished with polyester powder coating of minimum thickness of 30 microns (500 hrs salt spray test) of approved colour and shade all complete as per manufacturer's Specification and direction of the engineer in charge.</p> <p>Door Shutter: The factory made fire resistant mettalic door leaf shall be minimum 60 mm thick fully flush double skin step design door, insulated with or without vision. Door leaf shall be manufactured from 1.2 mm (18guage) minimum thick galvanised steel sheet. The internal construction of the door should be rigid reinforcement pads for receiving appropriate hardware. The infill material shall not be less than be 120kg/m3 high density mineral wool insulation material. Intumescent seals 15 x 1.5mm to be provided. All ISI labelled doors shall be factory prepped for receiving appropriate hardware and provided with necessary reinforcement for hinges, locks, and door closers panic bar etc. The edges should be interlocked with a bending radius of 1.4mm. For pair of doors integrated astragals has to be provided on the meeting stile for both active and inactive leaf. Vision lite wherever applicable shall be maximum 200 x 450mm with clear borosilicate fire rated glass of 6mm. Glass shall be fixed with suitable gasket and with clip-on arrangement.</p> <p>The door leaf shall be factory finished with polyester powder coating of minimum thickness of 30 microns (500 hours of salt spray test) of approved colour and shade all complete as per manufacture's Specification and as per the directions of Engineer - in- charge.</p>				
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	<p>Accessories Hardware: Fire doorset shall include all accessories like, Fire rated SS 304 grade ball bearing type hinges of minimum size 100 mm ×75 mm × 3 mm one (3 numbers per leaf upto 2100 mm height or as per test evidence), one number fire rated SS mortise lock with handle, fire rated door closer</p> <p>Installation: Post installation hollow space within door frame shall be filled with fire rated self-extinguishing type polyurethane foam. Rate shall include for supply and installation of complete door assembly, by the manufacturer. (All mechanical and functional hardware like hinges, lever handles, door closers with 120 minutes fire rating are to be used on doors and must conform to relevant IS 3614 : 2021.</p> <p>all as per manufacturer's specification and providing Fire Resistant certification (manufacturing & installation) as required by local fire statutory authority shall be furnished by manufacturer of Door assembly (Frame, Shutter, fitting) and all cutting/ planning if necessary, labour for fixing the fittings and fixtures with suitable packing if necessary including providing and fixing 120 minutes (2 hr) fire rated approved powder coated steel door set etc. all complete all as per specifications, drawings & as directed by Engineer in charge.</p>				
87	<p>Side Hung / Casement Aluminium Windows: Providing, supply, fabrication, installing, fixing, testing, cleaning, protection and handing over the Side Hung / Casement Aluminium window system, at all levels, locations, floors as per approved drawings including all labour, material, wastage, transporation, fixing in position, scaffolding etc complete all as per specifications, drawings and as directed by the Engineer-in-Charge.</p> <p>The Side Hung / Casement Aluminium Window system shall with stand the wind pressure of confirming to IS -875 part III. The Side Hung / Casement window system shall have heavy duty self balancing pivot hinges, three point locking with handle, friction hinges (250 mm) microwave cured EPDM gasket, non staining weather sealant, SS-304 grade pan head screws etc complete.</p>				
87.1	<p>Providing and fixing following type of approved quality glass panes for aluminium sliding windows, of approved manufacturer and fixing with aluminium frame work including providing and fixing with 2 way EPDM gasketing , to ensure water and air tightness and neoprene cushions/ gasket accommodated in grooves, necessary SS-304 screws etc all complete generally as per drawings specifications and as directed by the Engineer-in-charge.</p> <p>Note:- Only clear opening of glass shall be measured for payment. (6 mm thick Single Glass Unit (SGU) using heat strengthened (HS) clear float glass of M/s. Saint Gobain ET/ST series or approved equivalent)</p>	SQM	10.21	1,720.00	17,554.32

87.2	<p>Supplying and fixing in position at all floors, levels & locations, aluminium section [extruded] for aluminium Side Hung / Casement windows sliding as per drawing of approved manufactures with extruded sections of Jindal / Indal / Aluminax or other approved equivalent sections with size and weights as shown in the drawing, for frames and shutters [including wastages if any] conforming to relevant I.S specifications, with all approved shade & colour anodised aluminium fittings and accessories, including providing and fixing & grouting the gap with polysulphide sealant etc. all complete generally as per drawings, specifications etc., all as directed by Engineer in charge, but excluding the cost of glazing, which will be paid separately. (The aluminium system consist of the extruded aluminium sections of alloy 6063 T5/T6 & tolerances confirming to DIN / EN standards from approved make and manufacturer. The aluminium sections shall have approved shade and colour super durable powder coating with minimum 50 micron thickness. The non visible aluminium sections shall have approved chromatizing treatment. (The weight of extruded aluminium sections only will be mesured for payment)). The quoted rate shall be inclusive for providing & fixing heavy duty self balancing pivot hinges, three point locking with handle, friction hinges (250 mm) microwave cured EPDM gasket, non staining weather sealant, SS-304 grade pan head screws etc complete. etc of approved make and design as per drawings.</p>	KG	132.68	450.00	59,705.10
88	<p>Sliding Windows: Providing, supply, fabrication, installing, fixing, testing, cleaning, protection and handing over the Sliding window system, at all levels, locations, floors as per approved drawings including all labour, material, wastage, transporation, fixing in position, scaffolding etc complete all as per specifications, drawings and as directed by the Engineer-in-Charge.</p> <p>The Sliding Window system shall with stand the wind pressure of confirming to IS -875 part III. The sliding window system shall have SS-304 grade mesh Net shutter panel, drainage gutter profile at bottom track, wool pile with film for weather protection and complete sir sealing. The shutter engagement shall be minimum of 15 mm at top and bottom track to ensure stability under deflection of vertical mullions. Including providing & fixing ball bearing rollers smooth movement of shutters, flush type lock with manual opeartion, microwave cured EPDM gasket, non staining weather sealant, SS-304 grade pan head screws etc complete.</p>				

88.1	<p>Supplying and fixing in position at all floors, levels & locations, aluminium section [extruded] for aluminium sliding windows sliding as per drawing of approved manufactures with extruded sections of Jindal / Indal / Aluminax or other approved equivalent sections with size and weights as shown in the drawing, for frames and shutters [including wastages if any] conforming to relevant I.S specifications, with all approved shade & colour anodised aluminium fittings and accessories, locking arrangements, 2 / 3 rollers with ball bearings for sliding shutters of approved quality all as shown in the drawing, including providing and fixing aluminium channel beading / glazing clips fixed with necessary matching anodised screws, grouting the gap with thermocole & polysulphide sealant etc. all complete generally as per drawings, specifications etc., all as directed by Engineer in charge, but excluding the cost of glazing, which will be paid separately. (The aluminium system consist of the extruded aluminium sections of alloy 6063 T5/T6 & tolerances confirming to DIN / EN standards from approved make and manufacturer. The aluminium sections shall have approved shade and colour super durable powder coating with minimum 50 micron thickness. The non visible aluminium sections shall have approved chromatizing treatment. {The weight of extruded aluminium sections only will be mesured for payment}). The quoted rate shall be inclusive for providing & fixing built in handle with locking nib/hook, dummy handle, SS locking closure plate (on frame), adjustable single roller, nylon roller, shutter end PVC cap, anti dust plugs, screw hole cap, drain cap, wool pile etc of approved make and design as per drawings.</p>	KG	221.13	620.00	1,37,100.60
88.2	<p>Providing and fixing following type of approved quality glass panes for aluminium sliding windows, of approved manufacturer and fixing with aluminium frame work including providing and fixing with 2 way EPDM gasketing , to ensure water and air tightness and neoprene cushions/ gasket accommodated in grooves, necessary SS-304 screws etc all complete generally as per drawings specifications and as directed by the Engineer-in-charge. Note:- Only clear opening of glass shall be measured for payment. (6 mm thick Single Glass Unit (SGU) using heat strengthened (HS) clear float glass of M/s. Saint Gobain ET/ST series or approved equivalent)</p>	Sqm	17.01	1,847.46	31,425.25
SUB TOTAL					12,65,590.80

MISCELLANEOUS

89	Round column Rubber guard Providing and fixing shock absorbing rubber corner guard having size 115x115mm, height 1000mm and thickness 10mm, manufactured from flexible high strength rubber, embedded with highly reflective weather resistance reflective material, tamper resistant, with black base and tape color options in yellow, white and lime.	NOS	273.00	569.00	1,55,337.00
90	Providing, supply, fabrication, installing, fixing, testing, cleaning, protection and handing over the Aluminium (Z-Type) louvers system, at all floors, levels & locations, aluminium section [extruded] for aluminium Z type louver system as per drawing of approved manufactures with extruded sections of Jindal / Indal / Aluminax or other approved equivalent sections with size and weights as shown in the drawing [including wastages if any] conforming to relevant I.S specifications, including grouting the gap with thermocole & polysulphide sealant, providing & fixing MS brackets etc. all complete generally as per drawings, specifications etc., all as directed by Engineer in charge. (The aluminium system consist of the extruded aluminium sections of alloy 6063 T5/T6 & tolerances confirming to DIN / EN standards from approved make and manufacturer. The aluminium sections shall have approved shade and colour super durable powder coating with minimum 50 micron thickness. The non visible aluminium sections shall have approved chromatzizing treatment. {The weight of extruded aluminium sections only will be mesured for payment}). The Aluminium Z type louver system shall with stand the wind pressure of confirming to IS 875 part III. The Aluminium Z type louver system shall have louvers of size as per drawing and thickness of Z shape louvers, fixed at fixed distance (as per drwing) to alumnium frame, louver profile to be fixed on 3 mm thick aluminium flat to form a frame, the louver frame is supported on the aluminium box frame including providing & fixing SS-316 fastners, necessary MS brackets with SS-316 fastners, EPDM gasket, non staining weather sealant, SS-304 grade pan head screws etc complete.	KG	243.24	450.00	1,09,459.35

91	<p>Entry Exit Totem Providing and fixing at location a signs I sign -display signage with 100 mm depth Aluminium extrusion Alloy 6060 as per European standards EN755-2-2008 tensile strength 190 MPa typical BHN is 70 from virgin aluminium homogeneous billet) with Premium grade Anodizing (Thickness 15- 20 microns) Flatness & Twist of profile within 1.5 mm / meter length, with 10 years warranty under normal working conditions. Media accomodation depth of 8 mm avialble for pasting on dual lock or strong two way adhesive. M.S fabrication slot of 65 mm depth for internal M.S structure.Media upto 6 mm thickness can be pasted or mounted with help of dual lock tape .assembled totem can be edge lite with help of edge lite modules or back lite with help of back lite modules.CosignTotem profiles screwed fixed with internal M.S structure are installed at site in plumb and level at specified location as per drawing to the satisfaction of the engineer-in-charge. Graphics to be done using printed retro reflective material. Size - 750mm * 1800mm * 100mm Mounting Type - Ground/RCC Signage - Lite/Nonlite (As per approved drawing)</p>	NOS	2.00	97,750.00	1,95,500.00
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92	<p>Speed Limit/Info sign Providing and fixing at location a sign using Modular Aluminium extrusions (Alloy 6060 as per European standards EN755-2-2008 tensile strength 190 MPa typical BHN is 70 from virgin aluminium homogeneous billet) with Premium grade Anodizing (Thickness 15-20 microns) International standards, with 10 years warranty under normal working conditions. Silver anodised aluminium 80 x 80 mm outer size (octagonal shaped) cover list anodised profile to hide screw fittings of pole and M.S structure . M.S structure of 'C' channel made by joining two 'L' angles 35x35x3 mm Pole to be screw fitted into fabrication, attached to with 50mm depth aluminium frame for media signage mounting , with media accommodation depth of 6mm , frame screw fitted at multiple position along vertical and horizontal side facing the octagonal pole. (size as per drawing) with in built slots to accommodate media (ACP,ACRYLIC,PLY etc) cover list profile used to specify left out below portion for display installed with fixbox aluminium component provided with system for Text panel fixing with pole sign to be installed at site in plumb and level at specified location as per drawing to the satisfaction of the engineer-in-charge. Graphics to be done using printed retro reflective material. Size - 460mm * 600mm (Frame) * 2400mm Pole Height Mounting Type - Ground/RCC Signage - Lite/Nonlite (As per approved drawing)</p>	NOS	15.00	28,750.00	4,31,250.00
93	<p>Parking Suspended Signs Providing a signs made as using Modular Aluminium extrusions (Alloy 6060 as per European standards EN755-2-2008 tensile strength 190 MPa typical BHN is 70 from virgin aluminium homogeneous billet) with Premium grade Anodizing (Thickness 15-20 microns) as per International standards, with 10 years warranty under normal working conditions. Sign is double sided 50 mm depth profile with media accommodation depth of 6 mm media of ACP acrylic upto 3 mm thickness can be pasted directly on frames or attached on frame with help of dual lock tape. Sign can be edge lite with help of edge lite led modules ,led of LUCOLED make EL31 ,Sign to be fitted and installed at site in plumb and level at specified location as per drawing to the satisfaction of the engineer-in-charge. Graphics to be done using printed retro reflective material. Size - 1200mm * 300mm * 50mm Mounting Type - Ceiling Suspended Signage - Lite/Nonlite (As per approved drawing)</p>	NOS	25.00	21,965.00	5,49,125.00

94	<p>Door Nameplate Sign Providing a signs made as using Modular Aluminium extrusions (Alloy 6060 as per European standards EN755-2-2008 tensile strength 190 MPa typical BHN is 70 from virgin aluminium homogeneous billet) with Premium grade Anodizing (Thickness 15-20 microns) as per International standards, with 10 years warranty under normal working conditions. Sign is single sided with 1 aluminium profile click fitted on 2 plastic moulded endcaps. Sign is including all plastic injection moulded end caps black in shade which are directly press fitted, media can be flat bed UV printed on panels/ profiles. Cosign make MPI panels fitted and installed at site in plumb and level at specified location as per drawing to the satisfaction of the engineer-in-charge. Graphics to be done using printed retro reflective material. Size - 300mm * 156mm * 12mm Mounting Type - Door/Wall Signage - Nonlite</p>	NOS	1.00	776.25	776.25
95	<p>Building Directory Sign Providing a signs made as using Modular Aluminium extrusions (Alloy 6060 as per European standards EN755-2-2008 tensile strength 190 MPa typical BHN is 70 from virgin aluminium homogeneous billet) with Premium grade Anodizing (Thickness 15-20 microns) as per International standards, with 10 years warranty under normal working conditions. Sign is single sided with aluminium side tracks and common click clips for panel fitting. a. Sign is including all plastic injection moulded clips black in shade which are slided in side tracks, media can be flat bed UV printed on panels/ profiles. Cosign make MPI panels fitted and installed at site in plumb and level at specified location as per drawing to the satisfaction of the engineer-in-charge. Size - As per Drawing Mounting Type - Wall Signage - Nonlite</p>	Sqft	10.00	2,070.00	20,700.00

96	<p>Floor Directory Sign Providing a signs made as using Modular Aluminium extrusions (Alloy 6060 as per European standards EN755-2-2008 tensile strength 190 MPa typical BHN is 70 from virgin aluminium homogeneous billet) with Premium grade Anodizing (Thickness 15-20 microns) as per International standards, with 10 years warranty under normal working conditions. Sign is single sided with aluminium side tracks and common click clips for panel fitting. a. Sign is including all plastic injection moulded clips black in shade which are slided in side tracks ,media can be flat bed UV printed on panels/ profiles. Cosign make MPI panels fitted and installed at site in plumb and level at specified location as per drawing to the satisfaction of the engineer-in-charge. Size - As per Drawing Mounting Type - Wall Signage - Nonlite</p>	Sqft	10.00	2,070.00	20,700.00
97	<p>Staricase ID Sign Providing a signs made as using Modular Aluminium extrusions (Alloy 6060 as per European standards EN755-2-2008 tensile strength 190 MPa typical BHN is 70 from virgin aluminium homogeneous billet) with Premium grade Anodizing (Thickness 15-20 microns) as per International standards, with 10 years warranty under normal working conditions. Sign is single sided with 1 aluminium profile click fitted on 2 plastic moulded endcaps. Sign is including all plastic injection moulded end caps black in shade which are directly press fitted ,media can be flat bed UV printed on panels/ profiles. Cosign make MPI panels fitted and installed at site in plumb and level at specified location as per drawing to the satisfaction of the engineer-in-charge. Size - 300mm * 156mm * 12mm Mounting Type - Door/Wall Signage - Nonlite</p>	NOS	10.00	776.25	7,762.50

98	<p>Washroom Sign Providing a signs made as using Modular Aluminium extrusions (Alloy 6060 as per European standards EN755-2-2008 tensile strength 190 MPa typical BHN is 70 from virgin aluminium homogeneous billet) with Premium grade Anodizing (Thickness 15-20 microns) as per International standards, with 10 years warranty under normal working conditions. Sign is single sided with 1 aluminium profile click fitted on 2 plastic moulded endcaps. Sign is including all plastic injection moulded end caps black in shade which are directly press fitted, media can be flat bed UV printed on panels/ profiles. Cosign make MPI panels fitted and installed at site in plumb and level at specified location as per drawing to the satisfaction of the engineer-in-charge. Graphics to be done using printed retro reflective material. Size - 200mm * 156mm * 12mm Mounting Type - Wall/Door Signage - Nonlite</p>	NOS	10.00	592.25	5,922.50
99	<p>Duct Sign Providing a signs made as using Modular Aluminium extrusions (Alloy 6060 as per European standards EN755-2-2008 tensile strength 190 MPa typical BHN is 70 from virgin aluminium homogeneous billet) with Premium grade Anodizing (Thickness 15-20 microns) as per International standards, with 10 years warranty under normal working conditions. Sign is single sided with 1 aluminium profile click fitted on 2 plastic moulded endcaps. Sign is including all plastic injection moulded end caps black in shade which are directly press fitted, media can be flat bed UV printed on panels/ profiles. Cosign make MPI panels fitted and installed at site in plumb and level at specified location as per drawing to the satisfaction of the engineer-in-charge. Size - 156mm * 156mm * 12mm Mounting Type - Wall/Door Signage - Nonlite</p>	NOS	-	476.10	-

100.00	<p>Lift Number Sign Providing a signs made as using Modular Aluminium extrusions (Alloy 6060 as per European standards EN755-2-2008 tensile strength 190 MPa typical BHN is 70 from virgin aluminium homogeneous billet) with Premium grade Anodizing (Thickness 15-20 microns) as per International standards, with 10 years warranty under normal working conditions. Sign is single sided with 1 aluminium profile click fitted on 2 plastic moulded endcaps. Sign is including all plastic injection moulded end caps black in shade which are directly press fitted, media can be flat bed UV printed on panels/ profiles. Cosign make MPI panels fitted and installed at site in plumb and level at specified location as per drawing to the satisfaction of the engineer-in-charge. Graphics to be done using printed retro reflective material. Size - 200mm * 156mm * 12mm Mounting Type - Wall/Door Signage - Nonlite</p>	NOS	-	592.25	-
101.00	<p>Lift in case of fire use stair Providing sign of Modular Aluminium extrusions (Alloy 6060 as per European standards EN755-2-2008 tensile strength 190 MPa typical BHN is 70 from virgin aluminium homogeneous billet) with premium grade anodizing (Thickness 15-20 microns) as per international standards, with 10 years warranty under normal working conditions. Profile to form frame with overall depth of 10 mm with media of thickness upto 3mm. 2 mm thick acrylic/ACP . I-sign Fix profile of Cosign make with M.S zinc coated corners with grub screws. Installed at site in plumb and level at specified location as per drawing to the satisfaction of the engineer-in-charge. Graphics to be done using printed auto glow material. Size - 250mm * 150mm * 10mm Mounting Type - Wall Signage - Photoluminescent</p>	NOS	-	807.30	-

102.00	<p>Fire extinguisher Sign Providing sign of Modular Aluminium extrusions (Alloy 6060 as per European standards EN755-2-2008 tensile strength 190 MPa typical BHN is 70 from virgin aluminium homogeneous billet) with premium grade anodizing (Thickness 15-20 microns) as per international standards, with 10 years warranty under normal working conditions. Profile to form frame with overall depth of 10 mm with media of thickness upto 3mm. 2 mm thick acrylic/ACP . I-sign Fix profile of Cosign make with M.S zinc coated corners with grub screws. Installed at site in plumb and level at specified location as per drawing to the satisfaction of the engineer-in-charge. Graphics to be done using printed auto glow material. Size - 300mm * 150mm * 10mm Mounting Type - Wall Signage - Photoluminescent</p>	NOS	10.00	917.70	9,177.00
103.00	<p>Emergency Exit Sign Providing ready sign & fixing at location a Cosign make emergency exit sign- illuminated, surface mount (wall or ceiling) Dual sided made up of plastic material , battery backup of 3 hours (180 mins) .Battery life of 300 cycles of charge & discharge Li- ion battery 3.7 Volt, 100 mA, Charge time of 24 hours. Input voltage 220-240 Volt A.C, 50/60 Hz. Viewing distance 30 meter, degree of protection IP20 (rating for protection against solid object upto 12 mm) white light colour full back (white colour) LED illumination with green white coloured graphic inserted on both sides on 0.4 mm PC (sizes, texts, symbols or graphics as per standard safety norms & regulations) graphic options of -left ,right, up staircase down staircase. Test facility button self test plus auto self test, operation in maintained and non maintained mode (power saver mode).Sign with 12 months warranty for electric circuit & 6 months warranty for battery. Sign provided with dual mounting arrangement of mounting on wall & ceiling both (with flat rigid support/base).Sign is including all connection wires (upto 1 mtr) & high tensile strength zinc coated self tapering screws (4 nos with screw wall plastic packing), installed at site in plumb and level at specified location as per drawing to the satisfaction of the engineer-in-charge. Size - 310mm * 225mm * 55mm Mounting Type - Ceiling Signage - Lite</p>	NOS	10.00	3,783.50	37,835.00

104.00	<p>SS Staircase railing Providing & fixing stainless steel work for pipe hand rail at staircase, Entrance Ramp and other stainless works such as spool pieces, pipe sleeves etc, at all floors, levels & location conforming to SS-304 grade of steel preferably schedule-10, using SS pipe in horizontal at top, vertical, inclined including solid pipes as per drawing or as per pattern & design approved by EIC and including necessary S.S bend, tees, Embeded plates, nuts, SS bolt,necessary welding, anchoring with SS anchor fastner of M/s Hilti, grinding, buffing, polishing and fixing in concrete / wall with S.S lugs, making pockets, concreting, making good the surfaces etc. as per specifications, drawings and as directed by Engineer-in-Charge. (Note:- For payment purpose only weight of stainless steel members shall be considered excluding fixing accessories such as nuts, bolts, fasteners etc.)</p>	KG	2,069.60	650.00	13,45,241.63
105.00	<p>Boom Barrier Supply, Installation, Testing, Commissioning of- Electromechanical boom barrier with a 3-meter boom arm for car and 1.5mtr boom arm for bike lane, And a 0.6-second opening/closing time. Key features include a corrosion-resistant powder-coated cabinet, die-cast aluminium motor with thermal radiating and cooling fan, and 100% duty cycle with an MTBF of 10 million cycles. Safety features include manual release, obstacle reversal, auto-closing, and support for external photocell and vehicle loop detectors. The system operates on 220V/110V at 50/60Hz, with IP54 protection, a motor torque of 300Nm, and a working temperature range of 0°C to 65°C.</p>	NOS	4.00	1,77,750.90	7,11,003.60

106.00	<p>Drinking WATER COOLER Refrigerant: R-134a Compressor type: Reciprocating Full stainless Steel Body Full Stainless Steel Water Tank No of Faucets: 2 (Cold) Water Drainage option for Cleaning tank: yes Water temperature controller: Yes (Manual) Material - SS 304 Cooling Capacity - 60 Lit/hr Storage Capacity - 120 Lits Size: 730 mm X 549 mm X 1230 mm Note: 1. Supply, Installation and Commissioning of equipment which includes preparation of shop drawings, supply, packing and forwarding, delivery to site, including transit insurance arrangement, unloading, handling and storage at site, final assembly at designated rooms at any floor level. 2. All dimensions are in M.M. unless mentioned otherwise.</p>	NOS.	8.00	50,000.00	4,00,000.00
107.00	<p>Providing and fixing FRP grating having size as per detailed drawing to bear respective traffic load for drain channels at all level. The same shall be fixed in MS frame (size 50 x 50 x 6mm) to receive numbers of grating pre-approved by EIC. MS frame shall be fitted with hold fast and others in CC / masonry work in true line and level with one coat of zinc oxide + two coats of oil paint, colour shall match with grating as approved by EIC. FRP Grating for Storm Water Drain</p>	Sqm	422.10	3,300.00	13,92,930.00
108.00	<p>Road marking with hot applied thermoplastic paints with reflectorising glass beads on bitumen surface providing and laying a hot applied thermoplastic compound 2.5 mm thick including reflectorising glass beads @ 250gms per sqm area, thickness of 2.5mm is excluding of surface applied glass beds as per IRC:35-2015. The finished surface to be level, uniform and free from streaks and holes. zebra patta /bump patta lane/center line/ edge line/cut patta. The white color marking should provide luminance coefficient on cement road shall be min 130 mcd/m2/lux and Asphalt road shall be min 100 mcd/m2/lux during the service life during the day time. The marking should meet the performance criteria for night time reflectivity, wet reflectivity and skid resistance as mentioned in the section-15 of IRC 35-2015. Warranty for the Retro reflectivity should be two years.</p>	Sqm	330.00	307.38	1,01,435.40

