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Project: Rehabilitation of Dessie Comprehensive Tertiary Hospital

Owner: Dessie Comprehensive Tertiary Hospital

Location: Dessie, Ethiopia

LOT -2 Tender consist of

-  Building maintenance & improvement work
-  Electrical Maintenance /improvement work
-  Walkway & Walkway- Shelter Construction
-  Construction of Morgue House

Building maintenance & improvement work

Under this section there are 11 blocks are selected for rehabilitation and improvement works

1. Block 22 /Out Patient/
2. Block 21 /Laundry & Kitchen/
3. Block-8 /Toilet Block/
4. Block -11' Children Surgical Ward
5. Block -13 /Micro Lab/
6. Block 12/ Oncology Lab/
7. Block-14 /Art /
8. Block -16 /Tb Clinic/
9. Block -20 /Physiotherapy/
10. Block -11 /Orthopedic Ward/
11. Block-17 /Emergency/
12. Block-15 /Female Medical Ward/
13. Block -24 /Toilet/
14. Block -18 /Male Medical Ward/

Major summary of the work

1. PAINTING WORK

- 1.1. Supply and apply three coats of oil paint for internal wall up to 1.5 meters height. Price shall include scapping and clearing the surface with sand paper and preparing it well to receive the paint.
- 1.2. Supply and apply three coats of plastic emulsion paint for ceiling surfaces and walls above 1.5 meters. Price shall include scapping and clearing.
- 1.3. Apply three coats of plastic paint for external wall. Price shall include scapping and clearing the surface and preparing it well to receive the paint.
- 1.4. Apply three coats of plastic paint for external wall. Price shall include scapping and clearing

2. CARPENTRY & JOINERY

- 2.1. Supply and fix 40mm thick wooden flush door (only leaf) made of weyra or kerero, covered on both side 3mm thick plywood veneer lamination and provided with hard wood edging, lipping and finished with three coats of appropriate polish and/or varnish. Price shall include all the necessary iron mongery and approved type cylindrical lock, door handle and Safely dismantling the existing damaged door and hand over to the hospital. Door sample must be approved by the engineer priory.
- 2.2. Refurnish and/or Maintenance of existing wooden flush doors. Price shall include supply and fixing of approved type wooden door lock, handle and free closing and opening of doors' hinge, finished with three coats of polish and/or varnish and all other material to complete the work. Lock and handle samples must be approved by the engineer priory.
- 2.3. Supply and fix chip wood ceiling for damaged part on the existing wooden batten. Price shall include removing the damaged chip wood, painting similar paint with the existing paint type and cart the unserviceable material away from the site. Price shall include all the necessary material to fix the chip wood.
- 2.4.2.4.
- 2.5. Supply and paint the existing 90cm height facia board. Price shall include cleaning the surface with sand paper and preparing it well to receive the paint, three coats of wooden paint with all necessary works to complete the work.

3. METAL WORK

- 3.1. Replace the existing metal door made of LTZ frame. Price shall include painting, supply and fixing of approved type cylindrical lock, handle and free closing and opening of doors' hinge and all other material to complete the work. Price also includes removing the existing unserviceable door and handover the material to the owner and other incidental correction works.
- 3.2. Maintain the existing metal door made of LTZ frame. Price shall include painting two coats of anti-rust and two coats of metal paint, supply and fixing of approved type cylindrical lock, handle and free closing and opening of doors' hinge and all other materials to complete the work. Samples must be approved by the engineer priorly.
- 3.3. Maintain the existing metal window made of LTZ frame. Price shall include painting two coats of anti-rust and two coats of metal paint and free closing and opening of window hinge/or change and all other necessary material to complete the work .
- 3.4. Paint the existing EGA/CIS roof cover. Price shall include cleaning the surface with sand paper and preparing it well to receive the paint, maintain minor leaking hole with appropriate sealing material, anti-rust and three coats of metal paint with all necessary materials and labor to complete the work.
- 3.5. Painting the existing 90 cm height RHS handrail metal of size:- 30x30mm horizontal (2 in number) an 10x20mm verticals bluster center to center 20 cm spacing with two coats of anti-rust and two coats of metal paint. Price shall include cleaning the surface with sand paper and preparing it well to receive the paint and all necessary works to complete the work

4. GLAZING WORK

- 4.1. Supply and replace 6mm thick clear glass glazed to external aluminum and LTZ profiles. Price shall include all necessary material, incidental works, and removal of existing broken glazing, disposal of unserviceable material to a distance not greater than 10km. Sample must match the existing one and must be approved by the engineer.

5. ROOFING

- 5.1. Maintain the existing G-28 galvanized gutter. Price shall include fixing or welding the deformed part with similar material and connecting with clip the loosed part to down pipe.
- 5.2. Maintain the existing G-28 galvanized down pipe. Price shall include secured to wall with metal bracket with anchorage distance 800mm, fixing or welding to connect the loose part and all the necessary accessories to complete the work.
- 5.3. Supply and fix new galvanized G-28 down pipe of length . Price shall include secured to wall with metal bracket with anchorage distance of 800mm and all necessary accessories to complete the work.
- 5.4. Supply and fix 110 UPVC down pipe. Price shall include secured to wall with metal bracket with anchorage distance of 800mm and all necessary accessories to complete the work.
- 5.5. Supply and fix best quality 6mm thick gypsum board ceiling as per the manufacturer instruction on the existing wooden batten .Price shall include making necessary frame work for any ducting if any necessary cut outs for diffusers and light fittings and finished to proper line and level. Price shall also include all necessary material, missing wooden batten, gypsum plastering, two coats of standard paint and any incidental civil work required for proper completion of work. Sample must be approved by the engineer priorly.

