



माझगांव डॉक शिपबिल्डर्स लिमिटेड

(भारत सरकार का उपक्रम)

राष्ट्र के पोत निर्माता

डॉकयार्ड रोड, माझगांव

मुंबई - ४०००१०

भारत

MAZAGON DOCK SHIPBUILDERS LIMITED

(Formerly known as Mazagon Dock Ltd.)

CIN : U35100MH1934GOI002079

(A Government of India Undertaking)

Shipbuilders to the Nation

Dockyard Road, Mazagon,

Mumbai 400 010.

INDIA

**Repair, Renovation and corrective action for the distresses of
structure at Nhava Yard, MDL.**

VOLUME-III

**Scope of Work, Tender Drawings
& Price Bid (Part-II)**

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1. कार्य का ब्योरा / Scope of Work :

BRIEF SCOPE OF CIVIL WORK:

i. Repair and renovation of Office area:

1. Dismantling existing floor tiles, cabin partitions, ceiling, doors, damaged plaster, paint, dismantling existing toilet block along with all sanitary/ plumbing fittings, dismantling waterproofing etc.
2. Fixing of new vitrified tiles, ceramic tiles in toilet block, Armstrong false ceiling work in cabins, Calcium silicate false ceiling in open office area, Aluminium framed particle board partitions, new single leaf hard wood flush doors with hydraulic door closers & mortice locks, FRP doors for toilet, anodised aluminium fittings to toilet doors etc. Existing windows to be repaired and refixed.
3. Renovation of toilet block with high end sanitary/ plumbing fittings, laying new waterproofing and replacement of damaged down take sewerage line, Granite work for pantry platform and some door framing work.
4. Providing and applying internal plaster, putty, emulsion paint on walls, repair of damaged RCC with PMM etc.
5. Dismantling existing asbestos roof sheets and fixing of galvalume sheets along with flashings, trims, gutter and rain water down take pipes. Construction of front canopy of structural steel and galvalume sheets in front of office area.

ii. Repair and renovation of Security office area:

1. Dismantling existing floor tiles and laying of vitrified flooring, replacement of damaged doors with new flush doors, repair of existing window shutters with frames.
2. Providing and applying internal plaster, putty, emulsion paint on walls, repair of damaged RCC with PMM etc.
3. Providing galvalume roof sheets over existing slab to arrest rain water leakages along with gutter and rain water down take pipes.

iii. Repair and renovation of Lighting Mast Towers:

1. Dismantling existing damaged structural steel sections of lighting mast towers and fixing of new structural steel members along with cleaning and painting of all structural steel members of tower. Fixing of galvalume sheets on roof top.
2. Dismantling damaged portion of existing foundations of towers and laying RCC & reinforcement steel along with repair work.

iv. Repair of Jetty quay wall:

1. Restorative repair of existing concrete wall which includes removal existing shell formation, dismantling of loose concrete, application of bond coat, rust removal, rust preventive coating, application of PMM/ Micro concrete, anti corrosive coating etc.
2. Dismantling existing damaged side concrete wall top portion and construction of RCC wall.

BRIEF SCOPE OF ELECTRICAL WORK:

1. Supply, installation, testing and commissioning of PVC armoured Copper/Aluminium cable for Main power supply.
2. SITC of main TPN Switch Fuse Unit for incomer power supply.
3. SITC of main power Supply MCB Distribution Board for power distribution with proper rating MCB.
4. SITC of timer, contactors for outdoor lighting work.
5. SITC of 250watt/400W, 250V, HPSV/HPMV light fittings with necessary cabling and termination on high mast/light towers complete.
6. SITC of Solar lights and all accessories with necessary cabling and termination complete on high mast /lighting tower.
7. SITC of Modular switch sockets, metra plug sockets with wiring complete in office area.
8. SITC of LED panel lights, spot lights and tube lights with wiring complete in office area.
9. SITC of LAN and telephone accessories in office area.
10. SITC of wall mounted fans in office area.
11. SITC of earthing complete with all accessories and excavation.
12. SITC of lightning conductor with all accessories complete.
13. Carefully dismantling all existing Distribution Boards, Light Fittings, cables, wires and all electrical accessories.

The detailed scope of work has been indicated in the Bill of Quantities (BOQ) Price Bid Part-II at Enclosure-1.

2 निविदा हेतु चित्रकारी / TENDER DRAWINGS:

Sr. NO	TITLE	TENDER DRAWING NO
1	Nhava - Yard approved Layout Drawing	IP/(Civil)/ NHAVA/ 01
2	Electrical SLD for High Mast	IP/(ELECTRICAL)/ NHAVA/ 01
3	Proposed Power layout plan of Office Area	IP/(ELECTRICAL)/ NHAVA/ 02
4	Proposed Electrical layout plan of Office Area	IP/(ELECTRICAL)/ NHAVA/ 03
5	Proposed Electrical plan of Security Office	IP/(ELECTRICAL)/ NHAVA/ 04
6	Piller DB SLD	IP/(ELECTRICAL)/ NHAVA/ 05
7	Timer Circuit	IP/(ELECTRICAL)/ NHAVA/ 06

The above Tender Drawings in PDF form are attached separately along with Tender Document.

Enclosure-1

PRICE BID (PART-II)
BILL OF QUANTITIES
(To be submitted online)

Sub: Repair, Renovation and corrective action for the distresses of structure at Nhava Yard, MDL.

Ref: MDL Tender No. 180000043

INSTRUCTION TO THE BIDDER:

1. The Goods & Service Tax **IS NOT INCLUDED** in the rates indicated below for this section. Bidder is required to quote Goods & Service Tax separately in Percentage which will be added to the rate quoted for this section.
2. Bidder to note Clause No. 2 (Defect Liability Period), Clause No 3 (Performance bank Guarantee), Clause No 7 (Prices and Taxes) & Clause No 14 (Insurance), Clause No 4.4 (Power) and Clause No 4.5(Water) of Volume II before quoting.
3. MDL reserves the right to increase the quantity of any item in the BOQ to any extent provided the increase in the total Estimated Amount due to this change in the quantity over BOQ quantity multiplied by specified rate for all the items put together do not exceed 25% of the Accepted Contract Value. Bidder to note Clause No 12 of Volume II before quoting.
4. Bidder should clearly understand the procedure for entry of labour/ material in Nhava Yard and quote accordingly.
5. Bidder should note SI No 119 of the Technical Specs-Civil viz"Contractor to note" and SI No 01 of the Technical Specs-Electrical viz "Special Instructions" and quote accordingly.