109.00	<p>FOOD Kiosk Container – Providing, fabricating, supplying and installing in True line & level on specified level as per detailed drawings for Pre-fab Factory Made Portable Container type Food Kiosk Counter in Hot dip Galvanised Structural members and GI Sheet having size of 20' x 8' x 8' with following facilities inside of each compartment as per specifications:</p> <p>(1) Work table (Type 1) in one number of size 3910 x 600 x 925 mm or as per drawing and provision for 2 nos. under counter refrigerator to be made as per specification</p> <p>(2) Work table (Type 2) in one number of size 2340 x 600 x 925 mm or as per drawing and to be provided with 250mm height shelf under the counter top with SS supports & partitions.</p> <p>(3) 2 no's SS Sink unit & bottom pipe shelf as per drawing & 1 no SS pipe shelf mounted above sink unit on wall with SS 316; size: 1370x300 mm at 600mm from top of sink.The unit shall be fabricated with 3 openable shutter as shown in drawing.</p> <p>(4) All the preparation tables & sink tables should have 16 GA fabrication sheet at the top and the grade of steel used should be SS 316(Jindal Make).</p> <p>(5) Side wall ventilation (type-1) in one number of size 755 x 158 mm to be provided horizontally as per drawing. Unit to consist of 03 such vents separated by the structural frame of the container as indicated in drawings.</p> <p>(6) Side wall ventilation (type-2) in two numbers of size 755 x 158 mm with exhaust fan (outer size 158x158mm)of preferred make and model as per drawing.</p> <p>(7) Back wall ventilation (type -1) in three number of size 1175 x 158 mm to be provided horizontally as per drawing. Vents shall be provided from the center of the wall and separated by the structural frame of the container.</p> <p>(8) Back wall ventilation (type-2) in two numbers of size 1150 x 158 mm with exhaust fan (outer size 158 X 158 mm)of preferred make and model as per drawing. All vents to be provided from the centre of the wall separated by structural frame of the drawing. Each ventilation opening to have 50 mm wide MS plate frame projecting from the outer surface of the container on all 4 sides.</p>	NOS	4.00	17,50,000.00	70,00,000.00
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<p>(9) Two service windows with flap door of size 1360 x 1025 mm at the front longer side on container. Window sill to be at 925 mm height from the container floor finish level. Each window to be fitted with 900mm height flap shutter foldable to 500mm, where the 500 mm portion serves as a counter top when open and the remaining 400 mm folds back anchored to the container. Features include a 125 mm height perforated panel at the top, 03 hooks on the outside for counter anchoring, and 04 nos. hook and stopper for internal closing.</p> <p>(10) Main Door of size as per specification and drawing. Outside handle to be vertical D Type (minimum 450mm high and 25mm diameter) with the top fixed at 1200mm from the door bottom. Entry shall include 01 No. aldrop installed on the adjoining part and a door closer provided at a level of 900mm from the door bottom. Inside shall be provided with a mortise handle set with lever mortise lock (horizontal lock). Door must be fixed at a proper level to avoid obstruction while closing.</p> <p>(11) Flooring to be covered with PVC vinyl sheet with proper drainage for water.</p> <p>(12) Inner wall & ceiling shall be finished with Cement board including painting.</p> <p>(13) 1 no Waste Bin Trolley below Sink with size of 375mm dia & 650mm Height with wheels.</p> <p>(14) Three fans of 1200mm dia</p> <p>(15) Electrification: It is provided with 6 Nos. of LED light (15Watt) & 6 No. 25Amp. Switch & socket & on/off switch for commercial kitchen equipment, Points.</p> <p>(16) To be provided with 1 no of water tank (Sintex/equivalent Make) made of Plastic having capacity of 500 ltr. All welding joint should be TIG welded. The supplier should have manufacturing set up should be certified with EN-15085 and ISO 9001:2015 from a recognized third party agency.</p> <p>17) Supply and Fixing of mechanical foam type Fire Extinguisher conforming to IS 15683:2018 as per the required capacity of 6 liters to 9 liters.</p>				
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	<p>Notes: 1) Contractor shall provide 10 years guarantee for container materials & facility inside material & accessories including 1 year defect liabilities period & 4-years M&R scope.</p> <p>2) Refer Container specifications attached in Specification Volume.</p> <p>3) Contractor shall connect all water supply and drainage services to the given point in external water and drainage network system as directed by EIC.</p> <p>4) All the ironmongery shall be as approved by architect.</p> <p>5) All structural members must be hot dip galvanised.</p> <p>6) All Furniture shall have edge banding</p> <p>7) All structural members shall be painted with 300-500 micron of Epoxy paint system with PU top coat of 50-60 micron as per manufacturer specification with 10 years guarantee.</p> <p>8) Container shall be fire proof & shock proof.</p>				
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110.00	<p>Supplying, providing, placing, installing and fixing in position in true line and level as per detail drawing approved by EIC, MODULAR TOILET PARTITIONS along with specified brand or approved equivalent of size as per detail drawings, Floor mounted including providing and fixing all accessories, fixtures, fastenings, hinges, anchorages, all hardware with approved locking arrangement as recommended by manufacturer and as approved by EIC etc. complete as directed, at all levels. Item description:</p> <p>Cubicle size - 900mm x 1550mm x 2100 mm (height is including 150 mm gap from bottom). Colour of Boards : As per the Shade card - approved by EIC. Thickness of Compact Sheet : 12mm (min.). Material: Compact Laminate in panels. Made from solid grade compact high-pressure laminate as per IS:2046 and EN438- manufactured under high specific pressure > 5 MPa and temperature 120° C with bunch of kraft papers impregnated with thermosetting phenolic resin and decorative papers made of cellulose fibre impregnated with thermosetting melamine resin which provide superior scratch, abrasion, heat, chemical, impact, graffiti & moisture resistance along with anti-bacterial properties. Panels have a black core that when machined, presents a distinctive black edge. Size of panels to be as per drawing.</p> <p>Door size - 1750 x 600(H X W) All doors will be of single colour and made of 12 mm thick HPL compact panel. The doors will have chamfered edges. Each door will be supported by 3 stainless steel made hinges affixed to the pilasters. Stainless steel made coat hook and Lock set (comprised of Thumb turn and occupancy indicator) are provided with each door. All the doors will be routed at the vertical ends and the rubber sponge lining will be incorporated at the routed ends. Pilaster dimension - 1830 x 300 (H X W).</p>	NOS	40.00	34,200.00	38,30,400.00
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111.00	<p>All pilasters will be made of 12 mm thick HPL compact panel with chamfered edge and completed with stainless steel made thumb turn lock set. Pilasters will be anchored to the floor using stainless steel made adjustable legs. All pilasters will be routed at their vertical ends to facilitate closure of doors. The bottom gap is 150-100 mm.</p> <p>Dividers - 1775 x 1550 (H X W)</p> <p>All intermediate partitions or dividers will be made of 12 mm thick HPL compact laminate panels. They are affixed with stainless steel made U-channel at their ends for ultimate stability of the system.</p> <p>Hardware and Accessories Details : below mentioned all accessories – Stainless Steel - 304 Grade</p> <p>a) Adjustable Pedestal Footing of base diameter 60 mm made from Stainless steel grade 316 giving an adjustable height of 100mm to 150mm. Surface finish to be matt type.</p> <p>b) SS U -Channel</p> <p>c) SS F Channel</p> <p>d) SS Door Stopper Channel</p> <p>e) SS Top Rail with circular cross section (Diameter 32mm). Surface finish will be mirror type.</p> <p>f) SS Coat Hook with rubber stopper made from Stainless steel grade 304. Surface finish to be lacquer type.</p> <p>g) SS Privacy Thumb turn c/w Occupancy Indicator made from Stainless steel grade 304. Surface finish to be lacquer type.</p> <p>h) Round Door knob diameter 30 mm with grooves for better hand grip made from Stainless steel grade 304. Surface finish to be matt type.</p> <p>I) SS Spring Loaded Butt Hinges with Cover</p> <p>j) Anti-noise rubber padding of thickness 2 mm and width 10 mm</p> <p>k) Screws & Wall Plugs. Stainless steel grade 304 screws.</p> <p>l) Tubular panel holder made of stainless steel grade 304. Surface finish will be lacquer type.</p> <p>m) Corner joinery section made from Stainless steel grade 304. Surface finish to be brush type. A thin plastic film pasted for surface protection. Size to be 35mm x16.4mm x 0.8 mm.</p> <p>n) Wall joinery section with hamming profile made from Stainless steel grade 304. Surface</p>				
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112.00	<p>Supplying, providing, placing, installing and fixing in position in true line and level as per detail drawing and approved EIC, Modular Toilet Urinal partition UMP along with specified brand or approved equivalent of size as per detail drawings, Colour of Boards : As per the Shade card - approved by EIC.</p> <p>Item description: The Urinary Panel has a 12 mm thick High Pressure Laminates (HPL) Compact Board, with a recommended panel width dimensions of 400-500 mm. The size of the panel is 500 mm (W-Top) X 400 mm (W-Bottom) X 1200 mm (H), with the overall height of 1200 mm. Final Size of Partitions : As per drawing given - shop drawings approved by EIC.</p> <p>Accessories Details : below mentioned all accessories – Stainless Steel - 304 Grade made 2 brackets used to fix each urinal panels to the walls.</p>	NOS	15.00	5,750.00	2,30,000.00
113.00	<p>Providing and installing outdoor convex mirror of size 600mm diameter, 130 degree viewing angle, polycarbonate construction, vandal resistant with and without MS pole.</p>	NOS	10.00	4,242.00	2,30,000.00
114.00	<p>Providing and installing the speed breaker of PVC material with size of 250x350x50mm and/or 250x450x60mm on the cement concrete surface of the road with labour and all the necessary accessories, hexacore design, oil resistance, chemical resistance, water resistance, UV stabilized, non fading colors, with reflector tape.</p>	NOS	20.00	1,568.53	2,30,000.00
115.00	<p>Providing and fixing in Stainless steel Floor Mounted Dustbin with dimensions and design as per Architect selection, in SS 316, Dual bins with 50 liters each having Matt / Mirror Finish including required foundation, anchor bolts and fixing details etc. completed as directed by EIC. Including Minimum 2 mockups for approval complete as per instruction of engineer in charge.</p>	NOS	25.00	15,208.00	2,30,000.00
116.00	<p>Supplying and fixing in position various dia GI pipe for sleeves, using 'B' class (medium duty) GI pipes of any diameter as per requirement and as per drawing for sleeves etc. including cutting, placing in position, bending, welding, in line and level, at all levels & location including painting with one coat of approved zinc chromate primer, scaffolding, labour, wastage etc. complete all as per specifications, drawings and as directed by the Engineer in charge</p>	KG	2,000.00	165.00	2,30,000.00

117.00	CORE DRILL Providing and wet drilling accurate and clean holes of specified diameter in RCC walls, slabs, beam or any other RCC member without vibration by core cutting (diamond drilling) machine of approved make for laying service lines including scaffolding, safety measure, disposing the debris, cleaning, making good, providing epoxy mortar/ micro concrete/ patch repair mortar for concrete for grouting the gaps around the pipes for all levels/ all height, after approval of EIC etc. complete. Measurement shall be taken for the depth of holes in running meter for specified diameter. Holes shall be made by authorized approved agency. Scanning of reinforcement shall be carried out before core cutting if required and as suggested by EIC. Location of core cutting shall be approved by EIC.				
117.1	CORE CUT IN SLAB/BEAM - 200X200 mm	NOS	1.00	1,811.94	1,811.94
117.2	CORE CUT IN SLAB/BEAM- 150X150 mm	NOS	1.00	962.00	962.00
117.3	CORE CUT IN SLAB/BEAM - 100X100 mm	NOS	1.00	905.97	905.97
117.4	CORE CUT IN RETAINING WALL - 250X250 mm	NOS	1.00	7,700.75	7,700.75
117.5	CORE CUT IN RETAINING WALL - 200X200 mm	NOS	1.00	5,435.82	5,435.82
117.6	CORE CUT IN RETAINING WALL - 150X150 mm	NOS	1.00	3,774.88	3,774.88
118.00	Providing and filling Epoxy grout of approved make in 4mm to 6mm thick tiles joint including spacer with cleaning of joint by vacuum or blower etc. Rate to include filling/grouting and finishing as per the direction of EIC at all floors. Rate of the item to be considered in replacement of cementitious grout as specified in individual flooring items.	RMT	200.00	55.00	11,000.00
119.0	Providing and fixing PVC rungs of Thickness 25mm, Length 170mm, Usage/Application Rungs, Stairs, Standards IS Features. Anchor type fixing at all levels as directed by EIC.	NOS	1.00	65.00	65.00

120.0	Providing and fixing in position, Gear Type operated by mechanically winding handle, Steel Rolling Shutters of approved make, made from M.S.laths 18 G, 3" (75 mm) size interlocked together throughout entire length and jointed together at the end by end locks mounted on specially desgned pipes shaft with brackets as per IS standards including all necessary fixtures and fittings, top hood (0.90 mm thick), brackets, guide channels, side guides, ceiling strips, inside & outside locking arrangement and painting with a coat of approved steel primer and two coats of approved make and shade synthetic enamel paint, fixing in position in masonry/concrete with necessary coach screws, nuts, bolts etc. making good the masonry/concrete complete all as per specifications and as directed by the Engineer-in-Charge. (Note:- The measurement for Rolling shutters will be as per structural openings. Hood etc will not be measured separately.)	SQM	12.00	3,468.72	41,624.64
121.0	Providing & fixing precast approved brand FRP Composite Manhole covers as approved by Competent authority / E.I.C tested as per IS:1726, including cost of necessary hardware, 1:2:4 grade concrete for fixing frame, bed block (bearing course) and capping including necessary form work and CM 1:2 mortar for fixing the frame & for plastering exposed surfaces of concrete bed block (bearing course) and capping finished smooth with floating coat of neat cement etc., complete as per specifications, drawings and as directed by the E.I.C. Square or Circular Recessed Extra Heavy duty (Grade HD - 35/40Ton Capacity designation as per IS:1726/ C-250 as per EN124 or higher loading class) frame and cover of Size 600mm X 600 mm/ 750mm X 750mm /900mm X 900mm or 600 Dia. or As per mentioned in Architect Drawing. Note: Shade and Colour and design pattern to be get approved from Engineer-in-Charge.	NOS	1.00	20,000.00	20,000.00
122.0	Supplying and Grouting of Conbextra GP2 (FOSROC or approved equivalent) free flow, high strength, Non shrink, cementitious precision grout below base plates of columns, trusses, equipment, around foundation bolts, gap between pedestal top of columns and base plate etc. grouting should be carried out with grouting gun including cleaning by water/ compressed air or suitable grouting compound / chemical as per the manufacture's specifications including making the pockets for concrete foundations, pedestals etc, as per the requirement, necessary formwork, cost of labour, materials, scaffolding, transportation, tools & plants, loading and unloading charges, devices for grouting, finishing, all other incidental charges, etc. complete with lead & lifts at all levels etc complete all as per specifications and as directed by Engineer-in-charge	SQM	50.00	2,100.00	1,05,000.00
SUB TOTAL					1,76,72,836.23

TENSILE WORK

123.00	<p>Design, Supply, Fabrication and Installation of Membrane Panels of combination Mesh as per the deesign. Membrane shall be Fiberglass fabric EC 6 filaments and Both sides multi-layer Polytetrafluoroethylene reinforced coating having minimum Weight of 670 g/m2. The Fabric shall have minimum 21% openness porosity for Maximum Light Visibility with minimum Tensile Strength (Warp/ Weft) - 6000/ 6000 N/5cm, minimum Tear Strength (Warp/ Weft) -500/500 N/5 cm. Fabric Flame Retardancy Rating to be Non combustible class A2/DIN 4102 — A2-s1,d0/EN 13501 — ASTM E136 — ASTM E84 — NFPA 701 —Cal T19. Warranty of 10 years and Life span of 35 plus years with proven track record. The applicator to submit the fabric load analysis for approval of fabric. Cost shall include the supply of fabric/SS Cables with end terminals minimum 25mm thickness for main grid and minimum 10mm thickness for edge cable alongwith all the accessories. Fabric Flame Retardancy Rating to be Euro Class - Bs2, d0, Micro Organism Resistance-Degree 0 Excellent – EN ISO 846-A and Warranty of 10 years and Life span of 30 plus years with proven track record. The design complies with the requirements of BS and, EU Standards. The tension membrane structure shall include engineering design of structural members and accessory parts. Membrane systems shall include Fabric, Clamps and tensioning hardware as per specification, drawings and engineers' approval. Vendor to provide an OEM certificate for authorisation. The Mesh must withstand its Self-load and windspeed resistance of up to 180-200kmph. All the accessories like GI Cables, Turnbuckles, Brackets to be fixed to the substructure/Civil work considering the weathering effects(windspeed/loadbearing capacity/Structural strength). Fabric analysis report shall be provided by vendor to understand the load calculation. Steel consumption to be provided by vendor.The entire system has to be backed up by a structural stability report.MS Built-up section/Tubular Structure (MS built-up section :-Rolled section & plates confirming to IS 2062 Grade Yst 350,Tubular Structure:- made from Steel hollow sections, ISI marked from SAIL / RINL / TATA/JINDAL, conforming to IS 1161/4923/1239, Minimum Yst 240 thickness upto 10mm)</p>	Sq.ft	12,000.00	1,250.00	1,50,00,000.00
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	<p>in the profile shape as per drawings with special plate connector, pinion joints, Plates, hollow sections etc. with special plate connectors, pinion joints, plates, hollow sections including Preparation of detailed fabrication and erection drawings of Structural steel work from design drawings issued by Engineer-In-Charge and incorporation of Engineer-In-Charge's comments on same, transportation from fabrication yard, cutting , threading, machining, leads and lifts upto all heights, tools and plants and necessary scaffolding etc. required for all operations involved to make structure of Tensile Membrane shade. The tubular structure system with plate connectors, pinion joints, etc. is to be provided. The structure has to be provided as per conceptual drawings of Tensile fabric profile , including all arch beam, curved lateral beams and bracings, vertical support columns, nodal joints, ,bases of columns and high tensile bolts of grade not less than 10.9 having black phosphate coating. The complete structure to be Hot Dip Galvanized along with one coat of epoxy primer and two coats of Polyurethane paint on steel work at all locations prepared by sand blasting in required minimum 210 micron DFT (dry film thickness) for each coat as specified in particular specification. Required detailed shop drawing and sample is needs to get approved from the project Architect before execution on site. Work shall be carried out as directed by the Engineer-In-Charge. Make List-Serge Ferrari/Sherfil/Chucko/F.I.T/Fibertech</p>				
SUB TOTAL					1,50,00,000.00
STRUCTURAL STEEL WORK					
124.00	<p>Fabricating, supply and erecting in position Standard Structural steel sections conforming to IS 2062 for all structural steel works using ISMB, ISA, ISMC, MS plate, flat, square bars, pipe, square pipe ,etc. including welding, cutting, wastage, etc. complete. The rate is inclusive of welding road, supply & fixing of correct size nut, bolts, washers, paint, with all contractor's materials, labour, tools & plants, in bolted / welded construction as directed by Engineer-in-Charge. Anticorrosive paint must be applied before applied any paint. The rate shall inclusive of providing and applying Epoxy Coating of approved shade, brand and manufacture on new structural steel work with one coat of 30 micron (DFT) of Epilux 4 Zinc Rich primer of Berger Paint India Ltd or equivalent as primer and Two coat each of 35 micron (DFT) of Epilux 84 High Gloss CR enamel of Berger Paint India Ltd or equivalent at all levels. (Total DFT is 30+35+35=100 microns). The waste cut pieces shall not be included in the paying quantity. The work shall be done as per drawing and specification. The work shall be carried out as per IS:800, IS:816 with its latest amendments.</p>	Kg	27,300.00	117.35	32,03,655.00

125.00	<p>For Dry Deck Fountain : Providing, fabricating, assembling, hoisting/ erecting and fixing in position at all heights/ all levels/ all floors/ all shapes & sizes with all leads & lifts using Hot dip Galvanised with min. 140 micron thk after sand blasting over MS Rolled Steel Sections, Hollow sections, Tubular Sections, MS Plates, Chequered Plates, MS Pipes, Perforated Sheet, Flats, Bright Bars, Angles, MS Sheet, Girder, Beam, cattle trap. deep threaded MS bolts, threaded J bolts, insert plate, support plate etc as per drawing. all confirming to latest relevant IS codes for the work of steel structures like gratings over drain channel, I beams, staircases, railings, handrail, jali, gates, grills, bracings, platforms, brackets, monkey ladder, cattle trap, windows, pipe rack, rungs, false ceiling frame work, Roof canopy, fencing posts, M.S. Screen & fencing jali frame work etc. including straightening, cutting, bending, bolting and welding the members all as per structural drawings and as per detailed specifications (for materials & workmanship) including necessary scaffolding/ staging etc. complete in the situations described hereinafter and comprising of : i) Profile Cutting of components to required length/ width and shape/ profile; ii) Smooth grinding/ machining of edges/ faces/ all welding joints; iii) Necessary welding (electric arc welding) for required weld lengths and sizes. iv) Machine drilling of holes for joining/ anchoring (Standard measurements will be paid for as actual cut length used at site). The rate shall include dry sandblasting, degreasing & preparation of rustfree surface manually or mechanically, applying chemical pre-treatment to the prepared surface to improve adhesion of subsequent coat, 2 coat of Epoxy paint (total min 150 micron thick) and 1 coat of PU Paint (min 60 micron thick) of approved shade of paint over all the surfaces of the steel sections or as specified in the drawing. Note: The contractor shall submit fabrication drawings based on construction drawings (that may be issued during construction period with at least one mock up approved by architecture) for approval by the Architect/ Engineer.</p>	KG	2,500.00	165.00	4,12,500.00
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	<p>The fabrication work shall start only after approval of the fabrication drawings submitted by contractor. Any change required in the fabrication drawings shall be carried out at No extra cost. Fabrication shall be in a perfect architectural workmanship manner and as provided in section V & VI of IS 800 & IS 7215. Welding shall be carried out by qualified welders/ fabricators. It should also include the cost of necessary scaffolding/ staging, zinc coated nut-bolt as required for safety, structural stability of all works at site. Any change required in the fabrication drawings shall be carried out at No extra cost. Fabrication shall be in a perfect architectural workmanship manner and as provided in section V & VI of IS 800 & IS 7215. Welding shall be carried out by qualified welders/ fabricators. The procedure, selection, test and inspection shall confirm to provisions in IS 816, IS 818, IS 822, & IS 823. Erection/ hoisting shall commence only after passing of fabricated parts by Architect/ Engineer. Rate shall be inclusive of cutting, wastage, welding, bending (shop at site/factory), bolting wherever necessary, in position welding of required length, grinding, finishing edges, filling & finishing the welded spots & gaps with grout/ sealant/ applying chemical pre-treatment to the prepared surface to improve adhesion of subsequent coat, 2 coat of Epoxy paint (total min 100 micron thick) and 1 coat of PU Paint (min 50 micron thick) of approved shade etc. complete. with zinc coated nut-bolt as required for safety, structural stability of all works at site. Breaking of floor for anchoring and its repair shall be also be included for this work.</p>				
SUB TOTAL					36,16,155.00

LANDSCAPING WORK

126.00	Soil for peripheral planters/Planter Soil in-situ (typical)/Lawn soil Providing, Supplying, Stacking, Mixing, Filling, Spreading, Grading, Cleaning & Removal of stone, gravel, plants & roots, branches, etc. at sub-base level including spraying of Anti-termite chemical as per manufacturing specifications at bottom and sides of pits, trenches, engineered soil etc. complete with watering. Engineered soil consisting of selected soil or murrum or agricultural soil brought from out side including compensation for Good Soil / Agricultural Soil, Selected graded River sand & Organic manure should be well rotten and of standard quality (all three as selected by Architect only), in proportion of 60%,20% & 20% respectively. Contractor shall follow detailed drawing and provide workmanship like manner for prior approval & under supervision qualified Horticulture having 10 years experience. It allows for uproot, polving, weeding etc. for at least twelve months of after final plantation including watering. Excavation for trenches and pits shall be paid extra under relevant item. Measurement shall be as per drawing size including volume of poly bag size. The pit size for tress and palms is 0.9 m x 0.9 m x 0.9 m and excavating depth for Shrubs is 450 mm and for Ground cover 300 mm.	CU.MT	960.48	530.00	5,09,052.81
127.00	Providing and planting (as directed by the consultants / Engineer in charge) well grown saplings of big trees species (as listed below) and planting the same as directed and maintained till well established. (About 45 Days)				
127.10	Cassia Fistula (Amaltas), Tabebuia Rosea (Pink Trumpet tree) Champa (Red/white) , Polyalthia Longifolia (Asopalav), Terminalia Mantaly (1.50 mt. - 2.00 mt. height)	NOS	100.00	950.00	95,000.00
128.00	Supplying and planting Saplings (as directed by the Consultants / Engineer in Charge) of shrubs				
128.10	Jatropha, Canna Indica, Spider lili, Tabernarmontana, Nerium oleander Pink - White	NOS	1,000.00	80.00	80,000.00
129.00	Supplying and planting Saplings (as directed by the Consultants / Engineer in Charge) of Ground Cover				
129.10	Pandanud baptistii, Wedelia trlobata, Rhoeo tricolor	NOS	1,000.00	30.00	30,000.00
130.00	Supplying and planting Saplings (as directed by the Consultants / Engineer in Charge) of Lawn				
130.10	Doob Grass, Buffalo grass	SQM	1,000.00	30.00	30,000.00
131.00	Supplying and planting (as directed by the Consultants / Engineer in Charge) of Creepers				

131.10	Trachelospermum jasminoides - Star jasmine	NOS	100.00	225.00	22,500.00
131.20	Passiflora incarnata - Krishna kamal	NOS	100.00	260.00	26,000.00
				SUB TOTAL	7,92,552.81
SCULPTURE					
132.00	Supply & installing a abstract modern art sculpture made of mild steel. Coating with anti corrosion paint as per the architectural drawing including transportation cost from the source of fabricating to the specific location at site without breaking of edges & erection in line, level, gradient and plumb with necessary testing, setting in position, labour charges for installation with all the necessary required accessories. Anticorrosive paint must be applied before applied any paint. The rate shall inclusive of providing and applying Epoxy Coating of approved shade, brand and manufacture on new structural steel work with one coat of 30 micron (DFT) of Epilux 4 Zinc Rich primer of Berger Paint India Ltd or equivalent as primer and Two coat each of 35 micron (DFT) of Epilux 84 High Gloss CR enamel of Berger Paint India Ltd or equivalent at all levels. (Total DFT is 30+35+35=100 microns).The totem will be erected using required base plates with necessary bolting/riveting/ on RCC pedestal. It also includes Shop drawing, Material approval & 2 mockups for approval as per specifications and direction of the Architectural design. Tentative size of Sculpture - 3m x 3m x 5m	NOS	3.00	10,00,000.00	30,00,000.00
				SUB TOTAL	30,00,000.00
TOTAL CIVIL AMOUNT					42,71,74,979.94

NAME OF WORK:-CONSTRUCTION OF RIVERSIDE SAVORIES I.E. BUILDING WITH UNDERGROUND ROAD BETWEEN NEHRU BRIDGE AND ELLISBRIDGE AND CONSTRUCTION OF PUBLIC PLAZA AND UNDERGROUND PARKING FACILITY AT SANSKAR KENDRA - TAGORE HALL CAMPUS CONNECTING RIVERFRONT ON WESTBANK FOR SRFDCL.

Item No.	Description	Unit	Total Qty.	Rate	Amount
PLUMBING WORK					
SANITARY FIXTURES AND FITTINGS					
1.01	Providing and fixing wash down wall mounting EWC-P of approved shade, conforming to Pattern 2 of IS: 2556 (Part -II), with SWR Self it Soil PVC pipe and plug bend as per specifications; glazed vitreous / Coloured European Water Closet with flush tank, connecting PVC 110mm dia soil pipe with PVC coupling, nuts, mounting cistern on WC., Ragbolt, Gasket Fitiing and solid verity heavy duty plastic seat cover as per IS-2548, of approved make; hole in walls/slab/beam and making good etc. complete as per directed by the Engineer's Representative. EWC-P with PP Soft close Seat cover, Cistern with cistern fittings: W.C Wall Hung : Jaquar, Model No. : ARS-WHT-39953BIUFMS Concealed Cistern : Jaquar, Model No. : JCS-WHT-2400FS Flush Plate : Jaquar, Model No. : JCP-CHR-292415	Set.	36.00	38000.00	13,68,000
1.02	Providing and fixing of Hand Shower (Health Faucet), with 8mm Dia,1Rmt Long pvc Tube and Wall Hook accessories to .complete the item etc. complete as per directed by the Engineer's Representative. Health Faucet :Jaquar, Model no. ALD-CHR-565	Nos.	36.00	1450.00	52,200
1.03	Receiving, Checking, Handling, Fixing, Testing and Commissioning of C.P. 2 Way bib cock with angle Valve of best quality (as approved by the Engineer-in-Charge). 2 Way Bib Cock :Jaquar, Model no. FLP-5041PM	Nos.	36.00	2100.00	75,600
1.04	Providing and fixing White glazed vitreous Oval Wash Basin Under-Counter, size 560x430x195 mm., with supporting M.S. or C.I. Brackets, necessary pipe connection up to the outside face of the wall, having Telephonic Black / Colour Granite of 180 mm thick fixed on Black Kadappa Framework, Waste coupling 32 mm size full thread with 80 mm height Chrome plated, Bottle trap Chrome plated , Pressmatic Pillar Cock including necessary fittings with wall Flange etc. complete in all respects including cutting and making good the walls etc. complete as per directed by the Engineer's Representative. Wash basin : Jaquar, Model No. : FLS-WHT-5701 Waste coupling : Jaquar, Model No. : ALD-CHR-705 Bottle trap : Jaquar, Model No. : ALD-CHR-769L300X190	Nos.	16.00	7450.00	1,19,200
1.05	Providing and fixing of C.P. copper connecting pipe 450 mm long and nuts, washer and brass flange complete, including cutting and making good the wall where required etc. complete as per directed by the Engineer's Representative. Braided Hose Copper Pipe : :Jaquar, Model No. :ALD-CHR-805B	Nos.	16.00	460.00	7,360
1.06	Providing and fixing 15mm C.P. brass angle valve with wall flange complete, including cutting and making good the wall where required etc. complete as per directed by the Engineer's Representative. Angle Valve :Jaquar, Model No. :OPP-15053PM	Nos.	24.00	1305.00	31,320
1.07	Providing and fixing C.P. brass liquid soap container of best quality etc. complete as per directed by the Engineer's Representative. Liquid Soap Container : Jaquar, Model no. ACN-1137N	Nos.	8.00	1750.00	14,000

NAME OF WORK:-CONSTRUCTION OF RIVERSIDE SAVORIES I.E. BUILDING WITH UNDERGROUND ROAD BETWEEN NEHRU BRIDGE AND ELLISBRIDGE AND CONSTRUCTION OF PUBLIC PLAZA AND UNDERGROUND PARKING FACILITY AT SANSKAR KENDRA - TAGORE HALL CAMPUS CONNECTING RIVERFRONT ON WESTBANK FOR SRFDCL.

Item No.	Description	Unit	Total Qty.	Rate	Amount
1.08	Providing and fixing white vitreous china flat back Urinal of size 385x325x635mm as per IS-2556 (Part-2) with C.I. hangers and pipe to wall with C.P. flange with Sensotronic Sensor Type Urinal flush valve with installation box with control valve Battery / Electric operated automatic flushes of approved make. System provided with a solenoid valve and valve connected to a 6 volts lithium battery. Unit automatically serves (the range in about 40 cms) and flushes in two steps. The pre flush is for 2 seconds duration and the final flushing is for 7 seconds duration. The outlet from the flusher shall be connected to urinal with required braided pipes from sensor to urinal flush connection in fixture. complete including cutting and making good the walls wherever required etc. complete as per directed by the Engineer's Representative. Urinal :Jaquar : URS-WHT-13255 Urinal Sensor ,Jaquar, SNR-51097	Nos.	16.00	18500.00	2,96,000
1.09	Providing and fixing in position best Indian make toilet recessed type paper holder complete in all respects including cutting and making good the walls etc. complete as per directed by the Engineer's Representative. Toilet Paper Holder : Jaquar, Model no. ACN-CHR-1153S	Nos.	36.00	1750.00	63,000
1.10	Providing and fixing electrical hand dryer, fully automatic type etc. complete as per directed by the Engineer's Representative. Hand Dryer : Jaquar : HDR-SSF-AK2807	Nos.	8.00	11500.00	92,000
1.11	Providing and fixing of Automatic Fragrance Dispenser fixed to wooden cleats with C.P. brass screws etc. complete as per directed by the Engineer's Representative. Fragrance Dispenser: EURONICS, Model No.: EA44	Nos.	8.00	2198.00	17,584
1.12	Providing and fixing Urinal partition with frosted glass approx. size 900 MM (H) X 450 MM (W) having 10 MM of glass thickness, including fixing to wall with suitable brackets all as per manufacturers specification etc. complete as per directed by the Engineer's Representative. Urinal Partition: Jaquar, Model No. JSE-CHR-110US450X	Nos.	12.00	7550.00	90,600
Sub total					22,26,864
INTERNAL DRAINAGE AND RAIN WATER WORKS (SOIL, WASTE, VENT AND RAIN WATER PIPING & FITTINGS)					
2.01	Providing laying and jointing in true line and level 40mm dia. U.P.V.C. Pipe (SCH- 40) for cold water including fittings as approved by Engineer In Charge. Pipe shall be fixed on the wall with the help of clamp at every two metre C/C or shall be concealed as directed including necessary fittings etc. including testing of pipe and joints and fixing the same with adhesive solvent, including cost of all materials	Rmt.	25.00	146.65	3,666
2.02	Providing laying and jointing in true line and level 50mm dia. U.P.V.C. Pipe (SCH- 40) for cold water including fittings as approved by Engineer In Charge. Pipe shall be fixed on the wall with the help of clamp at every two metre C/C or shall be concealed as directed including necessary fittings etc. including testing of pipe and joints and fixing the same with adhesive solvent, including cost of all materials	Rmt.	22.00	193.73	4,262

NAME OF WORK:-CONSTRUCTION OF RIVERSIDE SAVORIES I.E. BUILDING WITH UNDERGROUND ROAD BETWEEN NEHRU BRIDGE AND ELLISBRIDGE AND CONSTRUCTION OF PUBLIC PLAZA AND UNDERGROUND PARKING FACILITY AT SANSKAR KENDRA - TAGORE HALL CAMPUS CONNECTING RIVERFRONT ON WESTBANK FOR SRFDCL.