6. ALUMINUM

- 6.1. Maintain the existing aluminum door. Price shall include supplying and changing the existing handle and cylindrical lock, fix 6 mm thick clear glass and free closing and opening of the door's hinge as per the sample. Sample must be approved by the engineer. Price shall also include labor and best quality accessories to make the system functional.
- 6.2. Supply and replace 6mm thick clear glass glazed to external aluminum and LTZ profiles. Price shall include all necessary material, incidental works, and removal of existing broken glazing, disposal of unserviceable material to a distance not greater than 10km. Sample must match the existing one and must be approved by the engineer.
- 6.3. Supply and fix windows made of aluminum metallic tubular profile frames ALLCO-5 or equivalent, 2mm thick. Complete work includes all the necessary iron mongery. 6mm clean glass and approved handle. All aluminum windows type shall be approved by the Engineer. Price shall include dismantling the existing wooden type window and handover to the hospital and any incidental civil works.

7. MICELLANEOUS WORK

- 7.1. Carefully polish ceramic wall and floor finish under serious professional supervision with appropriate equipment and chemical as directed by the engineer. Care should be taken not to deteriorate the ceramic surface while cleaning. Price shall include all the necessary equipment, manpower and all incidental works required to make the work complete.
- 7.2. Maintain the existing concrete guardrail of kitchen stair case. Price shall include cleaning the surface properly, plastering, edge work with cement sand mortar to get fair surface.

8. FINISHING WORKS

- 8.1. Cast minimum 3cm thick cement sand mortar screed with mix ratio (1:3) over existing parent slab and provide a wooden trowel surface. Price shall include chiseling the previous screed flooring, brush and blow out all the dirt, dust laitance, scraping and all other loose materials using blower, brusher etc. Note: minimum slope needs to be maintained for proper drainage.
- 8.2. Supply and stuck to 400x200x6 mm good quality ceramic wall tiles to a height of 150 mm with cement paste and joints shall be grouted with matching colour white cement. Sample shall be approved before mass delivery
- 8.3. Demolish the existing HCB traditional sink of size 360 cm x 60 cm x 90 cm and reconstruct it with double brick. Price shall include all the necessary materials, concrete edge beams, supporting angle iron to screw the sink, plastering the surfaces and disposing cart away surplus materials
- 8.4. 10*100mm Porcelain skirting stuck to wall with approved type of adhesive.

Electrical Maintenance /improvement work/

Under this section there are 6 blocks and the site work are selected for maintenance and improvement works

1. Orthopedic Ward
2. Female Medical Ward
3. Male Medical Ward
4. Kitchen
5. Out Patient
6. Site Work

Major summary of the work

1. Supply power from SDB-2 ORTHOPEDIC to power outlet point through PVC insulated copper cable of 5x6 sq.mm in thermoplastic conduit of minimum diameter 32mm.
2. Surface mounted sub distribution board SDB-2 ORTHOPEDIC with lockable door, bus-bar rating of 25A/3ph and with all its accessories consisting of :-
 - PC M.C.B. OF 25A/3PH
 - PCS M.C.B. OF 25A/1PH
 - PCS M.C.B. OF 16A/1PH
 - PCS M.C.B. OF 10A/1PH
 - SURGE ARRESTER TYPE OVR 3N 15 275 s P TS and with 20% reserve space.
3. Flush mounted socket outlets of 16A/1ph fed through PVC conductors of 3x2.5 sq.mm in thermoplastic conduit of minimum diameter 16mm in/under surface including junction box with cover and screw type insulating connectors.
4. Supply power from SDB- ART to power outlet point through PVC insulated copper cable of 5x6 sq.mm in thermoplastic conduit of minimum f 32mm.
5. Surface mounted sub distribution board SDB-1 with lockable door, bus-bar rating of 25A/3ph and with all its accessories consisting of:-
 - pc m.c.b. of 25A/3ph
 - pcs m.c.b. of 25A/1ph
 - 4 pcs m.c.b. of 16A/1ph
 - pcs m.c.b. of 10A/1ph
 - Surge arrester type OVR 3N 15 275 s P TS and with 20% reserve space.
6. Flush mounted socket outlets of 16A/1ph fed through PVC conductors of 3x2.5 sq.mm in thermoplastic conduit of minimum diameter 16mm in/under surface including junction box with cover and screw type insulating connectors.
7. Supply power from SDB- MALE MEDICAL WARD to power outlet point through PVC insulated copper cable of 3x25/16 sq.mm in thermoplastic conduit of minimum f 110mm.
8. Surface mounted sub distribution board SDB-1 with lockable door, bus-bar rating of 80A/3ph and with all its accessories consisting of :-
 - 1 PC M.C.B. OF 80A/3PH
 - 30 PCS M.C.B. OF 16A/1PH
 - 2 PCS M.C.B. OF 10A/1PH
 - 1 PC M.C.B. OF 6A/1PH
 - 1 SURGE ARRESTER TYPE OVR 3N 15 275 S P TS AND WITH 20% RESERVE SPACE.