Sr No.	Service Accounting Code (SAC)	Item Description	Unit	Qty	Rate	Amount
		Civil work for Renovation of NHAVA YARD				
1		Dismantling old plaster or skirting raking out joints and cleaning the surface for plaster including disposal of rubbish within MDL premises etc. complete.	Sqm	270.00	31.72	8564.40
2		Demolishing brick work manually/ by mechanical means including stacking of serviceable material and disposal of unserviceable material within 50 metres lead as per direction of Engineer-in-charge.	Cum	1.00	1193.46	1193.46
3		Dismantling carefully RCC Work including cutting bars and stacking of steel bars within MDL premises and disposal of un-serviceable material outside MDL premises to municipal dumping ground complete as directed at any height / Location etc.	Cum	45.00	2059.85	92693.25
4		Dismantling carefully PCC Work & carting away debris outside MDL premises to municipal dumping ground complete as directed at any height / Location etc.	Cum	10.00	1411.97	14119.70

5		Exposing existing old and worn out RCC column, beams and slabs etc upto main reinforcement carefully by means of chisel and hammer including necessary scaffolding including carting away the material outside MDL premises to the municipal dumping ground etc.	Sqm	40.00	89.16	3566.40
6		Removing and Re-fixing of existing doors single shutter or pair of window shutters or frames with necessary rectification including cutting decayed teak wood portion, fixing with new heavy duty iron oxidised fixtures viz. hinges, handles and sliding bolts etc. complete as directed.	Sqm	26.00	794.24	20650.24
7		Removal of Existing wooden/aluminium partitions, storage cabinates and stacking the serviceable material within MDL premises and as directed by Engineer in-charge etc. Complete.	Sqm	310.00	54.88	17012.80
8		Removing and lowering down existing false ceiling of any type from below roof carefully and stacking the serviceable material within MDL premises and as directed by Engineer in-charge etc. Complete.	Sqm	90.00	34.41	3096.90
9		Dismantling tile work in floors, walls, platforms and roofs laid in cement mortar of any thickness including stacking material within 50 metres lead.	Sqm	110.00	44.68	4914.80
10		Dismantling steel work in BUILT UP section including dismembering and stacking within MDL scrap bins in MDL yards BY manually / mechanical means as per direction of Engineer-in-Charge	Kg	8855.00	3.40	30107.00
11		Dismantling carefully asbestos cement sheet roofing/ cladding including ridges hips, valleys, gutter, coal tar, turbo vents etc., and stacking the material within 50 metres lead and as directed by Engineer In-charge etc. complete. (Measurement shall be paid on roof plan area)	Sqm	465.00	46.52	21631.80
12		Removing carefully existing Urinal partitions (stone work) and taking away the same outside MDL premises etc. all complete as directed.	Nos	3.00	69.46	208.38
13		Removing carefully existing Urinals with frame including disconnecting the sanitary and water supply connections, removing the same carefully and including stacking serviceable material within MDL premises etc. complete.	Nos	3.00	69.46	208.38

14		Dismantling carefully existing WC pan (Indian or European) including disconnecting the sanitary and water supply connections, removing and breaking flooring and bed concrete around pans and removing pan carefully and including stacking serviceable material within MDL premises etc. complete.	Nos	3.00	123.23	369.69
15		Removing carefully existing Wash basin with frame including disconnecting the sanitary and water supply connections, removing the same carefully and including stacking within MDL premises etc. complete.	Nos	2.00	69.46	138.92
16		Removing carefully old or abandoned m.s./ hume pipe water storage tank upto 5000 litres capacity from terrace of the building and stacking the same as directed etc. complete.	Nos	1.000	1271.600	1271.60
17		Dismantling carefully existing G.I pipeline of any dia along with all its fittings viz. bib cock, collars, elbow etc and stacking at site.	Rm	50.000	90.140	4507.00
18		Earth work in excavation by Mechanical means (Hydraulic excavator) / Manual means over areas (exceeding 30cm in depth, 1.5m in width as well as 10 sqm on plan) including disposal of excavated earth, dewatering whenever required, lead upto 50 m and lift upto 1.5 m, disposed earth to be levelled and neatly dressed.- -All kinds of soil	Cum	10.000	178.360	1783.60
19		Filling available excavated earth (excluding rock) in trenches. Plinth, sides of foundations etc. in layers not exceeding 20cm in depth, consolidating each layer by ramming and watering, lead up to 50m and lift up to 1.5m	Cum	8.000	178.080	1424.64
20		Providing Brick masonry with conventional / IS type bricks of grater than one brick thickness including scaffolding, watterring, racking out joints etc. complete--SET IN CEMENT MORTAR (1 : 4) In superstructure upto 2nd floor level.	Cum	2.00	4865.56	9731.12
21		Providing and applying plastering on RCC/brick masonry work with 12 mm thick cement mortar (1:4) including curing & including scaffolding etc; all complete as directed.	Sqm	200.00	244.92	48984.00
22		Providing and applying 20 mm thick waterproof cement plaster (1:4) in two coats for external surface mixed with standard waterproofing material as per manufacturer specification, curing etc in all positions including scaffolding etc. all complete as directed.	Sqm	200.00	369.57	73914.00

23		Providing and applying Birla wall care white cement based putty in two coats as per manufacturer's specifications in approved shade and colour to existing rough surfaces of wall and ceiling including scraping the existing paint etc.complete	Sqm	360.00	117.71	42375.60
24		Providing & Applying one coat of Cement primer of approved brand and as per manufacturer's specification on wall surface including removing existing paint by scrapping, sand papering and preparing the surface smooth including necessary repairs to scratches7 including scaffolding etc. complete as directed.	Sqm	360.00	52.33	18838.80
25		Providing & Applying two coats of plastic emulsion paint of approved brand & manufacture and shade to give uniform finish with the help of brush, Rollers 7 including scaffolding etc. complete as directed.	Sqm	360.00	78.24	28166.40
26		Finishing walls with Premium Acrylic Smooth exterior paint with Silicone additives of required shade New work (Two or more coats applied @ 1.43 ltr/ 10 sqm. over and including priming coat of exterior primer applied @ 2.20 kg/ 10 sqm).	Sqm	300.000	137.080	41124.00
27		Providing & Applying two coats of synthetic enamel paint of approved brand & manufacture and shade to give uniform finish with the help of brush, Rollers etc . including scraping existing paint, applying one coat of ready mixed red oxide zinc chromate primer etc. complete as directed.	Sqm	65.00	152.24	9895.60
28		Providing and applying two coats of Aluminium paint of approved brand & manufacture to give an even shade to structural steel including cleaning, wire brushing and surface preparation and applying one coat of ready mixed red oxide zinc chromate primer etc. complete as directed.etc; all complete.	Sqm	1150.00	138.00	158700.00
29		Providing & laying polished vitrified floor tiles of size 60cm X 60 cm (thickness to be specified by the manufacturer) with water absorption's less than 0.08% and confirming to IS : 15622 of approved make in all colours and shades, laid on 20mm thick cement mortar 1:4 (1 cement : 4 coarse sand) including grouting the joints with white cement and matching pigments etc. complete. (Basic rate Rs. 794/- per Sqm)	Sqm	400.00	1585.23	634092.00