Item No.	Description	Unit	Total Qty.	Rate	Amount
2.03	Providing and fixing unplasticized polyvinyl chloride (UPVC) pipes with all the engineered support as per detail technical specification, having thermal stability for water supply including all UPVC plain and brass threaded fitting. This includes jointing of pipes and fittings with one step UPVC solvent cement and testing of joints complete as per direction of engineer in charge. Scope shall also including cutting, chasing the wall/beam by grinder cutter and making good the same. Pipe Dia upto 50MM: UPVC (SCH 40) Pipe Diameter above 50MM: UPVC (SCH 80) The rate shall be including all the engineered support (support, hanger, nuts/bolts, anchor fasteners, fixing clamp/channels with U-bolts, etc) as per detail technical specification etc. complete the job. Product to compliance with occupational safety standards. 75 mm dia.	Rmt.	109.00	1110.00	1,20,990
2.04	Providing, laying and jointing in true line and level 110 mm diametre U.P.V.C (Type B) conforming to IS 13592-1992 with one end plain and other end socketed with rubber ring, & fittings conforming to ISI 14735-1999 of approved make for drainage system pipe line, pipe shall be jointed with eachother with rubber lubricant, pipe shall be fixed on wall using of PVC clamp of the size 110 mm diametre x 149 mm length x 145 mm heigh at every 2000 mm center to center or shall be concealed in walls as directed including necessary fittings such as bends, shoes etc. including testing of pipes and joints and jointed with adhesive solvent cement including cost of all materials.	Rmt.	129.00	826.88	1,06,668
2.05	Providing, laying and jointing in true line and level 160 mm diametre U.P.V.C (Type B) conforming to IS 13592-1992 with one end plain and other end socketed with rubber ring, & fittings conforming to ISI 14735-1999 of approved make for drainage system pipe line, pipe shall be jointed with eachother with rubber lubricant, pipe shall be fixed on wall using of PVC clamp of the size 110 mm diametre x 149 mm length x 145 mm heigh at every 2000 mm center to center or shall be concealed in walls as directed including necessary fittings such as bends, shoes etc. including testing of pipes and joints and jointed with adhesive solvent cement including cost of all materials.	Rmt.	53.00	822.99	43,618
2.06	Providing & fixing PVC SWR TYPE B P Trap of 110 X 110 mm diameter with Height riser/ necessary 110MM Diameter of distance piece for wash basin/ sink drain connection with cockroach trap - square flat cut, Satin-matt finish - 150mm x 150mm of approved Make, making necessary slab/ wall/ beam holes and cutting walls, etc. complete.	Nos.	52.00	1700.00	88,400
2.07	Providing & fixing floor clean out square cut 150mm- Satin of approved Make with making necessary slab/ wall/ beam holes and cutting walls, etc. complete.	Nos.	28.00	1200.00	33,600
2.08	Providing fixing, testing and commissioning in position 65 mm dia Polypropylene pipe ring fit conforming to EN: 1329, including all fittings such as bends, junctions, inspection doors, offsets, cowl, access pieces/plugs etc. including cutting holes in walls, slab and beam and making good the same. (For Basement stromwater sump & sewage sump pumping pipe at ceiling)	Rmt.	506.00	1300.00	6,57,800

NAME OF WORK:-CONSTRUCTION OF RIVERSIDE SAVORIES I.E. BUILDING WITH UNDERGROUND ROAD BETWEEN NEHRU BRIDGE AND ELLISBRIDGE AND CONSTRUCTION OF PUBLIC PLAZA AND UNDERGROUND PARKING FACILITY AT SANSKAR KENDRA - TAGORE HALL CAMPUS CONNECTING RIVERFRONT ON WESTBANK FOR SRFDCL.

Item No.	Description	Unit	Total Qty.	Rate	Amount
2.09	Making connection to Municipal storm water line/ existing drain including breaking them in a systematic way with suitable excavation, dewatering, dismantling of the RCC or masonry wall or pipe line, passing the plumbing storm water line in the existing structure either through masonry or RCC and providing suitable "Y" tee to the connect to existing pipe line, Reconstructions of dismantled existing structure according to the original one to bring to the working conditions testing etc. work to be done in the presence of municipal eng. including Liasoning cost. complete as per standard as directed by Engineer-in-charge to complete the job.	Nos.	2.00	50,000	1,00,000
Sub total					11,59,004
INTERNAL/EXTERNAL WATER SUPPLY NETWORK					
3.01	Providing and fixing concealed center point to wall ceiling & floor CPVC (SDR 13.5) PIPE having National Sanitation Foundation (NSF) seal for potable water of following dia. nominal bore tube fittings and clamps including making good the wall, ceiling and floor etc. complete. [A] 15 mm.	Rmt.	97.00	165.21	16,025
3.02	Providing and fixing concealed center point to wall ceiling & floor CPVC (SDR 13.5) PIPE having National Sanitation Foundation (NSF) seal for potable water of following dia. nominal bore tube fittings and clamps including making good the wall, ceiling and floor etc. complete. [A] 20 mm.	Rmt.	30.00	202.97	6,089
3.03	Providing and fixing concealed center point to wall ceiling & floor CPVC (SDR 13.5) PIPE having National Sanitation Foundation (NSF) seal for potable water of following dia. nominal bore tube fittings and clamps including making good the wall, ceiling and floor etc. complete. [A] 25 mm.	Rmt.	71.00	247.25	17,555
3.04	Providing and fixing concealed center point to wall ceiling & floor CPVC (SDR 13.5) PIPE having National Sanitation Foundation (NSF) seal for potable water of following dia. nominal bore tube fittings and clamps including making good the wall, ceiling and floor etc. complete. [A] 32 mm.	Rmt.	5.00	330.36	1,652
3.05	Providing laying and jointing in true line and level 40mm dia. U.P.V.C. Pipe (SCH- 40) for cold water including fittings as approved by Engineer In Charge. Pipe shall be fixed on the wall with the help of clamp at every two metre C/C or shall be concealed as directed including necessary fittings etc. including testing of pipe and joints and fixing the same with adhesive solvent, including cost of all materials.	Rmt.	34.00	146.65	4,986
3.06	Providing and fixing unplasticized polyvinyl chloride (UPVC) pipes with all the engineered support as per detail technical specification, having thermal stability for water supply including all UPVC plain and brass threaded fitting. This includes jointing of pipes and fittings with one step UPVC solvent cement and testing of joints complete as per direction of engineer in charge. Scope shall also including cutting, chasing the wall/beam by grinder cutter and making good the same. Pipe Dia upto 50MM: UPVC (SCH 40) Pipe Diameter above 50MM: UPVC (SCH 80) The rate shall be including all the engineered support (support, hanger, nuts/bolts, anchor fasteners, fixing clamp/channels with U-bolts, etc) as per detail technical specification etc. complete the job. Product to compliance with occupational safety standards. 65 mm dia.	Rmt.	335.00	920.00	3,08,200

NAME OF WORK:-CONSTRUCTION OF RIVERSIDE SAVORIES I.E. BUILDING WITH UNDERGROUND ROAD BETWEEN NEHRU BRIDGE AND ELLISBRIDGE AND CONSTRUCTION OF PUBLIC PLAZA AND UNDERGROUND PARKING FACILITY AT SANSKAR KENDRA - TAGORE HALL CAMPUS CONNECTING RIVERFRONT ON WESTBANK FOR SRFDCL.

Item No.	Description	Unit	Total Qty.	Rate	Amount
3.07	Providing and fixing male/ female screw ended full way lever operated forged ISI marked brass ball valves with brass body with forged brass hard chrome plated ball / stem, union.Rated to temperature of 85 Deg C, The valves to be PN 10kgm class on CPVC or GI pipe lines. (For cold water supply lines) 20 mm dia.	Nos.	2.00	1181.00	2,362
3.08	Providing and fixing male/ female screw ended full way lever operated forged ISI marked brass ball valves with brass body with forged brass hard chrome plated ball / stem, union.Rated to temperature of 85 Deg C, The valves to be PN 10kgm class on CPVC or GI pipe lines. (For cold water supply lines) 32 mm dia.	Nos.	8.00	2630.00	21,040
3.09	Providing and fixing male/ female screw ended full way lever operated forged ISI marked brass ball valves with brass body with forged brass hard chrome plated ball / stem, union.Rated to temperature of 85 Deg C, The valves to be PN 10kgm class on CPVC or GI pipe lines. (For cold water supply lines) 40 mm dia.	Nos.	2.00	3510.00	7,020
3.10	Providing and supplying ISI mark CI D/F Butterfly Valves as per IS:13095 (Latest Edition) of class PN 10, including all taxes, insurance, transportation, freight charges, octroi, inspection charges, loading, unloading, conveyance to departmental stores, stacking etc. complete. Lowering, laying and jointing in position C. I. D/F Butterfly valves including cost of all labour, jointing material, including nut bolts and giving satisfactory hydraulic testing, etc. complete. 65 mm dia.	Nos.	2.00	2098.00	4,196
3.11	Supply, Installation, Testing and Commissioning of Gun metal 25 mm dia. air release valve.	Nos.	2.00	2060.00	4,120
3.12	Woltman Type Bulk Water Meter- AMR Based: Water Meter: 65mm Design, Supply, Installation, Testing, Commissioning of Woltman type Bulk Water Meter, CI/ Brass/ Bronze body material, totalizer made of copper can/ suitable anti corrosive metallic material, totaliser metallic shall have 5 mm thick glass cover suitable against antifraud attempts, Flange End process connection, IP 68 protection class, AMR Woltman Type Water Meter with removable mechanism, magnetic drive, dry dial, and be fitted with a low mass rotor which is parallel to the direction of water flow and exhibits dynamic thrust relief, water meters complete with T Type strainer, ISO 4064 : 2005 with valid CE mark mentioning notified body number along with MID / OIML / ISO certification from a recognized International laboratory. AMR System : AMR System shall be Walk By / Drive By mode, Wireless AMR trans-receivers shall be directly fitted on meter or inbuilt, IP 68 protection class, water meter & AMR Module shall be of same brand, Single Command based AMR Reading and Minimum 90 days historical data retrieve facility, alaram indication/ recording (for Reverse Flow, back flow, Peak Flow,Minimum Flow, Low Battery Alram, Volume below threshold, Volume above threshold, Reverse Meter, Meter Stopped), Minimum 10 years of AMR module bateery life considering one no. communication per day.	Nos.	1.00	19888.00	19,888

NAME OF WORK:-CONSTRUCTION OF RIVERSIDE SAVORIES I.E. BUILDING WITH UNDERGROUND ROAD BETWEEN NEHRU BRIDGE AND ELLISBRIDGE AND CONSTRUCTION OF PUBLIC PLAZA AND UNDERGROUND PARKING FACILITY AT SANSKAR KENDRA - TAGORE HALL CAMPUS CONNECTING RIVERFRONT ON WESTBANK FOR SRFDCL.

Item No.	Description	Unit	Total Qty.	Rate	Amount
3.13	Construction of valve chambers in brick or bell stone masonry,locally available in CM 1:6.Foundation concrete 150 mm thick in C.C. 1:4:8 of trap metal size 25 mm to 40 mm thick,inside cement plaster in C.M. 1:3 and cement pointing outside in C.M. 1:3 and top cover of precast RCC slab 100 mma thick (with key hole in two parts,each with handles or MS bar etc.complete as given size)UPto 1Mt. depth from G.L. to pipe invert incl.cpmplete civil works but excl. cost of excavation and refilling, with cast in situ RCC slab in one sigle piece with fixing of CI-MH frame and cover (excl. cost of CI-MH Frame and cover) with 23 mm thick brick masonry wall in C.M.:1:6 Size of chamber 0.60M X 0.60M and 1M depth	Nos.	1.00	5138.00	5,138
3.14	Making point of new connection from Existing/ Municipal water supply line with all support, clamps, civil work, etc. required, providing suitable fittings, to connect to Existing line and good the same as per engineer in charge. Work to be done including Liasoning cost.	Nos.	1.00	50000.00	50,000
Sub total					4,68,271
IRRIGATION WATER SUPPLY NETWORK					
4.01	Providing laying and jointing in true line and level 25mm dia. U.P.V.C. Pipe (SCH- 40) for cold water including fittings as approved by Engineer In Charge. Pipe shall be fixed on the wall with the help of clamp at every two metre C/C or shall be concealed as directed including necessary fittings etc. including testing of pipe and joints and fixing the same with adhesive solvent, including cost of all materials.	Rmt.	24.00	90.93	2,182

NAME OF WORK:-CONSTRUCTION OF RIVERSIDE SAVORIES I.E. BUILDING WITH UNDERGROUND ROAD BETWEEN NEHRU BRIDGE AND ELLISBRIDGE AND CONSTRUCTION OF PUBLIC PLAZA AND UNDERGROUND PARKING FACILITY AT SANSKAR KENDRA - TAGORE HALL CAMPUS CONNECTING RIVERFRONT ON WESTBANK FOR SRFDCL.

Item No.	Description	Unit	Total Qty.	Rate	Amount
4.02	Providing and fixing unplasticized polyvinyl chloride (UPVC) pipes with all the engineered support as per detail technical specification, having thermal stability for water supply including all UPVC plain and brass threaded fitting. This includes jointing of pipes and fittings with one step UPVC solvent cement and testing of joints complete as per direction of engineer in charge. Scope shall also including cutting, chasing the wall/beam by grinder cutter and making good the same. Pipe Dia upto 50MM: UPVC (SCH 40) Pipe Diameter above 50MM: UPVC (SCH 80) The rate shall be including all the engineered support (support, hanger, nuts/bolts, anchor fasteners, fixing clamp/channels with U-bolts, etc) as per detail technical specification etc. complete the job. Product to compliance with occupational safety standards. 65 mm dia.	Rmt.	753.00	920.00	6,92,760
4.03	Supply, installation, testing and commissioning of 20mm diameter Garden Hydrant with gun metal Ball Valve, Flexible hose Connection Provision and all required accessories etc.	Nos.	48.00	4800.00	2,30,400
	Sub total			.	9,25,342
EXTERNAL STORM WATER NETWORK					
5.01	Providing and supplying 150 mm Inner Dia. Pipe of Class SN8 Structured Wall polyethelene Piping systems (Pipe with online/offline coupler and elastomeric sealing ring) with non-smooth External Annular Corrugated and Smooth Internal Surfaces (Double Wall) for non-pressure underground Sewerage & Drainage application as per EN:13476-3 including all local and central taxes, transportation, freight charges, octroi, inspection charges, loading, unloading, conveyance to the departmental stores etc. complete.(ID Dia) Lowering, laying and jointing of class SN 8 structured wall (External Annular Corrugated & Smooth Internal surface) Polyethylene Piping and fittings with the help of coupler (on line / off line) attached with one end of pipes, sliding over the elastomeric sealing rubber ring placed on the specified valley of the corrugation at the spigot end, lowering the same into the trench at all level, laying on the lower bedding (constructed at bottom of trenches) at prescribed gradient,depth & alignment ,testing the water tightness of the joints, ensuring the continuity tests of specified pipe segments etc. complete as per drawing, specifications & detailed engineering, including carriage of pipes & fittings from site stacks to the place of laying etc. as per direction of Engineer-in-charge.	Rmt.	17.00	396.00	6,732
5.02	Construction of Storm water chamber of size 450x450x600 mm (internal clear) making of RCC including excavation, backfilling, watering, soling, compaction, Reinforcement etc. complete. It includes M 30 RCC work for walls , top slab and bottom slab as per the drawing, having Rubble soiling and 100mm thick PCC in M-15 at bottom level. It shall be plastered with 20mm thick Plaster with neat coat in CM 1:3 on internal and outside of chamber with adquate goliya at all sides. Top shall be covered with FRP recessed Heavy Duty cover with Frame(450MMX450MM Clear Opening). It shall be completed with all respect in ture line level, plumb with neat & clean surface as per coordinated infrastructure detail drawing up to the level of satisfaction	Nos.	1.00	24000.00	24,000
	Sub total				30,732

NAME OF WORK:-CONSTRUCTION OF RIVERSIDE SAVORIES I.E. BUILDING WITH UNDERGROUND ROAD BETWEEN NEHRU BRIDGE AND ELLISBRIDGE AND CONSTRUCTION OF PUBLIC PLAZA AND UNDERGROUND PARKING FACILITY AT SANSKAR KENDRA - TAGORE HALL CAMPUS CONNECTING RIVERFRONT ON WESTBANK FOR SRFDCL.

Item No.	Description	Unit	Total Qty.	Rate	Amount
PUMP AND EQUIPMENT WORKS					
6.01	<p>HYDRO PNEUMATIC SYSTEM FOR Domestic Water Distribution Hydro-pneumatic System Variable Speed Hydro-booster System Compact self contained Hydro-booster system comprising of following SITC of In-line, vertical multistage, centrifugal clear water pumps with SS-304 casing, S.S 304 impeller and SS-304 shaft, C.I. Base CED (Cathode Electrode Deposition) coating & head TEFC motor (with mechanical seal), dry run protection, antivibration paid, 2 pole Motor & IE3 Efficiency. Vendor to submit performance curves and technical catalogue of the proposed model for review and information. Panel mounted microprocessor based multi pump controller with large graphical display with VGA 240 x 320 pixels and variable frequency drive (VFD) integrated in a single body, pressure sensor transmitter, IP 55 enclosure, diodes to indicate pump ready, earthing, pump running and fault condition, Cascade Operation. Each incomer and Outgoing feeder should be capable for protection against Overload, Short Circuit and Phase reversal condition and shall be capable to communicate with other controllers following. The PLC shall support MODBUS-IP communication for its compatability to intergrate with 3rd party BAS system. Controller shall authorise Read/Write command via BMS.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. Indication of all type of faults / on-off status / electrical parameters shall be available on panel and central IBMS monitors. On-off operation for all pumps shall be available on BMS system. Electronic type low water level controller with LED panel to operate pump (necessary contacts along with minimum one PLC operated spare contacts required), with probe & all control wiring from Panel to tank to operate the system automatic/manual & shall prevent the pump from dry running. Scope shall also include power and control cable of required size, termination, cable tray from Pump to Control panel, control cable as wherever required etc. complete the job. Pre-charged diaphragm pressure vessel with interchangeable membrane, charging connection, connected to outlet header with necessary flanges, gaskets, isolating valves, nuts/bolts etc. complete (size of pressure vessel shall be as per manufacturer recommendation). Set of accessories such as GI C Class headers of suction and discharge for (working and Standby pump assembly) with CED Coating, Cast iron control valves, Cast Iron non return valves, pressure transducers, pressure gauge with Isolation Valve of PN 10 etc. complete the job.Require complete company fitted ready-to-connect packaged system. Capacity per pump - 7.5 m3/hour, Head -30 mt, 1 Set = 3 Nos. Pump (2 Working + 1 Standby - cascade operation), Location - UGT Pump Room, Suction head - flooded positive suction</p>	Set	1.00	9,30,000	9,30,000

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Item No.	Description	Unit	Total Qty.	Rate	Amount
6.02	<p>IRRIGATION PUMP Centrifugal Monoblock Transfer pump Supplying, installing, testing and commissioning of Horizontal / vertical multistage, centrifugal clear water pumps with SS-304 casing, S.S 304 impeller and SS-304 shaft, SS-304/C.I. Base CED coating & head TEFC IE3 motor (with mechanical seal) with Company fitted with company compliance certificate. Vendor to submit performance curves and technical catalogue with all GA Drawing of the proposed model for review and information. Panel mounted PLC and HMI Based multi pump controller with large graphical display with VGA 240 x 320 pixels and variable frequency drive (VFD) integrated in a Panel with IP55 class with pressure sensor transmitter (each pump each VFD), 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. All alarms should be displayed in the controller. System should be equipped with dry running protection. Indication of all type of faults / on-off status / electrical parameters shall be available on panel.</p> <p>Set of accessories such as G.I headers for suction and discharge, control valves, non return valves, pressure transducers, pressure gauge, inter connecting power and control cabling etc. complete. Capacity per pump - 7.5 m3/hour, Head -45 mt, 1 Set = 2 Nos. Pump (1 Working + 1 Standby).</p>	Set	1.00	5,20,000	5,20,000
3.09	<p>Sump Drain Pump (For Basement Storm Water Drain) Supply, installation, testing & commissioning of Submersible Non Clog, single stage, single entry pumps connected to TEFC submersible motor for 415 + 10% volts, 3 phase, 50 cycles A.C. power supply with mechanical seal, pump connector unit with rubber diaphragm and bend, vertical discharge pipe. (Pumps suitable to handle solids upto 50 mm size with C.I. body, SS304 shaft, SS impeller). Pump Outlet shall be individual for both pumps and shall be connected to main drain line individually. Electrical Starter panels complete with O/L Relay with Single phasing preventer feature, earth leakage relay, ON-OFF and Trip Indicating lamps, contactors Potential free contacts for Building Automation System, interlocking, level controller with operational mode as one pump working at low level, both pumps at high level with a hooter alarm and cut off at dry level. cascade operation, working / standby selection, etc. suitable for the motor H.P. as specified below. The operations data for all pumps shall be available on central BMS system Capacity per pump - 15.0 m3/hour, Head -30 mt, 1 Set = 2 Nos. Pump (1 Working + 1 Assist - cascade operation)</p>	Set	3.00	1,50,000	4,50,000

NAME OF WORK:-CONSTRUCTION OF RIVERSIDE SAVORIES I.E. BUILDING WITH UNDERGROUND ROAD BETWEEN NEHRU BRIDGE AND ELLISBRIDGE AND CONSTRUCTION OF PUBLIC PLAZA AND UNDERGROUND PARKING FACILITY AT SANSKAR KENDRA - TAGORE HALL CAMPUS CONNECTING RIVERFRONT ON WESTBANK FOR SRFDCL.

Item No.	Description	Unit	Total Qty.	Rate	Amount
3.10	<p>Sump Drain Pump (For Toilet Sewage Drain) Supply, installation, testing & commissioning of Submersible Non Clog, single stage, single entry pumps connected to TEFC submersible motor for 415 + 10% volts, 3 phase, 50 cycles A.C. power supply with mechanical seal, pump connector unit with rubber diaphragm and bend, vertical discharge pipe. (Pumps suitable to handle solids upto 50 mm size with C.I. body, SS304 shaft, SS impeller). Pump Outlet shall be individual for both pumps and shall be connected to main drain line individually. Electrical Starter panels complete with O/L Relay with Single phasing preventer feature, earth leakage relay, ON-OFF and Trip Indicating lamps, contactors Potential free contacts for Building Automation System, interlocking, level controller with operational mode as one pump working at low level, both pumps at high level with a hooter alarm and cut off at dry level, cascade operation, working / standby selection, etc. suitable for the motor H.P. as specified below. The operations data for all pumps shall be available on central BMS system Capacity per pump - 7.5 m3/hour, Head -30 mt, 1 Set = 2 Nos. Pump (1 Working + 1 Asist - cascade operation)</p>	Set	2.00	1,35,000	2,70,000
	Sub total				21,70,000
	TOTAL PLUMBING AMOUNT				69,80,214

PROJECT- SANSKAR KENDRA PLAZA, AHMEDABAD

DOCUMENT-BOQ

Schedule of rate for R & B

Item No.	Description of Item	Quantity	Unit	SOR Rate (Rs.)	Amount (Rs.) Without GST	Total Amount (Rs.)
Electrical & ELV Work						
1	DG SET					
1.1	<p>Supplying and erecting, commissioning and testing of Diesel Generating set confirming to IS: 4722:1968 & BS:5514 having continuous rating, 3 phase, 415 volts, 50 cycles A.C. supply comprising of a totally enclosed air/water cooled diesel engine with multi-cylinders developing suitable BHP not less than following capacity at 1500 RPM with 10% overload for one hour in 24 hours with standard accessories like fly wheel, lubricating oil cooler, "A" class governor, heavy duty fuel wheel and lubricating oil filter, oil bath air filler, lubricating oil pressure gauge, end exhaust manifold, standard set of tools with adjustable spanners, screw drivers, cylinder head to cover, joint cylinder head to exhaust, element lube oil filter, 12 / 24 volts electric starting equipment complete with standard heavy duty battery, dynamo, cut-outs, ammeter, necessary wiring, pressure gauge, starter etc and heavy duty Residential type exhaust silencer and vertical hot air duct both</p> <p>logged with asbestos rope, save oil trays, exhaust piping of required length, standard wall/floor mounted fuel with level indicator and piping and drip proof alternator, self excited, self regulated, screen protected, with excitation system, capable of delivering the rated system output at 415 volts, 3 phase, 0.8 PF, 50 Hz, 4 wire, running at 1500 RPM, conforming to IS-4722- 1968 with voltage regulation +/- 5% of rated voltage from no load to full load. Both the engine and alternator fitted on a common fabricated steel base plate with antivibration mounting engine and alternator both connected to each other by flexible flange coupling and with floor/wall mounted control panel box comprising of voltmeter ammeter, selector switches, ACB / MCCB / MCB of adequate capacity, indicator lamps duly wired with HRC fuses. The alternator & control panel shall be connected with provided suitable capacity armoured cable and complete with Acoustic enclosure (canopy) made out of 16 SWG CRCA Sheet, sound abR&B R&B SORbing material Rockwool of 64 density & 100 mm thick conforming to IS:8183 / PU Foam of 40 Density - at least 40 mm. The resin bonded rockwool covered from inside the canopy by perforated sheet with 3/4 mm holes, sound level not more than 75 dB at a distance of 1 mtr, as per PVCT norms. Erection, commissioning and satisfactory testing as per requirement with first filling of fuel, oil, etc. with guarantee / Warrantee of complete system for Two years. & with obtaining all necessary certificate from Electrical Inspector. The Capacity and Ratings of DG sets are as below.</p> <p>(V) Continuous rating of 500 KVA ,BHP not less than 600 BHP</p>	1.00	Each	40,18,180.00	40,18,180.00	4018180.00

1.2	<p>Supply, installation, testing and commissioning of approved make AMF control panel suitable for following size of 3 phase, 415 V., 50 cycles, A.C. diesel generating set complete of scope as detailed below:</p> <p>1) Power module: A pair of electromechanically interlocked contactors (for mains & generator) Overload relay for generator contactor Neutral contactor for mains and generator Power socket for connections.</p> <p>2) Control and metering module: Line voltage monitor. Generator voltage monitor Ammeter 3 items attempt start facility. Air circuit breakers/MCB/MCCB of suitable rating for auto/manual operation. Auto/manual switch. Emergency stop push buttons. Manual start push button. frequency meter. Engine hour meter. Two earthing studs.</p> <p>3) Protection module: The engine shutdown in the unlikely event of Low lube oil pressure High cylinder head temperature. V belt failure.</p> <p>4) Indicators with alarm Load on generator.</p> <p>5) Indicators Load on mains Engine fails to start . Emergency stop battery charger.</p> <p>The AMF Panel of following capacity (G) AMF Control Panel for 500 KVA 3 phase DG Set</p>	1.00	Each	4,38,931.00	4,38,931.00	438931.00
Total						4457111.00
2	LT PANEL					
	<p>Supply, installation, testing and commissioning of 3 phase 415V 4 wire Free Standing Floor mounted MV panel made out of minimum 14 SWG CRCA sheet after seventank process and painting with Epoxy powder coating including all switchgear as detailed below. The panel having PU/Neoprene rubber gasket of not less than 3mm thickness, separate detachable, gland plate M.S. base channel, hinged door with locking arrangement for equipment/switchgear. The panel shall consist of suitable rating FP/TPN Aluminium- busbar-as per SLD (at the rating of 0.8ASq.mm) supported with DMC/ SMC barriers and colour coded with Heat shrinkable sleeves. The Metering shall be provided as specified.</p> <p>The panel shall have Short circuit with standing capacity as given in SLD and consist of the switchgear as mentioned below. The panel shall be mounted on plinth, stand, etc. including all materials. The panel shall be got fabricated from manufacturers with CPRI Test certificate only. All the Panels shall have minimum 25% outgoing as per SLD. The earth bus shall be continuously run without any jointing/welding and its Size should be per SLD. The size of all Panel Mounting Meters shall be 96X96mm. The Panels shall be mounted on U channels including supply and fixing of the same. MCBs shall be provided for Control purposes. (All Panels shall be extendable type only). Price shall be inclusive following:</p> <p>Shifting of panels from site store to the suitable location. Installation of panel as located in electrical drawings or as per site conditions, including removing packing etc. Earthing all components, frame etc. to a common internal earth bar. Connection, testing & commissioning. Electrical contractor shall carry out the insulation test at site & all the readings shall be submitted in copy to the consultant or engineer-in-charge. Supply, installation, testing and commissioning all accessories, supporting structure, hard ware etc to complete the job. Supply, installation, testing and commissioning of necessary tools, hard ware, testing hard ware, testing equipment etc. The rates for the distribution boards apart from the Breakers and instruments shall also include the following :</p> <p>This schedule of Quantities shall be read in conjunction with the technical specification, General & Special conditions as well as all tender drawings. Supporting rigid steel framework. Cubicle type, 14 gauge CRCA sheet steel enclosed. Proper bonding to earth. Painting/lettering on Breakers and distribution boards, the location they serve, providing on each panel its circuit diagram.</p> <p>Providing cable clamps / supports within distribution boards cable alley.</p> <p>All MCB's shall be of minimum 10 KA breaking capacity.</p> <p>The breaking capacity of MCCB's are mentioned panel wise. All MCCB's shall be with thermal magnetic releases upto 250 amps and microprocesR&B R&B SOR based for 250 amps and above capacity, unless specified otherwise.</p>					
2.1	<p>SITC OF Main LT PANEL ALSO REFER SLD ALONG WITH THIS. ALL SHOULD BE AS PER SLD & REQUIREMENT.</p>	1.00	Each	6,53,663.00	6,53,663.00	653663.00