9. Supply power from SDB- KITCHEN to ELECTRIC STOVE power outlet point through PVC insulated copper cable of 5x10 sq.mm in thermoplastic conduit of minimum diameter 32mm.
10. Supply power from SDB- KITCHEN to ELECTRIC FRYING PAN power outlet point through PVC insulated copper cable of 5x6 sq.mm in thermoplastic conduit of minimum diameter 32mm.
11. Supply power from SDB- KITCHEN to ELECTRIC BOILING KETTLE power outlet point through PVC insulated copper cable of 5x10 sq.mm in thermoplastic conduit of minimum diameter 32mm.
12. Supply power from SDB- KITCHEN to ELECTRIC CONVECTION OVEN power outlet point through PVC insulated copper cable of 5x10 sq.mm in thermoplastic conduit of minimum diameter 32mm.
13. Supply power from SDB- KITCHEN to DEEP FAT FRYER power outlet point through PVC insulated copper cable of 5x16 sq.mm in thermoplastic conduit of minimum diameter 32mm.
14. Supply power from SDB- KITCHEN to DISH WASHING MACHINE power outlet point through PVC insulated copper cable of 5x10 sq.mm in thermoplastic conduit of minimum diameter 32mm.
15. Supply power from SDB- KITCHEN to power outlet point through PVC insulated copper cable of 3x70/35sq.mm in thermoplastic conduit of minimum diameter 110mm.
16. Surface mounted sub distribution board SDB-1 KITCHEN with lockable door, bus-bar rating of 200A/3ph and with all its accessories consisting of :-
 - 1 PC M.C.B. OF 200A/3PH
 - 1 PC M.C.B. OF 40A/3PH
 - 3 PCS M.C.B. OF 32A/3PH
 - 4 PCS M.C.B. OF 25A/3PH
 - 2 PCS M.C.B. OF 20A/1PH
 - 3 PCS M.C.B. OF 16A/1PH
 - 4 PCS M.C.B. OF 10A/1PH
 - 1 surge arrester type OVR 3N 15 275 s P TS and with 20% reserve space.
17. Supply power from MDB- to power outlet point through PVC insulated copper cable of 4(3x300/150+150sq.mm) in thermoplastic conduit of minimum diameter 32mm.
18. Surface mounted sub distribution board MDB- laundry area with lockable door, bus-bar rating of 630A/3ph and with all its accessories consisting of :-
 - 1 PC M.C.B. OF 630A/3PH
 - 1 PC M.C.B. OF 200A/3PH
 - 1 PC M.C.B. OF 125A/3PH
 - 1 PC M.C.B. OF 100A/3PH
 - 1 PC M.C.B. OF 80A/3PH
 - 1 PC M.C.B. OF 63A/3PH
 - 1 PC M.C.B. OF 50A/3PH
 - 3 PCS M.C.B. OF 40A/3PH
 - 1 PC M.C.B. OF 32A/3PH
 - 5 PCS M.C.B. OF 25A/3PH
 - 2 PCS M.C.B. OF 20A/3PH
 - 4 PCS M.C.B. OF 25A/1PH
 - 6 PC M.C.B. OF 20A/1PH
 - 1 SURGE ARRESTER TYPE OVR 3N 15 275 S P TS AND WITH 20% RESERVE SPACE.
19. Type of Light Fittings or Approved Equivalents
20. Philips TCW079. With 1x36W T8 Master LED Lamp
21. RZB 59250.002+05-59250 with 1x18W. T8 Master LED Lamp
22. RZB 42043.004 with 1x18W. T8 Master LED Lamp

23. Philips TCS 098. 236 C6 With 2x36W T8 Master LED Lamp
24. RZB 90752.002 With 800 lumen output LED Lamp
25. Philips TCS 198. 236 C6 With 4x18W T8 Master LED Lamp
26. Philips TCW079. With 1x36W T8 Master LED Lamp
27. RZB 59250.002+05-59250 with 1x18W. T8 Master LED Lamp
28. RZB 42043.004 with 1x18W. T8 Master LED Lamp
29. Philips TCS 098. 236 C6 With 2x36W T8 Master LED Lamp
30. RZB 90752.002 With 800 lumen out put LED Lamp
31. Philips TCS 198. 236 C6 With 4x18W T8 Master LED Lamp
32. Supply power from SDB- 1 - OUT PATIENT to power outlet point through PVC insulated copper cable of 5x6 sq.mm in thermoplastic conduit of minimum f 32mm.
33. Supply power from SDB- 2 - OUT PATIENT to power outlet point through PVC insulated copper cable of 5x10 sq.mm in thermoplastic conduit of minimum f 32mm.
34. Supply power from SDB- 3 - OUT PATIENT to power outlet point through PVC insulated copper cable of 5x6 sq.mm in thermoplastic conduit of minimum f 32mm.
35. Surface mounted sub distribution board SDB-1 with lockable door, bus-bar rating of 25A/3ph and with allits accessories consisting of :-
 - 1 PC M.C.B. OF 25A/3PH
 - 2 PCS M.C.B. OF 25A/1PH
 - 1 PC M.C.B. OF 16A/1PH
 - 1 PC M.C.B. OF 10A/1PH
 - 1 SURGE ARRESTER TYPE OVR 3N 15 275 S P TS AND WITH 20% RESERVE SPACE.
36. Surface mounted sub distribution board SDB-2 with lockable door, bus-bar rating of 40A/3ph and with allits accessories consisting of :-
 - 1 PC M.C.B. OF 40A/3PH
 - 3 PCS M.C.B. OF 25A/1PH
 - 2 PCS M.C.B. OF 16A/1PH
 - 1 PC M.C.B. OF 10A/1PH
 - 1 SURGE ARRESTER TYPE OVR 3N 15 275 S P TS AND WITH 20% RESERVE SPACE.
37. Surface mounted sub distribution board SDB-3 with lockable door, bus-bar rating of 25A/3ph and with allits accessories consisting of :-
 - 1 PC M.C.B. OF 25A/3PH
 - 2 PCS M.C.B. OF 25A/1PH
 - 1 PCS M.C.B. OF 16A/1PH
 - 1 PCS M.C.B. OF 10A/1PH
 - 1 SURGE ARRESTER TYPE OVR 3N 15 275 S P TS AND WITH 20% RESERVE SPACE.
38. Construct earthling manhole with brick wall 250mm thick on mass concrete bed of 100mm, with inside walls to be plastered in two coats of cement mortar, with reinforced concrete slab cover of 60mm thick, steel bar handle and having internal dimensions of 60x60x50cms.

