



TERMS OF REFERENCE FOR CONSTRUCTION OF NEW STAFF ACCOMMODATION BUILDING

Introduction about ICBA:

ICBA is an international, not-for-profit organization and operates in line with its articles of association approved by the Government of the United Arab Emirates and the Islamic Development Bank.

ICBA is one of a few international research organizations worldwide that work on management systems that address agricultural challenges in marginal environments. Marginal environments suffer from both biophysical and socioeconomic constraints.

ICBA focuses on addressing agricultural challenges in marginal environments through research that seeks to identify, develop, and test suitable innovative solutions and technologies that will increase food, nutrition, and water security and improve the environment and the livelihood of people living in marginal environments.

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Location: [google maps](#)

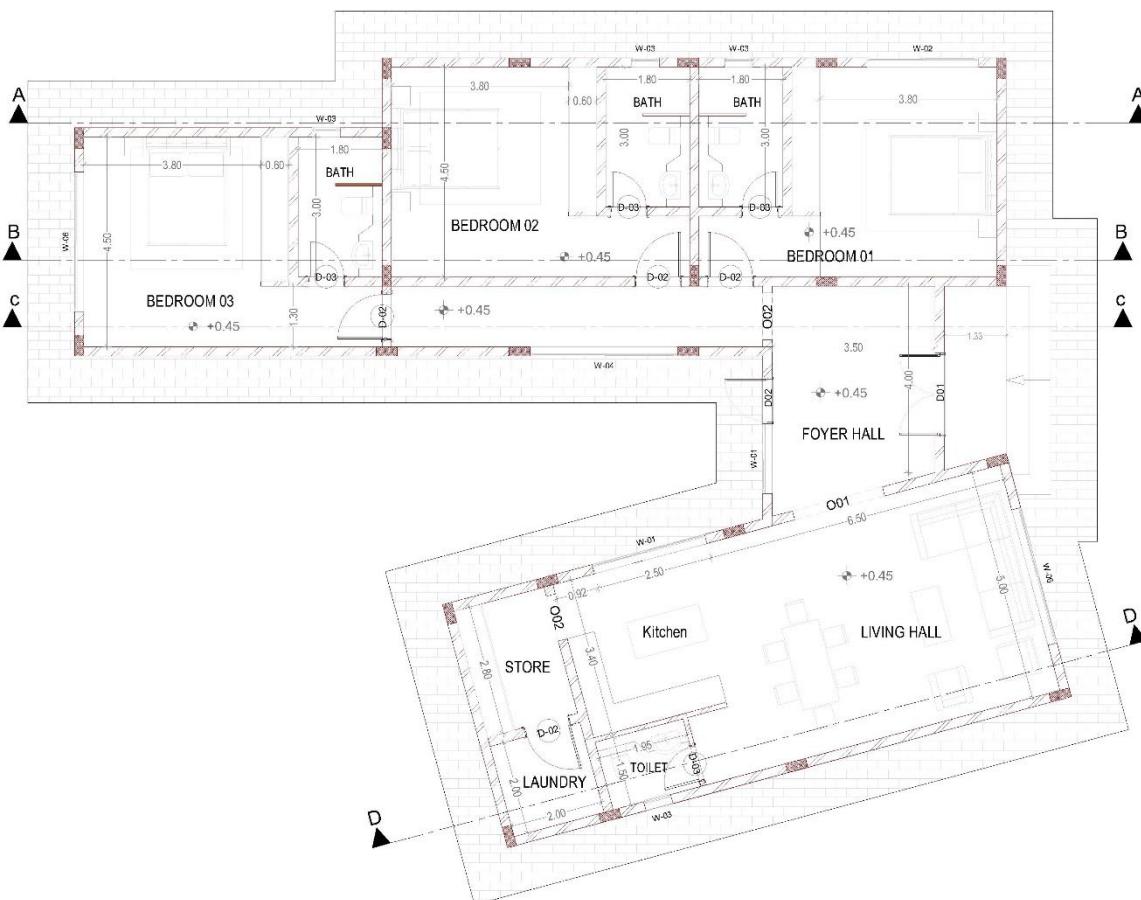
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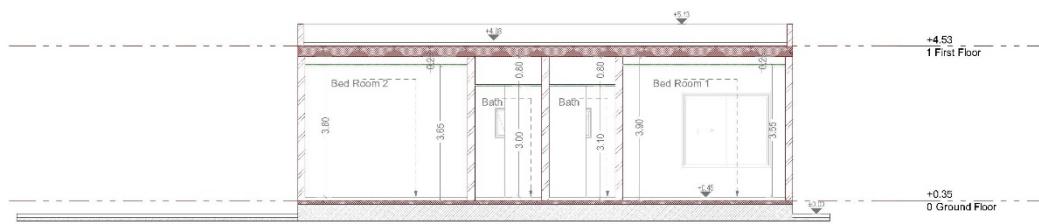
Background:

ICBA would like to construct a new building to accommodate the staff who must stay at the campus for emergencies requirement or their work nature requires them to stay in the campus.

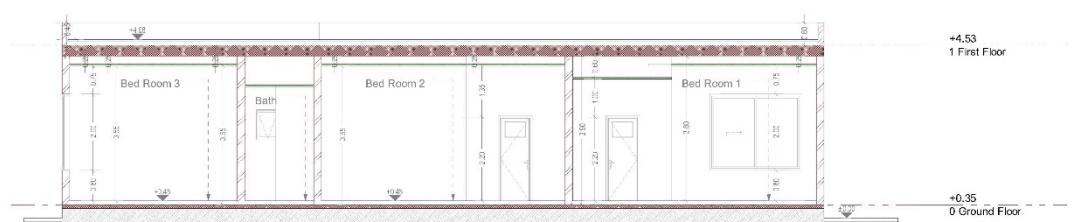
This accommodation should be of top quality and high standards as per the rules and regulations of the DM code of practice regarding health and safety measures to accommodate ICBA staff comfortably and decently.

Proposed Layout Option 1 (Three bedrooms):