2.2	SITC OF External Lighting Panel SFP (Outdoor Type) ALSO REFER SLD ALONG WITH THIS. ALL SHOULD BE AS PER SLD & REQUIREMENT.	4.00	Each	1,13,420.00	4,53,680.00	453680.00
Total						1107343.00
3	JUNCTION BOXES					
3.1	Supply, installation, connection, testing and commissioning of IP-67 Water tight Junction box with terminal strip + entries & material of polypropylene, glass fiber reinforces & dimention (180x130x77) equivalent to hensel make DK1010 G	5.00	Each	2,059.75	10,298.75	10298.75
Total						10298.75
4	DISTRIBUTION BOARD					
SPN Distribution Board :						
4.1	Providing and erecting Sheet Steel powder coated MCB distribution board - flush / surface mounted fitted with busbar, neutral link, earth bar and DIN rail, Conforms to IS 8623-1 & 3, IEC 61439-1 & 3 without MCB to house appropriate nos. of MCBs.(The DBs should be used of same company of MCB to be used) suitable for (A) Single phase incoming and horizontal single phase outgoing (b) Sheet Steel double door (IP-43) (iii) 8 way	11.00	Each	1,141.00	12,551.00	12551.00
4.2	Providing and erecting Sheet Steel powder coated MCB distribution board - flush / surface mounted fitted with busbar, neutral link, earth bar and DIN rail, Conforms to IS 8623-1 & 3, IEC 61439-1 & 3 without MCB to house appropriate nos. of MCBs.(The DBs should be used of same company of MCB to be used) suitable for (A) Single phase incoming and horizontal single phase outgoing (b) Sheet Steel double door (IP-43) (iv) 12 way	1.00	Each	1,478.00	1,478.00	1478.00
TPN Distribution Board :						
4.3	Providing and erecting Sheet Steel powder coated MCB distribution board - flush / surface mounted fitted with busbar, neutral link, earth bar and DIN rail, Conforms to IS 8623-1 & 3, IEC 61439-1 & 3 without MCB to house appropriate nos. of MCBs.(The DBs should be used of same company of MCB to be used) suitable for suitable for (PPI DB) (B) three phase incoming and single phase horizontal type outgoing Per phase isolation type (PPI) (b) Sheet Steel double door (ii) 6way	5.00	Each	2,885.00	14,425.00	14425.00
4.4	Providing and erecting Sheet Steel powder coated MCB distribution board - flush / surface mounted fitted with busbar, neutral link, earth bar and DIN rail, Conforms to IS 8623-1 & 3, IEC 61439-1 & 3 without MCB to house appropriate nos. of MCBs.(The DBs should be used of same company of MCB to be used) suitable for suitable for (PPI DB) (B) three phase incoming and single phase horizontal type outgoing Per phase isolation type (PPI) (b) Sheet Steel double door (iii) 8way	1.00	Each	3,379.00	3,379.00	3379.00
VTPN Distribution Board :						

4.5	Providing and erecting Sheet Steel powder coated Vertical MCB distribution board (VTPN) - flush / surface mounted double door (IP54) fitted with copper insulated busbar, isolated neutral bar, earth bar and DIN rail, Conforms to IS 8623-1 & 3, IEC 61439-1 & 3, suitable for 63/100 AMP TPN MCCB + RCCB as incomer and three phase outgoing as per following .(The DBs should be used of same company of MCB to be used) (C)8 way outgoing	1.00	Each	8,319.00	8,319.00	8319.00
4.6	Providing and erecting Sheet Steel powder coated Vertical MCB distribution board (VTPN) - flush / surface mounted double door (IP54) fitted with copper insulated busbar, isolated neutral bar, earth bar and DIN rail, Conforms to IS 8623-1 & 3, IEC 61439-1 & 3, suitable for 63/100 AMP TPN MCCB + RCCB as incomer and three phase outgoing as per following .(The DBs should be used of same company of MCB to be used) (D)12 way outgoing	1.00	Each	10,857.00	10,857.00	10857.00
MCB 's and its Accessories						
4.7	Providing & erecting insulated socket 3P+N+E with Plug16A rating which is comprised of Four pole MCB slot and insulated socket IP40 Cat-III.	2.00	Each	1,690.00	3,380.00	3380.00
4.8	providing and erecting Miniature circuit breaker single pole 6A to 25A suitable to operate on 240 V A.C. system and having breaking capacity 10 KA to be erected in existing box. confirming to IS 8828/1996 with ISI Mark Cat.III.	155.00	Each	111.00	17,205.00	17205.00
4.9	Providing & erecting 240 V MCB double pole switch for motor & inductive load having 10 KA breaking capacity & confirms to IS : 8828 in existing box having following capacity (A) 6 to 32 Amp.	1.00	Each	297.00	297.00	297.00
4.10	Providing & erecting 415 V MCB Four Pole for Motor & Inductive Load having 10KA breaking capacity & confirms to IS :8828 in existing box having following capacity (a) 6 to 32 Amp. (Cat.III)	1.00	Each	590.00	590.00	590.00
4.11	Providing & erecting 415 V MCB Four Pole for Motor & Inductive Load having 10KA breaking capacity & confirms to IS :8828 in existing box having following capacity (b) 40 Amp. (Cat.III)	8.00	Each	662.00	5,296.00	5296.00
4.12	Providing & erecting 415 V MCB Four Pole for Motor & Inductive Load having 10KA breaking capacity & confirms to IS :8828 in existing box having following capacity (c) 63 Amp. (cat III)	1.00	Each	730.00	730.00	730.00
4.13	Providing & erecting 415 V MCB three Pole for Motor & Inductive Load having 10KA breaking capacity & confirms to IS :8828 in existing box having following capacity (a) 6 to 32 Amp. (Cat.III)	13.00	Each	582.00	7,566.00	7566.00
4.14	Providing & erecting 415 V MCB three Pole for Motor & Inductive Load having 10KA breaking capacity & confirms to IS :8828 in existing box having following capacity (b)40 Amp. (Cat.III)	2.00	Each	641.00	1,282.00	1282.00
4.15	Providing & erecting 415 V MCB three Pole for Motor & Inductive Load having 10KA breaking capacity & confirms to IS :8828 in existing box having following capacity (C)63 Amp.(Cat.III)	1.00	Each	709.00	709.00	709.00

4.16	Providing and erecting Approved make RCCBs conforming to IS: 12640 and having sensitivity of 30 mA and Short Circuit withstand capacity of 10 KA and suitable for operation on single phase 240 V,50Hz. having characteristic of quick action & tripping with all advance feature & do not incorporate any electronic component. for following Max. rating erected as directed (i) 25 Amps.DP (Cat. III)	28.00	Each	1,950.00	54,600.00	54600.00
4.17	Providing and erecting Approved make RCCBs conforming to IS: 12640 and having sensitivity of 30 mA and Short Circuit withstand capacity of 10 KA and suitable for operation on single phase 240 V,50Hz. having characteristic of quick action & tripping with all advance feature & do not incorporate any electronic component. for following Max. rating erected as directed (ii) 40Amps. DP (Cat. III)	1.00	Each	2,213.00	2,213.00	2213.00
4.18	Supplying & erecting approved make RCCB + MCB (Electro magnetic type only) working on residual current device having 10 KA short circuit breaking capacity and 30 mAmp. Sensitivity & 30 mili sec. tripping time conforming to IS 12640 test knob facility trip free mechanism operating for rated leakage at nominal ten volt, complete erected including all materials lugs screws etc. completed. [a] 6A / 10A / 16A / 20A / 25A 2 pole single phase Cat. II	1.00	Each	1,798.00	1,798.00	1798.00
4.19	Supplying & erecting approved make RCCB + MCB (Electro magnetic type only) working on residual current device having 10 KA short circuit breaking capacity and 30 mAmp. Sensitivity & 30 mili sec. tripping time conforming to IS 12640 test knob facility trip free mechanism operating for rated leakage at nominal ten volt, complete erected including all materials lugs screws etc. completed. [b] 32A / 40A, 2 pole Single Phase Cat. II	1.00	Each	1,925.00	1,925.00	1925.00
4.20	Supplying & erecting approved make RCCB + MCB (Electro magnetic type only) working on residual current device having 10 KA short circuit breaking capacity and 30 mAmp. Sensitivity & 30 mili sec. tripping time conforming to IS 12640 test knob facility trip free mechanism operating for rated leakage at nominal ten volt, complete erected including all materials lugs screws etc. completed. [e] 32A to 40 A, 4 Pole Three Phase Cat. II	1.00	Each	2,145.00	2,145.00	2145.00
4.21	Supplying & erecting approved make RCCB + MCB (Electro magnetic type only) working on residual current device having 10 KA short circuit breaking capacity and 30 mAmp. Sensitivity & 30 mili sec. tripping time conforming to IS 12640 test knob facility trip free mechanism operating for rated leakage at nominal ten volt, complete erected including all materials lugs screws etc. completed. [f] 63A, 4 pole Three Phase Cat. II	1.00	Each	2,806.00	2,806.00	2806.00
4.22	SITC of Sheet steel metal enclouser for DP MCB	1.00	Each	175.00	175.00	175.00
4.23	SITC of Sheet steel metal enclouser for FP MCB	2.00	Each	623.00	1,246.00	1246.00
4.24	SITC of IP 65 - outdoor type - 4Way SPN DB	1.00	Each	2,407.50	2,407.50	2407.50
4.25	SITC of Blank Plates	10.00	Each	9.00	90.00	90.00
	Total					157469.50

5	LT CABLES & CABLE TERMINATION					
5.1	UNARMOURED COPPER CABLES.					
5.1.1	Supplying & erecting XLPE(IS:7098)(I)-88 ISI unarmoured copper cable 1.1 KV grade to be erected as directed of following size. (E) 3 core 2.5 Sq. mm	10.00	Mtr.	136.00	1,360.00	1360.00
5.1.2	Supplying & erecting XLPE(IS:7098)(I)-88 ISI unarmoured copper cable 1.1 KV grade to be erected as directed of following size. (F) 3 core 4 Sq. mm	10.00	Mtr.	187.00	1,870.00	1870.00
5.1.3	Supplying & erecting XLPE(IS:7098)(I)-88 ISI unarmoured copper cable 1.1 KV grade to be erected as directed of following size. (K) 4 core 4 Sq. mm	10.00	Mtr.	238.00	2,380.00	2380.00
5.1.4	Supplying & erecting XLPE(IS:7098)(I)-88 ISI unarmoured copper cable 1.1 KV grade to be erected as directed of following size. (L) 4 core 6 Sq. mm	10.00	Mtr.	361.00	3,610.00	3610.00
5.2	ARMOURED ALUMINIUM CABLES					
5.2.1	Providing and erecting XLPE (IS:7098)(I)-88 ISI armoured cable multistrand Aluminium conductor for 1.1 KV. to be laid on wall with necessary clamps or in existing trench / pipe of following size of cables (A) 4 core 16 Sq. mm	10.00	Mtr.	152.00	1,520.00	1520.00
5.2.2	Providing and erecting XLPE (IS:7098)(I)-88 ISI armoured cable multistrand / Solid Aluminium conductor for 1.1 KV. to be laid on wall with necessary clamps or in existing trench / pipe of following size of cables (C) 4 core 10 Sq. mm	10.00	Mtr.	139.00	1,390.00	1390.00
5.2.3	Providing and erecting XLPE(IS:7098)(I)-88 ISI armoured cable multistrand Aluminium conductor with water swellable coating which should protect against saline water & for 1.1 KV. to be laid on wall with necessary clamps or in existing trench / pipe of following size of cables (I) 3 1/2 core 25 Sq. mm(16 Sq. mm 1/2 core)	10.00	Mtr.	182.00	1,820.00	1820.00
5.2.4	Providing and erecting XLPE(IS:7098)(I)-88 ISI armoured cable multistrand Aluminium conductor with water swellable coating which should protect against saline water & for 1.1 KV. to be laid on wall with necessary clamps or in existing trench / pipe of following size of cables (B) 3 1/2 core 35 Sq. mm(25 Sq. mm 1/2 core)	10.00	Mtr.	218.00	2,180.00	2180.00
5.2.5	Providing and erecting XLPE(IS:7098)(I)-88 ISI armoured cable multistrand Aluminium conductor with water swellable coating which should protect against saline water & for 1.1 KV. to be laid on wall with necessary clamps or in existing trench / pipe of following size of cables (C) 3 1/2 core 50 Sq. mm (25 Sq. mm 1/2 core)	10.00	Mtr.	282.00	2,820.00	2820.00
5.2.6	Providing and erecting XLPE(IS:7098)(I)-88 ISI armoured cable multistrand Aluminium conductor with water swellable coating which should protect against saline water & for 1.1 KV. to be laid on wall with necessary clamps or in existing trench / pipe of following size of cables (D) 3 1/2 core 70 Sq. mm (35 Sq. mm 1/2 core)	10.00	Mtr.	375.00	3,750.00	3750.00

5.2.7	Providing and erecting XLPE(IS:7098)(I)-88 ISI armoured cable multistrand Aluminium conductor with water swellable coating which should protect against saline water & for 1.1 KV. to be laid on wall with necessary clamps or in existing trench / pipe of following size of cables (E) 3 1/2 core 95 Sq. mm (50 Sq. mm 1/2 core)	420.00	Mtr.	486.00	2,04,120.00	204120.00
5.2.8	Providing and erecting XLPE(IS:7098)(I)-88 ISI armoured cable multistrand Aluminium conductor with water swellable coating which should protect against saline water & for 1.1 KV. to be laid on wall with necessary clamps or in existing trench / pipe of following size of cables (F) 3 1/2 core 120 Sq. mm (70 Sq. mm 1/2 core)	534.00	Mtr.	535.00	2,85,690.00	285690.00
5.2.9	Providing and erecting XLPE(IS:7098)(I)-88 ISI armoured cable multistrand Aluminium conductor with water swellable coating which should protect against saline water & for 1.1 KV. to be laid on wall with necessary clamps or in existing trench / pipe of following size of cables (G) 3 1/2 core 150 Sq. mm (70 Sq. mm 1/2 core)	30.00	Mtr.	724.00	21,720.00	21720.00
5.2.10	Providing and erecting XLPE(IS:7098)(I)-88 ISI armoured cable multistrand Aluminium conductor with water swellable coating which should protect against saline water & for 1.1 KV. to be laid on wall with necessary clamps or in existing trench / pipe of following size of cables (H) 3 1/2 core 185 Sq. mm (95 Sq. mm 1/2 core)	10.00	Mtr.	896.00	8,960.00	8960.00
5.2.11	Providing and erecting XLPE(IS:7098)(I)-88 ISI armoured cable multistrand Aluminium conductor with water swellable coating which should protect against saline water & for 1.1 KV. to be laid on wall with necessary clamps or in existing trench / pipe of following size of cables (I) 3 1/2 core 240 Sq. mm(120 Sq. mm 1/2 core)	90.00	Mtr.	1,157.00	1,04,130.00	104130.00
5.2.12	Providing and erecting XLPE(IS:7098)(I)-88 ISI armoured cable multistrand Aluminium conductor with water swellable coating which should protect against saline water & for 1.1 KV. to be laid on wall with necessary clamps or in existing trench / pipe of following size of cables (J) 3 1/2 core 300 Sq. mm(120 Sq. mm 1/2 core)	5.00	Mtr.	1,394.00	6,970.00	6970.00
5.3	ARMOURED COPPER CABLES					
5.3.1	Providing and erecting XLPE(IS:7098)(I)-88 ISI armoured cable multistrand Copper conductor with water swellable coating which should protect against saline water & 1.1 KV. to be laid on wall with necessary clamps or in existing trench / pipe at road crossing or floor of following size of cable. (A) 3 core 2.5Sq. Mm	144.00	Mtr.	213.00	30,672.00	30672.00
5.3.2	Providing and erecting XLPE(IS:7098)(I)-88 ISI armoured cable multistrand Copper conductor with water swellable coating which should protect against saline water & 1.1 KV. to be laid on wall with necessary clamps or in existing trench / pipe at road crossing or floor of following size of cable. (B) 3 core 4 Sq. mm	492.00	Mtr.	285.00	1,40,220.00	140220.00
5.3.3	Providing and erecting XLPE(IS:7098)(I)-88 ISI armoured cable multistrand Copper conductor with water swellable coating which should protect against saline water & 1.1 KV. to be laid on wall with necessary clamps or in existing trench / pipe at road crossing or floor of following size of cable. (C) 3 core 6 Sq. mm	1116.00	Mtr.	392.00	4,37,472.00	437472.00

5.3.4	Providing and erecting XLPE(IS:7098)(I)-88 ISI armoured cable multistrand Copper conductor with water swellable coating which should protect against saline water & 1.1 KV. to be laid on wall with necessary clamps or in existing trench / pipe at road crossing or floor of following size of cable.. (A) 4 core 2.5 Sq. mm	10.00	Mtr.	269.00	2,690.00	2690.00
5.3.5	Providing and erecting XLPE(IS:7098)(I)-88 ISI armoured cable multistrand Copper conductor with water swellable coating which should protect against saline water & 1.1 KV. to be laid on wall with necessary clamps or in existing trench / pipe at road crossing or floor of following size of cable. (B) 4 core 4 Sq. mm	1540.00	Mtr.	361.00	5,55,940.00	555940.00
5.3.6	Providing and erecting XLPE(IS:7098)(I)-88 ISI armoured cable multistrand Copper conductor with water swellable coating which should protect against saline water & 1.1 KV. to be laid on wall with necessary clamps or in existing trench / pipe at road crossing or floor of following size of cable. (C) 4 core 6 Sq. mm	54.00	Mtr.	505.00	27,270.00	27270.00
5.3.7	Providing and erecting XLPE(IS:7098)(I)-88 ISI armoured cable multistrand Copper conductor with water swellable coating which should protect against saline water & 1.1 KV. to be laid on wall with necessary clamps or in existing trench / pipe at road crossing or floor of following size of cable. (A) 4 core 10 Sq. mm	594.00	Mtr.	670.00	3,97,980.00	397980.00
5.3.8	Providing and erecting XLPE(IS:7098)(I)-88 ISI armoured cable multistrand Copper conductor with water swellable coating which should protect against saline water & 1.1 KV. to be laid on wall with necessary clamps or in existing trench / pipe at road crossing or floor of following size of cable. (B) 4 core 16 Sq. mm	714.00	Mtr.	978.00	6,98,292.00	698292.00
5.4	CABLE GLANDS.					
5.4.1	Providing and, fixing heavy duty flange type brass cable gland with rubber ring for PVC insulated armoured cable complete with out going tails, insulating tape etc for following size of cables. (A) 2 to 4 core 2.5/4 Sq. mm	64.00	Each	33.00	2,112.00	2112.00
5.4.2	Providing and, fixing heavy duty flange type brass cable gland with rubber ring for PVC insulated armoured cable complete with out going tails, insulating tape etc for following size of cables. (B) 2 to 4 core 6 Sq. mm	20.00	Each	38.00	760.00	760.00
5.4.3	Providing and, fixing heavy duty flange type brass cable gland with rubber ring for PVC insulated armoured cable complete with out going tails, insulating tape etc for following size of cables. (C) 2 to 4 core 10 Sq. mm	10.00	Each	38.00	380.00	380.00
5.4.4	Providing and, fixing heavy duty flange type brass cable gland with rubber ring for PVC insulated armoured cable complete with out going tails, insulating tape etc for following size of cables. (D) 2 to 4 core 16 Sq. mm	10.00	Each	47.00	470.00	470.00
5.4.5	Providing and, fixing heavy duty flange type brass double compression type cable gland with rubber ring for PVC insulated armoured cable complete with out going tails, insulating tape etc for following size of cables. (B) 3 & 1/2 core 35/50 Sq. mm	2.00	Each	75.00	150.00	150.00

5.4.6	Providing and, fixing heavy duty flange type brass double compression type cable gland with rubber ring for PVC insulated armoured cable complete with out going tails, insulating tape etc for following size of cables. (C) 3 & 1/2 core 70 Sq. mm	2.00	Each	102.00	204.00	204.00
5.4.7	Providing and, fixing heavy duty flange type brass double compression type cable gland with rubber ring for PVC insulated armoured cable complete with out going tails, insulating tape etc for following size of cables. (D) 3 & 1/2 core 95 Sq. mm	4.00	Each	130.00	520.00	520.00
5.4.8	Providing and, fixing heavy duty flange type brass cable gland with rubber ring for FRLS PVC insulated armoured cable complete with out going tails, insulating tape etc for following size of cables. (E) 3 & 1/2 core 120 Sq. mm	6.00	Each	139.00	834.00	834.00
5.4.9	Providing and, fixing heavy duty flange type brass cable gland with rubber ring for FRLS PVC insulated armoured cable complete with out going tails, insulating tape etc for following size of cables. (F) 3 & 1/2 core 150 Sq. mm	2.00	Each	189.00	378.00	378.00
5.4.10	Providing and, fixing heavy duty flange type brass cable gland with rubber ring for FRLS PVC insulated armoured cable complete with out going tails, insulating tape etc for following size of cables. (G) 3 & 1/2 core 185 Sq. mm	2.00	Each	236.00	472.00	472.00
5.4.11	Providing and, fixing heavy duty flange type brass cable gland with rubber ring for FRLS PVC insulated armoured cable complete with out going tails, insulating tape etc for following size of cables. (H) 3 & 1/2 core 240 Sq. mm	6.00	Each	245.00	1,470.00	1470.00
5.4.12	Providing and, fixing heavy duty flange type brass cable gland with rubber ring for FRLS PVC insulated armoured cable complete with out going tails, insulating tape etc for following size of cables. (I) 3 & 1/2 core 300 Sq. mm	2.00	Each	278.00	556.00	556.00
5.5	Aluminium lugs					
5.5.1	Supply, installation, testing and commissioning of Solderless crimping type Aluminium lugs conforming to IS suitable for cable of following size evenly crimped with high pressure tool & connected to switchgear terminals with brass/cadmium plated nut bolts in an approved manner. (D) 35/50 Sq.mm.	8.00	Each	20.00	160.00	160.00
5.5.2	Supply, installation, testing and commissioning of Solderless crimping type Aluminium lugs conforming to IS suitable for cable of following size evenly crimped with high pressure tool & connected to switchgear terminals with brass/cadmium plated nut bolts in an approved manner. (E) 70 Sq.mm.	8.00	Each	25.00	200.00	200.00

5.5.3	Supply, installation, testing and commissioning of Solderless crimping type Aluminium lugs conforming to IS suitable for cable of following size evenly crimped with high pressure tool & connected to switchgear terminals with brass/cadmium plated nut bolts in an approved manner. (F) 95 Sq.mm.	16.00	Each	40.00	640.00	640.00
5.5.4	Supply, installation, testing and commissioning of Solderless crimping type Aluminium lugs conforming to IS suitable for cable of following size evenly crimped with high pressure tool & connected to switchgear terminals with brass/cadmium plated nut bolts in an approved manner. (G) 120 Sq.mm.	24.00	Each	45.00	1,080.00	1080.00
5.5.5	Supply, installation, testing and commissioning of Solderless crimping type Aluminium lugs conforming to IS suitable for cable of following size evenly crimped with high pressure tool & connected to switchgear terminals with brass/cadmium plated nut bolts in an approved manner. (H) 150 Sq.mm.	8.00	Each	61.00	488.00	488.00
5.5.6	Supply, installation, testing and commissioning of Solderless crimping type Aluminium lugs conforming to IS suitable for cable of following size evenly crimped with high pressure tool & connected to switchgear terminals with brass/cadmium plated nut bolts in an approved manner. (I) 185 Sq.mm.	8.00	Each	80.00	640.00	640.00
5.5.7	Supply, installation, testing and commissioning of Solderless crimping type Aluminium lugs conforming to IS suitable for cable of following size evenly crimped with high pressure tool & connected to switchgear terminals with brass/cadmium plated nut bolts in an approved manner. (J) 240 Sq.mm.	24.00	Each	85.00	2,040.00	2040.00
5.5.8	Supply, installation, testing and commissioning of Solderless crimping type Aluminium lugs conforming to IS suitable for cable of following size evenly crimped with high pressure tool & connected to switchgear terminals with brass/cadmium plated nut bolts in an approved manner. (K) 300 Sq.mm.	8.00	Each	98.00	784.00	784.00
5.6	Copper lugs					
5.6.1	Supply, installation, testing and commissioning of Solder less crimping type Copper lugs conforming to IS suitable for cable of following size evenly crimped with high pressure tool & connected to switchgear terminals with brass/cadmium plated nut bolts in an approved manner. (A) 1.5/2.5 to 6 Sq.mm	336.00	Each	8.00	2,688.00	2688.00
5.6.2	Supply, installation, testing and commissioning of Solder less crimping type Copper lugs conforming to IS suitable for cable of following size evenly crimped with high pressure tool & connected to switchgear terminals with brass/cadmium plated nut bolts in an approved manner. (B) 10 Sq.mm	48.00	Each	10.00	480.00	480.00
5.6.3	Supply, installation, testing and commissioning of Solder less crimping type Copper lugs conforming to IS suitable for cable of following size evenly crimped with high pressure tool & connected to switchgear terminals with brass/cadmium plated nut bolts in an approved manner. (C) 16 Sq.mm.	40.00	Each	12.00	480.00	480.00
Total						2962812.00

6 CABLE TRAY						
Perforated type cable tray						
6.1	Providing and fixing approved make Perforated C type cable tray . Made from sheet steel. The cable tray should be single or double bended as per required and as per IS 2062/1079 and shall be coated with hot dip galvanizing as per IS 2629/4759. with max 17.5% perforation with coupler plate / Fish plate and GI hardware like nut - bolt and washers etc. erection with necessary support(included) as per Specification and as per instruction of engineer in charge.. (3) 150 X 50 X 1.5 mm Thick	300.00	Rmt	420.00	1,26,000.00	126000.00
6.2	Providing and fixing approved make 'T' Junction for Perforated C type cable tray . Made from sheet steel. The Junction should be bended as per IS 2062/1079 and shall be coated with hot dip galvanizing as per IS 2629/4759. with max 17.5% perforation with coupler plate / Fish plate and GI hardware like nut - bolt and washers etc. erected on existing support as per Specification and as per instruction of engineer in charge of following size (3) 150 X 50 X 1.6 mm Thick ' T' Junction	10.00	Each	183.00	1,830.00	1830.00
6.3	Providing and fixing approved make '90° Elbow' for Perforated C type cable tray . Made from sheet steel. The Junction should be bended as per IS 2062/1079 and shall be coated with hot dip galvanizing as per IS 2629/4759. with coupler plate / Fish plate and GI hardware like nut - bolt and washers etc. erected on existing support as per Specification and as per instruction of engineer in charge.. (3)150 X 50 X 1.6 mm Thick 90° Elbow	10.00	Each	162.00	1,620.00	1620.00
6.4	Providing and fixing approved make 'Cross over Junction' for Perforated C type cable tray . Made from sheet steel. The Junction should be bended as per IS 2062/1079 and shall be coated with hot dip galvanizing as per IS 2629/4759. with max 17.5% perforation with coupler plate / Fish plate and GI hardware like nut - bolt and washers etc. erected on existing support as per Specification and as per instruction of engineer in charge.. (3) 150 X 50 X 1.6 mm Thick Cross Junction	1.00	Each	242.00	242.00	242.00
Ladder type cable tray						
6.5	Providing and fixing approved make Ladder type cable tray . Made from M.S sheet. The cable tray should be bended as per IS 2062/1079 shall be fabricated of double bended channel section longitudinal members with single bended Channel section. Rungs of members welded to the base of the longitudinal members at 250 mm c/c spacing . as per IS and shall be coated with hot dip galvanizing as per IS 2629/4759. with coupler plate / Fish plate and GI hardware like nut - bolt and washers etc. erected on existing support as per Specification and as per instruction of engineer in charge.. (8) 150 X 100 X 1.6 mm Thick	264.00	Mtr.	518.00	1,36,752.00	136752.00

6.6	<p>Providing and fixing approved make Ladder type cable tray. Made from M.S sheet. The cable tray should be bended as per IS 2062/1079 shall be fabricated of double bended channel section longitudinal members with single bended Channel section. Rungs of members welded to the base of the longitudinal members at 250 mm c/c spacing . as per IS and shall be coated with hot dip galvanizing as per IS 2629/4759. with coupler plate / Fish plate and GI hardware like nut - bolt and washers etc. erected on existing support as per Specification and as per instruction of engineer in charge..</p> <p>(10) 300 X 100 X 2.0 mm Thick</p>	478.00	Mtr.	551.00	2,63,378.00	263378.00
6.7	<p>Providing and fixing approved make Ladder type cable tray. Made from M.S sheet. The cable tray should be bended as per IS 2062/1079 shall be fabricated of double bended channel section longitudinal members with single bended Channel section. Rungs of members welded to the base of the longitudinal members at 250 mm c/c spacing . as per IS and shall be coated with hot dip galvanizing as per IS 2629/4759. with coupler plate / Fish plate and GI hardware like nut - bolt and washers etc. erected on existing support as per Specification and as per instruction of engineer in charge..</p> <p>(11) 400 X 100 X 2.0 mm Thick</p>	34.00	Mtr.	619.00	21,046.00	21046.00
6.8	<p>Providing and fixing approved make 'T' Junction for ladder type cable tray. Made from M.S sheet steel. The Junction should be bended as per IS 2062/1079. with coupler plate / Fish plate and GI hardware like nut - bolt and washers etc. erected on existing support as per Specification and as per instruction of engineer in charge..</p> <p>A 'T' Junction (8) 150 X 100 X 1.5 mm Thick 'T' Junction</p>	10.00	Each	619.00	6,190.00	6190.00
6.9	<p>Providing and fixing approved make 'T' Junction for ladder type cable tray. Made from M.S sheet steel. The Junction should be bended as per IS 2062/1079. with coupler plate / Fish plate and GI hardware like nut - bolt and washers etc. erected on existing support as per Specification and as per instruction of engineer in charge..</p> <p>A 'T' Junction (10) 300 X 100 X 2.0 mm Thick 'T' Junction</p>	10.00	Each	700.00	7,000.00	7000.00
6.10	<p>Providing and fixing approved make 'T' Junction for ladder type cable tray. Made from M.S sheet steel. The Junction should be bended as per IS 2062/1079. with coupler plate / Fish plate and GI hardware like nut - bolt and washers etc. erected on existing support as per Specification and as per instruction of engineer in charge..</p> <p>A 'T' Junction (11) 400 X 100 X 2.0 mm Thick 'T' Junction</p>	2.00	Each	853.00	1,706.00	1706.00
6.11	<p>Providing and fixing approved make '90° Elbow' for ladder type cable tray. Made from M.S sheet steel. The Junction should be bended as per IS 2062/1079. with coupler plate / Fish plate and GI hardware like nut - bolt and washers etc. erected on existing support as per Specification and as per instruction of engineer in charge..</p> <p>(8) 150 X 100 X 1.6 mm Thick</p>	10.00	Each	437.00	4,370.00	4370.00