39. Supply and lay PVC pipe of diameter 110mm for power lines from transformer & standby generator to MDB-Laundry Area. MDB-Laundry Area to sub distribution boards. Price includes excavation & Earth work, any incidental civil works and backfill in order to install the cable and connecting manhole to manholes

WALKWAY & WALKWAY- SHELTER

Major summary of the work

A. SUBSTRUCTURE

1. Excavation and Earth work
2. Concrete work
3. Masonry work
4. Miscellaneous

B. SUPERSTRUCTURE

1. Roofing
2. Metal & Steel work
3. Paving

A. SUB-STRUCTURE

1. EXCAVATION AND EARTH WORK

- 1.1. Clear of the site to remove top soil and vegetable materials to an average depth of 20cm.
- 1.2. Pit Excavation in Soft Rock to a depth not exceeding 150 cm from reduced Ground level.
- 1.3. Pit Excavation in Hard Rock to a depth not exceeding 150 cm from reduced ground level.
- 1.4. Trench Excavation in Hard Rock to a depth not exceeding 150 cm from reduced ground level.
- 1.5. Backfill back fill material, below gravel material, below hard core and stone masonry non-expansive granular selected material fill with maximum PI value of 12, well compacted in layers of 20 cm by sprinkling water to ensure a proctor density of 95%.
- 1.6. Cart away surplus excavated material and deposit at a suitable place outside the compound.
- 1.7. 25cm thick basaltic or equivalent stone hard-core blinded with crushed stone.
- 1.8. Safely demolishing the existing Terrazzo walk ways. Price shall include cart away unserviceable material away from the site.
- 1.9. Demolish the existing container seat. Price shall include cart away unserviceable material and hand over the serviceable materials to the client.

2. CONCRETE WORK

- 2.1. 5cm thick lean concrete in C-5, 150kg of cement/m³ of concrete under:
 - a) Under masonry wall \ container seat \
 - b) Underground slab \ container seat \
 - c) Under concrete base for steel post
- 2.2. Concrete in C-25 with OPC (with minimum 28-days 15cm cube compressive strength of 25MPa), 360kg of cement /m³ filled in to formwork and vibrated around reinforcements. Formwork and reinforcements shall be measured separately.
 - a) In concrete base for steel post
- 2.3. Concrete in C-20, of cement /m³ of concrete filled in to formwork and vibrated around reinforcements. Formwork and reinforcements shall be measured separately.
 - a) In 10 cm thick RC slab
- 2.4. Provide, cut and fix in position sawn wooden formwork or equivalent to get fair face concrete
 - b) To concrete base for steel post
- 2.5. Steel reinforcements bar with minimum yield strength of 450MPa for dia. >6mm according to the drawing, price shall include cutting, bending, placing in position, using tying wires and spacers.
 - c) F 8 mm deformed bar.
 - d) F 12 mm deformed bar.

3. MASONRY WORKS

- 3.1. 50cm thick basaltic or equivalent stone masonry foundation below NGL bedded and jointed in cement and sand mortar, 1:4.
 - a) Ditto as item no. 2.1 but above NGL

4. MISCELLANEOUS

- 4.1. Supply, cut and fix in position 100x10mm chip wood or Styrofoam as joint separator between basement beam and basement floor slab.

B. SUPER-STRUCTURE

1. ROOFING

- 1.1. Supply and fix white Polycarbonate roof cover with 3 mm thickness fixed to RHS purlins with standard hooks and UV resistance washers. Roof cover measured in horizontal projection. Price includes all the necessary material and good workmanship to make the work complete.
- 1.2. Supply & fix G-28 galvanized flat metal sheet gutter of dev. Length 660mm spliced at joints and painted two coats of anti-rust and two coats of metal paint.
- 1.3. Supply and fix diam.110mm up down pipe. Price shall include securing the down pipe to CHS pillar with metal bracket with anchorage distance of 800mm and all necessary accessories to complete the work.

2. METAL AND STEEL WORK

- 2.1. Supply and fix truss made of steel structure placed as shown on the drawing. Joints shall be well welded. Price shall include two coats of anti-rust and two coats of metallic paint. Price shall also include all the necessary material, labor and any incidental civil work required for secure installation and make all the system complete.
- 2.2. All materials specified on the drawing is subjected to the engineer approval prior to production and installation work.

Truss & Purlin

- a) Size: - CHS 50 x 2.5 mm
- b) Size: - CHS 50 x 2.5 mm
- c) Size: - RHS 50 x 50 x 2 mm
- d) Size: - RHS 30 x 30 x 2 mm

Plate

- Size:- 2(300x300x5)mm
J- bolts Grade 5.6 Size:- 4 Ø 16 L=500mm
M16 - bolts and nut Grade 5.6 Size: - 4 Ø 16 L=300mm

3. PAVING AND FLOORING

- 3.1. Supply and replace 30x30x5 mm class A terrazzo tile for walk ways around the building blocks and walk ways as directed by the engineer. Price shall include preparing the surface, hard core, mass concrete and 1:3 cement sand mortar. Color will be chosen by the engineer.