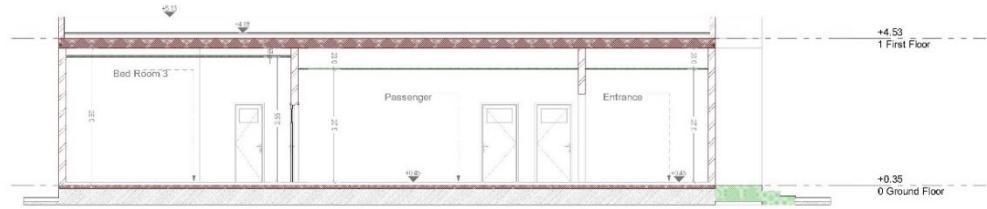




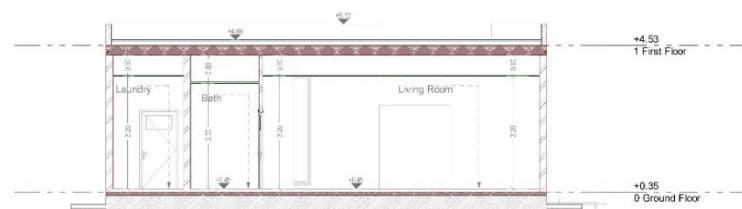
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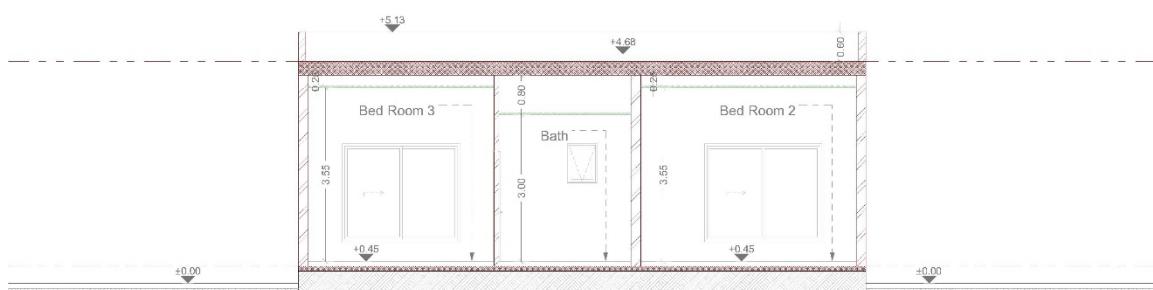
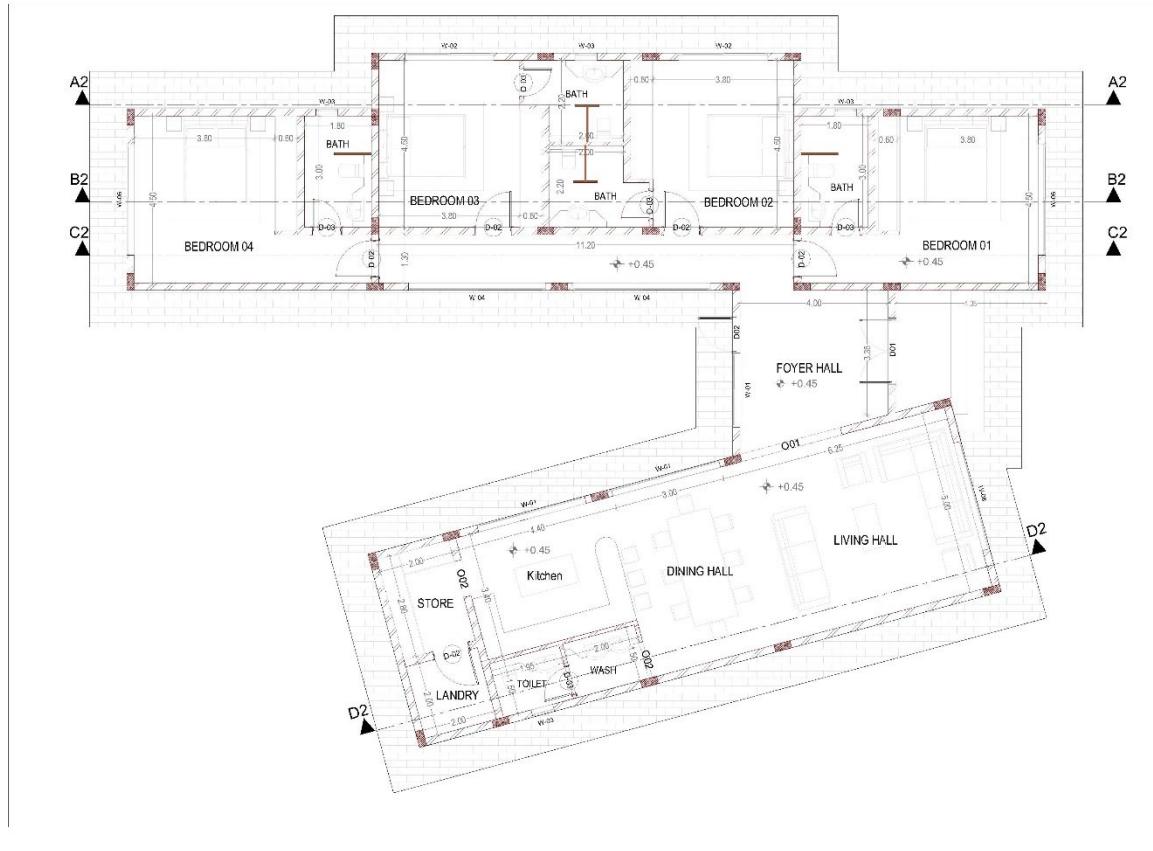


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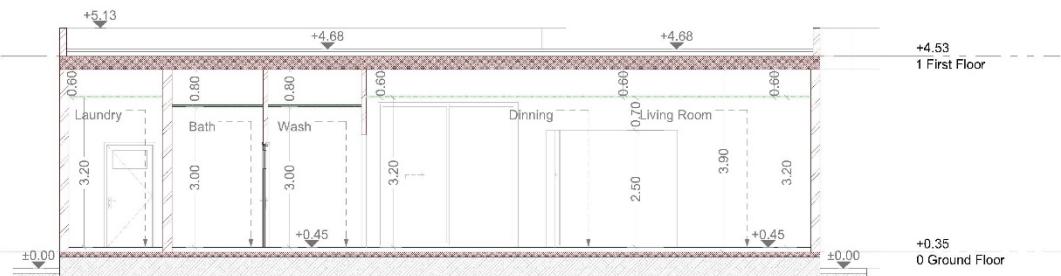


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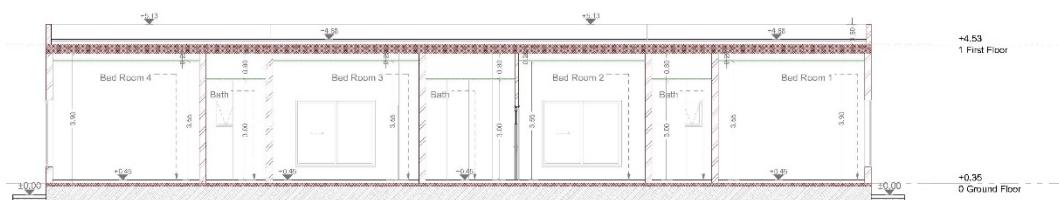
Proposed Layout Option 2 (4 Bedrooms):



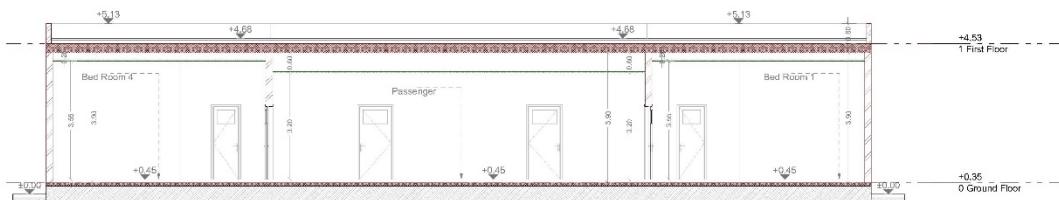
A2A2



D2D2



B2B2



C2C2

Proposed location:

To presented during the site visit.

Scope of work and Specifications of materials:

Earthwork and Excavation:

The contractors to visit and inspect the site and to allow in his tender price for normal any obstructions may interfere with the excavation.

Contractor to liaison with the local authorities to protect diverting or shifting of existing services without any claim or fees to the contractor.

The contractor is to allow the removal of all surplus unsuitable materials resulting from excavation and existing obstruction and the like and cart them away to the approved tip or as directed by the Engineer.

Site hoarding will be provided per the design and approval and DM regulations.

Contractor to allow for protecting of the site and excavating the area and the adjacent properties and existing services. As per engineer approval.

Back-filling should be in layers not exceeding 250mm each, leveled, watered, and compacted to a minimum M.D.D of 95% as specified.

All back-fill materials from the supplier and gradations are to be approved by the ICBA Facility team. The contractor is to allow for carrying out required tests as directed by the Facility team at his own cost.

The excavated area should be watered and well compacted to attain 95% compaction for the field density test or percentage written on drawings (whichever is bigger).

Anti-termite treatment before Foundation, plinth area, along the outside perimeter (1m) of the constructions inside the plot (horizontal and vertical treatment).

Excavation is to be done using a mechanical excavator as per drawings, with an accuracy of specified levels, excavated area to be cleaned properly.

Any Shoring or DE-Watering Should be on Contractor Account if Any.

Excavation and backfilling are to be measured in m3.

Before starting the plain concrete below the footings, the contractor must arrange soil-bearing capacity and compaction tests.

Concrete Work:

The latest revised edition of related BS standards. Shall be followed for all concrete works.

All concrete works should be of approved mix design and supplied by an approved ready-mix batch plant.

No hand mix of all concrete works is allowed.