30		Providing and laying Ceramic glazed floor tiles 300*300 mm (thickness to be specified by the manufacture) of 1st quality conforming to IS 15622 of approved make (RAK,SOMANY, KAJARIA, NITCO, or equivalent make) in approved Colour / shade laid on 20mm thick Cement Mortar 1:4 (1 Cement : 4 Coarse Sand) including pointing the joints with white cement and matching pigment etc. complete as directed. (Basic rate= Rs. 278/- per Sqm)	Sqm	42.00	974.80	40941.60
31		Providing and fixing 1st quality ceramic glazed tiles conforming to IS 15622 (thickness to be specified by the manufacture) of approved make like RAK, SOMANY, KAJARIA, NITCO or equivalent make in all colours, shades of any size as approved (except burgundy, bottle green, black) in skirting, risers of steps and dados over 12mm thick bed of Cement Mortar 1:3 (1 Cement : 3 Coarse Sand) and jointing with grey cement slurry @ 3.3 kg per sqm including pointing in white cement mixed with pigment of matching shade complete. (Basic rate= Rs. 272 per Sqm)	Sqm	35.00	1054.74	36915.90
32		Providing and Fixing Granite of 18mm thick gang saw cut mirror polished premoulded and prepolished machine cut for kitchen platforms, vanity counters, window sills, facias and similar location of required size of approved shade, colour and texture laid over 20mm thick base cement mortar 1:4 (1 cement : 4 coarse sand) with joints treated with white cement, mixed with matching pigments, epoxy touch ups, including rubbing, curing, moulding and polished to edge to give high gloss finish etc. complete at all levels--Granite of any colour and shade. (Basic rate Rs. 2350/- per Sqm)				
a		Area of slab up to 0.5 Sqm	Sqm	10.00	4746.85	47468.50
b		Area of slab over 0.5 Sqm	Sqm	6.00	4408.88	26453.28
33		Providing and fixing one side polished black kadappa stone slab of 25-30mm thick for platform of required size in 1:4 cement mortar including providing & fixing border patti on front edge, filling joints with white cement mixed with matching pigment, curing, ceaning etc. complete.	Sqm	2.00	886.49	1772.98
34		Extra for providing opening of required size & shape for washbasins / sink in platform, vanity counters and similar locations in marble / stone work including necessary holes for pillar taps etc. including rubbing & polishing of cut edges etc. complete.	Nos	2.00	606.04	1212.08

35		Providing and fixing Structural steel work riveted, bolted or welded in built up sections , trusses and framed work including cutting, hoisting, fixing in position and applying a priming coat of approved steel primer complete as directed by engineer.	Kg	10000.0 0	95.73	957300.00
36		Supply & Fixing of High Tensile Alloy Steel 550 MPA having Galvanized + Aluminum Combined Coating of 150 GPM (AZ150) Colour Coated Trapezoidal Roofing Sheets of 0.70mm TCT to roofs & Side claddings, with packing, transportations, necessary required hard wares, i.e. self tapping and drilling screws as per AS 3566 including stitching of vertical (side lap) joints with special aluminium roofing rivets and washers at approx 500mm distance including wastage, overlap etc. complete. (measurement as per laid area after completion of work to roof, side, gable end.)	Sqm	760.00	785.81	597215.60
37		Providing and applying POLYMER MODIFIED MORTAR(PMM) in proportion of 1(Polymer) : 5(Cement) : 15 (Quartz sand) by weight with water cement ratio of 0.35 including application of bond coat of Krishna Conchem or equivalent approved make using brush in ratio of 1 (Polymer) :1 (Cement) : 0.35 (water) by weight including cleaning of surface with air mixed with water under pressure, and subsequent layer upto 10mm after hardening curing; all complete.(Polymer manufactured by sunanda, pidilite, fosroc, acro- chem, build core or equivalent)	Kg	1300.00	124.27	161551.00
38		Removing existing corrosion in MS/ torsteel bars by means of suitable light tapping wire brushing and applying rusticide rust converter of "Feovert" of Krishna conchem or equivalent approved make etc complete	Litre	12.00	207.13	2485.56
39		Providing and applying two coats of Rust preventive coating of IPNET of Krishna Conchem or equivalent approved make after cleaning the existing surface from dust/ loose particles by applying air water under pressure etc complete as directed.	Litre	12.00	495.43	5945.16
40		Providing & fixing in position Centering & shuttering including strutting, propping etc. and removal of form work of approved type as directed by Engineer in charge.				
i		for foundation, base of columns	Sqm	75.00	274.66	20599.50
ii		for beams, lintels	Sqm	3.00	485.60	1456.80

41		Providing & fixing in position Thermo mechanically treated bars of grade Fe-500, reinforcement bars including straightening, cutting, bending, placing in position & binding with binding wires / welding where ever necessary for foundations, slabs, beams, columns; etc. all complete as directed at any location (Lapping / chairs will be measured & paid) (TMT Bars)	Kg	2800.00 0	80.150	224420.00
42		Providing and applying Bonding coat between concrete members like RCC slabs, columns, beams, Chajjas, pardis etc and cement mortar plaster using HACK AID PLAST of M/s. Sunanda Speciality Coatings Pvt. Ltd. or equivalent as per the instructions of manufacturer or Engineer Incharge; including cleaning the concrete surface thoroughly to remove dust, dirt, grime, deshuttering oils and rub down to a clean surface at all heights/ levels and locations and as directed by Engineer Incharge.	Sqm	85.00	54.06	4595.10
43		Providing and applying two coats of concrete penetrating hi-tech corrosion inhibition mechanism inhibits corosion of steel in concrte at the poles, cathode & anodic simultaneously on concrete surface and steel surface. This is applied by paint brush throughly on concrete surface which is prepared earlier. The work should be carried out with all the safety measures like helmet, safety belt and adequate labour insuarncce under the supervision of qualified supervisor. etc. complete.	Sqm	85.00	496.63	42213.55
44		ANTI CARBONATION COATING : Providing high performance Anti carbonation protective coating for repair with mortar and micro concrete for repaired / new surface, by cleaning the surface to remove dirt, loose particles etc. by wire brush or any other suitable method and applying a primer coat of SUNDEKOTE SP by mixing 400-500 ml of potable water in clean container. Apply by brush, roller or spray. After 24 Hrs. apply two more coats of SUNDEKOTE SP without addition of water at an interval of 24 hrs. between each coat (dfor ease of application if required add water not more than 100 ml). After final coat / layer is completed allow it to set for 24 hrs. Work shall be executed by certified applicator only.	Sqm	85.00	309.26	26287.10

45		Providing & laying Plain Cement concrete (PCC) (1:2:4) grade (1 Cement: 2 coarse aggregate: 4 graded stone aggregate 20mm nominal size) upto plinth level including curing but excluding the cost of centering & shuttering etc;complete as directed..	Cum	12.00	7763.24	93158.88
46		Providing & Laying Reinforced cement concrete of (1:1.5:3) grade (1 Cement:1.5 coarse aggregate: 3 graded stone aggregate 20mm nominal size) in lintels, beams, suspended floors, chajjas etc above plinth level upto floor five level in position excluding centering, shuttering, finishing & reinforcement bars, including curing etc;complete as directed.	Cum	1.00	10466.44	10466.44
47		Providing & laying in position ready mix M-40 grade reinforced cement concrete, using fly ash and cement content as per approved design mix and manufactured in fully automatic batching plant and transported to site in transite mixers for all leads, having continuous agitated mixer, manufactured as per Mix design of specified grade for reinforced cement concrete, including pumping/ placing of RMC from transite mixer to site of laying, excluding the cost of centering, shuttering, finishing & reinforcement, including admixtures in recommended proportions (as per IS 9103) to accelerate /retard setting of concrete, improve workability without impairing strength and durability as per direction of engineer in charge.	Cum	7.00	9771.83	68402.81
		NOTE- (1) Cement content considered in this item is @ 360 kg/cum. Excess/ less cement used as per design mix is payable/ recoverable separately.				
		(2) Fly ash conforming to grade I of IS 3812 (Part-1) only be used as part replacement of OPC as per IS : 456. Uniform blending with cement to be ensured in accordance with clauses 5.2 and 5.2.1 of IS:456 -2000 in the items of BMC and RMC.				