6.12	Providing and fixing approved make '90° Elbow' for ladder type cable tray. Made from M.S sheet steel. The Junction should be bended as per IS 2062/1079. with coupler plate / Fish plate and GI hardware like nut - bolt and washers etc. erected on existing support as per Specification and as per instruction of engineer in charge.. (10) 300 X 100 X 2.0 mm Thick	10.00	Each	531.00	5,310.00	5310.00
6.13	Providing and fixing approved make '90° Elbow' for ladder type cable tray. Made from M.S sheet steel. The Junction should be bended as per IS 2062/1079. with coupler plate / Fish plate and GI hardware like nut - bolt and washers etc. erected on existing support as per Specification and as per instruction of engineer in charge.. (11) 400 X 100 X 2.0 mm Thick	2.00	Each	633.00	1,266.00	1266.00
6.14	Supplying , fabricating and installation of various sizes clamps for cable tray supports using available M.S. sections & rod as per drawings or instructions of engineer in charge or consultant including applying zinc chromate yellow oxide and two to three coats of required enamel paints with anchor fasteners etc.	1076.00	Kg	77.00	82,852.00	82852.00
Total						659562.00
7	INTERNAL WIRING					
7.1	Point wiring for Tissino / Modular secondary light point with 2-1.5 sq.mm & earth wire of 1.5 sq.mm (green) both are of ISI marked 1.1 KV grade ZHFR/ HRFR PVC insulated multi strand copper wires, in below type of pipe to be erected complete with earth continuity and necessary connection with primary light with accessories erected on Metal / PVC / wooden box covered with 3 mm thick PC(Polycarbonate) / Acrylic sheet for open / concealed wiring. with necessary Lamp holder / ceiling rose / H.D.Connector as directed. (f) with medium class Rigid PVC pipe and accessories erected concealed in wall/ceiling complete NOTE:1. For use of ZHFR/HRFR Copper wires in place of FRLS PVC wires add 5% in Item of Point wiring Item No 1-1-1 to 1-2-6 & 1-5-1 & 1-5-2.	601.00	Pt.	174.30	1,04,754.30	104754.30
7.2	Point wiring for Light / Bell with 2-1.5 sq.mm & earth wire of 1.5 sq.mm (Green) both are of ISI marked 1.1 KV grade ZHFR/ HRFR PVC insulated multi strand copper wires up to 10 mtr length , in below type of pipe erected with 6A Modular type switch / bell push & accessories and earth continuity of following type, erected on PVC / Metallic/Wooden box, single mounting base frame covered with textured/metallic/white front plate modules erected on / in wall / ceiling as per pipe erected, with necessary Lamp holder/ceiling rose / H.D.Connector as directed. (f) with medium class Rigid PVC pipe and accessories erected concealed in wall/ceiling complete(cat III) NOTE:1. For use of ZHFR/HRFR Copper wires in place of FRLS PVC wires add 5% in Item of Point wiring Item No 1-1-1 to 1-2-6 & 1-5-1 & 1-5-2.	150.00	Pt.	505.05	75,757.50	75757.50

7.3	<p>Point wiring for FAN with 2-1.5 sq.mm & earth wire of 1.5 sq.mm (Green) both are of .ISI marked 1.1 KV Grade ZHFR/ HRFR PVC insulated multi strand copper wires up to 10 mtr length, in below type of pipe erected with 6A Modular type switch and hum free EME step type electronic fan regulator mounted and accessories with earth continuity of following type erected on PVC / Metallic/Wooden box, single mounting base frame covered with textured/metallic/white front plate modules erected on / in wall / ceiling as per pipe erected. with necessary ceiling rose / H.D.Connector as directed.</p> <p>(f) with medium class Rigid PVC pipe and accessories erected concealed in wall/ceiling complete(cat III)</p> <p>NOTE:1. For use of ZHFR/HRFR Copper wires in place of FRLS PVC wires add 5% in Item of Point wiring Item No 1-1-1 to 1-2-6 & 1-5-1 & 1-5-2.</p>	10.00	Pt.	701.40	7,014.00	7014.00
7.4	<p>Point wiring for Individual Plug with & earth wire of 1.5 sq.mm (Green) both are of ISI marked 1.1 KV grade ZHFR/ HRFR PVC insulated multi strand copper wires up to 10 mtr length, in below type of pipe erected complete with Modular type switch & 5 pin Plug erected on PVC / Metallic/Wooden box covered with appropriate front plate modules erected on / in wall / ceiling as per pipe erected with following type of accessories.</p> <p>[I] For 6A Plug and 6 a switch with 2-1.5 sq.mm Cu. Wire from nearby switchboard/mcb db board (f) with medium class Rigid PVC pipe and accessories erected concealed in wall/ceiling complete (cat III) NOTE:1. For use of ZHFR/HRFR Copper wires in place of FRLS PVC wires add 5% in Item of Point wiring Item No 1-1-1 to 1-2-6 & 1-5-1 & 1-5-2.</p>	6.00	Pt.	492.45	2,954.70	2954.70
7.5	<p>Point wiring for Individual Plug with & earth wire of 1.5 sq.mm (Green) both are of ISI marked 1.1 KV grade ZHFR/ HRFR PVC insulated multi strand copper wires up to 10 mtr length, in below type of pipe erected complete with Modular type switch & 5 pin Plug erected on PVC / Metallic/Wooden box covered with appropriate front plate modules erected on / in wall / ceiling as per pipe erected with following type of accessories.</p> <p>[III] For 16A Plug and 16 amp switch with 2-2.5 sq.mm Cu. Wire with 2.5 sq.mm (green) earthing wire from mcb d b board. (f) with medium class Rigid PVC pipe and accessories erected concealed in wall/ceiling complete (cat III) NOTE:1. For use of ZHFR/HRFR Copper wires in place of FRLS PVC wires add 5% in Item of Point wiring Item No 1-1-1 to 1-2-6 & 1-5-1 & 1-5-2.</p>	30.00	Pt.	774.90	23,247.00	23247.00
7.6	<p>Point wiring for Individual Plug with & earth wire of 1.5 sq.mm (Green) both are of ISI marked 1.1 KV grade ZHFR/ HRFR PVC insulated multi strand copper wires up to 10 mtr length, in below type of pipe erected complete with Modular type switch & 5 pin Plug erected on PVC / Metallic/Wooden box covered with appropriate front plate modules erected on / in wall / ceiling as per pipe erected with following type of accessories.</p> <p>[III] For 16A Plug and 16 amp switch with 2-4 sq.mm Cu. Wire with 2.5 sq.mm (green) earthing wire from mcb d b board. (f) with medium class Rigid PVC pipe and accessories erected concealed in wall/ceiling complete (cat III) NOTE:1. For use of ZHFR/HRFR Copper wires in place of FRLS PVC wires add 5% in Item of Point wiring Item No 1-1-1 to 1-2-6 & 1-5-1 & 1-5-2.</p>	4.00	Pt.	906.15	3,624.60	3624.60

7.7	Point wiring for on board Looped Plug with 6A Modular type switch & 5 pin socket erected on PVC / Metallic/Wooden box, single mounting base frame covered with textured / metallic/white front plate modules erected on / in wall / ceiling with following type accessories Cat. III NOTE:1. For use of ZHFR/HRFR Copper wires in place of FRLS PVC wires add 5% in Item of Point wiring Item No 1-1-1 to 1-2-6 & 1-5-1 & 1-5-2.	6.00	Pt.	267.75	1,606.50	1606.50
7.8	Point wiring for Two Way Controlled Light Point with 2-1.5 sq.mm & earth wire of 1.5 sq.mm (green) both are of .ISI marked 1.1 KV grade ZHFR/ HRFR PVC insulated multi strand copper wires erected in below type of pipe with 6A Modular type switches and following type of accessories erected on PVC / Metallic/Wooden box, single mounting base frame covered with textured / metallic/white front plate modules erected on / in wall / ceiling as per pipe erected. with necessary batten/angle holder or ceiling rose or H.D.Connector as directed. (f) with medium class Rigid PVC pipe and accessories erected concealed in wall/ceiling complete(cat III) NOTE:1. For use of ZHFR/HRFR Copper wires in place of FRLS PVC wires add 5% in Item of Point wiring Item No 1-1-1 to 1-2-6 & 1-5-1 & 1-5-2.	2.00	Pt.	627.90	1,255.80	1255.80
7.9	Providing and erecting Mains with 1.1 KV grade FRLS PVC insulated ISI marked stranded Copper conductor wire in following type of pipe to be erected concealed in /flushed on wall/ceiling, with 1.5 sq. mm copper conductor FRLS PVC insulated stranded wire of green colour for earth continuity of following size (A) With medium class Rigid PVC pipe and accessories (a) 2 wire 1.5 sq. mm	13366.00	Rmt.	62.00	8,28,692.00	828692.00
7.10	Providing and erecting Mains with 1.1 KV grade FRLS PVC insulated ISI marked stranded Copper conductor wire in following type of pipe to be erected concealed in /flushed on wall/ceiling, with 1.5 sq. mm copper conductor FRLS PVC insulated stranded wire of green colour for earth continuity of following size (A) With medium class Rigid PVC pipe and accessories (b) 2 wire 2.5 sq. mm	1548.00	Rmt.	82.00	1,26,936.00	126936.00
7.11	providing and erecting Mains with 1.1 KV grade FRLS PVC insulated ISI marked stranded Copper conductor wire in following type of pipe to be erected in / on wall / ceiling with 2.5 sq. mm copper conductor FRLS PVC insulated stranded wire of green colour for earth continuity of following size (A) with medium class Rigid PVC pipe and accessories (a) 2 wire 4 sq. mm	50.00	Rmt.	111.00	5,550.00	5550.00
7.12	Providing & erecting Switch board for Computer or electric apparatus consisting of following modular type accessories mounted with PVC / Metallic concealed/open box with single mounting base frame covered with textured/metallic /white front plate,modules erected with necessary connections as directed 1 no. 6A/16A universal plug-switch combined. 3 nos. 6A Switch 3 nos. 6A 5 pin Plug For Modular Type accessories Cat. III	6.00	Pt.	1,122.00	6,732.00	6732.00
7.13	providing and erecting Mains with ISI marked, 1.5KV grade electrolyte multi stranded, annealed copper conductor with heat resistant PVC insulated conforms to IS 694, IEC - 227 erected in existing pipe of following size (Specifically for control panel, relays, power switchgears, motor starters & control wiring) with required size of copper lugs, nuts and bolts if required. (F) One wire 10.00 sq. mm	96.00	Rmt.	91.00	8,736.00	8736.00

7.14	SITC of following type of Modular Type accessories mounted with PVC / metallic/Wooden box, single mounting base frame covered with textured / metallic/white front plate , modules erected with necessary connections as per site situation directed by Engineer In charge. (5) Electronic hum Free four or more steps EME Fan regulator (cat III)	10.00	Each	395.00	3,950.00	3950.00
7.15	SITC of following type of Modular Type accessories mounted with PVC / metallic/Wooden box, single mounting base frame covered with textured / metallic/white front plate , modules erected with necessary connections as per site situation directed by Engineer In charge. (7) Blank Plate Single (cat III)	10.00	Pt.	25.00	250.00	250.00
7.16	Providing & erecting 16 gauge HGS conduit pipe (as per IS) painted black surface/concealed of following size complete to be erected on/in wall or ceiling with erected with necessary saddles, screws, bends, junction boxes etc. with following (Nominal Bore) dia of pipes, in approved manner as directed (2) 25 mm	20.00	Rmt.	107.00	2,140.00	2140.00
7.17	Providing & erecting 16 gauge HGS conduit pipe (as per IS) painted black surface/concealed of following size complete to be erected on/in wall or ceiling with erected with necessary saddles, screws, bends, junction boxes etc. with following (Nominal Bore) dia of pipes, in approved manner as directed (3) 32 mm	10.00	Rmt.	138.00	1,380.00	1380.00
7.18	Providing & erecting 16 gauge HGS conduit pipe (as per IS) painted black surface/concealed of following size complete to be erected on/in wall or ceiling with erected with necessary saddles, screws, bends, junction boxes etc. with following (Nominal Bore) dia of pipes, in approved manner as directed (4) 38/40 mm	10.00	Rmt.	226.00	2,260.00	2260.00
TOTAL						1206840.40
8	INDOOR LIGHT FIXURE					
8.1	Supply, Installation Testing and Commissioning of 36W CEILING/WALL MOUNTED TUBE LIGHT POINT (A) Tube Light with integral driver (v) 36-40 Watts, Surge-2 KV, IP-20, conventional 4 feet	500.00	Each	530.00	2,65,000.00	265000.00
8.2	Supply, Installation Testing and Commissioning of 12W CEILING SURFACE MOUNTED LIGHT POINT (A) Square/ Circular shaped Surface/Recessed Mount Downlight with provision for spring loaded mounting clips complete.IP20 (ii) 11-15 watts, Surge-2 KV Cat-II	68.00	Each	293.00	19,924.00	19924.00
8.3	Supply, Installation Testing and Commissioning of 10W WALL MOUNTED MIRROR LIGHT POINT (H) Mirror Light 9 Watts, wall mounted minimum 1 feet long Note: All lighting fixture colour to be matched with architecture finishes.	4.00	Each	309.00	1,236.00	1236.00
8.4	Supply, Installation Testing and Commissioning of Flood Light: (B) Flood Light (IP-65), Surge protection -4KV integral and ,Light must have 440VAC line supply with over-voltage protection. (vi) above 160 to 200 watts	0.00	Each	9,552.00	-	0.00
8.4.1	Type -A1 (with Basic Rate of Rs.5000/-) Rs. 5000 to Rs. 10000	8.00	Each	7,500.00	60,000.00	60000.00
8.4.2	Type -B1 (with Basic Rate of Rs.20000/-) Rs. 10000 to Rs. 25000	4.00	Each	22,000.00	88,000.00	88000.00
8.4.3	Type -C1 (with Basic Rate of Rs.40000/-) Rs. 35000 to Rs. 45000	4.00	Each	42,000.00	1,68,000.00	168000.00

8.5	Ceiling Fan: Supply, Installation, Testing and Commissioning of suitable sweep, BEE 5 Star rated, Ceiling fan with Brush Less Direct Current (BLDC) permanent ferrite magnet Motor, class of insulation: B, Rust free 3 nos. Aluminium blades, 2 nos. canopies, shackle kit with earthing provision, copper winding, Power factor not < 0.9, Service Value (CMM/W) minimum 6.85, Air delivery minimum 215 CMM, 350 RPM, 230v (tolerance as per IS : 374-2019), THD < 10%, with remote unit for Speed Control and all remaining accessories including safety pin, nut bolts, washers, temperature rise = 75 degree C (Max.), suitable for 140 to 285 Voltage and rectifier circuit with surge, over current and overload protection, 50 Hz, Single phase AC Supply, earthing etc. Complete as required. [Make shall be approved by Engineer in Charge] (A) 900 mm Sweep (36")	10.00	Each	2,772.00	27,720.00	27720.00
Total						629880.00
9	EARTHING					
9.1	SITC of required size HOT deep Galvanised iron strip for earthing of H.T. , OCB/ ACB/ Transformer LT panel board, Motors etc. using proper clamp.	1028.40	Kg.	77.00	79,186.80	79186.80
9.2	SITC of required size Copper strip for earthing of H.T. OCB / ACB/ Transformer, LT panel board, Motors etc. using copper clamp.	96.50	Kg.	787.00	75,945.50	75945.50
9.3	SITC of Annealed bare Copper wire 8 to 16 SWG.	51.50	Kg.	787.00	40,530.50	40530.50
9.4	SITC of HOT deep Galvanised iron strip wire 8 to 16 SWG.	10.00	Kg.	77.00	770.00	770.00
9.5	Supplying & erecting earth pit of minimum bore dia. 150mm size approved make Earthing Electrode consisting Pipe-in-Pipe Technology as per IS 3043-1987 made of corrosion free hot dipped G.I.Pipes having Outer pipe dia of 50mm having 80-200 Micron galvanising, Inner pipe dia of 25 mm having 200-250 Micron galvanising, connection terminal dia of 12mm with constant ohmic value surrounded by highly conductive compound with high charge dissipation suitable for following type of applications with chamber and heavy duty cover. (A)(approved make OEM has to submit test certificate including value of earth resistance of installation duly stamped and signed by agency and officer Incharge has to ensure the value of earthing resistance mentioned in test Certificate) & having back filling compound of (B) Inner chemical (CCM Compound)- Resistivity:- 0.2 ohm / meter testing as per IEC 62561-2017, Voltage drop:- < 1 volt at no load & dry form, Sulphur content:- <2%(C) Back fill Compound :- Earthing compound should be capable to retain moisture for long time Necessary test report must be submitted by Agency. (c) For Electrical Installation covering Transformer Neutrals, Lightning arrester Earthing, A.C.Plant & Sensitive Computer System(like Automation, SCADA) i.e independent Earthing in normal soil. Length of Pipe : 3.00 mtrs Back filling Compound :2 nos Bags of 25 Kg.	29.00	Each	8,551.00	2,47,979.00	247979.00
Total						444411.80
9	SAFETY ITEMS					
9.1	SITC of metallic vitrified danger notice board as per language suggested by engineer incharge for MEDIUM VOLTAGE installation to be erected as per IS-2551.	5.00	Each	69.00	345.00	345.00
9.2	SITC of printed instruction chart both in English and Gujarati and duly framed with front glasses, for treatment of person suffering from Electric shock with minimum 50" diagonally size.	1.00	Each	129.00	129.00	129.00
9.3	SITC of rubber matting of 3 mm thickness as per IS 15652 and IEC 61111. (A) 3 mm	10.00	Sq.mtr	763.00	7,630.00	7630.00
9.4	SITC of stand first AID box with antiseptic cream, medicine for use on wounds due burn, crepe bandage, gauge bandage, medicated ready to use bandage (Band-aid) adhesive tape for medicinal user, ScisR&BR&BSORs, anti-	1.00	Each	297.00	297.00	297.00

9.5	SITC of FIREbucket round bottom of 9 litres capacity made out of 24 gauge G.I. sheet with extra handle at bottom duly painted white inside and Red out side with FIRE mark, filled with dry-sand and kept on existing stand provided or hung	1.00	Each	212.00	212.00	212.00
9.6	SITC of floor mounting stand for keeping four nos. of FIRE buckets comprising 1500 mm in length, 900 mm height frame made out of 30mm X 30 mm X 4 mm angle iron with cross supports for legs, welded with 4 hooks and duly painted with	1.00	Each	933.00	933.00	933.00
9.7	Wall hook 22 to 25 cms. projection for keeping fire buckets made out of 15 mm dia. M.S rod grouted in wall to a depth of minimum 15 cms.	1.00	Each	60.00	60.00	60.00
9.8	Supplying & erecting D.C.P. type fire extinguisher for following capacity cartridge type with gun metal cap 150 gram CO2 gas cartridge, powder and brackets confirming to IS 2171 1985 and complete erected with necessary clamps made from 50 x 6 mm M S Flat with nuts and bolts grouted in wall complete. [A] For 5 Kg Capacity	1.00	Each	1,696.00	1,696.00	1696.00
9.9	Providing Fire stop mortar system , with minimum 2 hours fire rating when tested in accordance with UL 1479/ASTM-E 814 standards, for horizontal openings in floors or slabs after passing service lines like cables/cable bundles, cable trays etc. The mortar shall be a light weight cementitious product and shall carry test certificate in accordance with IEC 60068-2-57:1999-11 (Environmental Testing) as per Part 2-57: Test for Vibration-Time-history method and VERTEQII for seismic zone 4. The product shall be age tested as per Dafstb and DIBT standards. The product shall carry test certificate for mold resistance rating of 0 as determined by ASTM G21-96. The product shall be age tested as per Dafstb and DIBT standards. The system shall be UL listed & classified and product shall bear the UL and FM approval logo on the packing. If none of UL test certificate comply with actual application, an EJ document prepared by a qualified personnel and based on nearest third party tested & approved systems like UL test certificates & in accordance with IFC guidelines shall be produced by manufacturer. A firestop submittal shall be produced by manufacturer , in accordance with approved passive fire protection method statement, for technical approval. Firestop installation shall be done by Accredited Firestop Speciality Contractor (HAFSC) or by certified installers gone through 'FIT service and in accordance with guidelines and UL system test certificates or approved EJ document. Firestop Speciality Contractor needs to submit work completion certificate along with installation report through documentation Software CFS DM for periodic inspection & maintenance purpose. The gaps around inaccessible or complicated openings shall be sealed with expanding firestop foam and shall be paid under separate heads and as mentioned below.	1.00	Sq.mtr	36,139.25	36,139.25	36139.25

9.10	Provide expanding firestop foam, with minimum 2 hours fire rating when tested in accordance with UL 1479/ASTM-E 814, for horizontal openings in floors or slabs made of concrete/ masonry or Gypsum after passing service lines like cable trays or cables/cable bundles. The expanding foam expands seven times its volume to fill the cavity at the time of dispensing the material and shall fully cure within two minutes after dispensing. The product shall be age tested as per Dafstb and DIBT standards. The product shall provide water tightness when tested for W rating as per UL standards and shall carry test certificate for sound insulation of 50 db when tested in accordance with ASTM E 90. The product shall carry test certificate for mold resistance rating of 0 as determined by ASTM G21-96 and shall have a VOC content of approx. 1.3 g/l as per LEED 2009. The product shall be age tested as per Dafstb and DIBT standards. The product shall be tested in accordance with IEC 60068-2-57:1999-11 (Environmental Testing) as per Part 2-57: Test for Vibration-Time-history method and VERTEQII for seismic zone 4. The system shall be UL listed & classified and product shall bear the UL and FM approval logo on the packing. The product shall be age tested as per Dafstb and DIBT standards. If none of UL test certificate comply with actual application, an EJ document prepared by a qualified personnel and based on nearest third party tested & approved systems like UL test certificates & in accordance with IFC guidelines shall be produced by manufacturer. A firestop submittal shall be produced by manufacturer, in accordance with approved passive fire protection method statement, for technical approval. Firestop installation shall be done by Accredited Firestop Speciality Contractor (HAFSC) and in accordance with guidelines and UL system test certificates or approved EJ document. Firestop Speciality Contractor needs to submit work completion certificate along with installation report through documentation Software CFS DM for periodic inspection & maintenance purpose.	1.00	Each	7,383.00	7,383.00	7383.00
Total						54824.25
10	EXTERNAL LIGHT FIXTURE AND POLE					
10.1	PLANT UPLIGHTER SITC of Plant Uplighter: System Wattage : 12W LED,Driver Integral : Constant Current,Operating Voltage : 100-300Vac,Operating Temperature : -15°C~+50°C,Body : Die-cast Aluminium Alloy,Diffuser : Clear Toughened Glass,Mounting : Spike / Die-castAluminium BracketFinish : Powder coated.Light Source : CITIZEN.CRI (Ra) : ≥80.LED Colour Temperature : 3000K.Driver Power Supply : Integral.Input Voltage : 230-240Vac.Frequency : 50-60 Hz.Power Factor : >0.95. THD : <10%.Surge Protection : 4KV.Efficiency : >80%.Beam Angle : 25°.IP66	31.00	Each	2,126	65,908.79	65908.79
10.2	STEP LIGHT SITC of Step Light: System Wattage : 12W LED,Driver Integral : Constant Current,Operating Voltage : 100-277Vac,Operating Temperature : -15°C~+50°C,Body : Die-Cast Aluminium,Diffuser : Clear Acrylic,Gasket : Silicone,Mounting Sleeve : ABS Plastic,Mounting : Wall - Recess,Finish : Powder coated,Light Source : NICHIA,CRI (Ra) : ≥80,LED Colour Temperature : 3000K,Driver Power Supply : Integral,Input Voltage : 230-240Vac,Frequency : 50-60 Hz,Power Factor : ≥0.90,THD : <10%,Surge Protection : 2KV / 2.5KV,Efficiency : >85%,IP65	46.00	Each	3,478	1,59,965.00	159965.00

10.3	<p>POST TOP FIXTURE</p> <p>Supply, Installation, assembling, connection, testing & commissioning of Post Top light fixture equivalent to 45W LED module of NICHIA/Cree/Osram LED source of CCT 3000K/4000K/5700K. Constructed out of Extruded aluminium graphite grey pipe of grade-6063 (with test certificate), mounting Ø70(PIPE DIA) x 2.5mm thickness, suitable for mounting 4 mtr high pole, having spun aluminium top cover.</p> <p>The mechanical resistance of the luminaire is IK08 and with ingress protection of IP65. This luminaire contains built-in LED modules. LED modules are engineered accordingly to the existing regulations of Lumen Maintenance (LM80) and Technical Memorandum (TM21), Lifespan of the luminaire > 50,000 hours at 40°C. Translucent polycarbonate opal diffuser of 1.8mm thickness with controlled downward light emission, lamp fixed position.</p> <p>Operating ambient temperature range is from -15°C to +50°C. Driver efficiency >85%, power factor >0.9, THD <10%, Colour Rendering Index: Ra>80 and SDCM MacAdam step 3. Input voltage of 140-280Vac at 50-60Hz frequency with Surge protection 5KV and have 360 Degree light distribution and simple electronic On-Off driver. The luminaire is BIS & CE certifications. (NOTE: Final wattage capacity, light fixture colour, light Colour Coding Temperature, Fixture sample is to be done and approved by the architect and Engineer incharge after sampling and mock-up before finalization.) GRAPHITE GREY/ANTHRACITE GREY/JET BLACK. Dimensions:-Ø527X151mm.</p>	214.00	Each	10,850	23,21,857.20	2321857.20
10.4	<p>Post top Pole</p> <p>Supply of approved make FRP Pole having following specifications: FRP Light Pole made by CNC filament winding machine using thermoset resin polyester/epoxy resin system) having minimum 62% glass content. The pole should be in one piece and tapered round in shape, having smooth finish and should be totally free from corrosion as well as non conductive & shock proof Pole should be provided with FRP Anchor Base and it should be heavy duty, or MS Material duly painted with Epoxy paint.</p> <p>Pole should be flame retardant as per IS 6746. Resin used shall be UV resistance and pigmented. A highly weather resistant polyurethane coating shall be applied to the pole after applying suitable primer system that ensures proper adhesion of the paint. Minimum coating thickness shall be 80 to 100 micron. Deflection of the pole shall not exceed more than 10% of the length of pole for the given load" Pole should be generally made as per the dimensional data, performance criteria and some interchangeability features of poles as per standard ANSI C 136.20 latest version or ASTM D 4923/01 including cable termination box with necessary accessories. The size of pole and type of installation with foundation as per manufacturer details and site requirement are as below.</p> <p>[D]Overall length of 4 Mtr. Average Thickness: 7.5mm OD Dia A/F 89/158 mm ± 2mm approx. approx. Weight of Pole 25 kg approx. (Without Base) Anchor Base (Size 250X250 & 16mm th.)</p>	214.00	Each	9,696	20,74,944.00	2074944.00
10.5	<p>Foundation for 3-4 meter height pole</p> <p>Providing cement concrete for foundation or for concrete filling in 1:2:4 ratio with 20 to 25 mm stone metal duly plastered with necessary curing for pole muffing or any other purpose.</p>	214.00	Each	5,077	10,86,478.00	1086478.00
Total						5709152.99
11 UPS						
11.1	<p>Supplying and erecting approved make online Un-interruptible Power Supply system comprising flat cum-boost charger with IGBT base rectifier & Inverter & sealed maintenance free SMF batteries. The charger having operating capacity for input 160-270V AC & inverter having output 230V,50 Hz Ac with 0.8 load power factor with battery, over/under voltage output with over load & short circuit protection equipment. The system housed in CRC sheet duly powder coated paint with following power backup with MS painted batteries stand, 10% Overload capacity for momentary load.</p> <p>[I]10 KVA 3 - phase with 1Hr Backup</p>	1.00	Each	2,68,306	2,68,306.00	268306.00

	Total					268306.00
12	DWC PIPE AND CHAMBER					
12.1	Drilling the road without breaking the road surface (Asphalt) for laying of cable for feeding power supply by making up to following size of holes at both ends complete. (A) Up to 100 mm bore dia	50.00	Mtr.	488	24,400.00	24400.00
12.2	SITC of R.C.C. Hume pipe for cable to be laid 90 cms. below ground across the road crossing or on floor with necessary material in an approved manner and making the ground as per original. (E)150 mm dia	50.00	Mtr.	261	13,050.00	13050.00
12.3	SITC of approved make Double walled corrugated pipes (DWC) of polyethylene(conforming to IS 14930 II)with necessary connecting accessories of same material at required depth in existing trench for laying of cable. below ground / road surface for enclosing cable.					
12.3.1	(A)50 mm outer dia	100.00	Mtr.	62	6,200.00	6200.00
12.3.2	(B)63 mm outer dia	10.00	Mtr.	73	730.00	730.00
12.3.3	(C)90 mm outer dia	10.00	Mtr.	95	950.00	950.00
12.3.4	(D)120 mm outer dia.	100.00	Mtr.	136	13,600.00	13600.00
12.4	Excavating hard Murrum or Metal road by chiselling for preparing pit for poles or earth plates or for laying pipes & clearing the site by removing debris & making site good.	50.00	Cu.Mtr	238	11,900.00	11900.00
12.5	Construction of ELECTRICAL & ELV chamber of size 1000x1000x1200 (1800x1800x1450)mm including excavation, backfilling, watering, soling, compaction, Reinforcement, Rungs etc. complete. It includes R.C.C work of M-30 for walls, top and bottom slabs, also having 100mm thick PCC in M-15 at bottom level. It shall be plastered with 15mm thick Plaster with neat coat in CM 1:3 on internal including water proofing and outside of chamber with 20mm thick sand faced cement plaster in two coat at all sides. Top shall be covered with Pre-Cast SFRC Solid MH cover with clear opening of 900x900mm with frame and cover bearing load min. 25t and size as Mentioned in Drawing. It shall be completed with all respect in ture line level, plumb with neat & clean surface as per coordinated infrastructure detail drawing up to the level of satisfaction.	1.00	Each	46,769	46,769.00	46769.00
12.6	Construction of ELECTRICAL & ELV chamber of size 600x600x1000 (1000x1000x1250)mm including excavation, backfilling, watering, soling, compaction, Reinforcement etc. complete. It includes R.C.C work of M-30 for walls, top and bottom slabs, also having 100mm thick PCC in M-15 at bottom level. It shall be plastered with 15mm thick Plaster with neat coat in CM 1:3 on internal including water proofing and outside of chamber with 20mm thick sand faced cement plaster in two coat at all sides. Top shall be covered with Pre-Cast SFRC Solid MH cover with clear opening of 600x600mm with frame and cover bearing load min. 25t and size as Mentioned in Drawing. It shall be completed with all respect in ture line level, plumb with neat & clean surface as per coordinated infrastructure detail drawing up to the level of satisfaction.	3.00	Each	24,596	73,788.00	73788.00