All materials used in concrete work should be approved and in compliance with relevant standards and codes of practice as well as local authorities' norms and manuals.

Steel reinforcement should be high-yield deformed bars to BS 4461 grade 46 of minim. Strength of 460 N/mm² (Qatar Steel or Equivalent as per Facility Team approval).

Concrete work to be carried out is approved by the weight batch plant.

Sulphate-resistant cement is to be used for all substructures including plinth ground beam and ground slab, and all concrete elements in direct contact with soil.

Ordinary Portland cement to be used for all superstructure concrete works.

Minim. 6 No. Of cubes or as directed by the Facility Team to be taken for any concrete delivered to the site and to be tested for strength at 7 and 28 days at approved laboratory.

Formwork for all concrete works should be new 18mm marine plywood and only used for Two times, supporting system is to be approved by the Facility team and contractor to submit the required calculations.

Concrete price includes formwork, steel reinforcement, curing, and protection of casted members as directed by the Facility Team, testing, polyethylene sheet 1000 gauge below plinth level.

Plain concrete with 20 N/mm² strength (after 28days) using S.R.C for Blinding 10 cm thick under reinforced Concrete footing.

Reinforced concrete with 40 N/mm² strength (after 28 days) using S.R.C for all sub-structure elements.

Reinforced concrete with 40 N/mm² strength (after 28 days) using O.P.C for all super-structure elements.

The contractor shall arrange for curing of all concreted elements by using burlap and keep the element moist all the time for the time specified or at least for seven days.

Concrete works to be measured by m³ unless specified otherwise.

All concrete to be tested at site by technical of concrete plant as F.M requirement.

Block Work:

All concrete blocks (hollow and solid) to be from approved mechanical factory to Facility Team approval and as per DM local order 44/1990.

Block works in contact with soil to be solid blocks. Fixed by 1:3 S.R cement sand mortar. solid blocks below the tie beams should have crushing strength of 140kg/cm² and the hollow blocks for walls to have strength of 70kg/cm² of 28 days after production at factory.

Block work to super structure to be fastened to concrete structure by approved 200x25x4mm G.1 galvanized holders fixed by gunshot at each third course of block.

All external block wall to be thermal block and as per the Facility Team approval even is not mentioned in Bill.

Block around windows, doors, and openings to be solid with steel reinforcement except lintels and sills, which should be concrete.

Block walls area exceeding 24 m² to be braced by reinforced 20x20 cm stiffeners tied to column as directed by the Engineer. Horizontal and vertical all rounds.

First course of block to compound wall and to concrete slab to be solid block with applied Damp-proof layer under it.

All block work to be grouted, leveled and plum bed to Facility Team approval.

Rate for block work to include wastage. Fixing anchors, curing, lifting lath mesh as required ...etc.

Concrete block to be measured by m².

As Per Structure Drawings Light Weight Partitions are to be Used.

Plaster:

The plaster is to be ready mix plaster from (Plax it or Rak plaster, or Dubai Plaster) and to be applied using plaster machine if it can be available thickness should not be less than 1,5mm and (Expamet 522) is to be used between concrete and block work which should be fixed with nails on surfaces properly and consultants' approval to be taken and the plaster to be completed on all the walls, parapet and elevations, compound walls from inside and outside.

Sand used for the plaster to be screened natural block sand of approved source, additives, lime and dune sand can be added as appropriate as approved by the Facility Team.

All surfaces to receive plaster should be prepared, and remove any irregularities to be rectified before work.

The mix design of plaster is to be approved by the Facility Team.

Pre-galvanized mesh lathing of minim 1.6 Kg/m³, plaster stopper for internal and S.S for external from approved make.

Pre-galvanized still angle beads of 50 mm expanded metal for internal and stainless for external of approved make.

Wherever required on external walls (U) shape (aluminum channel section) to be provided for grooves as per drawings.

Water curing will be done for block work and plastering for one week.

Rate to include preparation surfaces, hacking concrete work, dashing leveling points, accessories as required by the Engineer, curing...etc.

Plaster (1:3 mix) 15 mm thick for the ceiling. And 20mm thick for walls. 3.11- Plaster to be measured by m2.

Finishes:

Leveling sand under tiles is not accepted. Tiles are to be fixed on the concrete screed and cement mortar above the concrete plinth level over concrete slabs for the floor.

All additives, grouting, etc. spacers for tiles are to be approved by the Facility.

Fixing of marble and natural granite should be done to Engineer approval for wet and dry fixing, grout...etc. Measured in m2.

All grooves at the facade to be powder-coated aluminum U channel of approved color by the Facility Team.

All the samples and the paint container to be brought the site and empty ones to be kept up to the end. The contractor is to get approval prior to starting the works at site.

Paintwork to include preparation of the surfaces and treating the cracks. Apply the paint system complete as per Facility Team approval and the manufacturer instructions and as per the following systems:

- Internal walls & Ceilings 3 coats Berger or Jotun Paint of Eggshell Emulsion.
- before painting Internal all walls & callings should be applying 1 coat of Berger PVA primer along with 2 coats of Berger stucco & also before painting external walls should be apply 1 coat of Berger AR primer along with 2 coats Berger Dry Stucco.

False ceiling work supply and fixing approved false ceiling system including cut out and opening for services to include also painting as required, approved suspension system noting that:

- Measure will be m2 and for bulkhead RM up to 50 cm height.
- Aluminum strip false ceiling will be 200mm wide without groove
- Calcium silicate false ceiling tiles will be 9mm thick
- Gypsum false ceiling will be 12mm thick
- Gypsum false ceiling tiles will be with aluminum foil backside
- Aluminum false ceiling tiles will be 0.7mm thick.

Outdoor Paint work includes preparing the surfaces and treating the cracks. Apply the paint system complete as per Facility Team approval and the manufacturer instructions and as per the following systems:

- External walls & Ceilings two coats Berger or Jotun weather shield Paint of Eggshell Emulsion.

- before painting Internal, all walls & callings should apply one coat of Berger PVA primer along with two coats of Berger stucco & also, before painting external walls, apply one coat of Berger AR primer along with two coats of Berger Dry Stucco.

Water Proofing:

Wet areas waterproofing will be liquid membrane reinforced Light Weight Concrete with a polyurethane base and applied rate to include treatment of surface cracks, primer, overlaps... etc., and to be measured in m².

Roof Deck should be waterproofed using a combo waterproofing system from a certified company from DM with a warranty of 25 years old. And to be measured in m².

Heat insulation board of extruded polystyrene and 50 mm thick 35 kg/m3 of approved, tightly laid measured in m² quality.

The footings and tie beams to be applied with bitumen paint (2) coats of (Levetex 2000/[Poly-bit](#)) and below plain concrete polythene sheets (Gauge 1000) to be placed. Approved specialized subcontractor having experience in termite proofing works to carry out the works.

Three coats of cold rubber-based bitumen with a thickness 4mm will be applied in case the water table is lower than the excavation level with more than 1m.

The pesticide (germicide) shall be (CHLORPYRIFOS 45% WW) applied as an active ingredient emulsion.

The contractor will guarantee (10) years for all waterproofing works and (20) years anti termite treatments.

ROOF PROOFING WORKS:(COMPO SYSTEM GREEN SYSTEM)

The Contractor shall execute water and Thermal proofing for the building roof as per the Dubai municipality approval and as

following order: (green combo system, all material must be approved by F.M before apply)

1- Primer Paint layer shall be applied.

2- polyurethane foam thickness 7 cm with 40kg/m3 density.

3- apply poly-coat RBE rubberized liquid waterproofing from Basf or equiv make shall be applied and tested at a site not less than 48 hours by filling all roofs with water.

4- apply of 120gr/m2 loose Geo-textile separation

layer.