48		Providing and fixing <u>anodised aluminium work for doors, windows, ventilators and partitions</u> with extruded built up standard tubular and other sections of approved make conforming to IS 733 and IS 1285, Anodised transparent or dyed to required shade according to IS 1868. (Minimum anodic coating of grade AC 15), fixed with rawl plugs and screws or with fixing clips, or with expansion hold fastners including necessary filling up of gaps at junctions, at top, bottom and sides with required PVC/ neoprene felt etc. Aluminium sections shall be smooth, rust free, straight, mitred and jointed mechanically wherever required including cleat angle,. Aluminium snap beading for glazing/ panelling, CP brass/ stainless steel screws, all complete as per drawings and the directions of Engineer in Charge (Glazing and panelling to be paid for seperatly)- For fixed Portion	Kg	970.00	503.01	487919.70
49		Providing and fixing 12mm thick prelaminated three layer medium density (exterior grade) particle board Grade I, Type II conforming to IS 12823 bonded with phenol formaldehyde synthetic resin withdecorative laminbation on both sides of approved brand and manufacture in panelling fixed in aluminium doors, windows shutters and partition frames with CP brass/ stainless steel screws etc complete as per drawings and directions of engineer in Charge	Sqm	110.00	1227.23	134995.30
50		Providing and Fixing ISI marked flush door shutters conforming to IS: 2202(Part-I) decorative type , core of block board construction with frame of 1st class hardwood and well matched teak 3 ply veneering with verticalgrains or cross bands and face veneers on both faces of shutters 35 mm thick including ISI marked stainless steel butt hinges with necessary screws, lipping for exposed edges wherever required.	Sqm	25.00	3524.71	88117.75

51		Providing and fixing to existing door frames 30 mm thick Fiberglass Reinforced Plastic (F.R.P.) flush door shutter in different plain and wood finish made with fire retardant grade unsaturated polyester resin, moulded to 3 mm thick FRP laminate all around, with suitable wooden blocks inside at required places for fixing of fittings and polyurethane foam (PUF)/ Polystyrene foam to be used as filler material throughout the hollow panel, casted monolithically with testing parameters of F.R.P. laminate conforming to table - 3 of IS: 14856, complete as per direction of Engineer-in-charge.	Sqm	10.00	3591.06	35910.60
52		Extra for providing vision panel of rectangular or square shape and size not exceeding 0.1 Sq.M. in all type of flush doors (cost of glass excluded) (Overall area of door shutter to be measured)	Sqm	25.00	230.27	5756.75
53		Providing and fixing bright finished brass tower bolts (barrel type) with necessary screws etc. complete : 250x10 mm	Nos	19.00	443.54	8427.26
54		Providing and fixing bright finished brass night latch including necessary screws etc. complete (best make of approved quality).	Nos	10.00	1125.20	11252.00
55		Providing and fixing bright finished brass 100 mm mortice latch and lock with 6 levers and a pair of lever handles with necessary screws etc. complete (best make of approved quality).	Nos	8.00	788.01	6304.08
56		Providing and fixing aluminium extruded section body tubular type universal hydraulic door closer of approved make (having brand logo with ISI, IS : 3564, embossed on the body, door weight upto 36 kg to 80 kg and door width from 701 mm to 1000 mm) with double speed adjustment with necessary accessories and screws etc. all complete & as directed by Engineer / Architect (Basic rate= Rs. 364 per no.)	Nos	8.00	550.03	4400.24
57		Providing and fixing bright finished brass hanging type floor door stopper with necessary screws, etc. complete.	Each	14.00	121.58	1702.12
58		Providing and fixing glazing with float glass panes of 5.5mm thickness (weight not less than 13.75 kg/ sqm) in wooden/aluminium door, window, ventilator shutters and partitions etc with PVC/ neoprene gasket etc complete as per the architectural drawings and the directions of engineer in charge (Cost of aluminium snap beading shall be paid in basic item) Make of glass Saint Gobin, ASAI, Modi	Sqm	12.00	1421.74	17060.88

		Float or equivalent				
59		Modular false ceiling : Approved pattern modular ceiling grid(hot dipped galvanized steel section) will have 595 x 595 mm x 15mm fine fissured tiles (lay-in type) in true horizontal level using a 15mm t bar section suspended from the ceiling slab using 2 mm wire at every 1200mm interval. And will have fire rating of 60 minutes as per bs 476/23 of 1987, noise reduction coefficient (nrc) of 0.50-0.60, to resist temperature and humidity conditions up to 40 degree (104deg. F) and humidity of 99% rh. Including Gala cutting for Sopt light etc. Complete. Approved make of Armstrong.	Sqm	110.00	990.85	108993.50
60		Providing and Fixing 15 mm thick densified tegular edged eco friendlylight weight calcium silicate false ceiling tiles of approved texture spintone/cosmos / Hexa or equivalent of size 595 x 595 mm in true horizontal level, suspended on inter locking metal grid of hot dipped galvanised steel sections (galvanising @ 120 grams per sqm including both side) consisting of main 'T' runner suitably spaced at joints to get required length and of size 24x38 mm made from 0.33 mm thick (minimum) sheet, spaced 1200 mm centre to centre, and cross "T" of size 24x28 mm made out of 0.33 mm (Minimum) sheet, 1200 mm long spaced between main'T' at 600 mm centre to centre to form a grid of 1200x600 mm and secondary cross 'T' of length 600 mm and size 24 x28 mm made of 0.33 mm thick (Minimum) sheet to be inter locked at middle of the 1200x 600 mm panel to from grid of size 600x600 mm, resting on periphery walls /partitions on a Perimeter wall angle pre-coated steel of size(24x24X3000 mm made of 0.40 mm thick (minimum) sheet with the help of rawl plugs at 450 mm centre to centre with 25 mm long dry wall screws @ 230 mm interval and laying 15 mm thick densified edges calicum silicate ceiling tiles of approved texture (Spintone / Cosmos/hexa) in the grid, including,	Sqm	192.00	2121.24	407278.08