Construction of Morgue House

Major summary of the work

A- SUB- SUTRUCTURE

1. Excavation and Earth Work
2. Concrete Work
3. Masonry Work

B- SUPER - SUTRUCTURE

1. Concrete Work
2. Block Work
3. Roofing Work
4. Carpentry and Joinery
5. Metal & Steel work
6. Finishing Work
7. Painting Work
8. Sanitary Installation Work
9. Electrical Installation Work

A. SUB- STRUCTURE

1. EXCAVATION & EARTH WORK

- 1.1. Clearing of site to a depth not exceeding 20cm from natural ground surface
- 1.2. Bulk excavation to level the ground to a depth not exceeding 150 cm.
- 1.3. Pit Excavation in Ordinary Soil to a depth not exceeding 150 cm from reduced ground level.
- 1.4. Ditto Exceeding 150 cm but not exceed 300 cm.
- 1.5. Pit Excavation in Soft Rock to a depth not exceeding 150 cm from reduced ground level.
- 1.6. Ditto Exceeding 150 cm but not exceed 300 cm.
- 1.7. Pit Excavation in Hard Rock to a depth not exceeding 150 cm from reduced ground level.
- 1.8. Ditto Exceeding 150 cm but not exceed 300 cm.
- 1.9. Trench Excavation in Ordinary Soil to a depth not exceeding 150 cm from reduced ground level.
- 1.10. Ditto Exceeding 150 cm but not exceed 300 cm.
- 1.11. Back fill around footings and trench foundation to maintain the desired level with selected borrowed material and compact in layers not exceeding
- 1.12. Fill under hard core to maintain the desired level with selected borrowed material and compact in layers not exceeding 20cm
- 1.13. Caraway surplus excavated material to a distance not exceeding 5kms
- 1.14. 25cm thick sound basaltic or equivalent stone hard core finished and blinded with crushed stone.

2. CONCRETE WORK

- 2.1. 50mm thick lean concrete in concrete class C-5, with minimum cement content of 150kg/ m³, under grade beam
 - a) Under Footing Pad
 - b) Under Grade Beam
 - c) Under Peripheral Masonry Wall
- 2.2. Concrete in C-25 with OPC of grade 42.5N or above (with minimum 28- days 15cm cube compressive strength of 25MPa), 360kg of cement /m³ of concrete & filled in to formwork and vibrated around reinforcements. Formwork and reinforcements shall be measured separately.
 - a) In Footing Pad
 - b) In Footing Column
 - c) In under Peripheral Masonry Wall
 - d) In Grade Beam
 - e) In 10 cm Ground floor slab
- 2.3. Provide, cut and fix in position sawn wooden formwork or equivalent to get fair face concrete
 - a) In Footing Pad
 - b) In Footing Column
 - c) In under Peripheral Masonry Wall
 - d) In Grade Beam

2.4. Steel reinforcements bar with minimum yield strength of 450MPa for dia. >6mm according to the drawing, price shall include cutting, bending, placing in position, using tying wires and spacers.

- a) Dia. 8 mm deformed bar
- b) Dia. 12mm deformed bar
- c) 10X2 cm chip wood expansion joint between Grade beam and slab

3. MASONRY WORK

- 3.1. 40 cm thick hard stone bedded in cement mortar (1:3) Price shall include mortar bed
- 3.2. Ditto but above natural ground level externally left for pointing (price includes pointing).

B. SUPER - STRUCTURE

1. CONCRETE WORK

- 1.1. Reinforced concrete quality C-25, 360 kg of cement/m³ filled in to form work and vibrated around rod reinforcement (Formwork and reinforcement measured separately)
 - a) In Elevation column
 - b) In Top Tie Beams
 - c) In Concrete Gutter
 - d) In Parapet False column
- 1.2. Provide, cut and fix in position sawn structural wood or steel formwork which ever is appropriate.
 - a) To Elevation column
 - b) In Top Tie Beams
 - c) In Concrete Gutter
 - d) In Parapet False column
- 1.3. Supply and lay reinforcement steel bar according to St. drawing price includes cutting, bending, placing in position and tying wires.
 - a) Dia. 8mm deformed bar
 - b) Dia 10mm deformed bar
 - c) Dia 12mm deformed bar

2. BLOCK WORK

- 2.1. 20cm thick class C- HCB wall with the designed compressive strength capacity, bedded in cement mortar ratio(1:3) and both sides left for plastering.
 - a) Ditto as Item 2.01 but 150mm thick HCB wall.
 - b) Ditto as Item 2.01 but 150mm thick HCB for Parapet wall.

3. ROOFING WORK

- 3.1. Supply and fix G-28 CIS Roof covering in galvanized corrugated production nailed on zigba purlin. Price shall include ridge cover and roof measured in horizontal projection. & purlin measured separately. Price includes ridge cover, metal bracket support and all other necessary accessories. Development length = 50cm
- 3.2. Supply and fix G-28 flat metal sheet Gutter as per the detail drawing. Price shall include metal bracket support and all other necessary accessories. Development length = 50cm
- 3.3. Supply & fix 110mm diameter PVC down pipe secured to wall with metal bracket with anchorage distance of 800mm.