5- fix of flex board or equivalent expansion joint filler and apply a layer of ready mix screed to slop and cure as per stander procedures. 8-1-6- apply UV resistant waterproof coating & apply sealant on the panel joints

Aluminum work:

Supply, install, and maintain Electro statically 80-100-micron powder coated aluminum door & windows using Al Ghurair Box Section Profiles color, mullion, transoms, sills, Lugs, weather-strip, fly screens from inside, sealant, hardware, glazing strips, and glazing as per drawing, specification, and Facility Team approval. Different colors will be used for Architect choice & approval. Work is to be carried out by an approved subcontractor only, and the sections are to be (12) cm wide for doors and (10.5) cm wide for windows.

All the glass for windows to be double glass from Belgium thickness (6+12+6) mm, the reflection percentage to be (43%) and the color to be blue or equivalent.

The WCs & toilet sandblast glass from the inside, opaque from the outside, and fly screens are to be provided for all windows.

The gap between aluminum and plaster must be filled with mastic sealant to be watertight.

All handles, locks, and all other accessories should be of Excellent Quality from Italy and are subject to the choice of architect and approval of the Facility Team. All hinges and Door stoppers used should be heavy duty as per the choice of architect and approval of The facility Team.

All Aluminum and glasswork are to be tested against leakage by pressured water before the takeover. Contractor is to arrange for such a test in the presence of the facility Team. The system must be perfectly sealed against leaking & whistling and resist wind pressure.

The contractor shall submit workshop drawings to the Facility Team for approval before committing any aluminum work. All materials are to be submitted for approval by the Facility Team.

All glass used to be tempered for all different locations (windows + doors).

Door closer to be provided in main doors and kitchen (all external doors).

Joinery Work:

All the internal doors of the Block should be as follows:

- All the doors to have plywood sub-frames of (18) mm thick to be fixed prior to starting the plastering of walls, and the frames to be fixed as per standard procedures.

- Door panels to consist of frames 012) cm wide and thickness of (5) cm thick and over it (6) mm plywood to be fixed as per technical procedures.
- Doors to be fixed on frames (5) cm thick.
- Architraves for doors should be (8) cm wide and (1.5) cm thick.
- Door panels to be fixed on frames using excellent quality hinges as per the approved sample.
- Doors to be lifted above the floor as the per owner's requirement for carpets.
- Door stoppers to be excellent quality German-made.
- All the internal doors to be (75%) partially solid made as per standards.

External door MD must be fully seasoned solid wood in all conditions to be made as per standards supply Frame to be made of IROKO Wood Anti Termite.

The door for the Ground Floor will be 75% solid beach wood to be supplied, Frame to be made of IROKO Wood Anti Termite

All Internal Doors for the baths of the Ground Floor 75% solid beach, wood along with 1 side waterproofing sheet to be supplied with glass partitions along with a sliding door for the Ground floor be supplied.

Note: above all internal & external doors prices should include locks and all required accessories.

Supply and Installation of Wardrobe unit, Carcass & Shelves Made with 18mm Melamine MDF and Doors Will be Veneered Finish MDF with PU Lacquer Polish Finish or Paint Finish as per Engineer Approval, Wardrobes for accommodation.

Supply and Installation of Cabinets for Kitchen, Including Granite Countertop Excluding Appliances.

All the Kitchen Cabinets should be as follows:

- Shutter: UV High Gloss, Turkish.
- Carcass: 18mm thick MDF, both sides Laminated.
- Drawers: Tandem Box Drawers by Blum with soft closing.
- Handle: As per customer approval, Made in Italy.
- Hinges: Soft Closing Blum.
- Worktop: Including as per customer approval.

Tiles Work:

All the internal height of Porcelain tiles in toilets and kitchens should be (15) cm above the false ceiling level.

Marble is to be provided for all internal doors and external doors and wherever the two different tiles join at a point with the following details:

- It should be with complete width of the wall.
- The top exposed portion is to be (2) cm high.
- It should be (3) cm high with curved edges.

All the tiling works must be first class and without any defects.

The contractor is to get approval for tiling works before bringing these on-site, any materials brought and fixed without approval will be rejected, and the contractor will bear the responsibility.

The contractor is to prepare shop drawings and get the approval of Facility Team for tiles and marble works.

Granite at the Entrance steps & landing area for the Front Entrance only to be supplied, skirting to be made with the same granite.

Italian or Spanish Porcelain Tiles as per owner approval for living hall with dining area, all passages + all bedrooms to be Supplied, skirting to be the same type. The Italian or Spanish Porcelain Tiles should be with laser cut full body.

Italian or Spanish Porcelain anti-slip Floor tiles to be supplied for all baths, glazed tile for walls of all bathrooms Floor, with borderline, on all sides.

For each bath & toilet counter, marble is to be supplied.

As mentioned in the Drawings, Floor Finishes Should Not Exceed 5 Cm.

Interlock Tiles (Walkway):

The Contractor shall supply a Rectangular interlock of 6 cm of good quality for external areas 1.00 meters surrounding the building cost of 25 DHS./m² (material only) supply from an approved DM factory

- 1- All interlock areas shall be filled with road-base filling material in layers not less than 20 cm per layer. Each layer shall be cured with water and compacted with a heavy-duty compactor. As per technical
1. standards.
- 2- The interlock shall be fixed on black sand with not less than a 5 cm layer, cured with water, and compacted heavy-duty a duty compactor as per the standards.
- 3- Ready-made 15 cm thick concrete curbstone for the interlock edges.
- 4- Rainwater slope shall be considered in fixing of interlock.
- 5- Spaces between interlock shall be filled with dune sand.
- 6- The facility team shall approve the interlock before the commencement of supply and fix.

Civil Defense:

The contractor will be responsible for all the requirements of Civil defense:

- 1- Smoke detectors.
- 2- Hose Reels.
- 3- Heat Detectors.
- 4- Fire extinguishers.
- 5- Emergency exit lights.
- 6- Evacuation plan.
- 7- Emergency safety signs.

8- First aid boxes.

All the above mentioned has to be supplied any applied by the contractor, and quantity it will be based on the recommendations of the civil defense.

The expansion of the emergency water pump is not in the contractor's scope.

Approved Civil Materials

Sr. No.	Description	Brand
01	Waterproofing mortar additive	Integral liquid water proofer
02	Steel reinforcement	Qatar or Equivalent
03	Joint Sealant	Poly sulphide
04	Marble work	Approved Supplier
05	Mosaic Roof Tile	Approved Supplier
06	Porcelain Tiles	Approved Supplier
07	Tiles grout	Commix or Fosroc
08	Porcelain Tiles	Approved Supplier
09	Paint (external- internal)	Jotun/Berger
10	Stone Paint	Approved Supplier
11	Alum. Strip false ceiling	as consultant approved
12	Gypsum tile + Board	Approved Supplier
13	False ceiling suspension System	Approved Supplier
14	Alum. tiles	Approved Supplier
15	Wooden Door lock	Approved Supplier
16	Hinges + Stoppers	Approved Supplier German Made
17	Door Closer	Dorma 83
18	Glass	As per specification.
19	Aluminum	Approved Supplier

20	Alum. Accessories	Approved Supplier
21	Alum. Door lock	Approved material
22	Corner guard	Approved supplier
23	Glass block	Approved Supplier
24	Kitchen Cabinet	Approved Sub-contractor
25	Ward-robies	Approved Sub-contractor
26	Anti-termite	Approved Sub-contractor

PARTICULAR SPECIFICATIONS FOR MECHANICAL WORK:

WATER SUPPLY SYSTEM

Ground Water Tanks:

- Ground Tank for 1000 Gallon Capacity to be provided
- Tank is to be guaranteed for 10 years from the date of installation.

Domestic Water Supply Pumps:

- In general, either booster or transfer sets as shown in the tender drawing, the pumps shall be Vertical multi-stage, centrifugal type complete with stainless steel impellers, shaft, and casing. Each pump shall be driven by a totally enclosed fan-cooled, squirrel cage, star -delta electric motor with class "F" insulation, IP54 protection suitable for 380V/50Hz power supply automatically controlled and protected by the approved control panel. Each pump suction/ discharge line will incorporate a gate valve plus quickly closed spring actuated check valve (in the discharge line only).
- Suction/discharge and manifold pips shall be made of hard copper to BS 2871 part 1 suitable for working pressure of 10 bar.