		cutting/ making opening for services like diffusers, grills, light fittings, fixtures, smoke detectors etc., wherever required. Main 'T' runners to be suspended from ceiling using G.I. slotted cleats of size 25x35x1.6 mm fixed to ceiling with 12.5 mm dia and 50 mm long dash fasteners, 4 mm G.I. adjustable rods with galvanised steel level clips of size 85 x 30 x 0.8 mm, spaced at 1200 mm centre to centre along main 'T' , bottom exposed with 24 mm of all T-sections shall be pre-painted with polyster baked paint, for all heights, as per specifications, drawings and as directed by engineer-in-charge. Note :- Only calcium silicate false ceiling area will be measured from wall to wall. No deduction shall be made for exposed frames/opening (cut outs) having area less than 0.30 sqm.The calcium silicate ceiling tile shall have NRC value of 0.50 (Minimum), light reflection > 85%, non - combustible as per B.S. 476 part IV, 100% humidity resistance and also having thermal conductivity <0.043 w/m 0 KC				
61		Providing and fixing in position Stainless steel kitchen sink without drain board A ISI 304 (18/8) as per IS 13983 610mm x 510mm depth 200mm with cast iron brackets and stainless steel plug 40mm in painting of fittings and brackets, including cutting	Each	1.00	3507.22	3507.22
62		Providing and Fixing urinal partitions of Granite stone of approved shade of size 75 X 50 cm deep and 1.8 cm thick stone slab table rubbed, edges rounded and polished fixed in by cutting a chase of appropriate width with chase cutter and embedding the stone in the chase with epoxy grout or with cement concrete 1:2:4 (1 cement : 2 coarse sand : 4 graded stone aggregate 6mm nominal size) as per direction of Engineer-In Charge.	Sqm	3.00	4010.45	12031.35
63		Providing & fixing of new wall type glazed earthenware flat back urinals of Jaquar make code : URS-WHT-0702 including, CI bracket with auto closing concealed urinal flush valve with wall flange code : PRS -073 button valve with regulator , cp brass flush pipe with cp clamp & screws , CP spreader , waste coupling , 32mm dia cp brass bottle trap and pipe to wall cp flange all of Jaquar make including Cutting , grooving , making the good walls & floor etc. all complete & as directed by Engineer / Architect	Nos	3.00	9413.08	28239.24

64		Providing and fixing 32mm CP type Bottle Trap of with 300mm wall connection pipe of Jaquar make code :ALD :769b including cp waste coupling of Jaquar code : ALD-729 drilling holes in the walls & making good the damages etc. Complete as per the direction of the Engineer / Architect.	Nos	4.00	1486.28	5945.12
65		Providing and fixing in position approved white vitreous china pedestal type water closet pan with ISI mark (EWC) (Parryware, Hindware or any other approved make & colour) with ISI marked white solid plastic seat and lid, 10 litre low level white PVC flushing cistern, with flush pipe including manually controlled device (hand liver) confirming IS: 7231, with all fittings and fixtures including cutting and making good the same, making inlet and outlet connections etc. complete including fittings / connectors ;complete as directed.	Nos	2.00	4841.37	9682.74
66		Providing and fixing in position approved white glazed Orrisa pattern water closet pan with ISI mark (Parryware, Hindware or any other approved make & colour) 580mm x 440mm with integral type foot rests 100mm dia sand cast iron P or S Trap, including 10 litre low level white PVC flushing cistern, with flush pipe including manually controlled device (hand liver) confirming IS: 7231, including breaking walls, floor and making good the same, making inlet and outlet connections etc. complete including fittings / connectors ;complete as directed.	Nos	1.00	4948.29	4948.29
67		Providing and fixing Handshower of JAQUAR make, model no.HSH-35537 and flexible pipe of Jaquar model no. SHA-549D12 including necessary arrangement etc. all complete & as directed by Engineer / Architect.	Nos	3.00	3372.42	10117.26
68		Providing & fixing 10 litre white PVC flushing cistern of conforming to IS:7231 Parryware / Hindware or equivalent make as approved with ISI mark with a pair of brackets complete with necessary fittings such as PVC connector, inlet pipe connection up to IWC / EWC, union & couplings for connections with inlet, outlet & overflow pipe <u>with 25mm diameter mosquito proof coupling of approved municipal design</u> etc. including making holes in walls & reinstating the same in etc. complete as directed.	Nos	4.00	1232.05	4928.20

69		Providing & fixing wash basin with C.I. brackets, 32 mm C.P. brass waste of standard pattern, including painting of fittings and brackets, cutting and making good the walls wherever required : White Vitreous China Flat back wash basin size 550 x 400mm with single 15mm C.P. brass pillar tap	Nos	3.00	2573.63	7720.89
70		Providing and fixing Chlorinated Polyvinyl Chloride (CPVC) pipes , having thermal stability for hot & cold water supply including all CPVC plain and brass threaded fittings. This includes jointing of pipes & fittings with one step CPVC solvent cement, trenching, refilling & testing of joints, concealed work complete as per direction of Engineer-in-Charge.	Rm			
i		15 mm nominal outer dia pipes	Rm	50.00	348.65	17432.50
ii		25 mm nominal outer dia pipes	Rm	100.00	472.43	47243.00
71		Providing & fixing 'C' class G.I water supply pipeline external work of zenith / GST / TATA with ISI mark with necessary G.I fittings such as elbows, tees, bends, unions, reducers etc. and clamps including cutting, making good the wall, testing, trenching and refilling etc., complete.				
i		15mm dia. Nominal bore	Rm	30.00	226.87	6806.10
ii		25mm dia. Nominal bore	Rm	150.00	291.51	43726.50
72		Providing & fixing PVC soil / Waste water pipes having wall thickness of 3.2 to 3.8mm conforming to I.S.13592-1992 including PVC plug bend, necessary fittings such as bend, tees, single junction, double junction, slotted vent offsets on walls or in the ground including fixing the pipe on wall using approved wooden cleats projecting 25mm to 40mm from face of wall and fixing with clips of approved quality and number, filling the joints using rubber gasket with solvent cement including necessary scaffolding and maintenance for 3 years for any leakages or dislocation of pipes.				
i		110 mm dia. PVC pipe.	Rm	25.00	621.76	15544.00
ii		75 mm dia. PVC pipe.	Rm	25.00	256.55	6413.75
73		Providing & fixing of 15mm dia CP Bib Cock (kub-35037f) with cp wall flange of Jaquar etc.all complete & as directed by Engineer / Architect	Nos	3.00	1981.70	5945.10
74		Providing and fixing two in one Bibcock of JAQUAR, model no. LYR-38041 including fixing the same with tafflon tape and necessary concealed fitting arrangement etc. all complete & as directed by Engineer / Architect.	Nos	3.00	2239.28	6717.84