12.7	Construction of ELECTRICAL & ELV chamber of size 450x450x600 (1050x1050x850)mm including excavation, backfilling, watering, soling, compaction, Reinforcement etc. complete. It includes Bela masonry work in Lime marlar of 1:1.5 of Walls, R.C.C work of M-30 for top and bottom slabs, also having 100mm thick PCC in M-15 at bottom level. It shall be plastered with 15mm thick Plaster with neat coat in CM 1:3 on internal including water proofing and outside of chamber with 20mm thick sand faced cement plaster in two coat at all sides. Top shall be covered with Pre-Cast SFRC Solid MH cover with clear opening of 450x450mm with frame and cover bearing load min. 25t and size as Mentioned in Drawing. It shall be completed with all respect in ture line level, plumb with neat & clean surface as per coordinated infrastructure detail drawing up to the level of satisfaction.	1.00	Each	9,052	9,052.20	9052.20
12.8	Construction of ELECTRICAL & ELV chamber of size 600x600x1000 (1000x1000x1250)mm including excavation, backfilling, watering, soling, compaction, Reinforcement etc. complete. It includes R.C.C work of M-30 for walls, top and bottom slabs, also having 100mm thick PCC in M-15 at bottom level. It shall be plastered with 15mm thick Plaster with neat coat in CM 1:3 on internal including water proofing and outside of chamber with 20mm thick sand faced cement plaster in two coat at all sides. Top shall be covered with Pre-Cast FRP Recessed MH cover with clear opening of 600x600mm with frame and cover bearing load min. 25t and size as Mentioned in Drawing. It shall be completed with all respect in ture line level, plumb with neat & clean surface as per coordinated infrastructure detail drawing up to the level of satisfaction.	1.00	Each	29,296	29,295.53	29295.53
Total						229734.73
13	SERVICE WORK					
13.1	Service charges for Liasion with supply company including submission of application forms, obtaining load sanction and other all associated works to complete the job. It is lumpsum job item and may vary as per requirement.	1.00	Job	25,000.00	25,000.00	25000.00
Total						25000.00
14	MAINTENANCE & OPERATION FOR ELECTRICAL & ELV WORK					
14.1	Provide annual maintenance service (including supply of material) and operation for 3 years after handing over of work for electrical and ELV works as per schedule including necessary materials to be given under warantee free of cost, etc. 1st Year (During DLP Period)	1.00	Year	5,46,585.79	5,46,585.79	546585.79
14.2	2nd Year (After DLP Period)	1.00	Year	4,00,766.79	4,00,766.79	400766.79
14.3	3rd Year (After DLP Period)	1.00	Year	4,00,766.79	4,00,766.79	400766.79
14.4	4th Year (After DLP Period)	1.00	Year	4,00,766.79	4,00,766.79	400766.79
14.5	5th Year (After DLP Period)	1.00	Year	4,00,766.79	4,00,766.79	400766.79
Total						2149652.94
15	CCTV SYSTEM					

15.1	Supply, Installation, Testing and Commissioning of IP based 2MP Resolution (1920 X 1080), H.265 H.265 Dome Camera, True day / night, Up to 50m IR distance with Smart IR, Shutter Speed 1/4s to 1/32000s, Memory Capacity 1GB RAM and 512MB Flash, Focal Length 2.7mm to 13.5mm, DC-iris, 30fps @ all resolution (up to 60 fps on resolution of 1920x1080), Image Setting with time stamp, text overlay, flip & mirror, ROI, Saturation, Brightness, Contrast, Wide Dynamic, Sharpen, white balance, video rotation, AGC etc. EIS, Slow Shutter support, Defog, Video Privacy 8 zones video mask, Multiple Exposure Method, 2D/3D DNR One Touch Auto-Focus by Motorized V/F Lens, True WDR up to 120dB, 3D DNR, Triple streams, Smart codec by ROI, 2-way Audio with built-in MIC & Alarm IN/OUT, On-board Encrypted Storage, Advanced Intelligent Video Analytics with AI Object Classification with AI Object Analytics, Object Classes: Person, Bicycle, Bus, Car, Motorbike, Train, Truck, Any Class, Trigger Rules: Object Detected, Perimeter, Linger, Dwell, Abandoned / Removed, Enter, Exit, Crowd, Queue, AI Tamper Detection Blackout, Whiteout, Scene Change (FoV tamper), Object Sub-Classes: Person Clothing Colour, Vehicle Colour, Network Protocol TCP/IP, IPv4, IPv6, TCP, UDP, HTTP, FTP, DHCP, WS-Discovery, DNS, DDNS, RTP, TLS, RTSP, ICMP, Unicast, Multicast, NTP, SMTP, WS-Security, SNMP, CIFS, FSTP, UPnP™, SIP, Built-in micro SD card slot, up to 1TB (Encrypted Storage), ONVIF Profile S, G, T & M, Cyber Security Secure Boot, Enhanced Security Mode (forces complex passwords, HTTPS and disables discovery); TLS 1.2 (256 bit cipher minimum); Security Overview Page (status and configuration); RTSP Authentication; IEEE 802.1X Client; Remote Accessible Audit logs; Role-Based Access Control, Video Encryption for local storage and streaming, CE, FCC, UL & BIS, NDAA Compliant IP67 / IK10, Operating Temperature -40°C to 60°C, 0% ~ 95% relative humidity, 5 Years Warranty.	38	Each	₹ 20,169.50	7,66,441.00	766441.00
15.2	Supply, Installation, Testing and Commissioning IP based 2MP Resolution (1920 X 1080), H.265 H.265 Bullet Camera, True day / night, Up to 70m IR distance with Smart IR, Shutter Speed 1/4s to 1/32000s, Memory Capacity 1GB RAM and 512MB Flash, Focal Length 2.7mm to 13.5mm, DC-iris, 30fps @ all resolution (up to 60 fps on resolution of 1920x1080), Image Setting with time stamp, text overlay, flip & mirror, ROI, Saturation, Brightness, Contrast, Wide Dynamic, Sharpen, white balance, video rotation, AGC etc. EIS, Slow Shutter support, Defog, Video Privacy 8 zones video mask, Multiple Exposure Method, 2D/3D DNR One Touch Auto-Focus by Motorized V/F Lens, True WDR up to 120dB, 3D DNR, Triple streams, Smart codec by ROI, 2-way Audio with built-in MIC & Alarm IN/OUT, On-board Encrypted Storage, Advanced Intelligent Video Analytics with AI Object Classification with AI Object Analytics, Object Classes: Person, Bicycle, Bus, Car, Motorbike, Train, Truck, Any Class, Trigger Rules: Object Detected, Perimeter, Linger, Dwell, Abandoned / Removed, Enter, Exit, Crowd, Queue, AI Tamper Detection Blackout, Whiteout, Scene Change (FoV tamper), Object Sub-Classes: Person Clothing Colour, Vehicle Colour, Network Protocol TCP/IP, IPv4, IPv6, TCP, UDP, HTTP, FTP, DHCP, WS-Discovery, DNS, DDNS, RTP, TLS, RTSP, ICMP, Unicast, Multicast, NTP, SMTP, WS-Security, SNMP, CIFS, FSTP, UPnP™, SIP, Built-in micro SD card slot, up to 1TB (Encrypted Storage), ONVIF Profile S, G, T & M, Cyber Security Secure Boot, Enhanced Security Mode (forces complex passwords, HTTPS and disables discovery); TLS 1.2 (256 bit cipher minimum); Security Overview Page (status and configuration); RTSP Authentication; IEEE 802.1X Client; Remote Accessible Audit logs; Role-Based Access Control, Video Encryption for local storage and streaming, CE, FCC, UL & BIS, NDAA Compliant IP67 / IK10, Operating Temperature -40°C to 60°C, 0% ~ 95% relative humidity, 5 Years Warranty.	31	Each	₹ 20,169.50	6,25,254.50	625254.50

15.3	Supply, Installation, Testing and Commissioning of 64 Channel NVR - 64 Channel Embedded NVR, 8 SATA Upto 144TB, H.265 / H.264 / MJPEG video compression, RAID 5, 0TB, 512Mbps / 512Mbps (Incoming / Outgoing), HDMI 2.0 X 1 (Main), Single Stream, Main or Sub Stream, 2 X RJ-45 10/100/1000 Mbps self-adaptive Ethernet interface, SATA interfaces : 8 SATA @ 18TB each supported, RAID Arrays : RAID 0 / 1 / 5 / 10 supported, Protocol Support : TCP/IP, UDP, DHCP, NTP, RTSP, PPPoE, SMTP, FTP, UPnP, DDNS, RTP, IPV4, DNS, RTCP, ICMP, HTTP, QoS, ARP, NVR Operating System : Linux, Network Interfaces : 2 X RJ-45 10/100/1000 Mbps self-adaptive Ethernet interface, USB interface : Total 3 USB ports: 2x USB 2.0 and 1x USB 3.0, ONVIF : ONVIF Profile S, Alarm I/O : 2IN / 1OUT, Alarm Mode : Manual, Sensor, Motion, Exception, Smart Events, etc., Alarm Action : Record, Snapshot, Call Preset, E-mail, Buzzer, Certification : CE, FCC, BIS, NDAA Compliant. iOS and Android mobile app support (25 FPS, 2 MP Resolution, 30 Days Recording at 2 Mbps Bit Rate)	2	Each	₹ 1,47,125.00	2,94,250.00	294250.00
15.4	Supply, Installation, Testing and Commissioning of 10 TB Surveillance Grade HDD	8	Each	₹ 22,470.00	1,79,760.00	179760.00
15.5	Supply, Installation, Testing and Commissioning of Intel Core i7-12700 12C Processor 25M Cache, up to 4.90 GHz / 16GB DDR5 / 512 SSD / Win 10 Pro Operating System / No Monitor / DVD RW / 3 Yrs NBD / PS 1000W / NVIDIA GeForce RTX 3070 8 GB GDDR6 Workstation Graphics Card including 3 DP - HDMI	1	Each	₹ 2,15,605.00	2,15,605.00	215605.00
15.6	Supply, Installation, Testing and Commissioning of 55"4K Android Smart TV, 4KResolution 3840*2160, Wi-Fi, Screen Mirroring, TV Mirroring, Stereo Sound, USB to USB file Transfer, INPUT: 2* USB, RJ 45*1, 3*HDMI, 1*AV, Coaxial/optical-out*1, Android 9, 2GB/16GB	1	Each	₹ 47,775.50	47,775.50	47775.50
15.7	Supply, Installation, testing and commissioning of Back box for CCTV	38	Each	₹ 214.00	8,132.00	8132.00
15.8	Supply, Installation, testing and commissioning of Wheather Proof Back box for CCTV	31	Each	₹ 267.50	8,292.50	8292.50
Total						2145510.50
16	NETWORKING SYTEM					
16.1	SITC of O. F.Cable 06F Outdoor - Armoured Unitube SM - HDPE Sheath [Approved by Competent Authority i.e. not Below the rank of Executive Engineer]	2200	Mtr.	₹ 50.00	1,10,000.00	110000.00
16.2	SITC of LIU 12 PORT Rack Mount - Loaded (LC) SM [Approved by Competent Authority i.e. not Below the rank of Executive Engineer]	15	Each	₹ 6,833.00	1,02,495.00	102495.00
16.3	SITC of PATCH CORD LC-LC SM DUPLEX LENGTH- 3m [Approved by Competent Authority i.e. not Below the rank of Executive Engineer]	32	Each	₹ 1,883.00	60,256.00	60256.00
16.4	SITC of CAT6 UTP 23AWG Solid: Per Meter [Approved by Competent Authority i.e. not Below the rank of Executive Engineer]	6095	Mtr.	₹ 43.00	2,62,085.00	262085.00
16.5	SITC of CAT6 UTP 24AWG PATCH CORD:1M,Plug 30U' Snag less [Approved by Competent Authority i.e. not Below the rank of Executive Engineer]	94	Each	₹ 155.00	14,570.00	14570.00
16.6	Supply, Installation, testing and commissioning of Cat 6 RJ 45	90	Each	₹ 21.40	1,926.00	1926.00
16.7	SITC of 24 x 10/100/1000BASE-T PoE ports 4 x Gigabit RJ45/SFP Combo ports Advanced L2 switching and security features L2+ Static Routing Optional "standard mode" or "surveillance mode" management user interface 193 W PoE budget [Approved by Competent Authority i.e. not Below the rank of Executive Engineer]	4	Each	₹ 31,680.00	1,26,720.00	126720.00
16.8	SITC of Maximum distance of up to 10 km Hot-pluggable Single-mode fiber 1000BASE-LX (IEEE 802.3z standard) Duplex LC connector MSA, RoHS-compliant [Approved by Competent Authority i.e. not Below the rank of Executive Engineer]	10	Each	₹ 4,754.00	47,540.00	47540.00

16.9	Supply, Installation, Testing and Commissioning of 8port 240W Industrial Giga L2 managed POE + 2 SFP uplink ports, temperature range of -40°C to +75°C.	8	Each	₹ 24,556.50	1,96,452.00	196452.00
16.10	Supply, Installation, Testing and Commissioning of Fiber SFP modules 1G for 20 km, LC for Single Mode.	16	Each	₹ 3,504.25	56,068.00	56068.00
16.11	Supply, Installation, Testing & Commissioning of 9U (550W X 600D)MM Wall mount closed rack with PDU, Horizontal Cable manager, self, mounting hardware and cooling fan with standard accessories. UL Certified. Racks should be manufactured by ISO9001:2015, ISO14001:2004 & OHSAS 18001 : 2007, DIN41494 and Equivalent EIA/ISO/EN /CEA Certified company and should have proper EHS Policy.	3	Each	₹ 8,065.66	24,196.98	24196.98
16.12	Supply, Installation, Testing & Commissioning of 9U (600W X 600D)MM Wall / Pole mount outdoor rack with PDU, Horizontal Cable manager, self, mounting hardware and cooling fan with standard accessories. UL Certified. Racks should be manufactured by ISO9001:2015, ISO14001:2004 & OHSAS 18001 : 2007, DIN41494 and Equivalent EIA/ISO/EN /CEA Certified company and should have proper EHS Policy.	8	Each	₹ 19,434.41	1,55,475.28	155475.28
16.13	Supply, Installation, Testing & Commissioning of 17U (600W X 600D)MM floor rack with PDU, Horizontal Cable manager, self, mounting hardware and cooling fan with standard accessories. UL Certified. Racks should be manufactured by ISO9001:2015, ISO14001:2004 & OHSAS 18001 : 2007, DIN41494 and Equivalent EIA/ISO/EN /CEA Certified company and should have proper EHS Policy.	1	Each	₹ 18,107.61	18,107.61	18107.61
16.14	Supply, Laying and Fixing of 25 mm diameter MMS PVC conduit with all required accessories.	900	Mtr.	₹ 50.29	45,261.00	45261.00
16.15	Supply, Laying and fixing of HDPE pipe 25mm	5500	Mtr.	₹ 101.00	5,55,500.00	555500.00
16.16	Supply, Laying and Fixing of 25MM Rainforce Pipe	80	Mtr.	₹ 64.20	5,136.00	5136.00
16.17	Supply, Laying and Fixing of 32MM Flexible Pipe	120	Mtr.	₹ 46.01	5,521.20	5521.20
16.18	Supply, Laying and Fixing of 50MM Flexible Pipe	50	Mtr.	₹ 87.74	4,387.00	4387.00
16.19	Supply, Laying and Fixing of 100 x 50 mm trunking	10	Mtr.	₹ 347.75	3,477.50	3477.50
Total						1795174.57
17	FIRE ALARM SYSTEM					
17.1	Supplying, installing, testing and commissioning of Microprocessor based Networkable Analogue Addressable Fire Alarm Control Panel. The Panel shall be compliant with EN54-2, EN54-4 and approved by LPCB. The Fire Alarm Control Panel shall have inbuilt 4 loops and expandable capacity upto 8 loops. The Panel must have Full colour 800 x 480 LCD with resistive touch screen and automatic backlight dimming. The Panel must also have the capability to take Addressable Intelligent Wired and Wireless Devices on same loop. Each loop shall have a capacity of 127 analogue Addressable devices and 127 Base sounders/Base Sounder Beacons. The panel shall have an event log of minimum 10,000 events @ 1 second resolution, Filterable and Printable. The Panel shall have Three access levels. Panel shall support upto 5000 Cause & Effects entries, with upto 20,000 inputs controlling & 20,000 Controlling outputs across the network. The Panel shall have capability for Peer to Peer networking through RS485 network card. The Panel must have 4 inbuilt programmable sounder circuits, each circuit rated at 2.5A. The Panel must have inbuilt 3 programmable inputs and 5 inbuilt programmable relay outputs. The Panel shall have up to sub-addressable 512 programmable Inputs/Outputs via optional RS485 COMMS serially connected expansion cards. The Panel shall have 240 V AC power supply along with automatic Battery Charger. The Panel shall be fully expandable via common plug in loop driver boards. The user shall have a choice of using the panel with 5.25 Amp or 10.25 Amp power supply unit which is inbuilt in the FACP and should be approved to EN54-4. The Panel shall have configurable via USB port to PC or memory stick. The Panel shall have dedicated RS232 serial port for optional printer. Approved by LPCB	1	Each	₹ 2,67,500.00	2,67,500.00	267500.00
17.2	Supply, Installation, Testing and Commissioning of Analogue Addressable above false ceiling Multi- Sensor which is fully compatible with Analogue Addressable Protocol, having removable high performance chamber with Twin fire LED's allow 360 degree viewing, User selectable sensitivity modes 1% to 4.5% obs/m, Incorporate Optical and dual Heat elements, lock mechanism (sensor to base), Electronically addressed, Pulsing/non-pulsing controlled from panel. Approved by LPCB & VdS.	1	Each	₹ 3,951.51	3,951.51	3951.51

17.3	Supply, Installation, Testing and Commissioning of Analogue Addressable Below false ceiling Multi- Sensor which is fully compatible with Analogue Addressable Protocol,having removable high performance chamber with Twin fire LED's allow 360 degree viewing, User selectable sensitivity modes 1% to 4.5% obs/m, Incorporate Optical and dual Heat elements, lock mechanism (sensor to base), Electronically addressed, Pulsing/non-pulsing controlled from panel. Approved by LPCB & VdS.	8	Each	₹ 3,951.51	31,612.08	31612.08
17.4	Supplying, installing, testing and commissioning of Analogue Addressable Multi- Heat Sensor which is fully compatible with Analogue Addressable Protocol,having removable high performance chamber with Twin fire LED's allow 360 degree viewing, User selectable sensitivity modes 0 to 88 degree celsius, Incorporates Fixed Temperature and Rate Of Rise Heat elements, lock mechanism (sensor to base), Electronically addressed, Pulsing/non-pulsing controlled from panel. Approved by LPCB (EN54: Part 5)	50	Each	₹ 3,621.95	1,81,097.50	181097.50
17.5	Supply, Insallation, Testing and Commissioning of Optical Beam Detector with transmitter and receiver set. The detector shall have 5 - 100 m range, Automatic compensation, Maximum coverage 1500m2, Automatic Signal strength adjustment, Emitter unit can be powered directly from zone (or loop), Features a Latching or Non- Latching fault relay, Full line continuity options, Approved by LPCB & VdS	1	Each	₹ 49,384.78	49,384.78	49384.78
17.6	Supply, Insallation, Testing and Commissioning of Analogue Addressable Single Zone Module with integral Short Circuit Isolator which allow Support single independent zones Up to 6 Conventional Detectors. fully monitored for short/open circuit. Addressing via DIL switches, Approved by LPCB.	1	Each	₹ 7,243.90	7,243.90	7243.90
17.7	Supply, Insallation, Testing and Commissioning of CO Detector with base - 4 wire connection	1	Each	₹ 6,239.17	6,239.17	6239.17
17.8	Supplying, installing, testing and commissioning of Analogue Addressable Manual Call Point with Integral Short Circuit Isolator, Analogue Addressable Protocol having, Bi-coloured status LED (red for alarm, amber for (short-circuit), Non-frangible element fitted as standard (conforms to EN54), pulsing/non-pulsing can selectable via panel, Electronically addressed, Approved by LPCB.	4	Each	₹ 5,103.90	20,415.60	20415.60
17.9	Supplying, installing, testing and commissioning of Intelligent Loop Powered Wall Sounder Beacon, Variable Sound Output 90 ~ 102 dB(A) (±2 dB(A)) output at 1 metre, High Intensity LED technology, 51 User-Selectable Tones (all tones EN54-3 compatible).	10	Each	₹ 8,231.51	82,315.10	82315.10
17.10	Supplying, installing, testing and commissioning of Addressable Single Input Module. which Includes a single monitored input, flying leads for easy installation. Electronically addressed, Approved by LPCB & Vds.	20	Each	₹ 3,909.78	78,195.60	78195.60

17.11	Supplying, installing, testing and commissioning of Addressable Single Output Module . which Includes a single output, flying leads for easy installation. Electronically addressed, Approved by LPCB & Vds.	5	Each	₹ 4,280.00	21,400.00	21400.00
17.12	Supplying, installing, testing and commissioning of sensor common mounting base, Features integral Short-Circuit isolator, slim profile, Approved by LPCB	4	Each	₹ 2,140.00	8,560.00	8560.00
17.13	Supplying, installing, testing and commissioning of Fire Fighter Telephone System - comprising of Master Control Panel with 8 Zone Location Alarm Indication, 8 nodes - Each Node shall cover 8 Station - Maximum of 64 Telephone Station - Audio, Visual Indication to alert the operators - Group or All Call facility - full Duplex Audio conversations - Master to remote, Remote to Master Calling facility - Operating Voltage: 230V Input and DC Output 24V @ 100 mAmps Max. - Flush Mounted/Wall Mounted with suitable Back Box, etc. - Operating Temperature: 0 - 49° C - Humidity: 93 + 2% RH - it complies with BS 5839 PT 92002	1	Each	₹ 85,254.39	85,254.39	85254.39
17.14	Supplying, installing, testing and commissioning of Response Indicator - Dual LED (Metal square plate type)	1	Each	₹ 181.90	181.90	181.90
17.15	Supplying, installing, testing and commissioning of Fire Fighter Telephone Jack - used for communication with central Fire Fighter Console by using portable Handset - Stainless Steel Enclosure - Unlimited number of Telephone Jack in daisy chain topology - Flush for Wall Mounted - 4.5mm or 6.5mm RJ11 Jack	1	Each	₹ 1,564.34	1,564.34	1564.34
17.16	Supplying, installing, testing and commissioning of Fire Fighter Telephone Handset - constructed with ABS Plastic - comes with coiled cord with RJ11 - Single Handset housed in a Cabinet - Cabinet Size: 300mm H x 200mm L x 100mm D	1	Each	₹ 6,437.12	6,437.12	6437.12
17.17	Supplying, installing, testing and commissioning of 2C X1.5 SQ. MM FRLS Armoured RED Cable With Required Accessories	2000	mtr.	₹ 164.78	3,29,560.00	329560.00
Total						1180912.99

18 PUBLIC ADDRESS SYSTEM						
18.1	Supply, Installation, Testing and Commissioning of EN-54 & ISO 7240-16 Certified EVAC PA controller capable of adding 12 zones in the system and expandable upto 400 zones with 14x 4 Audio matrix with full DSP functionality. 8 audio inputs, 4 audio outputs, 4 channel output matrix. Shall support the following: single line switching or redundant group A/B switching, amplifier redundancy, 4 x 100V audio inputs and 12 speaker line outputs. Fault, warning and event conditions log. Built in message manager for 100 emergency/business calls up to 85 minutes. 18 control inputs and 18 control outputs. Impedance measurement and Pilot Tone supervision for speaker line monitoring. The network controllers shall have a possibility to be integrated using an interface module which is able to send and receive Audio to and from other Controllers. Frequency response (ref. 1 kHz) 20 Hz to 20 kHz (-0.5 dB), Signal-to-noise ratio (A-weighted): Line in to line out: 106 dB typical, THD+N < 0.05%, Crosstalk (line level) Line in to line out (0 dB gain): < 100 dB at 1 kHz, Sample rate 48 kHz, DSP processing resolution 24-bit linear A/D and D/A conversion, 48-bit processing. Graphics User Interface software should be considered for Monitoring and control of signal.	1	Each	₹ 2,58,940.00	2,58,940.00	258940.00
18.2	Supply, Installation, Testing and Commissioning of EN54 Certified EVAC Router for adding 24 zones in the system and to route 4 channels into 8 100V audio inputs to 24 loudspeaker line outputs. 2-in-6 matrix. 20 Control Inputs, 26 Control Outputs. Shall support single line switching or redundant group A/B switching, amplifier redundancy. Impedance measurement and Pilot Tone supervision for speaker line monitoring.	1	Each	₹ 1,92,600.00	1,92,600.00	192600.00
18.3	Supply, Installation, Testing and Commissioning of EN-54 & ISO 7240-16 certified 2x 500W Class D, high efficiency amplifier. 70/100V loudspeaker output voltages, galvanically separated, 4 automatic selectable audio inputs on RJ45, local input. THD ≤1%. Frequency response, ref. 1 kHz, rated load, -3 dB : 50 Hz to 25 kHz. Signal-to-noise ratio (A-weighted) > 104 dB, Output noise (A-weighted) < -62 dBu, Crosstalk , ref. 1 kHz < -85 dB. Audio input level limiter, RMS output power limiter, high temperature, DC, short circuit, mains undervoltage protection, DC supply undervoltage protection, inrush current limiter, ground fault	1	Each	₹ 2,00,625.00	2,00,625.00	200625.00
18.4	Supply, Installation, Testing and Commissioning of The Digital call station shall be an EN54-16 & ISO 7240-16 certified user interface. It shall be designed in a modern and robust chassis with a graphical display. As standard, the call station shall have a gooseneck microphone with pop shield and permanent monitoring, an illuminated LC-display and an integrated loudspeaker to be used for system sounds It shall be possible to modify the call station to suit the user's requirements by connecting up to five remote call station extensions, each with 20 free customizable functions and selection buttons. The Call station shall have a built-in numerical keypad; it shall be possible to enable or disable the keypad during configuration • Five menu/function keys (pre-programmed) – four buttons shall provide each 1 LED (two LED's shall be 2 green and 2 LED's shall be yellow). • Green led on the microphone which is active during a call • 15 function and speed dial buttons (customizable), two LEDs (green/red) per button. • Button functions shall be programmable such as: • Zone select, source select, level control, emergency on/off, message on/off, failure acknowledge/reset. • switching output trigger on/off or 0 to 10V, select scheduled events, scheduled event on/off. • CAT5 cable for data and audio connection to controller (can bus, up to 1000 meter).	1	Each	₹ 77,789.00	77,789.00	77789.00
18.5	Supply, Installation, Testing and Commissioning of 6W ceiling mount speaker with excellent speech & music reproduction Rated Power: 6Watts, Power Tapping: 6/3/1.5W - Effective frequency range(-10 dB) : 65 Hz to 20 KHz - SPL at rated power (1Khz at 1 m) 95 dB - Opening Angle 1 KHz / 4 KHz:: 180° / 49°	15	Each	₹ 1,059.30	15,889.50	15889.50

18.6	Supply, Installation, Testing and Commissioning of 15W Compact ABS cabinet speaker with weather protection of IP 65 - Selectable 8 ohm, 70V or 100V input - Max. Power: 22.5 W, Rated Power: 15 W Watts, Power Tapping: 15/7.5/3.75/1.9 W - Effective frequency range(-10 dB) : (95 Hz to 20 kHz) - SPL at rated power (1Khz) 99 dB - Self extinguishing acc. to UL94 V0 - Safety acc. to EN60065 - Chlorine resistant acc. to IEC60068-2-42 --Corrosion resistant acc. to IEC60068-2-52 -- Salt mist acc. to IEC60068-2-11	17	Each	₹ 8,399.50	1,42,791.50	142791.50
18.7	Supply, Installation, Testing & Commissioning of 42 U Rack With Required Accessories Approved Makes : Valrack /Netrack /APW	1	Each	₹ 55,993.10	55,993.10	55993.10
18.8	Supply and Laying of 2 Core X 1.5 Sq.mm FRLS Multistrand PVC insulated Copper armoured BLACK cable with all required accessories.	1150	Mtr.	₹ 107.00	1,23,050.00	123050.00
Total						1067678.10
19 Dry Deck Fountain						
19.1	SITC of Musical Spout structure made of SS 304 grade industrial grade to make different patterns to create Water Effects of adjustable height. Comet Nozzle Height 1-3 Meter Comet Nozzle. DN40 SS304 nozzles. Make: Fontana Fountains, Crystal, WET	81	PC	3,798	3,07,638.00	307638.00
19.2	SITC of Electrically operated Pressure Valve designed for extremely fast operation and minimum obstruction for a high flow rate. Pressure Valve For uniformed or designed spray Height, Material: SS304 Diameter: DN40 Make: Fontana Fountains, Crystal, WET	162	PC	2,016	3,26,592.00	326592.00
19.3	SITC of Stainless Steel Submergible high speed multi stage horizontal, pump with volute type delivery with high efficiency, chemical resistant and ultra quiet operation made of Stainless Steel. Impeller: Stainless Steel impeller, Power: DC 24V DMX Power: 200W. Make: Grundfoss, willo, xylem or Equivelent	83	SET	1,91,250	1,58,73,750.00	15873750.00
19.4	SITC and digging, refilling For Pump Rubber Case with Underwater Multi-stand Copper Core(soft) cable 2core*4sqmm IEC Standard Conductivity with conduit for under water pump from Junction box to Electrical panel , pump to electrical panel, all electrical cabling with conduit and elbo , bend , tee, junction box, and cable from water boby to control room ,main feeder near control room to electrical panel feed, electrical panel to open well submesible pump, cable from electrical panel to under water lights, etc complete as per the electric drawing of the fountain (MAKE :- FINOLEX/ HEWELS/ ANCOR/International brad with IEC standard) or Equivelent	600	M	639	3,83,400.00	383400.00
19.5	SITC and digging, refilling For Pump Rubber Case with Underwater Multi-stand Copper Core(soft) cable 2core*6sqmm IEC Standard Conductivity with conduit for under water pump from Junction box to Electrical panel , pump to electrical panel, all electrical cabling with conduit and elbo , bend , tee, junction box, and cable from water boby to control room ,main feeder near control room to electrical panel feed, electrical panel to open well submesible pump, cable from electrical panel to under water lights, etc complete as per the electric drawing of the fountain (MAKE :- FINOLEX/ HEWELS/ ANCOR/International brad with IEC standard) or Equivelent	1500	M	819	12,28,500.00	1228500.00