4. CARPENTRY & JOINERY WORK

- 4.1. All structural member shall be free of harm full defects and painted with anti termite solution, well seasoned Each truss shall be firmly fixed with beam by 6mm plain bar Carpentry sawn eucalyptus truss
 - a) Upper & lower chord size-diameter 10 - 12 cm
 - b) Diagonal & vertical Members size-diameter 8 - 10 cm Zigba Purlin size 5x7cm
- 4.2. Supply and fix quality 8 mm thick chip wood ceilings as per the engineers approval. Price shall include 40 x 50 mm Zigba wood battens with c/c spacing of 600 mm both ways, middle and corner list and all other necessary accessories.
- 4.3. Supply and fix flush type wooden doors in semi-solid core frames cover fillet and stoppers and necessary iron mongery and both sides covered with 4mm thick best quality ply wood and decorated with three coats of varnish paint with locks of approved quality
- 4.4. All works shall be in accordance with the Architectural detail drawing, actual site measurement and sample shall be submitted to the Engineer for approval, and all according to detail drawing and given note.
 - a) Door Size D1 80 x 250 cm (Office)
 - b) Door Size D2 75 x 250 cm (Toilet)

5. METAL WORK

- 5.1. Supply and fix 2mm thick light bronze anodized aluminium profile windows, Doors and window-doors with a minimum depth of 50mm according to the detail window-door schedule drawing. Price shall include 5mm thick tinted/frosted glass as shown on the drawing with rubber gasket, rubber seal strip, (Yale or equivalent) GRADE-1 double cylinder lock according to ANSI lock security standard and, all accessories and hardware. Silicone sealant shall be applied to fill gaps between wall surfaces and the window profile. Sample window shall be presented by the contractor for approval by the designer before mass production.

Windows

- a) Type W-1 size- 480 x 205 cm
- b) Type W-2 size- 150 x 205 cm
- c) Type TW-1 size- 100 x 100 cm

Doors

- a) Type D size - 150 x 250 cm
- b) Type D size - 275 x 250 cm (sliding door)

6. **FINISHING WORK**

- 6.1. Finishing work shall include all surface pre-cleaning, preparation of finish, polishing and cleaning at the end of finishing work.
- 6.2. Apply two coats of plastering to external walls & external columns and beams.
- 6.3. Apply two coats of plastering & final coat of Gypsum to internal walls
- 6.4. Approved type 300 x 300 x 9mm thick non slippery ceramic tile flooring bedded on and including 41mm thick cement screed & joints grouted. Sample shall be presented by the contractor for approval by the designer before mass delivery.
- 6.5. Approved type Ceramic tile skirting 10 x 0.9 cm thick bedded on and including cement mortar backing. Sample shall be presented by the contractor for approval by the designer before mass delivery.
- 6.6. 60x60cm approved quality Porcelain floor tile according to the supervisor instruction stack to floors on & bedded out including 45mm thick cement sand mortar mix 1:3. (price includes cement sand mortar and adhesive) Sample shall be presented by the contractor for approval by the designer before mass delivery.
- 6.7. Approved type Porcelain tile skirting 10 x 0.9 cm thick bedded on and including cement mortar backing. Sample shall be presented by the contractor for approval by the designer before mass delivery.
- 6.8. Approved type 300 x 200 x 6mm thick glazed ceramic wall tile bedded on & including cement mortar backing and joints grouted in white cement. Sample shall be presented by the contractor for approval by the designer before mass delivery.
- 6.9. Approved type Granite tile window sill cut to appropriate size, weathered and mounted on & including 30mm thick cement mortar (1:3) bedding. Price includes bull nosing and making water drip. size 27 x 2 cm. Sample shall be presented by the contractor for approval by the designer before mass delivery.
- 6.10. Approved type Marble door sill (Threshold) cut to appropriate size, weathered and mounted on & including 30mm thick cement mortar (1:3) bedding. size 90 x 30 cm x 3 door, 80 x 30 cm x 1 door 160 x 30 cm x 2 door (main front doors) 30x30x3mm angle iron corner protection bedded into wall H=150cm 10 cm thick C-20 RC 1 mt wide avement around the building (including 4Ø 8 deformed bar mesh ,expansion joint at every 1.2 m length, 80 cm bulk excavation, 55 cm thick selected fill, 20 cm basaltic hard core and cart away). Supply and lay storm water concrete curb stone with a minimum slope of 2% or natural ground slope whichever is greater on and including a firm bed of red ash 100mm thick below. The joints shall be grouted in cement sand mortar of (1:3). Price shall include 15cm thick stone masonry shoulder and all the necessary earth work.

7. **PAINING WORK**

- 7.1. Prepare and apply by brush three coats of plastic emulsion paint to: To Internal plastered wall surface and internal beams and columns in approved type washable paint. Such paints should be hard, non-porous finish, free from joint easy to wash & able to withstand repeated contact with strong cleaning agent. Internal wall paint should be VINYL TYPE II or LATEX PAINT or ACRYLIC PAINTS or any equivalent approved type

recommended for health care building for internal wall paint plastic emulsion To External plastered surface and external beams and columns plastic emulsion To Chip wood ceiling surface