Internal Cold and Hot Water Supply Pipes shall be as follows:

- Cold and hot water running above the false ceiling as a ring main shall be made of P.P.R. multi-layer composite (Pex. – Alum. – Pex.) RAK as per approval schedule and Bill 11 with compression fittings, suitable for min. 10 bar working pressure. Hot water pipes shall be RAK.
- Vertical, connected cold and hot water pipes shall be made of Pex pipes of 16mm dia and 2.2 mm wall thickness (ie. Pex pipes) complete with 28mm dia blue/red PVC

conduits and PVC boxes. All fittings & accessories are made of bronze, with compression-type fittings.

Water Supply Pipe Supports:

- All pipe inside OTS, ducts and other areas to be supported with 1,5mm thick galvanized steel clamps, factory rubber lined, complete with 8mm threads rod and rawl plug.

Valves

Globe Valves:

One 3/4" size valve with blue marking to be provided in each bathroom, toilet and kitchen. Location to be approved by the consultant. Valves shall be bronze constructed to BS: 2060; 1964 with the non-rising stem.

Gate Valves:

Should be bronze construction, screwed ends to BS: 21:1973 with cast aluminum handles to BS: 3464

Float Valves:

Should be bronze construction with rubber seating, copper/gun metal float arm and plastic ball float to BS: 1212 part 1:1953 or 2:1970.

On Return Valves:

It should be bronze construction, swing-type screwed ends to BS:5154.

Flexible connectors

Twin sphere type with multilayered tire cord fabric and neoprene body completes with G.I. Female unions.

Note: All screwed ends valves are to be provided with two unions.

All the Water pipes are to be checked for pressure which should be 15 bars for a period of 24 hours and should be checked and approved by the consultant's engineer and the owner.

All the garden pipes to be from (TERRAIN).

All the water supply lines to the toilets and kitchen should be separate, and one additional line for a sink in the kitchen to be provided.

Water Heater

- 50-liter Capacity Ariston Electric Water Heater in all Bathrooms and toilets to be provided, safety, non-return, and gate valves. Pipe connections to water heaters are to be of insulated half-hard copper pipes table-x with compression fittings.

Washing Hose Combination

- To be provided in each bathroom & toilet near the WC unit, complete with a 90 cm flexible metal tube, angle valve, hand spray, and wall support. All flexible hoses are to be covered with factory-applied transparent polyethylene casing.

DRAINAGE/ PLUMPING WORK

Kitchen Sink

- Should be stainless steel, double bowl completes with chain & plug. Excellent Quality.

Traps for Kitchen Sinks & Wash Basins

- Traps should be UPVC, telescopic bottle type, with cleaning eye and adjustable heights.

Sink Mixer (To be included in the kitchen cabinets price)

- Chrome-plated stainless steel to engineer approval.
- From Grohe-Germany (or equivalent)

Floor Traps and Covers:

- 4" stainless steel (Atlas or National) or equivalent

Roof Drain Units: (Rainwater outlets)

- Dome/Zurn type with 3" or 4" Ø socket outlet, UPVC

Gully Traps

- Supply and install UPVC, gully traps with 4" O spigot outlet, and round plastic grid.

Clean-Outs/ Rodding Eyes:

- Shall be of the same material and dimensions as a pipe to be cleaned and shall be placed as shown in the drawings. Above-ground and ceiling-mounted cleanouts shall have UPVC access plugs with UPVC screw caps. Floors clean out shall have a sealed inspection cover plate.

Manhole Covers and Frames:

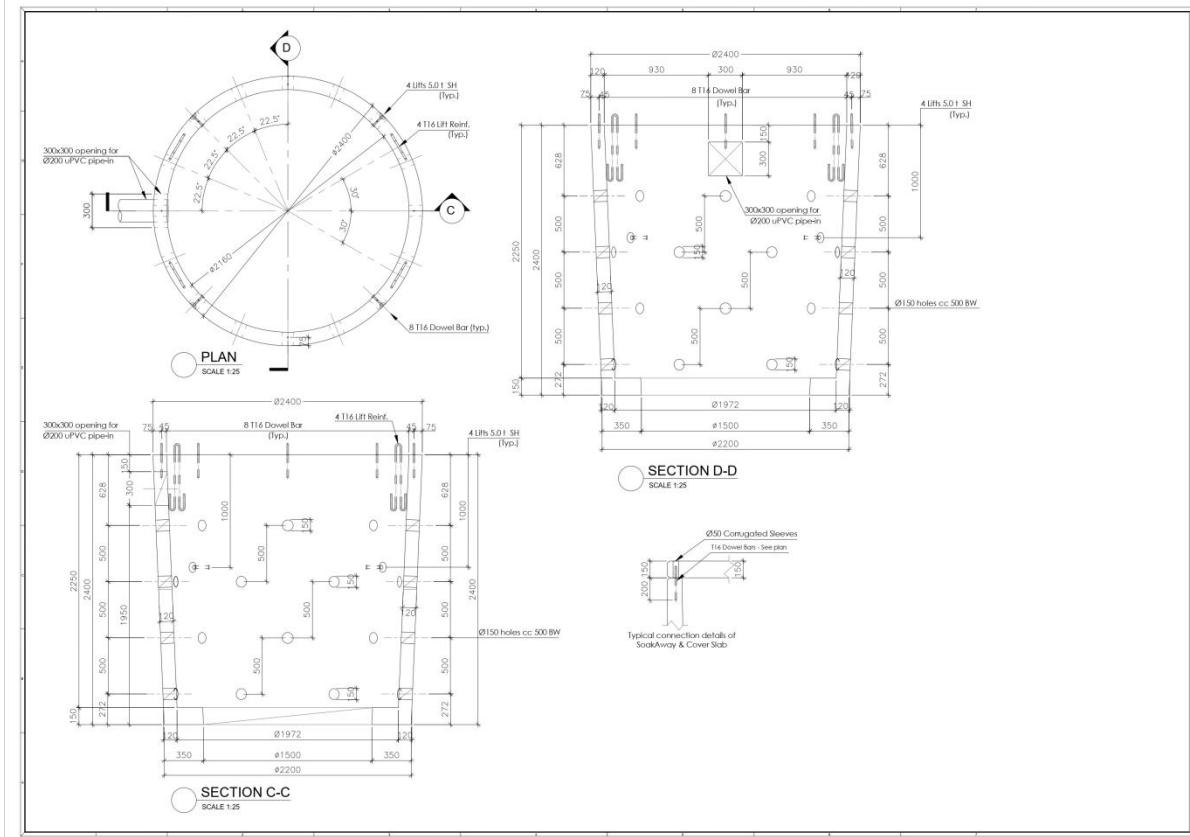
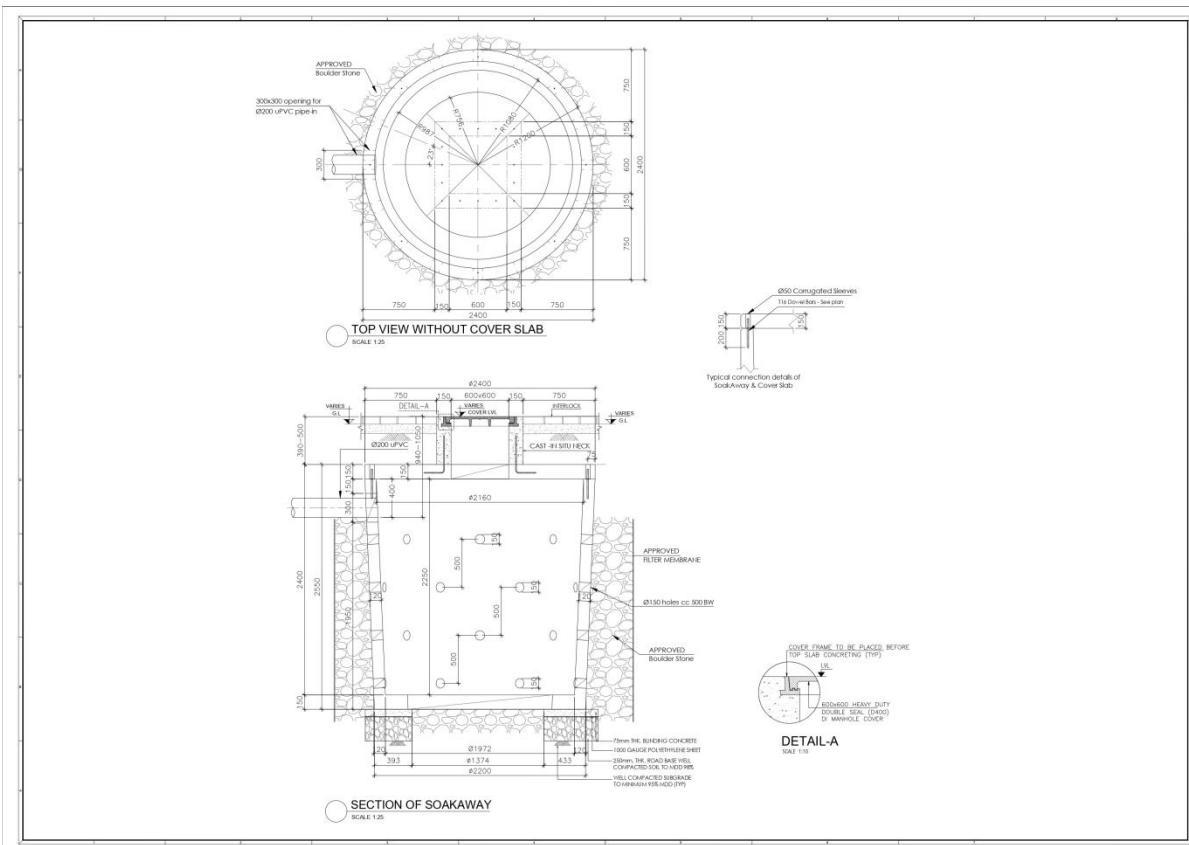
- All covers and frames shall be Cast Iron, a double seal of 600x600 mm. Covers shall be either heavy-duty, Grade-A, or medium-duty Grade-B, as shown on the drawings.
- All covers are to be bitumen coated.