19.6	SITC and digging, refilling For Led light Underwater cable, Rubber Case with Multi-stand Copper Core(soft) 2core*0.75sqmm Screend IEC Standard Conductivity with conduit for LED Light from Junction box to Electrical panel , pump to electrical panel, all electrical cabling with conduit and elbo , bend , tee, junction box, and cable from water boby to control room ,main feeder near control room to electrical panel feed, electrical panel to open well submesible pump, cable from electrical panel to under water lights, etc complete as per the electric drawing of the fountain (MAKE :- FINOLEX/ HEWELS/ ANCOR/International brad with IEC standard) or Equivelent	600	M	367	2,20,320.00	220320.00
19.7	SITC of SMART digital real time based Power Supply Cabinet for cfor distributing power to all control cabinets. Body shall be powder coated sheet metal cabinet for indoor installation, wall mounted, dust proof and shall be with hinged doors with rubber gasket. Panel shall come with single phase prevention. Make: Fontana Fountains, Crystal, WET	3	SET	8,16,750	24,50,250.00	2450250.00
19.8	SITC of IP 68 protected LED Under water Doughnut shape light system in SS housing and bracket, DC24V,12W LED Warm White Lamp Stainless Steel Case Tempered Glass Cover and with T joint IP68 Grade, Epoxy filled. With Separate driver in separate box for each Lamp with Light bracket. Make: Fontana Fountains, Crystal, WET	83	SET	27,000	22,41,000.00	2241000.00
19.9	SITC of SMART digital real time based control panel for controlling pumps, lights with programmable high/low voltage cutoff and high/low current cutoff. Body shall be powder coated sheet metal cabinet for indoor installation, wall mounted, dust proof and shall be with hinged doors with rubber gasket. Panel shall come with single phase prevention, phase reversal protection (in case of 3-phase pumps). Panel shall come with programmable auto-change over to ensure duty, standby pumps utilized efficiently & lights based on real time. Cabinets with necessary second-circuits appliances. Make: Fontana Fountains, Crystal, WET	3	SET	4,30,650	12,91,950.00	1291950.00
19.10	SITC of DMX Pump Driver, DMX Server, Control Computer, LED DC Supply, Amplifier and other accessories. Make: Fontana Fountains, Crystal,WET	1	Batch	28,04,345	28,04,345.00	2804345.00
Total						2,71,27,745.00
Total Electrical & ELV Amount						5,33,89,420.52

SRFDCL Sanskarkendra

SR. NO.	DESCRIPTION	Qty	UNIT	Unit Rate (W/O GST)	Total Amount in Rs.
HVAC WORK					
	MECHANICAL WORKS				
1.0	VENTILATION FAN				
1.1	CABINET TYPE INLINE CENTRIFUGAL EXHAUST AIR FAN				
	Supply, Installation, testing & Commissioning of Cabinet type Centrifugal Fans / Inline Fan for Exhaust Air System complete with SISW/DIDW Forward Curved blower, fan assembly shall be AMCA certified (AMCA certification required for Air Performance & Sound) & totally enclosed, fan-cooled, provided with class F insulation, and of approved make.,				
	Fan shall be provided with TEFC Sq.cage, direct driven F' Class induction motor with minimum IP-55 protection Motor shall be suitable for 220 ± 5% volts, Single phase, 50 cycles electric supply- I OR 415+/-10% V, 50 hz, 3 phase AC. The motor (Eff1 Class-Motor must be VFD Compatible) Max. noise level shall be 56 dBA at 1.5 meter in hemispherical reverberant room condition.				
	The complete fan assembly shall be CE Certified in accordance with EN-12101-3:2015 (Vendor shall submit the certifications for below listed fans)				
	The Fan units shall be designed as per the criteria mentioned in the specifications and selected so as to operate in the best efficiency zone; the units shall be statically and dynamically balanced.				
	Necessary starter shall be in scope of HVAC Contract. Power cable will be available up to starter panel. The controller will be BMS compatible with all required open protocol and required licence softwares.				
1.1.1	2000 CFM / 30 MM ESP	2	NOS	30,000.0	60,000.0
1.0	SUB TOTAL - VENTILATION FANS				60,000.0

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SR. NO.	DESCRIPTION	Qty	UNIT	Unit Rate (W/O GST)	Total Amount in Rs.
2.0	AIR DISTRIBUTION NETWORK				
2.1	Supply, installation, balancing and commissioning of factory fabricated GSS sheet metal rectangular/round ducting complete with neoprene rubber gaskets, elbows, splitter dampers, vanes, hangers, supports etc. as per approved drawings and specifications of following sheet thickness complete as required.				
2.1.1	24 G	435	SQM	1,100.0	4,78,500.0
2.1.2	22 G	10	SQM	1,296.0	12,960.0
2.2	SUPPLY INSTALLATION TESTING AND COMMISSIONING OF DIFFUSERS/ GRILLES AS PER FOLLOWING SCHEDULE				
2.2.1	Supplying & fixing of powder coated extruded aluminium Supply Air Grills with aluminium volume control dampers complete as per specifications and size & shape as per site requirement and approved design.	1	SQM.	10,328.0	10,328.0
2.2.2	Supplying & fixing of powder coated extruded aluminium Return Air Grills with louvers but without volume control dampers complete as per specifications and size & shape as per site requirement and approved design.	1.5	SQM.	7,003.0	10,504.5
2.3	Rain Protection Fresh Air Grill for Façade installation.	1	Sqm	7,500.0	7,500.0
2.4	SUPPLY, INSTALLATION, TESTING, COMMISSIONING OF DUCT DAMPERS				
2.4.1	Supply, installation, testing and commissioning of GI volume control duct damper complete with neoprene rubber gaskets, nuts, bolts, screws linkages, flanges etc, as per specifications.	0.5	SQM	8,298.0	4,149.0
2.5	Double Layer Weather Proof Machine Canvass Connection (CHW AHU - FAN - TFAU)	2	Set	3,500.0	7,000.0
2.0	SUB TOTAL - AIR DISTRIBUTION NETWORK				5,30,941.5

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SR. NO.	DESCRIPTION	Qty	UNIT	Unit Rate (W/O GST)	Total Amount in Rs.
3.0	CIVIL SUPPORT STRUCTURE				
3.1	MS Welded Structure (Supply and erection of M.S. angle stand with synthetic epoxy paint for all outdoor units)	30	Kgs	135.0	4,050.0
3.2	Core Cut up to 150mm Dia	2	Lot	1,350.0	2,700.0
3.0	SUB TOTAL - CIVIL SUPPORT STRUCTURE				6,750.0
4.0	BASEMENT CAR PARK VENTILATION SYSTEM				
	(Duct less ventilation System with Jet Dual Speed Fans)				
	Supply, installation, testing, programming and commissioning				
4.1	Car park Ductless Ventilation / Jet fans for Basement as per attached specifications for Normal ventilation and Smoke Extraction application. The complete fan assembly with its Casing, impeller & motor (not only the motor or one of the item) shall be imported from manufacturer and certified as tested for 300 Deg C for 2 hours operation.				
	Supply, Installation, Testing and commissioning of approved makes Induced Air Centrifugal Jet fans. Fan shall be AMCA certified for Thrust & Sound performance, balanced to vibration grade of G2.5 as per AMCA 204. Fan shall be complete with GSS casing (220 GSM), MS impeller, Dual speed smoke venting Class H, special rated motor certified for 300 Deg C for 2 Hrs - 415/3P/50Hz. Fire rating as per BSEN 12101-3:2015 from TUV SUD PSB Singapore or equivalent internationally recognized fire laboratory. The Locationing of the jet fans has to be done in such a way that the Air velocity at any point on the plane of 1m from the ground level should not be less than 0.25m/s during the normal mode The CFD Analysis should be done by Original Equipment manufacturer in order to get actual jet fan quantity and jet fan positioning. Noise level should not exceed 76/59 db(A)@ 3 meter.				
4.1.1	Centrifugal Jet Fan	28	NO.	1,30,000.0	36,40,000.0
4.2	Tube Axial fans Supply, installation testing & commissioning of Tube axial fan having following specifications :-				

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SR. NO.	DESCRIPTION	Qty	UNIT	Unit Rate (W/O GST)	Total Amount in Rs.
	<p>Tube axial fan casing constructed from heavy-gauge ms, designed to withstand 300°C for 2 hours. Casing manufactured in ms with Sheet metal thickness of minimum 3mm for fan dia upto 1000mm Dia & minimum 4mm thickness for Fan dia 1120mm & above. The casings shall be Powder Coated for weatherproof conditions. Fans shall be supplied with necessary accessories like Universal Mounting Feet which can be used for ceiling suspension & Floor Mounted.</p>				
	<p>The rotor of the tube axial fan shall be constructed from cast aluminum alloy or cast steel, with die-formed aerofoil-shaped blades designed for optimal efficiency through varying twist and width. It shall be both statically and dynamically balanced to ensure smooth operation. The impeller and fan casing will be precisely matched with tight running tolerances to maximize performance and efficiency.</p>				
	<p>Motors shall be IE-3/4 with IP55 rated for 300C-2Hours of India origin. The motor shall be an energy-efficient, totally enclosed, fan-cooled, squirrel-cage induction motor with standard frame, class 'F' insulation, and designed for 415±10% V, 50 Hz, 3-phase AC, suitable for quiet, continuous duty operation. Fan efficiency shall be ≥70%, noise ≤80 dBA @ 3 m in hemispherical reverberant room; models with lower power use, lower noise, and higher RPM are acceptable.</p>				
	<p>The fans shall be AMCA certified for air performance, noise, FEG & efficiency. The proposed model by the oem should reflect on the AMCA website & the certificate of the certified AMCA range for which authorises the OEM bear the ACMA Seal for FEG Sound & Air Performance shall be furnished. Fan shall be CE certified for EN12101-3:2015 for F300°for 2hours. OEM should provide a valid Certificate for EN 12101-3:2015 from an approved 3rd party Laboratory and the website of the certifying body should have the valid documentation available for download in public domain. Motors offered shall be of Indian origin from reputed oem's Havells/Marathon/ABB/CG and should be certified to IS 12615:2018 for efficiency and performance. Factory test shall be required of all equipments. The material shall be delivered once all TDS will be approved by Consulant & dispatch clerence by site incharge.</p>				
	<p>The Following accessories Included such as Vibration Isolators for floor mounting OR Spring isolagtors for ceiling mounted, Mouting Plate, Silicon coated round fire retardant flexible Duct connector, Fan Silencers, Bird Screen, with all fans. Note : Civil foundation shall be done by us whrerver if required, in Client Scope.</p>				

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SR. NO.	DESCRIPTION	Qty	UNIT	Unit Rate (W/O GST)	Total Amount in Rs.
4.2.1	1200 MM Dia / 40000 CFM / 15 mm WC External Static Pressure certified as tested for 250 Deg C for 2 hours fire operation.	12	NO.	1,15,000.0	13,80,000.0
4.3	Supply, programming, installation, testing and commissioning of Integrated control and electrical hardware for operation of Jet Fans and Tube Axial Fans in Normal and CO/Fire Mode comprising of				
	Duly internally wired and tested Electrical Power Panel with feeders and starters suitable for operation of total Jet Fans and total Tube Axial Fans with necessary accessories / relays / auto-manual provision etc as per above fan quantity				
4.3.1	For Basement-II	1	SET	1,35,000.0	1,35,000.0
4.4	SITC of Control Module housed within the electrical panel comprising of Programmable logic controller / signal wiring / hard wired integration with fan relays of Power panel for control of TA fans, Jet fans and CO sensors input signal				
4.4.1	For Basement-II	1	SET	40,000.0	40,000.0
4.5	Supply, installation, testing, and commissioning of Analog type Carbon Monoxide (CO) sensors designed for accurate detection of low-level CO concentrations in enclosed parking areas. Sensor range: 0–250 PPM, with accuracy of ±5% FS (0–100 PPM) and ±10% FS (100–250 PPM). Warm-up time: ≤30 seconds to reach 90% of final value. Sensors shall be installed at mid-height on columns for optimal air sampling. Sensors shall interface with the master control panel to initiate ventilation fan operation based on CO levels, enabling energy-efficient operation of the ventilation system.	18	NO.	9,000.0	1,62,000.0
	Note: Fire status signal shall be provided from FA System - Elv Scope				
4.6	MS Powder coated Louvered Grill for basement Ventilation Exhaust out let at elevation level on Ground floor. Louvers shall be 2.5" in with and shall have 3" clearance between each louveres. The scope covers the fabricated support structure and site spray painting of the louvers and support fabricated structure.	25	SQM	7,500.0	1,87,500.0

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SR. NO.	DESCRIPTION	Qty	UNIT	Unit Rate (W/O GST)	Total Amount in Rs.
4.7	Simulation package to execute CFD Analysis (Takeoff price) for one basement	1	LOT	1,50,000.0	1,50,000.0
4.8	SITC of Power & Control cabling between Jet Fans and Panel / Signal & Control Cabling between CO Sensors and Jet Fan Panel PLC/Power Cabling, Cable tray and Control cabling between TAF Panel and TA Fans. The same shall be BMS communicable. (Suitable Core and Cable size to be cosidered)				
4.8.1	For Basement-II	1	LOT	75,000.0	75,000.0
4.0	Sub Total - BASEMENT CAR PARK VENTILATION SYSTEM				57,69,500.0
5.0	HVAC WORK - AMC CHARGES				
	ANNUAL MAINTENANCE CONTRACT				
	(Note : From Each RA Bill, 5% retention money to be deduct during O&M Period)				
	Comprehensive AMC for SITC of High Side units and Ventilation System				
	It includes all preventive maintainance , break down maintainance with all spares - repair or replacement of the defactive part or parts , this includes all cosumable if any applicable.				
1.0	1st year (From the date of Completion of DLP)	12.0	Months	1,59,180	1,59,179.8
2.0	2nd year (From the date of Completion of DLP)	12.0	Months	1,59,180	1,59,179.8
3.0	3rd year (From the date of Completion of DLP)	12.0	Months	1,59,180	1,59,179.8
4.0	4th year (From the date of Completion of DLP)	12.0	Months	1,59,180	1,59,179.8
5.0	Sub Total - Comprehensive Maintenance				6,36,719.2
	TOTAL HVAC VALUE				70,03,910.7

PROJECT NAME : SANSKAR KENDRA, AHMEDABAD

CLIENT NAME : AHMEDABAD MUNICIPAL CORPORATION

Date:12.12.2025

Document : Fire protection tender estimate

IT.NO	Item Discription	Unit	Quantity	DSR RATES WITH GST	Total Rate W/O GST	Total AMOUNT IN RS. W/O GST
FIRE PROTECTION WORK						
A	FIRE EXTINGUISHERS AND SIGNAGES					
1	6 Kg ABC (Powder Type) Fire Extinguisher. In HP Mild Steel Cylinders ISI marked fitted with pressure indicating gauge, internal tube, squeeze lever type valve fully charged with ABC powder (Mono Ammonium Phosphate--MAP 90%) pressured by Nitrogen complete in all respects including wall suspension bracket and conforming to IS:15683 Providing and Fixing of fire extinguishers with necessary accessories, stand, trolley, etc.	Nos.	16.00		3,770.00	60,320
2	ISI Marked portable fire extinguisher, 4.5 kg CO2 type fire extinguishers complete in all respect including initial fill and wall suspension brackets and shall conform to IS 2878 Providing and Fixing of fire extinguishers with necessary accessories, stand, trolley, etc.	Nos.	16.00		5800.00	92,800
3	Supplying, installation testing and commissioning of CLEAN AGENT FK 5-1-12 Automatic Modular(Self Activated) fire extinguisher Automatic type 15 kg Fire Extinguishers Applicable fire classes A,B & C, UGTS Pressure Gauge, Empty Weight 6.40 kg, Full weight 21.40 kg. Can Height 425mm, Diameter 400 ± 10mm, Made up from 2 mm thick sheet,, Body Construction Deep Drawn with MIG Welding technology, Brass forged sprinkler valves with Nozzle is specially designed to give more than 99% discharge. Together with orifice characteristic to cover adequately fire risks with scattering cone of 40 to 45° Angle. Internal & External Pure polyester (UV Resistant) powder coated, Heat Sensitive Glass bulb of 68 °C. including pressure indicating gauge , celling mounted bracket.	No.	2.00		66600.00	1,33,200
4	Design, supply and installation of safety signages made of zinc base glow in the dark rigid sheet with high luminous with pasted on 3mm thick on rigid PVC foam sheet. Providing AUTOGLOW Signages in Block / Small Letters of Specified Sizes: Fire Hydrant: 4" X 12"	Nos.	16.00		410.00	6,560
5	Design, supply and installation of safety signages made of zinc base glow in the dark rigid sheet with high luminous with pasted on 3mm thick on rigid PVC foam sheet. Providing AUTOGLOW Signages in Block / Small Letters of Specified Sizes: "ABC" Extinguisher: 8" X 4"	Nos.	16.00		295.00	4,720
6	Design, supply and installation of safety signages made of zinc base glow in the dark rigid sheet with high luminous with pasted on 3mm thick on rigid PVC foam sheet. Providing AUTOGLOW Signages in Block / Small Letters of Specified Sizes: "CO2" Extinguisher: 8" x 4"	Nos.	16.00		295.00	4,720
Total of FIRE EXTINGUISHERS AND SIGNAGES						3,02,320

IT.NO	Item Discription	Unit	Quantity	DSR RATES WITH GST	Total Rate W/O GST	Total AMOUNT IN RS. W/O GST
B	FIRE PIPING AND ACCESSORIES					
7	Supplying, installation testing and commissioning of the following 'C' class MS pipe as per IS1239 with welded / flanged / screwed joints and with all the engineered support as per detail technical specification, heavy clamps, hangers, brackets or pipe supports (all with screwed/welded joints) as required including MS C class pipe of shorter lengths, tapering connecting pieces, short or long bends, MS C class specials like sockets, union nuts, elbows, reducers, plugs, Tees etc. complete to make the system operative as required by LFA authorities. The pipes will have to be laid and fixed on walls, ceilings, into brick walls or RCC with lead anchor fastners. The work includes making holes in brick or RCC walls, slabs/ roofs and making good the damages by bringing to the original condition to the satisfaction of the Architect/Consultant/Client and painting two coats of approved shade(Post office red)of enamel paint over a coat of approved primer for over ground / overheads pipes. Note : The piping installation has to be put to hydraulic test to1.5 times the working pressure & as per latest codes & standars before applying the paint 250 mm dia. Pipe	Mtr.	5.00		7,025.00	35,125
8	Supplying, installation testing and commissioning of the following 'C' class MS pipe as per IS1239 with welded / flanged / screwed joints and with all the engineered support as per detail technical specification, heavy clamps, hangers, brackets or pipe supports (all with screwed/welded joints) as required including MS C class pipe of shorter lengths, tapering connecting pieces, short or long bends, MS C class specials like sockets, union nuts, elbows, reducers, plugs, Tees etc. complete to make the system operative as required by LFA authorities. The pipes will have to be laid and fixed on walls, ceilings, into brick walls or RCC with lead anchor fastners. The work includes making holes in brick or RCC walls, slabs/ roofs and making good the damages by bringing to the original condition to the satisfaction of the Architect/Consultant/Client and painting two coats of approved shade(Post office red)of enamel paint over a coat of approved primer for over ground / overheads pipes. Note : The piping installation has to be put to hydraulic test to1.5 times the working pressure & as per latest codes & standars before applying the paint 200 mm dia. Pipe	Mtr.	15.00		6386	95,790
9	Supplying, installation testing and commissioning of the following 'C' class MS pipe as per IS1239 with welded / flanged / screwed joints and with all the engineered support as per detail technical specification, heavy clamps, hangers, brackets or pipe supports (all with screwed/welded joints) as required including MS C class pipe of shorter lengths, tapering connecting pieces, short or long bends, MS C class specials like sockets, union nuts, elbows, reducers, plugs, Tees etc. complete to make the system operative as required by LFA authorities. The pipes will have to be laid and fixed on walls, ceilings, into brick walls or RCC with lead anchor fastners. The work includes making holes in brick or RCC walls, slabs/ roofs and making good the damages by bringing to the original condition to the satisfaction of the Architect/Consultant/Client and painting two coats of approved shade(Post office red)of enamel paint over a coat of approved primer for over ground / overheads pipes. Note : The piping installation has to be put to hydraulic test to1.5 times the working pressure & as per latest codes & standars before applying the paint 150 mm dia. Pipe	Mtr.	1661.00		3970	65,94,170
10	Supplying, installation testing and commissioning of the following 'C' class MS pipe as per IS1239 with welded / flanged / screwed joints and with all the engineered support as per detail technical specification, heavy clamps, hangers, brackets or pipe supports (all with screwed/welded joints) as required including MS C class pipe of shorter lengths, tapering connecting pieces, short or long bends, MS C class specials like sockets, union nuts, elbows, reducers, plugs, Tees etc. complete to make the system operative as required by LFA authorities. The pipes will have to be laid and fixed on walls, ceilings, into brick walls or RCC with lead anchor fastners. The work includes making holes in brick or RCC walls, slabs/ roofs and making good the damages by bringing to the original condition to the satisfaction of the Architect/Consultant/Client and painting two coats of approved shade(Post office red)of enamel paint over a coat of approved primer for over ground / overheads pipes. Note : The piping installation has to be put to hydraulic test to1.5 times the working pressure & as per latest codes & standars before applying the paint 100 mm dia. Pipe	Mtr.	175.00		2690	4,70,750

IT.NO	Item Discription	Unit	Quantity	DSR RATES WITH GST	Total Rate W/O GST	Total AMOUNT IN RS. W/O GST
11	Supplying, installation testing and commissioning of the following 'C' class MS pipe as per IS1239 with welded / flanged / screwed joints and with all the engineered support as per detail technical specification, heavy clamps, hangers, brackets or pipe supports (all with screwed/welded joints) as required including MS C class pipe of shorter lengths, tapering connecting pieces, short or long bends, MS C class specials like sockets, union nuts, elbows, reducers, plugs, Tees etc. complete to make the system operative as required by LFA authorities. The pipes will have to be laid and fixed on walls, ceilings, into brick walls or RCC with lead anchor fastners. The work includes making holes in brick or RCC walls, slabs/ roofs and making good the damages by bringing to the original condition to the satisfaction of the Architect/Consultant/Client and painting two coats of approved shade(Post office red)of enamel paint over a coat of approved primer for over ground / overheads pipes. Note : The piping installation has to be put to hydraulic test to1.5 times the working pressure & as per latest codes & standars before applying the paint 80 mm dia. Pipe	Mtr.	200.00		1890	3,78,000
12	Supplying, installation testing and commissioning of the following 'C' class MS pipe as per IS1239 with welded / flanged / screwed joints and with all the engineered support as per detail technical specification, heavy clamps, hangers, brackets or pipe supports (all with screwed/welded joints) as required including MS C class pipe of shorter lengths, tapering connecting pieces, short or long bends, MS C class specials like sockets, union nuts, elbows, reducers, plugs, Tees etc. complete to make the system operative as required by LFA authorities. The pipes will have to be laid and fixed on walls, ceilings, into brick walls or RCC with lead anchor fastners. The work includes making holes in brick or RCC walls, slabs/ roofs and making good the damages by bringing to the original condition to the satisfaction of the Architect/Consultant/Client and painting two coats of approved shade(Post office red)of enamel paint over a coat of approved primer for over ground / overheads pipes. Note : The piping installation has to be put to hydraulic test to1.5 times the working pressure & as per latest codes & standars before applying the paint 65 mm dia. Pipe	Mtr.	170.00		1525	2,59,250
13	Supplying, installation testing and commissioning of the following 'C' class MS pipe as per IS1239 with welded / flanged / screwed joints and with all the engineered support as per detail technical specification, heavy clamps, hangers, brackets or pipe supports (all with screwed/welded joints) as required including MS C class pipe of shorter lengths, tapering connecting pieces, short or long bends, MS C class specials like sockets, union nuts, elbows, reducers, plugs, Tees etc. complete to make the system operative as required by LFA authorities. The pipes will have to be laid and fixed on walls, ceilings, into brick walls or RCC with lead anchor fastners. The work includes making holes in brick or RCC walls, slabs/ roofs and making good the damages by bringing to the original condition to the satisfaction of the Architect/Consultant/Client and painting two coats of approved shade(Post office red)of enamel paint over a coat of approved primer for over ground / overheads pipes. Note : The piping installation has to be put to hydraulic test to1.5 times the working pressure & as per latest codes & standars before applying the paint 50 mm dia. Pipe	Mtr.	505.00		1200	6,06,000
14	Supplying, installation testing and commissioning of the following 'C' class MS pipe as per IS1239 with welded / flanged / screwed joints and with all the engineered support as per detail technical specification, heavy clamps, hangers, brackets or pipe supports (all with screwed/welded joints) as required including MS C class pipe of shorter lengths, tapering connecting pieces, short or long bends, MS C class specials like sockets, union nuts, elbows, reducers, plugs, Tees etc. complete to make the system operative as required by LFA authorities. The pipes will have to be laid and fixed on walls, ceilings, into brick walls or RCC with lead anchor fastners. The work includes making holes in brick or RCC walls, slabs/ roofs and making good the damages by bringing to the original condition to the satisfaction of the Architect/Consultant/Client and painting two coats of approved shade(Post office red)of enamel paint over a coat of approved primer for over ground / overheads pipes. Note : The piping installation has to be put to hydraulic test to1.5 times the working pressure & as per latest codes & standars before applying the paint 40 mm dia. Pipe	Mtr.	900.00		870	7,83,000

IT.NO	Item Discription	Unit	Quantity	DSR RATES WITH GST	Total Rate W/O GST	Total AMOUNT IN RS. W/O GST
15	Supplying, installation testing and commissioning of the following 'C' class MS pipe as per IS1239 with welded / flanged / screwed joints and with all the engineered support as per detail technical specification, heavy clamps, hangers, brackets or pipe supports (all with screwed/welded joints) as required including MS C class pipe of shorter lengths, tapering connecting pieces, short or long bends, MS C class specials like sockets, union nuts, elbows, reducers, plugs, Tees etc. complete to make the system operative as required by LFA authorities. The pipes will have to be laid and fixed on walls, ceilings, into brick walls or RCC with lead anchor fastners. The work includes making holes in brick or RCC walls, slabs/ roofs and making good the damages by bringing to the original condition to the satisfaction of the Architect/Consultant/Client and painting two coats of approved shade(Post office red)of enamel paint over a coat of approved primer for over ground / overheads pipes. Note : The piping installation has to be put to hydraulic test to 1.5 times the working pressure & as per latest codes & standars before applying the paint 32 mm dia. Pipe	Mtr.	665.00		760	5,05,400
16	Supplying, installation testing and commissioning of the following 'C' class MS pipe as per IS1239 with welded / flanged / screwed joints and with all the engineered support as per detail technical specification, heavy clamps, hangers, brackets or pipe supports (all with screwed/welded joints) as required including MS C class pipe of shorter lengths, tapering connecting pieces, short or long bends, MS C class specials like sockets, union nuts, elbows, reducers, plugs, Tees etc. complete to make the system operative as required by LFA authorities. The pipes will have to be laid and fixed on walls, ceilings, into brick walls or RCC with lead anchor fastners. The work includes making holes in brick or RCC walls, slabs/ roofs and making good the damages by bringing to the original condition to the satisfaction of the Architect/Consultant/Client and painting two coats of approved shade(Post office red)of enamel paint over a coat of approved primer for over ground / overheads pipes. Note : The piping installation has to be put to hydraulic test to 1.5 times the working pressure & as per latest codes & standars before applying the paint 25 mm dia. Pipe	Mtr.	1960.00		585	11,46,600
17	Supplying, installation testing and commissioning of the following 'C' class MS Pipe as per IS : 1239-1973 tested to 200 PSI complete with fitting & welding of pipes & fittings wherever required complete with flanges & painting , with all the engineered support as per detail technical specification. underground/overground pipes with welded / flanged connection with saddles, supports (all with screwed/welded joints) as required including pipe of shorter lengths, tapering connecting pieces, short or long bends, specials like sockets, union nuts, elbows, reducers, plugs, Tees etc. complete to make the system operative as required by LFA authorities the pipes will have to be laid and fixed in trenches. The work includes excavation in all types of soils and back filling, dewatering, etc., making holes in brick or RCC walls, slabs/ roofs and making good the damages by bringing to the original condition to the satisfaction of the Architect and painting two coats of approved shade(Post office red)of enamel paint over a coat of approved primer for over heads pipes and providing and fixing pypkote (corrosion protection tape) including supply and application of pipe coating and spiral Wrapping for underground piping (wrapping should have overlap of 15 to 20 mm) etc. complete as per ASTM standards/IS:10221 for corrosion protection of pipes for the under ground installation. Note : The piping installation has to be put to hydraulic test to 1.5 times the working pressure & as per latest applicable codes & standard before applying paint or pipe coating or wrapping etc. complete. 150 mm dia. Pipe	Mtr.	10.00		4,367.00	43,670
18	Supplying, installation testing and commissioning of the following 'C' class MS Pipe as per IS : 1239-1973 tested to 200 PSI complete with fitting & welding of pipes & fittings wherever required complete with flanges & painting , with all the engineered support as per detail technical specification. underground/overground pipes with welded / flanged connection with saddles, supports (all with screwed/welded joints) as required including pipe of shorter lengths, tapering connecting pieces, short or long bends, specials like sockets, union nuts, elbows, reducers, plugs, Tees etc. complete to make the system operative as required by LFA authorities the pipes will have to be laid and fixed in trenches. The work includes excavation in all types of soils and back filling, dewatering, etc., making holes in brick or RCC walls, slabs/ roofs and making good the damages by bringing to the original condition to the satisfaction of the Architect and painting two coats of approved shade(Post office red)of enamel paint over a coat of approved primer for over heads pipes and providing and fixing pypkote (corrosion protection tape) including supply and application of pipe coating and spiral Wrapping for underground piping (wrapping should have overlap of 15 to 20 mm) etc. complete as per ASTM standards/IS:10221 for corrosion protection of pipes for the under ground installation. Note : The piping installation has to be put to hydraulic test to 1.5 times the working pressure & as per latest applicable codes & standard before applying paint or pipe coating or wrapping etc. complete. 100 mm dia. Pipe	Mtr.	15.00		2,960.00	44,400