8. SANITARY INSTALLATION

- 8.1. Supply and fix RAK or equivalent hand wash basins made of white vitreous china ceramics, with Milano or equivalent stainless steel cold and hot water mixer tap complete with pedestal stand, chrome plated chain holder, 60cm long flex-Italy or equivalent flexible hoses, P-smell trap with connection pipe and with all other necessary accessories that complete the set. Size :- 500 x 400 mm
- 8.2. Supply and fix RAK or equivalent Water Closet (WC) of wash down action, floor mounted (S-Trap), close coupled, made of white vitreous China. The fixture shall conform to BS5503-2 or equivalent institution. The plastic seat cover, low flush cistern, waste fittings, connecting pieces, fixing & supporting element, 60cm long flex-Italy or equivalent flexible hose, approved quality shut up hose and other accessories which complete the set shall comply with the relevant clauses of BS standard or equivalent institution. a) Size 670 x 365mm
- 8.3. Supply and fix at least 100cm long chrome flexible Shut up hose for spray washing complete with all necessary accessories close to autopsy table or bed for care after death service. Price shall also include wrist action handles cold water tap.
- 8.4. Supply and fix RAK or equivalent toilet paper holder with chrome plated brass wall flanged roll with chrome plated fastening screws and other accessories. Supply and fix crystal glass mirrors for toilets and wash basins with copper back protection, size: 500/400 mm including chrome plated brass mirror clips with chrome plated screws and etc... for hand wash basins.
- 8.5. Supply and fix approved quality swing pattern Towel Hanger made of chrome plated copper alloys, single tubular, surface mounted, bar length of 600mm with 3mm minimum thickness near shower complete with fastening screws white vitreous china ceramic support and other accessories.
- 8.6. Supply and fix RAK or equivalent soap holder in white vitreous china of size 150 x 150 mm complete with the necessary fixing and other accessories for hand wash basins.
- 8.7. Liquid Soap Dispenser
 - Supply and fix ASD/ASDR or its equivalent liquid soap dispenser of the following characters
 - double insulated
 - security key for opening and closing
 - installation fixings supplied
 - tray supplied
 - vandal resistant
- 8.8. HAND DRYER
 - Supply and fix AHD/AHDR or its equivalent Automatic hand dryer of the following character
 - -operational range 15-20cm of the infra-red proximity
 - drying time 20/25 seconds
 - air flow 150m³/hr. (41.7l/s)

- sensor range adjustable from 0-20 cm
- sound pressure 65 dB(a)
- double insulated
- safety thermostat & secondary thermal fuse
- installation fixings supplied
- drip free
- - vandal resistant

8.9. Supply and fix shower units made of enameled heavy duty cast iron shower tray, complete with approved quality level controlled mixing valve, fixed & flexible shower head, P-smell trap and with all other necessary accessories. a) 700 x 700mm

8.10. Supply and fix Ariston or equivalent Electric Water Heater with a capacity given below. Complete with all water proofing, mounting and fastening material, safety, one-way valve, approved quality coil and gate valve and with all the accessories. Heat preservation hot water tank in gallbladder, thickness 1.0mm, outer covering thickness 0.6mm, foam polyurethane 50mm thick, outside protective layer: stainless steel. Price shall also include 60cm long flex-Italy or equivalent flexible hoses.

- a) Capacity 50 Liter:- Supply and mount 5kg Fire Extinguishers of carbon dioxide type inside kitchen room complete with brackets and all approved standards (exceptionally effective on class B, C & E fire). Unit price shall include all the necessary assistance work.

8.11. Supply, lay install and commission approved quality PPR pressure pipes (PN10), for hot & cold water distribution system to sanitary fixtures. The pipes shall be complete with all the necessary connecting pieces such as bends, Ys, Ts, reducers, nipples, unions, hangers & supported with compatible clips all as per manufacturer's recommendation to the walls, floors, slabs, beams, ceilings, etc... Unit price shall include, disinfection of the pipes with Chlorine and all the necessary assistance to the installation works. The installation shall be tested at a pressure of 10kg/cm² at the expense of the contractor. The pipes and fittings shall conform to BS3505/DIN8062 or equivalent institution. The PPR pipe shall be UV resistant at the exposed areas. Pipe sizes are external.

8.12. Supply and install PPR, PN-10 pipes to internal cold water distribution system as shown on the drawing. Complete with all the necessary fittings and accessories. The pipe diameter is External.

- a) Dia. 20 mm
- b) Dia. 25 mm

8.13. Supply and fix PPR ball Valves of approved standard, on water supply distribution lines where shown on the drawing. The valves shall be compatible with PPR pipes and complete with adaptors, unions, elastic water proofing, hand wheels of normal quality and all other necessary accessories. Diameter 25mm

8.14. Supply and fix 15mm dia, PN 20 chrome plated brass quarter turn angle valves with chrome plated copper connecting pipe, union nut and chrome plated brass wall flanges, and accessories complete in all respects. The Angle valve should be capable resisting of PN-20 before hand washbasins, water closets, shut up hoses, sinks and water heaters. Dia. 20 mm

8.15. All domestic waste, vent and storm water pipe lines shall be uPVC pipes and shall be provided with a minimum slope as indicated on the drawing towards the outlet unless specified. All uPVC pipes and

necessary fittings shall be standard quality and be free from damage during storage, transportation, construction etc. Unit price shall include all the necessary assistance civil works, such as excavation caraway, fixing or hanging to walls, beams or slabs. etc., necessary fittings such as bends, Y, T, etc. Storm water PVC pipes shall resist the external temperature and the quality shall meet the purpose.

- 8.16. Providing, laying and jointing of internal uPVC PN-4 waste pipes with all uPVC pipe fittings including jointing with solvent cement joints and testing of joints etc. according to where shown on the drawings. Complete with all the necessary fittings. Provide cleaning detail for all waste water riser pipes as per the detail drawing. The pipe diameter is external.

- a) Dia. 50 mm
- b) Dia. 75 mm
- c) Dia. 110 mm

- 8.17. Supply and fix approved quality floor clean outs as where shown on the drawing. Price shall include all the necessary connecting pieces.