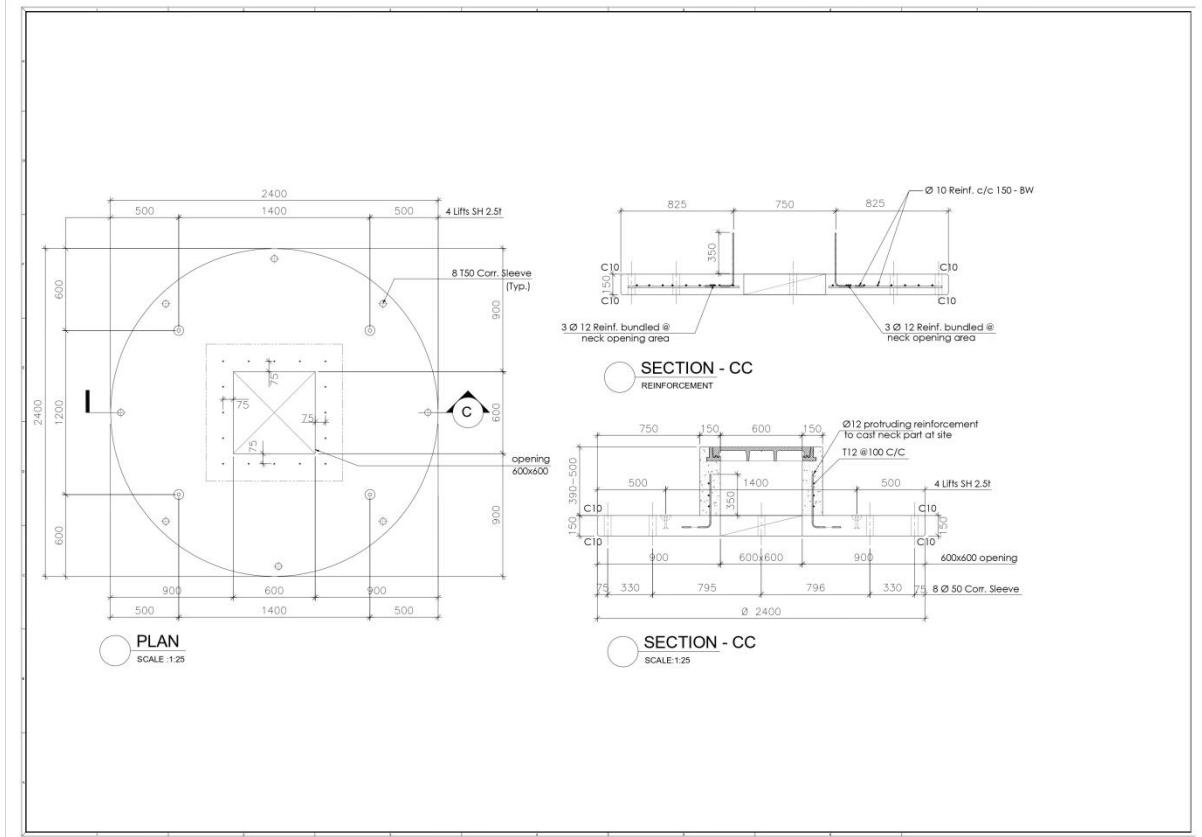
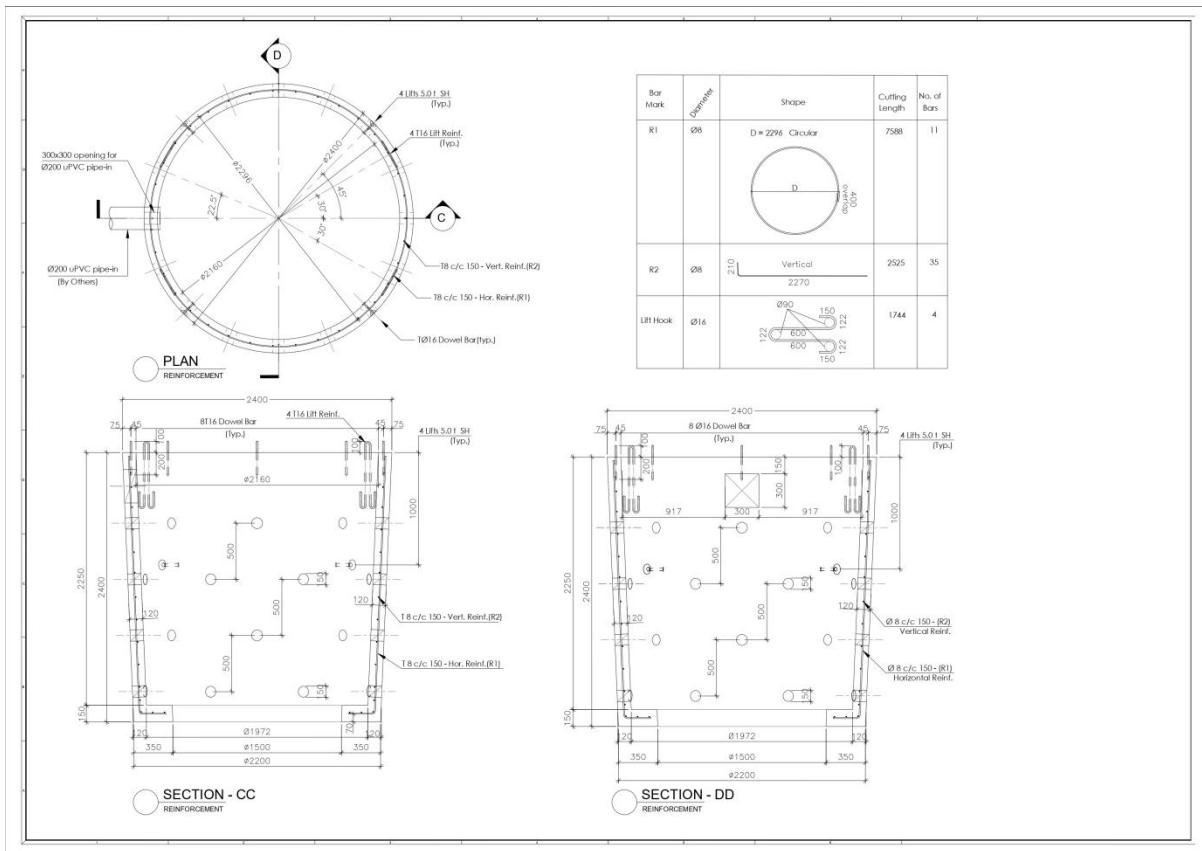
Covers and Frames for Gully Traps:

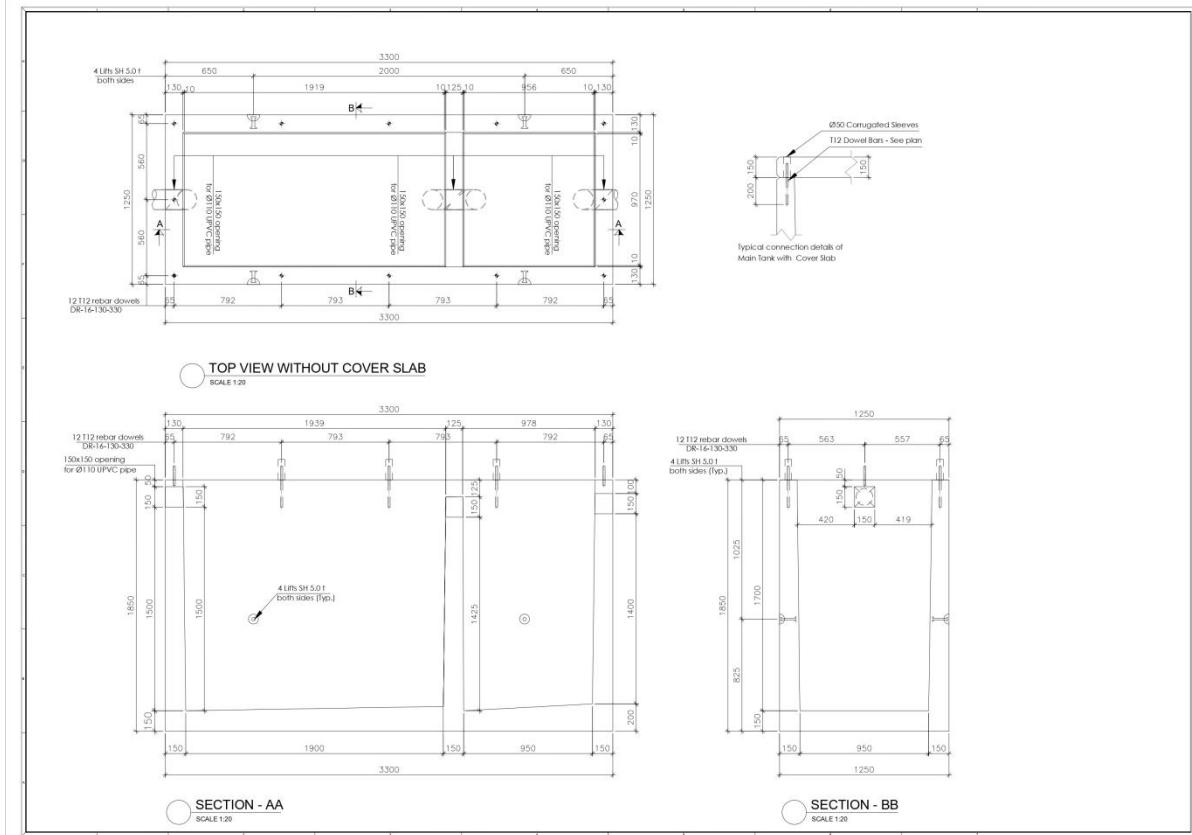
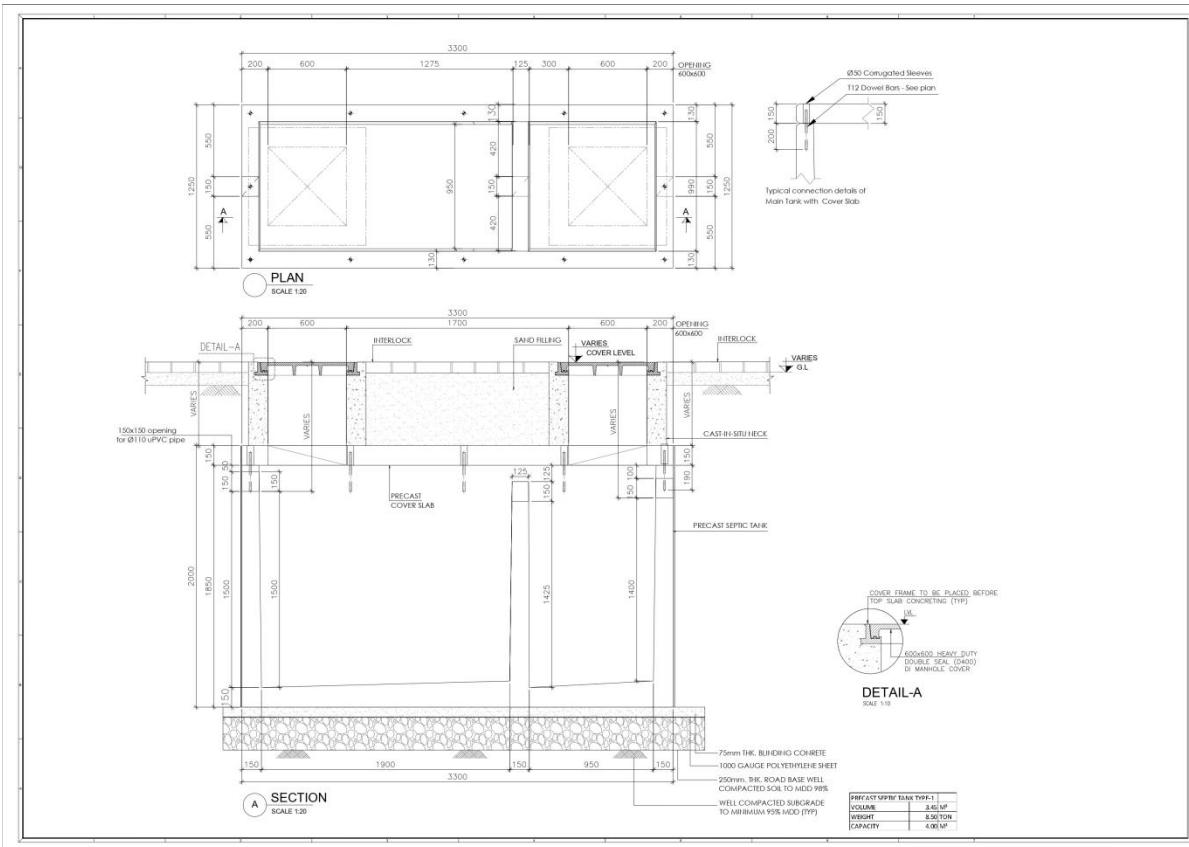
- Shall be Cast Iron, the double seal of 300x300mm size. Covers shall be of heavy and medium duty, grade-A & B, according to the location of fixing with bitumen coating.