75		Providing & fixing new CP concealed Stop Cock of Jaquar make code:(KUB-35081f) etc.all complete & as directed by Engineer / Architect	Nos	4.00	1486.28	5945.12
76		Providing & fixing 4" dia. PVC Nahani trap with PVC jali including making holes in walls / beams etc. and cement grouting (1:1) making good the damaged portion finished in C.M(1:3), curing complete as directed.	Nos	4.00	486.97	1947.88
77		Providing and fixing 600*450mm bevelled edge mirror of superior glass (of approved quality) of make Modifloat/Saint Gobin or equivalent with 6mm thick hard board ground fixed to wooden cleats with CP brass screws and washers complete	Nos	2.00	1158.34	2316.68
78		Providing and fixing PTMT soap Dish Holder having length of 138mm, breadth 102mm, height of 75mm with concealed fitting arrangements, weighing not less than 106 gms.	Nos	2.00	159.03	318.06
79		Providing and fixing PTMT towel rail complete with brackets fixed to wooden cleats with CP brass screws with concealed fittings arrangement of approved quality and colour: 450 mm long towel rail with total length of 495 mm, 78 mm wide and effective height of 88 mm, weighing not less than 170 gms	Nos	2.00	552.58	1105.16
80		Providing, hoisting to the position and fixing polyethylene plastic water storage tank, IS 12701 marked of 1000 litre capacity of Sintex Make or equivalent make with ISI mark with mosquito proof brass jalli, frame and cover with locking arrangement including required brass ball valve with plastic float including washout plug, overflow pipe etc complete as directed.	Each	2.00	10737.14	21474.28
81		Providing and laying 250mm dia non pressure NP2 class RCC pipes of approved quality with collars, jointed with stiff cement mortar (1:2) including testing of joints etc. complete.	Rm	25.00	682.65	17066.25
82		Providing & fixing of color coated Accessories of 0.70 mm TCT of suitable required profile, size, shape viz Ridges, North light curves, Apron Flashing, Gable end Flashing, Corner pieces, Eaves Flashing, with hardwares including overlap etc. complete	Rm	170.000	478.090	81275.30
83		Providing and fixing 25cm wide, 80cm overall trapezoidal 2mm thick Aluminium gutter as per existing gutter section, with GI brackets 40x5mm/50x5mm size at a distance of 1m c/c , including bending, cutting, welding, hoisting, fixing in position with bolt	Rm	120.000	959.490	115138.80

84		Providing & fixing PVC Rain water pipes of 160 mm diameter conforming to I.S.13592-1992 including proper rain water receiving recess with PVC plug bend, necessary fittings such as offsets, shoes including fixing the pipe on wall using approved wooden cleats projecting 25mm to 40mm from face of wall and fixing with clips of approved quality and number, filling the joints using rubber gasket with solvent cement and properly resting the shoe of pipes on cement concrete or masonry blocks, including necessary scaffolding and maintenance for 3 years for any leakages or dislocation of pipes.	Rm	100.000	448.560	44856.00
85		Providing and fixing thermal insulation of ceiling with Resin Bonded Fibre glass wool conforming to IS 8193 (Twiga Insul 1500/50mm or equivalent) density 16 kg/cum, 50mm thick, wrapped in 200 G Virgin polythene bags placed over existing false ceiling and held in position by criss-crossing GI wire mesh.	Sqm	280.000	275.090	77025.20
86		Providing and fixing venation vertical blinds revolving type having 100 % Polyester woven fabrics translucent type with 0.58 mm thickness and 100 mm width with Acrylic Coating resistant to Cracking & Fraying and of approved make including necessary hardwares to fixing on wall surface etc complete as directed.	Sqm	10.000	950.350	9503.50
87		Providing antitermite treatment to the wooden frames of doors/ windows of the existing building as per I.S. 6313 (Part-III) by drilling 6mm dia. holes at four corners on one side & four corners on other side at down ward angle of about 45% at the junction of wood work & masonry & injecting 150ml. of chlorodane 5% W.C. & sealing by filling putty etc. complete.	Nos	220.000	25.770	5669.40
88		Providing antetermite treatment to the sides of flooring of the existing building as per I.S. 6313 (Part-III) by punching holes 6mm dia. drilled at a distance of 30cm. centre to centre & injecting 1% of chlorodane emulsion concentrate at the rate of 50ml per hole & sealing by filling putty etc. complete.	Nos	160.667	7.840	1259.63
89		Providing antetermite treatment around the periphery of the existing building as per I.S. 6313 (Part-III) by excavating trenches 20cm. width & exposing the sides of columns & plinth beams upto depth of 300mm. & injecting 1% of chlorodane emulsion concentrate at the rate of 2.25 litres per Rmt & refilling the trenches etc. complete.	Rmt	130.000	33.610	4369.30
		Total Rs for Civil Works				5608484.24

Electrical work for Renovation of NHAVA YARD						
MAIN INCOMER						
1		Supplying and erecting Triple pole metal/ iron clad HRC fuse switch 415/ 500V 63A with neutral link with ISI marked HRC fuses on angle iron frame as per specification No.SWSWR/ TPHRC	AU	1	4927.60	4927.60
2		Supplying and erecting Triple pole metal/ iron clad switch & H.C. type fuse 415/ 500V 16A on iron frame/board as per specification No. SW-SWR/MTP	AU	1	1120.75	1120.75
INCOMING CABLE						
3		Supplying, erecting & terminating PVC armoured cable 4 core 16 sq mm copper conductor with continuous 5.48 sq mm (12 SWG) G.I. earth wire complete erected with glands & lugs, on wall/ trusses/pole or laid in provided trench/ pipe as per specification no. CB-LT/CU	M	50	912.78	45639.00
MAIN DB						
4		Supplying & erecting triple pole and neutral distribution board (TPNDB) with door surface/ flush mounted SP / TP MCBs of total 36 ways on iron frame/wooden board. (Vertical Busbar type) as per specification No. SW-SWR/MCBDB	AU	1	7974.31	7974.31
5		Supplying & erecting triple pole and neutral distribution board (TPNDB) surface/ flush mounted, suitable for SPMCB of 12 ways, on iron frame/wooden board.(Horizontal type) as per specification No. SW-SWR/MCBDB	AU	1	2056.07	2056.07
INCOMER						
6		Supplying, erecting & marking FPMCB 40A to 63A in provided distribution board as per specification No. SW-SWR/MCB	AU	1	1426.03	1426.03
7		Supplying, erecting & marking FPMCB 6A to 32A in provided distribution board as per specification No. SW-SWR/MCB	AU	1	1094.11	1094.11
OUTGOING						
8		Supplying, erecting & marking SPN MCB 6A to 32A, B- series (for lighting) in provided distribution board as per specification No. SW-SWR/MCB	AU	15	443.59	6653.85
9		Supplying, erecting & marking SPN MCB 6A to 32A, C- series (for motor/power) in provided distribution board as per specification No. SW-SWR/MCB	AU	10	504.03	5040.30
LIGHTING FIXTURE						