- a) Dia. 110 mm
- b) Dia. 75 mm

- 8.18. Supply and fix floor drains made of uPVC circular box of approved quality for grey water with 4- side openings, complete with P-smell trap with 6cm water seal, treaded drain/clean bottom outlet, approved standard stainless steel cover and all other necessary fittings and accessories. Size:- Dia. 100 x 100 mm

- 8.19. Supply and install vent caps made of rigid uPVC to be connected to the roof terminal of vent pipe. Unit price shall include flushing works to prevent roof leakage: - a) Size: - Dia.50mm

- 8.20. Supply and fix uPVC(PN 4) Down pipes with mass concrete support at ground level and complete with basket strainer at inlet, galvanized clips at every elbows, joints and at every 1m interval complete with all accessories. The pipes, accessories, fittings & method of welding shall comply with the requirement of BS 4514 or equivalent Institution. Unit price shall include all the necessary assistances to the installation works. a) Size: - Dia.110mm

- 8.21. Supply and lay storm water concrete pipes of half diameter 30cm with a minimum slope of 2% or natural ground slope whichever is greater on and including a firm bed of red ash 100mm thick below. The joints shall be grouted in cement sand mortar of (1:3). Price shall include 15cm thick stone masonry shoulder, excavation, cart away and all civil assistance works and grill cover with dia. 14cm rebar cover at 50mm spacing welded on flat frames and all other necessary accessories.

9. ELECTRICAL INSTALLATION WORKS

- 9.1. SUPPLY AND INSTALL POWER DISTRIBUTION BOARDS: Flush mount Main distribution board SDB- MORG made of Steel enclosure with lockable door, phase, neutral & earth bars of 63 amp/3ph rating, with Earthling lead, connectors and all necessary accessories consisting of :(all Breakers shall be Legrand or ABB or approved type)

- 1 pc main MCCB of 32A 3ph 1 pc
- MCB of 20/25A 3ph
- 1 pc MCB of 20A 1ph 3 pcs
- MCB of 16A 1ph

3 pcs MCB of 10A 1ph complete with accessories and 25% reserve space

- 9.2. Light points Light points feed through PVC insulated cooper conductor of 2*2.5mm² inside PVC conduit of 13 mm diameter for recessed installation, including junction boxes with cover & insulating type screw cap connectors for complete installation. (wire to be of ethio plastic or approved equivalent) Switches LEGRAND, SUNO, or approved equivalent with appropriate cover plate & Scattola
- Single pole (774001+774041)
 - Double pole (774005+774042)
 - Two-Way (774006+774041)
 - Intermediate (774006+774041)
 - Socket outlet points (wirings)
- 9.3. Flush mounted socket terminal points feed through PVC insulated cooper conductor of 3x2.5mm² and through PVC conduit of 16 mm diameter for flush installation, including junction boxes with covers & insulating type screw cap connectors and complete with all accessories.(Wire to be of ethio-plastic or approved equivalents).
- 9.4. Ditto as 4.1 but copper conductor of 3x2.5mm² through conduits of 16mm dia for water heater /boiler terminal points
- 9.5. Ditto as 4.1 but copper conductor of 3x 4mm² through conduits of 19mm dia for power outlet terminal points
- 9.6. Ditto as 4.1 but copper conductor of 5x4mm² through conduits of 23 mm dia for cold room power outlet terminal points
Socket outlets (Specified or approved equivalent)
- 9.7. Flush mount socket outlets of type LEGRANDSUNO 774023 16A. 1ph. With phase, neutral and earthling contacts including junction boxes & all accessories.
- 9.8. Flush/surface mounted water proof industry type standard socket outlets of type Legrand Suno 774022+774041, 16A. 1ph with control switch and light indicator, including with phase, neutral and earthling contacts, junction boxes and accessories.
- 9.9. Ditto as 5.2 but of 20 Amp. 1ph.
- 9.10. Ditto as 5.2 but of 20/25 Amp. 3ph.
- 9.11. Telephone/Data points & Terminal Outlets
- 9.12. Telephone points fed through cat 5E UTP cable from Patch TDF to each telephone outlet in rigid conduit of minimum diameter of 19mm. Work as per Telecommunication Authority requirement including junction boxes with cover and appropriate box type Decore
- 9.13. Flush mounted Telephone outlets RJ11 type Legrand 9.14.
Suno774038+774041
- 9.15. TDF of size: 20x20x10cm
- 9.16. TV points & Terminal Outlets
- 9.17. TV points fed through RG6 Coaxial 75ohm TV cable in rigid conduit of minimum diameter of 25mm including junction boxes with cover and all necessary accessories.
- 9.18. Flush mounted TV outlets type Legrand Suno (TV-RO-SAT)
- 9.19. TV TF of size: 10x10x10cm
- 9.20. Type of Light Fitting With lamp, (Specified type or approved equivalent)

- a) MODULUS 014253 - 2x36w T8/G13 PRM
- b) MODULUS 014000 - 2x18w T8/G13 PRM
- c) MODULUS 014758 - 4x18w T8/G13 PRM
- d) LUNA 013119 2x9w TC-S/G23 prismatic/opal
- e) VECTOR T8- 886089 1x18w T8/G13 prismatic
- f) OMEGA 882944, 031212:1x60w GL5/E27, kratka
- g) Supply & Feeder Power Cables (XLPE 0.6/KV or approvedh) equivalent) 5x6mm² from MDB-DAGN to SDB-Morg.
- i) 5x4mm² from SDB-DAGN to Cold room.
- j) Cable way and Manhole Rigid pvc pipe of dia.40mm For 5x4mm²
- k) Rigid pvc pipe dia.50mm for 5x6mm².
- l) Rigid pvc pipe dia.50mm for Tele/Data (TDF).
- m) Low Voltage Earthling system

9.21. Copper Earthling electrode rod of 16x1600mm to be driven on earth to Earthling pit with open able concertcover of size 500x500x600mm.

9.22. Copper conductor of 1x6mm² from pit to SDB through rigid PVC pipe of 21mm diameter for serviceEarthling system.