IT.NO	Item Discription	Unit	Quantity	DSR RATES WITH GST	Total Rate W/O GST	Total AMOUNT IN RS. W/O GST
19	Supplying, installation testing and commissioning of the following 'C' class MS Pipe as per IS : 1239-1973 tested to 200 PSI complete with fitting & welding of pipes & fittings wherever required complete with flanges & painting , with all the engineered support as per detail technical specification. underground/overground pipes with welded / flanged connection with saddles, supports (all with screwed/welded joints) as required including pipe of shorter lengths, tapering connecting pieces, short or long bends, specials like sockets, union nuts, elbows, reducers, plugs, Tees etc. complete to make the system operative as required by LFA authorities the pipes will have to be laid and fixed in trenches. The work includes excavation in all types of soils and back filling, dewatering, etc., making holes in brick or RCC walls, slabs/ roofs and making good the damages by bringing to the original condition to the satisfaction of the Architect and painting two coats of approved shade(Post office red)of enamel paint over a coat of approved primer for over heads pipes and providing and fixing pypkote (corrosion protection tape) including supply and application of pipe coating and spiral Wrapping for underground piping (wrapping should have overlap of 15 to 20 mm) etc. complete as per ASTM standards/IS:10221 for corrosion protection of pipes for the under ground installation. Note : The piping installation has to be put to hydraulic test to 1.5 times the working pressure & as per latest applicable codes & standard before applying paint or pipe coating or wrapping etc. complete. 80 mm dia. Pipe	Mtr.	25.00		2,079.00	51,975
20	Providing and erecting BUTTERFLY VALVE (MANUAL) with C I body SS disc nitrile sheet & O - ring & PN 16 pressure rating as specified. 250 mm dia	Ea.	2.00		27,800.00	55,600
21	Providing and erecting BUTTERFLY VALVE (MANUAL) with C I body SS disc nitrile sheet & O - ring & PN 16 pressure rating as specified. 200 mm dia. Pipe	Ea.	5.00		14,623.00	73,115
22	Providing and erecting BUTTERFLY VALVE (MANUAL) with C I body SS disc nitrile sheet & O - ring & PN 16 pressure rating as specified. 150 mm dia. Pipe	set	10.00		6,910.00	69,100
23	Providing and erecting BUTTERFLY VALVE (MANUAL) with C I body SS disc nitrile sheet & O - ring & PN 16 pressure rating as specified. 100 mm dia. Pipe	set	12.00		5,210.00	62,520
24	Providing and erecting BUTTERFLY VALVE (MANUAL) with C I body SS disc nitrile sheet & O - ring & PN 16 pressure rating as specified. 80 mm dia. Pipe	set	3.00		3,826.00	11,478
25	Providing and erecting BUTTERFLY VALVE (MANUAL) with C I body SS disc nitrile sheet & O - ring & PN 16 pressure rating as specified. 65 mm dia. Pipe	set	2.00		3,615.00	7,230
26	Providing and erecting BUTTERFLY VALVE (MANUAL) with C I body SS disc nitrile sheet & O - ring & PN 16 pressure rating as specified. 50 mm dia. Pipe	set	0.00		3,227.00	-
27	Supplying and fixing single headed internal hydrant valve with instantaneous Gunmetal coupling of 63 mm dia with cast iron wheel ISI marked conforming to IS 5290 (Type -A) with blank Gunmetal cap and chain as required : Single Headed Gunmetal	set	15.00	8,208	6,956	1,04,339
28	Supplying and fixing Single headed external yard hydrant valve with 1No. 63 mm dia instantaneous FM Gunmetal/Vstainless Steel coupling and cast iron wheel, ISI marked, conforming to IS 5290 (type A) with blank Gunmetal/Stainless Steel cap and chain as required : Single Headed Gunmetal	set	9.00	8,208	6,956	62,603

IT.NO	Item Discription	Unit	Quantity	DSR RATES WITH GST	Total Rate W/O GST	Total AMOUNT IN RS. W/O GST
29	"Supplying and fixing 63 mm dia, 15 m long RRL hose pipe with 63 mm dia male and female couplings duly bound with GI wire, rivets etc. conforming to IS 636 (type-A) as required : Gun Metal"	set	16.00	5,455	4,623	73,966
30	Providing and fixing as per ISO fire hose cabinet size 600x 750x 250mm to house fire hydrant and hose, including all other related accessories fabricated from M.S. sheet (16 Gauge) of fully welded construction having front door with locking arrangement, partially glazed with 4 mm thick glass. Cabinet shall be powder coated and painted with post office red colour of size as shown in the drawing (or as approved by Architect) to house the hydrant valve, 15m x 2 No. hose and hose reel.	Nos.	16.00		6,310	1,00,960
31	Providing and fixing approved fire hose cabinet stand mount type for external size 600x 750x 250mm to house fire hydrant and hose, including all other related accessories fabricated from M.S. sheet (14 Gauge) of fully welded construction having front door with locking arrangement, partially glazed with 4 mm thick glass. Cabinet shall be powder coated and painted with post office red colour of size as mentioned in drawing (or as approved by the Architect) to house 15m x 2 No. hoses.	Nos.	9.00		6,941	62,469
32	Supplying and fixing first-aid Hose Reel with MS construction spray painted in post office red, conforming to IS 884 complete with the following as required. 20 mm nominal internal dia water hose thermoplastic (Textile reinforced) type -2 as per IS: 12585 20 mm nominal internal dia gun metal globe valve & nozzle. Drum and brackets for fixing the equipments on wall. Connections from riser with 25 mm dia stop gun metal valve & M.S. Pipe and socket. 40m	set	16.00	17,034	14,436	2,30,969
33	Supplying and fixing stand mount first-aid Hose Reel with MSEP Fabricated Stand MS construction and spray painted in post office red, conforming to IS 884 complete with the following as required 20 mm nominal internal dia water hose thermoplastic (Textile reinforced) We -2 as per IS: 12585, 20 mm nominal internal dia gun metal globe valve & nozzle. Drum and brackets for fixing the equipments on stand. connections from riser with 25 mm dia stop gun metal valve & M.s Pipe and socket including fabricated stand for mount hose reel in external. 40m	set	9.00		11,272	1,01,448
34	Supplying and fixing orifice plate made out of 6 mm thick stainless steel (Grade 304) with orifice of required size to be fitted between flange & landing valve of external and internal hydrants to reduce pressure at the outlet to the level of 3.5 kg/cm2 complete as required.	Each	16.00	1,436	1,217	19,471
35	Providing, fixing and testing forged brass 25 mm dia screwed inlet single acting air release valve PN 16 with 25 mm dia ball valve on inlet side and pressure gauge with isolating cock.	Nos.	16.00		2,759	44,144
36	Supplying & fixing 63 mm dia gun metal short branch pipe with 20 mm nominal internal diameter size nozzle conforming to IS 903 suitable for instantaneous connection to interconnect hose pipe coupling as required : Gun metal	NOS.	16.00	4,977	4,444	71,100
37	Providing and fixing of pump trigger system On / Off switch for Fire Hydrant Main Pump as per CFO requirement.	Nos.	16.00		844	13,504
Total of FIRE PIPING AND ACCESSORIES						1,21,78,147

IT.NO	Item Discription	Unit	Quantity	DSR RATES WITH GST	Total Rate W/O GST	Total AMOUNT IN RS. W/O GST
C	PUMP & ACCESSORIES					
38	<p>Supplying & installing completely testing & commissioning of centrifugal main fire pump(electrical driven) for hydrant main / sprinkler main with cast iron casing & bronze impeller & internal parts, make as approved by ISO/CFO for fire duty, complete with coupling, coupling guard necessary base frame, foundation bolts, RCC foundation, antivibration paid , capable of discharging 2280 lt/min against 50 mtr. head against all losses complete. The scope shall also include electrical TEFC motor, operated on 3-ph, 440-V, 50 Hz, 2900 RPM Syn. speed with 'B' class winding, make as approved by LFA. The pump shall be capable of giving not less than 150% discharge at a head not less than 65% of the rated head. Motor to be of continuous rating etc. complete.</p> <p>Each incomer and Outgoing feeder should be capable for protection against Overload, Short Circuit and Phase reversal condition and shall be capable to communicate with BMS . System should be capable to compensate for frictional losses at lower flows. All alarms should be displayed in the controller and BMS. System should be equipped with dry running protection. Indication of all type of faults / on-off status / electrical parameters shall be available on panel and central IBMS monitors. On-off operation for all pumps shall be available on BMS system.</p> <p>Main Pump - Motor : Discharge : 2280 LPM, Head 50 mtr.</p>	set	2.00		4,25,000.00	8,50,000
39	<p>Supplying & installing completely testing & commissioning of End suction long-coupled fire pump (electrical driven) for Water curtain main with cast iron casing & bronze impeller & internal parts, make as approved by ISO/CFO for fire duty, complete with coupling, coupling guard necessary base frame, foundation bolts, RCC foundation, antivibration paid , capable of discharging 2280 lt/min against 50 mtr. head against all losses complete. The scope shall also include electrical TEFC motor, operated on 3-ph, 440-V, 50 Hz, 2900 RPM Syn. speed with 'B' class winding, make as approved by LFA. The pump shall be capable of giving not less than 150% discharge at a head not less than 65% of the rated head. Motor to be of continuous rating etc. complete.</p> <p>Each incomer and Outgoing feeder should be capable for protection against Overload, Short Circuit and Phase reversal condition and shall be capable to communicate with BMS . System should be capable to compensate for frictional losses at lower flows. All alarms should be displayed in the controller and BMS. System should be equipped with dry running protection. Indication of all type of faults / on-off status / electrical parameters shall be available on panel and central IBMS monitors. On-off operation for all pumps shall be available on BMS system.</p> <p>Water curtain main Pump - Motor : Discharge : 2280 LPM, Head 50 mtr</p>	set	2.00		4,25,000.00	8,50,000
40	<p>Supplying & installing completely testing & commissioning centrifugal main fire pump (diesel driven) with cast iron casing & bronze or phosphor bronze internal parts, make as approved by ISO/CFO for fire duty, complete with coupling, coupling guard necessary base frame, foundation bolts, RCC foundation, antivibration paid , capable of discharging 2280 lt/min against 50 mtr. head against all losses complete with suitable diesel engine of speed matching the pump speed ,auto start facility with battery & battery charger, necessary wiring, fuel tank ,exhaust system, foundation gauges & wired for automatic start of the water pump on drop of pressure in the hydrant and sprinkler system. The pump should confirm to LFA / SEB & and IE Regulations. The pump shall be capable of giving not less than 150% discharge at a head not less than 65% of the rated head.</p> <p>Pumping System shall be capable to communicate with BMS . System should be capable to compensate for frictional losses at lower flows. All alarms should be displayed in the controller and BMS. Indication of on-off status parameters shall be available on panel and central IBMS monitors. On-off operation for all pumps shall be available on BMS system.</p> <p>Pump - Diesel Engine : Discharge : 2280 LPM, Head : 50 mtr.</p>	set	1.00		5,75,000.00	5,75,000
41	<p>Supplying, installing, testing and commissioning of Vetrical Centrifugal jockey pump-motor with discharge 180 lpm against 50 mtr. head with 3 phase, 415 V, 50 Hz motor having 2900 RPM, complete with coupling, coupling guard necessary base frame, foundation bolts, RCC foundation, antivibration paid , as per site conditions and instructions of site engineer-in-charge including proper fixing, The electrical motor for the pump should comply as per Specification. The scope shall also include necessary coupling, coupling guard, base frame, foundation bolts, RCC foundation, etc. complete.</p> <p>Each incomer and Outgoing feeder should be capable for protection against Overload, Short Circuit and Phase reversal condition and shall be capable to communicate with BMS . System should be capable to compensate for frictional losses at lower flows. All alarms should be displayed in the controller and BMS. System should be equipped with dry running protection. Indication of all type of faults / on-off status / electrical parameters shall be available on panel and central IBMS monitors. On-off operation for all pumps shall be available on BMS system.</p> <p>Jockey Pump - Motor : Discharge : 180 LPM, Head :50 mtr.</p>	set	2.00		1,20,000.00	2,40,000

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42	SITC of precharged MSEP air vessel (size 600mm dia x 2000 mm height) with adequate pressure switches with valves to operate as per operating sequence including 25 mm drain valve, air release valve with stop cock on top, 25 mm inlet with isolation valve & the vessel shall be painted inside & outside. The tank shall be fabricated from 8 mm thick MS plate with painting Air Vessel : 600 mm dia x 2000 mm h	set	2.00		69,600.00	1,39,200
43	providing and erecting NON - RETURN VALVE with dual plate of C I body SS plates vulcanized NBR seal flanged end & PN 16 pressure rating as specified. 200 mm dia.	set	2.00		15,418.00	30,836
44	providing and erecting NON - RETURN VALVE with dual plate of C I body SS plates vulcanized NBR seal flanged end & PN 16 pressure rating as specified. 150 mm dia.	set	5.00		9,077.00	45,385
45	providing and erecting NON - RETURN VALVE with dual plate of C I body SS plates vulcanized NBR seal flanged end & PN 16 pressure rating as specified. 100 mm dia.	set	1.00		5,801.00	5,801
46	providing and erecting NON - RETURN VALVE with dual plate of C I body SS plates vulcanized NBR seal flanged end & PN 16 pressure rating as specified. 80 mm dia.	set	1.00		3,969.00	3,969
47	providing and erecting NON - RETURN VALVE with dual plate of C I body SS plates vulcanized NBR seal flanged end & PN 16 pressure rating as specified. 50 mm dia.	set	2.00		3,175.00	6,350
48	Providing, installation, testing and commissioning of stainless steel Ystrainer fabricated out of 1.6 mm thick stainless steel, Grade 304' sheet with .3 mm dia holes with stainless steel flange 250 mm dia	each	2.00	28,985.00	24,564	57,970
49	Providing & fixing of pressure switch in M.S. pipe line including connection etc. as required.	Each	7.00	1,670.00	1,415	11,690
50	Providing and fixing in position the industrial type pressure gauges with gun metal / brass valves complete as required	Nos.	7.00	1,491.00	1,264	8,845
51	Supply, installation, testing & commissioning of metallic SS 304 bellows on suction side, discharge side of pump & at expansion joints of building conforming to EJMA with all hardwares, companion flanges & gaskets, etc. Size : 200 mm	Nos.	5.00		27,000	1,35,000
52	Supply, installation, testing & commissioning of metallic SS 304 bellows on suction side, discharge side of pump & at expansion joints of building conforming to EJMA with all hardwares, companion flanges & gaskets, etc. Size : 150 mm	Nos.	5.00		24,595	1,22,975
53	Supply, installation, testing & commissioning of metallic SS 304 bellows on suction side, discharge side of pump & at expansion joints of building conforming to EJMA with all hardwares, companion flanges & gaskets, etc. Size : 100 mm	Nos.	1.00		19,600	19,600

IT.NO	Item Discription	Unit	Quantity	DSR RATES WITH GST	Total Rate W/O GST	Total AMOUNT IN RS. W/O GST
54	Supply, installation, testing & commissioning of metallic SS 304 bellows on suction side, discharge side of pump & at expansion joints of building conforming to EJMA with all hardwares, companion flanges & gaskets, etc. Size : 80 mm	Nos.	2.00		15,600	31,200
55	Supply, installation, testing & commissioning of metallic SS 304 bellows on suction side, discharge side of pump & at expansion joints of building conforming to EJMA with all hardwares, companion flanges & gaskets, etc. Size : 65 mm	Nos.	2.00		12,500	25,000
56	Supply, installation, testing & commissioning of metallic SS 304 bellows on suction side, discharge side of pump & at expansion joints of building conforming to EJMA with all hardwares, companion flanges & gaskets, etc. Size : 50 mm	Nos.	1.00		8,730	8,730
57	Supplying and fixing of fire brigade connection of castiron body with gun-metal male instantaneous inlet couplings complete wiih cap and chain as reqd. for suitable dia MS pipe c onnection conforming to IS 904 as required : 2 way-100 mm dia M.S. Pipe	set	1.00	7,262.00	6,154	7,262
58	Supplying and fixing of fire brigade connection of castiron body with gun-metal male instantaneous inlet couplings complete wiih cap and chain as reqd. for suitable dia MS pipe c onnection conforming to IS 904 as required : 4 way-150 mm dia M.S. Pipe	set	1.00	14,820.00	12,559	14,820
59	SITC of fire brigade draw out connection with 100 mm MS suction pipe and 100 mm dia Cast iron foot valve. The scope shall also include required valves, piping, M.S cabinet as required.	set	1.00		9,500	9,500
60	MCC for Fire power panel : Design, manufacture, supply ,installation, testing and commissioning of following MCC panels suitable for 415V, 3 phase, 4 wire, 50 hz power distribution system.the panel should be indoor/outdoor, free standing, floor mounting, sheet metal clad, Cubicle, dead front, dust and vermin proof conforming to min IP-55 enclosure, compartmentalized design fabricated out of 14 SWG sheet steel complete with Al busbars, separate earth bus bar to be provided through out the length of the panel. The incoming and outgoing feeders shall be accommodated in a modular multitier arrangement, adequate size cable alley, painting, earthing numbering, damper plate etc. as required as per specifications and drawings. The panel shall withstand a require fault level as per SLD (Cost of PLC and related wiring for switching on and switching off the pumps as per the drawing & as per local CFO requirement) Each incomer and Outgoing feeder should be capable for protection against Overload, Short Circuit and Phase reversal condition and shall be capable to communicate with BMS . System should be capable to compensate for frictional losses at lower flows. All alarms should be displayed in the controller&BMS. System should be equipped with dry running protection. Indication of all type of faults / on-off status / electrical parameters shall be available on panel and central IBMS monitors. On-off operation for all pumps shall be available on BMS system. NOTE : 1). Separate neutral link to be provided wherever TP MCCB are used. 2). All MCCB shall have breaking capacity of 25 KA unless otherwise specified. 3). Necessary cabling, wiring, earthing from panel to individual equipment shall be included in the quoted price. 4). following provisions to be made in the fire panel: 5). Audio visual alarm and indications having disconnect/reset facilities with a range of 1/2 Km. The indication shall come on when electrical driven pump set fails to start on pressure drop 6). Facility for more selections i.e. auto or manual and local remote as per SLD. 7). Protection failure and control cabling. 8). Interlocking with Diesel engine pump / D.G. set 9).Local Push button (Start STOP) for fire equipment at each floor, if require, shall be provided as per drawing and as per direction of Local fire regulation. 10). The above requirement is general, in addition to that the vendor shall provide all the component/system/work for the proper operation of fire pumps as per fire rules and regulations Incomer : As per SLD , Outgoing : As per SLD Supply, installation, assembly, connection, testing and commissioning of Fire power panel as per Drawing, Remote On OFF switch operation , Specification, Technical Data sheet & IS. & Single Line Diagram and other equipments required to complete the job.	Set.	1.00		4,10,000	4,10,000
	Earthing					

IT.NO	Item Discription	Unit	Quantity	DSR RATES WITH GST	Total Rate W/O GST	Total AMOUNT IN RS. W/O GST
61	Supplying & erecting earth pit of minimum bore dia.150mm size approved make Earthing Electrode consisting Pipe-in-Pipe Technology as per IS 3043-1987 made of corrosion free hot dipped G.I.Pipes having Outer pipe dia of 50mm having 80-200 Micron galvanising, Inner pipe dia of 25 mm having 200-250 Micron galvanising, connection terminal dia of 12mm with constant ohmic value surrounded by highly conductive compound with high charge dissipation suitable for following type of applications with chamber and heavy duty cover. (A)(approved make OEM has to submit test certificate including value of earth resistance of installation duly stamped and signed by agency and officer Incharge has to ensure the value of earthing resistane mentioned in test Certificate) & having back filling compound of (B) Inner chemical (CCM Compound)- Resistivity:- 0.2 ohm / meter testing as per IEC 62561-2017, Voltage drop:- < 1 volt at no load & dry form, Sulphar content:- <2%(C) Back fill Compound :- Earthing compound should be capable to retain moisture for long time Necessary test report must be submitted by Agency. (c) For Electrical Installation covering Transformer Neutrals, Lightning arrester Earthing, A.C.Plant & Sensitive Computer System(like Automation, SCADA) i.e independent Earthing in normal soil. Length of Pipe : 3.00 mtrs Back filling Compound :2 nos Bags of 25 Kg.	No.	2.00		8,551	17,102
62	Providing and erecting required size HOT deep Galvanised iron strip for earthing of H.T. , OCB/ ACB/ Transformer LT panel board, Motors etc. using proper clamp.	Kg.	133.00		77	10,241
63	Providing and erecting Annealed bare Copper wire 8 to 16 SWG.	Kg.	5.00		787	3,935
	LT CABLES & TERMINATIONS					
	Providing and erecting XLPE(IS:7098)(I)-88 ISI armoured cable multistrand Aluminium conductor for 1.1 KV. to be laid on wall with necessary clamps or in existing trench / pipe of following size of cables					
64	(H) 3 1/2 core 185 Sq. mm (95 Sq. mm 1/2 core) (Fire Fighting Panel Incomer)	Mtr.	42.00		896	37,632
65	(A) 3 1/2 core 35 Sq. mm (16 Sq. mm 1/2 core) (Hydrant Pump + Sprinkler Pump+Fire Water Curtain Pump)	Mtr.	108.00		218	23,544
	Providing and erecting XLPE(IS:7098)(I)-88 ISI armoured cable multistrand / Solid Copper conductor for 1.1 KV. to be laid on wall with necessary clamps or in existing trench / pipe at road crossing or floor of following size of cables.					
66	Providing and erecting XLPE(IS:7098)(I)-88 ISI armoured cable multistrand / Solid Copper conductor for 1.1 KV. to be laid on wall with necessary clamps or in existing trench / pipe at road crossing or floor of following size of cables. (C) 4 core 6 Sq. mm (Hydrant + Sprinkler Jockey Pump)	Mtr.	25.00		505	12,625
	Providing and erecting XLPE(IS:7098)(I)-88 ISI armoured cable multistrand Copper conductor for 1.1 KV. to be laid on wall with necessary clamps or in existing trench / pipe at road crossing or floor of following size of cable.					-
67	(B) 3 core 4 Sq. mm (for diesel pump battery)	Mtr.	20.00		285	5,700
68	(A) 3 core 2.5Sq. mm (Control Cable) FHC from Fire Panel	Mtr.	50.00		211	10,550
	Providing and, fixing heavy duty flange type brass double compression type cable gland with rubber ring for PVC insulated armoured cable complete with out going tails, insulating tape etc for following size of cables.					-
69	(G) 3 & 1/2 core 185 Sq. mm	Nos	2.00		236	472

IT.NO	Item Discription	Unit	Quantity	DSR RATES WITH GST	Total Rate W/O GST	Total AMOUNT IN RS. W/O GST
70	(B) 3 & 1/2 core 35/50 Sq. mm	Nos	8.00		75	600
	Providing and, fixing heavy duty flange type brass cable gland with rubber ring for PVC insulated armoured cable complete with out going tails, insulating tape etc for following size of cables.					
71	(B) 2 to 4 core 6 Sq. mm	Nos	4.00		38	152
72	(A) 2 to 4 core 2.5 / 4 Sq. mm	Nos	4.00		33	132
	Solder less crimping type Aluminium lugs conforming to IS suitable for cable of following size evenly crimped with high pressure tool & connected to switchgear terminals with brass/cadmium plated nut bolts in an approved manner.					
73	(I) 185 Sq.mm.	Nos	8.00		80	640
74	(D) 35/50 Sq.mm.	Nos	32.00		20	640
	Solder less crimping type Copper lugs conforming to IS suitable for cable of following size evenly crimped with high pressure tool & connected to switchgear terminals with brass/cadmium plated nut bolts in an approved manner.					
75	(A) 1.5/2.5 to 6 Sq.mm	Nos	32.00		8	256
76	Supplying & erecting XLPE(IS:7098)(I)-88 ISI unarmoured copper cable 1.1 KV grade to be erected as directed of following size. (E) 12 core 2.5 sq.mm	Mtr.	25.00		393	9,825
77	Providing and erecting ISI mark Medium class RIGID PVC PIPES of following size complete to be erected on/in wall or ceiling erected with necessary PVC fittings & Junction boxes fixed with adhesive solution & Clamps with following dia of pipes, in approved manner as directed (b) 25 mm	Mtr.	100.00		33	3,300
Total of PUMP & ACCESSORIES						37,46,479
D	SPRINKLER & RELATED ACCESSORIES					
78	Providing, fixing, testing & commissioning of 15 mm dia quartzoid bulb type sprinklers of rating 57 degree centigrade with required accessories : Pendent Sprinkler Standard Coverage 5.6 K-factor	Each	1195.00	599.00	508	6,06,615
79	SITC of test & drain assembly with all piping & sight glass including 25mm diameter 2 nos drain valve, union, required 25mm diameter drain pipe etc. complete	Set	15.00		13,882.00	2,08,230
80	Providing & fixing flow switch in following sizes pipe including connection etc as required. Header size : 150 mm	Each	3.00	9,644.00	8,173	24,519

IT.NO	Item Discription	Unit	Quantity	DSR RATES WITH GST	Total Rate W/O GST	Total AMOUNT IN RS. W/O GST
81	Providing & fixing flow switch in following sizes pipe including connection etc as required. Header size : 100 mm	Each	10.00	8,069.00	6,838	68,382
82	Providing & fixing flow switch in following sizes pipe including connection etc as required. Header size : 80 mm	Each	2.00		6,339	12,678
83	Providing, installation, testing & commissioning of water curtain nozzle 15mm dia nickel chrome plated brass, BSpr, K-factor as per design consideration complete as required. K-42	Each	69.00	787.00	667	46,020
84	Supplying, installation, testing & commissioning of deluge valve (to be used for water curtains) uL listed with wet pilot basic trim assembly for DVA with test and alarm, drip and drain valve with water motor gong complete as required. 150mm dia	Set	1.00	1,21,301.00	1,02,797	1,02,798
85	Providing, installation, testing & commissioning of electric release trim assembly for deluge wall with two way solenoid valve, weather proof operation on 24 volts DC supply complete as required.	Set	1.00	7,755.00	6,572	6,573
86	Supply, Installation, Testing and Commissioning of Deluge Valve Local control Panel consisting of Panel fabrication MS 16 SWG, CRCA sheet, panel cubical, front access, wall mounting, bottom side cable entry, indoor type IP 54, MCB 6 Amp, 24V DC 1 Amp SMPS Power Supply, Glass fuse 2 Amp, 24V DC 8 pin relay with base, Push button for Manual & Test mode with break glass, Connector 4 sq.mm, Power & control wiring laying, termination 1 sq.mm, Incoming power cable for panel - 3 core x 1.5 sq.mm copper armoured FRLS cable, Double compression brass cable gland etc. complete as per specification/drawings and as directed by Architect / Engineer in charge .	Set	1.00		12,543.00	12,543
87	Providing, fixing, testing & commissioning of installation control valve of cast iron body, brass/bronze working parts comprising of water motor alarm. bronze seat clapper, clapper arm and hydraulically driven mechanical gong bell to sound continuous alarm when the wet riser/sprinkler system activates, pressure gauges, emergency releases, strainer, pressure switch, cock valve complete with drain valve and bypass, test control box, ball valves, MS pipe of required size, flanges, orifice plate, BFV, gasket etc of follwing sizes as required: 150 mm dia	set	4.00	50,805.00	43,055	1,72,221
88	Full Bore Electromagnetic Flow Meter- Inbuilt Battery Power operated - PN 16 Design, Supply, Installation, Testing, Commissioning of Full Bore Electromagnetic flow meter with factory calibration, Inbuilt Battery Power Operated, flanged connection, Flow sensor, Indicator, transmitter and totaliser with all accessories viz. surge arrestor, associated cables, cabinets, hardwares, etc complete as per following specifications: Flow Meter/ Sensor: DC pulsed type, IP 68 Protection, Flanged process connection as per IS 1538 or equivalent standard, SS304/ Metallic Alloy Flow Tube, SS316/ SS 316 L/ Hastelloy Sensor, SS316/ Hastelloy Grounding Ring/ Inbuilt Grounding Electrode, Neoprene/Polyurethane/ Hard Rubber/ Rilsan lining, SS304/ Die Cast Aluminium/ Carbon steel with Anticorrosive Paint Coil Housing with Junction Box, CS flanges. Flow Transmitter/ Converter (Remote Field Mounted): Microprocessor based, Modular design, 2 line LCD for indication of actual flow rate, forward, reverse, sum totaliser display, accuracy at 0.3 to 4 m/sec velocity, One scalable pulse/ one status, one Modbus output, one GPRS/ GSM output, IP 67 protection, Die cast aluminium/ polycarbonate/ SS316 with Anticorrosive Paint/ PU finish with glass window enclosure, Inbuilt EEPROM and Data Logger, 20 meters cable length for sensor to transmitter communication, Minimum 5 years battery lifetime, 3.6 VDC Non Rechargeable Lithium-thionyl chloride/ Ni-Cd high power batteries, Hourly Basis Worldwide transmission of measured data and events via e-mail and SMS by integrated GSM/GPRS modem, Reliable data storage facility through integrated SD card etc alongwith wall mounted/ stand mounted cabinet.	No.	1.00		1,27,483.00	1,27,483
Total of SPRINKLER & RELATED ACCESSORIES						13,88,063

IT.NO	Item Discription	Unit	Quantity	DSR RATES WITH GST	Total Rate W/O GST	Total AMOUNT IN RS. W/O GST
E	CHARGES FOR LIASONING WITH CFO AND GETTING ALL APPROVALS					
89	Charges for Liasoning with CFO and getting all approvals and permissions and NOC 's required for fire fighting at various stages and after completion of the project including All official payments. (All official and receipted payments would be submitted and Re-imbursed)	JOB	1.00		1,50,000.00	1,50,000
	Total of CHARGES FOR LIASONING WITH CFO AND GETTING ALL APPROVALS					1,50,000
	Total of Firefighting Works					1,77,65,008