10		Supplying and erecting square shaped CRCA / die-cast aluminium powder coated housing LED Panel light 600X600mm of PREMIUM RANGE suitable for upto 36 W with provision for plane front frame with translucent cover fixed to the housing complete.	AU	16	5587.74	89403.84
11		Supplying and erecting LED square / circular 16 to 20W downlighter having pressure die-cast aluminium housing, opal translucent cover, mounting arrangement with board for surface type or spring loaded mounting clips for flush type complete.	AU	50	1835.92	91796.00
12		Supplying and erecting LED square / circular 5 to 8W downlighter having pressure die-cast aluminium housing, opal translucent cover, mounting arrangement with board for surface type or spring loaded mounting clips for flush type complete.	AU	8	686.56	5492.48
13		Supplying and erecting T5 28 W energy efficient fluorescent tube.	AU	15	141.37	2120.55
14		Supplying & erecting approved make 1 x 28W T-5 white stove enamelled / powder coated box type fluo.fitting with 28 W electronic ballast having pf > 0.9 fixed at ceiling or on wall as per specification No. FG-IDF/BFF	AU	15	789.85	11847.75
15		Supplying and erecting double suspension pipe rod of 16 gauge 20mm.dia H.G.conduit duly threaded and painted with two coats of enamel paint for erection of fluo tube light fitting with necessary check nuts and shielded copper flexible wire twin core of 24/.2 mm for connecting leads (for measurements half of the actual length both pipes used)	AU	30	153.67	4610.10
16		Supplying and erecting ball suspension plate cast aluminum erected with spring on wooden block in position.	AU	30	28.68	860.40
17		Supplying and erecting double suspension heavy duty lacquered iron chain with hooks for erecting fluo.tube light fitting with necessary shielded copper flexible wire twin core 24/.2 mm for connecting leads. (for measurements half of the actual length used)	AU	32	33.81	1081.92
18		Supplying and erecting approved make 1 x 28W T-5 fluo. fitting recess /surface mounting mirror optic type with one 28W VPIT copper Ballast , fixed in false ceiling or at ceiling or on wall as per specification No. FG-IDF/MOP	AU	2	1700.59	3401.18

		FAN				
19		Supplying and erecting cabin fan of A.C. 230 V. 50 cycles 250 mm. / 300 mm. sweep complete with necessary brackets for fixing cabin fans, wire etc and marking Sr. No. and date of erection.	AU	20	1645.27	32905.40
20		Supplying and erecting fresh air cum Exhaust fan of light duty 250 V A.C. 50 cycles 300mm. 1400 RPM rust proof body & blades, wire mesh, duly erected in an approved manner and marking Sr. No. and date of erection.	AU	2	1375.84	2751.68
21		Supplying and erecting regular/standard model Ceiling fan of 1200 mm. sweep complete erected in position as per specification no. FG-FN/CF	AU	4	1837.86	7351.44
22		Supplying and erecting 'B' grade G.I.pipe/M.S. pipe down rod duly painted for fan complete erected with PVC two core flexible cable 24/0.2 mm copper PVC wire.	M	2	197.72	395.44
		POINT WIRING				
23		Point wiring in PVC trunking (casing-capping) with 1.0 sq.mm FR grade copper wire with flush type switch and required accessories as per specification No: WG-PW/SW	P	89	311.43	27717.27
24		Wiring for plug on board with Switch socket with copper wiring and earthing as per specification No:WG-PW/SW	P	10	90.15	901.50
		SWITCH BOARDS AND SWITCH SOCKETS				
25		Supplying and erecting modular type switch 6A / 10A ISI mark approved make duly erected on provided plate and box with wiring connections complete.	AU	40	88.10	3524.00
26		Supplying and erecting modular type switch 16A ISI mark approved make duly erected on provided plate and box with wiring connections complete.	AU	8	124.98	999.84
27		Supplying and erecting modular type 3 pin 6A multi socket with safety shutter ISI mark approved make duly erected on provided plate and box with wiring connections complete.	AU	40	102.44	4097.60
28		Supplying and erecting modular type 3 pin 6 / 16A multi socket with safety shutter ISI mark approved make duly erected on provided plate and box with wiring connections complete.	AU	8	160.84	1286.72
29		Supplying and erecting PVC Surface modular switch box with double mounting plate for 4 module duly erected in an approved manner.	AU	20	176.21	3524.20
30		Supplying and erecting PVC Surface modular switch box with double mounting plate for 12 module duly erected in an approved manner.	AU	6	386.22	2317.32

31		Supplying and erecting modular type blanking plate one module ISI mark approved make duly erected on provided plate & box.	AU	10	23.56	235.60
32		Supplying and erecting PVC Surface modular switch box with double mounting plate for 6 module duly erected in an approved manner.	AU	3	239.72	719.16
33		Supplying & erecting original 1.25 mm CRCA sheet metal enclosures with 20A. 2 pin plug & earth socket and 20A. 3 pin plug top with 20A/30A single pole MCB complete erected on angle iron frame.	AU	8	896.39	7171.12
		WIRES				
34		Supplying & erecting mains with 2x2.5 sq.mm F.R copper PVC insulated wire laid in provided conduit/trunking/inside pole/Bus bars or any other places. as per specification No: WG-MA/BW	M	1000	53.27	53270.00
35		Supplying & erecting mains with 2x4 sq.mm F.R copper PVC insulated wire laid in provided conduit/trunking/inside pole/Bus bars or any other places. as per specification No: WG-MA/BW	M	200	75.81	15162.00
		CONDUITS				
36		Supplying and erecting rigid PVC conduit 20 mm dia. With PVC accessories on wall / ceiling as per specification No: WGMA/CON, para no. 1.1.1	M	200	59.42	11884.00
37		Supplying and erecting PVC trunking (PVC casing-ncapping) of size 20 mm with accessories on wall/ceiling as per specification No: WG-MA/CON, para no. 1.1.2	M	800	33.81	27048.00
38		Supplying and erecting UPVC reinforced flexible conduit 20 mm in dia. conforming to I.S. and approved make with required number of couplings, PVC bushes, check nuts etc. complete.	M	200	80.93	16186.00
39		Supplying and erecting Iron work consisting of Various sections of MS and including Plates, Chequered Plates, Rods, Bars, MS pipes, etc. for panel board or any other purposes complete with bending, cutting, drilling and welding complete erected at the position with necessary materials duly painted with one coat of red oxide and two coats of enamel paint to match the switchgears or as per directions by the authority	KG	30	111.66	3349.80
		CABLE TRAY				

40		Providing & erecting Hot deeped Galvanised cover suitable for perforated type Cable tray manufactured from 18 swg (1.2 mm thick) GI sheet of 150 mm width & 15 mm height complete with necessary hardware in approved manner.	M	100	239.72	23972.00
		TELEPHONE CABLE				
41		Supplying & erecting telephone cable 2 pair with 0.5 mm dia. laid in provided PVC casing / conduit as per specification No.WG-TW	M	100	19.46	1946.00
42		Supplying & erecting Rosette box RJ type Bakelite box on wall with LED indication duly connected as per specification No.WG-TW	AU	4	100.40	401.60
		LAN				
43		Supplying & installing UTP networking Cat-6 cable suitable for LAN / WAN Computer net-working as per specification No. WGCOC/NC	M	200	44.05	8810.00
44		Supplying and fixing 3 meter length, UTP Patch cord of Cat 6 type in position as per specification No. WG-COC/PC	AU	2	345.24	690.48
45		Supplying and fixing 1 meter length, UTP Patch cord of Cat 6 type in position as per specification No. WG-COC/PC	AU	4	283.77	1135.08
46		Supplying, installing & testing UTP Connector (RJ-45) as per specification No. WG-NAS/UTPC.	AU	6	84.00	504.00
47		Supplying and fixing Tool-less Information Outlet (Ethernet) flush/surface type in position as per specification no. WGNAS/IO	AU	6	486.61	2919.66
		BOM for HIGH MAST				
		INCOMER				
48		Supplying and erecting Triple pole metal/ iron clad HRC fuse switch 415/ 500V 63A with neutral link with ISI marked HRC fuses on angle iron frame as per specification No.SWSWR/ TPHRC	AU	1	4927.60	4927.60
49		Supplying, erecting & terminating PVC armoured cable 4 core 16 sq mm copper conductor with continuous 5.48 sq mm (12 SWG) G.I. earth wire complete erected with glands & lugs, on wall/ trusses/pole or laid in provided trench/ pipe as per specification no. CB-LT/CU	M	15	912.78	13691.70
		Main DB				
50		Supplying & erecting triple pole and neutral distribution board (TPNDB) surface/ flush mounted SP /TP MCBs of total 12 ways, on iron frame/wooden board.(Vertical Busbar type) as per specification No. SW-SWR/MCBDB	AU	1	4127.51	4127.51
		INCOMER				

51		Supplying, erecting & marking FPMCB 40A to 63A in provided distribution board as per specification No. SW-SWR/MCB	AU	1	1426.03	1426.03
		OUTGOING				
52		Supplying, erecting & marking FPMCB 6A to 32A in provided distribution board as per specification No. SW-SWR/MCB	AU	3	1094.11	3282.33
		Lighting DB				
53		Supplying & erecting triple pole and neutral distribution board (TPNDB) surface/ flush mounted SP / TP MCB of total 36 ways on iron frame/wooden board (Vertical Busbar type) as per specification No. SW-SWR/MCBDB	AU	2	6886.35	13772.70
		INCOMER				
54		Supplying, erecting & marking FPMCB 6A to 32A in provided distribution board as per specification No. SW-SWR/MCB	AU	2	1094.11	2188.22
		OUTGOING				
55		Supplying, erecting & marking FPMCB 6A to 32A in provided distribution board as per specification No. SW-SWR/MCB	AU	12	1094.11	13129.32
		Individual Pole DB				
56		Supplying & erecting triple pole and neutral distribution board (TPNDB) with door surface/ flush mounted SPMCB of 12 ways, on iron frame/wooden board.(Horizontal type) as per specification No. SW-SWR/MCBDB	AU	15	2617.47	39262.05
		Incoming				
57		Supplying, erecting & marking FPMCB 6A to 32A in provided distribution board as per specification No. SW-SWR/MCB	AU	15	1094.11	16411.65
58		Supplying, erecting & terminating PVC armoured cable 4 core 10 sq mm aluminium conductor with continuous 5.48 sq mm (12 SWG) G.I. earth wire complete erected with glands & lugs, on wall/ trusses/pole or laid in provided trench/ pipe as per specification no. CB-LT/AL	M	800	175.18	140144.00
		Outgoing				
59		Supplying, erecting & marking SPN MCB 6A to 32A, B- series (for lighting) in provided distribution board as per specification No. SW-SWR/MCB	AU	72	443.59	31938.48

60		Supplying, erecting & terminating PVC armoured cable 2 core 2.5 sq mm copper conductor continuous 5.48 sq mm (12 SWG) G.I. earth wire complete erected with glands & lugs, on wall/trusses/pole or laid in provided trench/pipe as per specification no. CB-LT/CU	M	400	148.55	59420.00
		Light Fittings				
61		Supplying and erecting Metal Halide lamp double ended 230V, 400 W.	AU	72	1174.02	84529.44
62		Supplying and erecting street light fitting suitable for 400W metal halide lamp complete with accessories on provided bracket as per specification no. FG-ODF/GSL	AU	72	8238.62	593180.64
63		Supplying & Erecting LED solar street light of appropriate size suitable for lumen efficacy 90 lumen/watt at ground level with mounting height of fitting 5-7 m height from ground with IP 65 ingress protection with 74W, lux level at ground min 50 lux, with p.f. > 0.95 with transparent lens as per specification no ESDLED /ODF	AU	16	42209.35	675349.60
64		Supplying and erecting Programmable Digital Almanac Timer Micro-controller based with real time clock to operate on derived switching "ON" & switching "OFF" street light as per daily sunset and sunrise respectively automatically having 4 digit LED continuous time display, relay output 230/250V / 10A with 10 Hrs battery backup and manual over drive facility capable to drive different capacity contactors timer erected in MS box in an approved manner.	AU	2	7389.35	14778.70
65		Supplying and erecting 4 pole power contactor 415V 40A for time switch complete erected on wooden block/provided box, with necessary materials.	AU	2	4878.43	9756.86
66		Supplying & laying (including excavation) 25 cm dia RCC Hume pipe of standard thickness at required depth up to 90 cms. below road / ground surface, for covering provided cable & necessary back filling with light ramming to make the road/ground surface as it was (Except bitumen carpet).	M	500	769.36	384680.00
		EARTHING				
67		Providing earthing with Copper earth plate size 30 x 30 x 0.315 cm complete with all materials, testing & recording the results as per specification No. EA-EP	AU	2	7621.90	15243.80

68	Supplying and erecting G.I. strip of required size used for earthing on wall and/or any other purpose with necessary GI clamps fixed on wall painted with bituminous paint in an approved manner with joint required. as per specification No (EA-EP).	Kg	30	161.86	4855.80
	Lightning Conductor and Accessories				
69	Supplying & erecting conventional spike type air termination suitable to carry lightning stroke made up of heavy gauge 40 mm dia copper pipe of standard length with 5 Nos. copper spikes fixed on copper ball as air terminals duly threaded in copper pipe erected on provided foundation in an approved manner	AU	2	4476.84	8953.68
70	Providing and Back filling earth conductivity enhancing mineral earthing compound of 25 kg Bag complete.	AU	2	5883.41	11766.82
	DISMANTLING				
71	Dismantling the existing light, fan, bell, clock, independent plug point, wiring including circuit mains of all types along with accessories etc.complete as per specification No: WG-DM/PW	P	45	6.15	276.75
72	Dismantling the existing W.T. fluorescent fitting/ S.V./ M.V/ MH lamp fitting from pole with brackets complete.	AU	48	70.69	3393.12
73	Dismantling the existing Telephone / Lan / Wan / TV cables and wires of all sizes along with casing-capping / conduit complete as per specification No: WG-DM/PW	M	50	3.07	153.50
74	Dismantling the existing Aluminium/copper mains,submains wiring upto 10 sq.mm. along with accessories etc.Complete as per specification No: WG-DM/PW	M	100	2.05	205.00
75	Dismantling of existing fluorescent fittings of any type & size.	AU	30	10.24	307.20
76	Dismantling the existing ceiling fan/exhaust fan /cabin fan/ bracket fan complete with accessories, G.I. down rod, frame etc. and making the site clear.	AU	15	24.59	368.85
77	Dismantling the existing switchgears, DB, and Bus bar of any size complete with/ without board or angle iron frame	AU	3	60.44	181.32
78	Dismantling the existing cables of all types & size upto 10 sq mm.	M	200	10.24	2048.00
79	Dismantling the existing cables of all types & size above 10 sq mm upto 50 sq.mm.	M	500	15.37	7685.00
Total Rs for Electrical Works .					2711158.82
Grand Total Rs for Civil + Electrical Works .					8319643.06