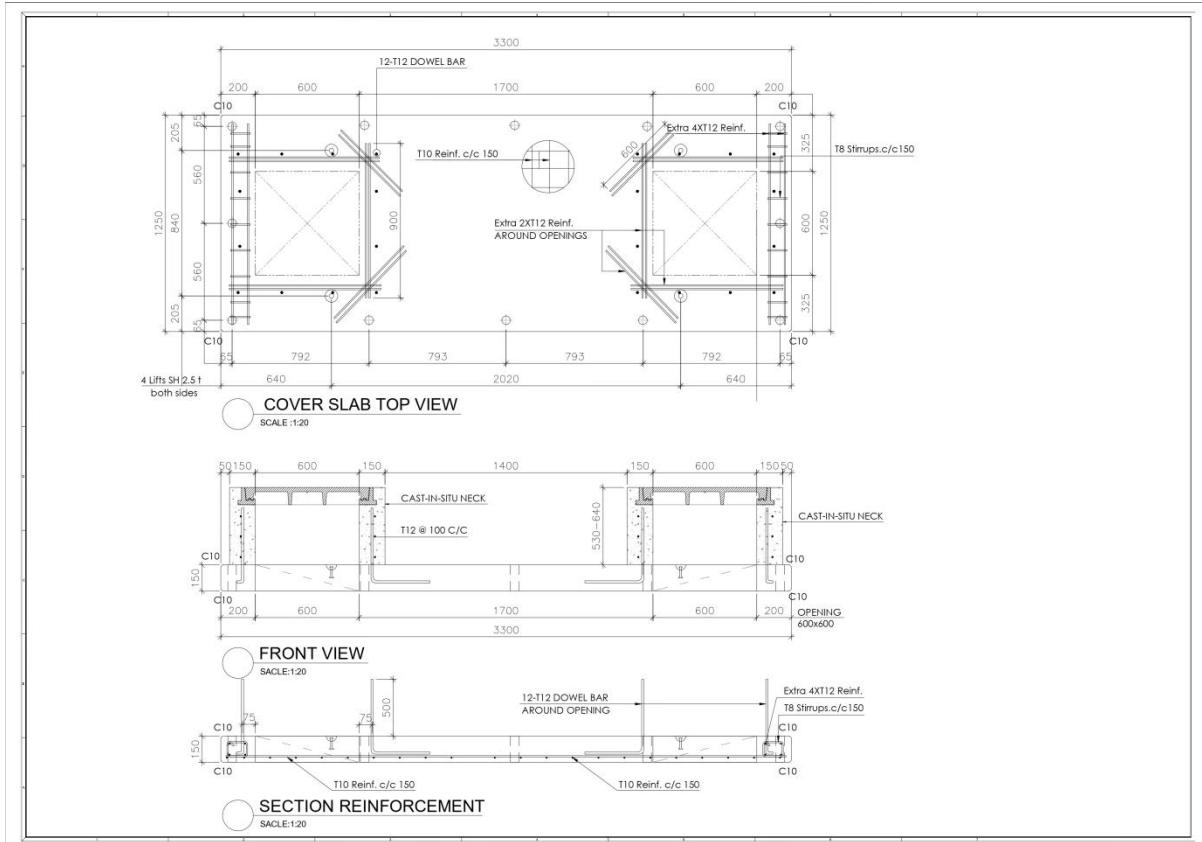
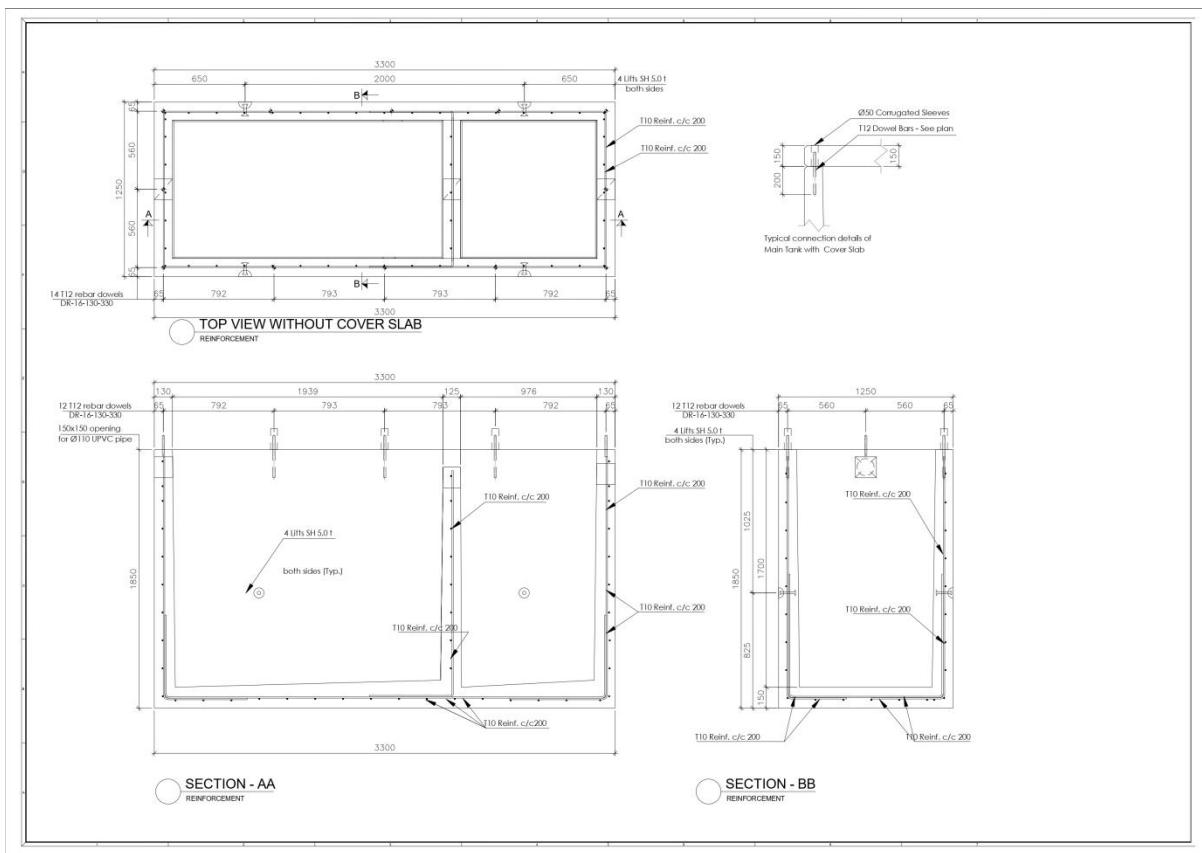
Septic tank & Soakaway (capacity ten cubic meters):

- Shall be pre-cast concrete, approved DM, insulated outer & inner, Excavation & back-filling, and road base as per the following drawings:









NOTE:

- Manholes and Gully Traps to be completed with
- Sealing grooves to be filled with grease.
- three sets of cover keys to be provided.
- GRP sealing of 6mm thickness to be provided when MH is connecting to a main sewer line.

UPVC Drainage Pipe Supports:

- All horizontal and vertical running drainage pipes, exposed and concealed, should be supported with 1.5mm thick galvanized steel clamps, factory rubber lining, and 8mm^Ø stainless steel threaded rod and raw plug.

Schedule of Approved Manufacturers for Mechanical Works:

Sr. No.	Material	Manufacturer
A	Plumbing System	
1.	Water tanks. Polycon G.R.P. (insulated)	1- Plastic Polycon - Local.
2.	Water Pumps.	• Grundfos
3.	Solar water Heater.	• Approved Company • Ariston Italy
4.	UPVC Pressure Pipes and Fittings.	(a) Hepworth/G.F. - Local/U.K. (b) Terrain.
5.	P.P.R.	1) German Made POLO ECOSAN 2) German Made
6.	Pex-Pipes & Fittings. FRIPEX	2- 1- Approved Supplier German Made 3- Approved Supplier
7.	Valves (Gate, Check, Float type)	• Grohe Germany
8.	Angle valve	- Grohe Germany
9.	Y-Strainer.	-Approved Supplier Crane UK
10.	Float Switches.	-Approved Supplier German Made
11.	Mixers Ablution Mixer	- Approved Supplier - Grohe- Germany
12.	Pressure Gauge.	- Hunter Germany

Sr. No.	Material	Manufacturer
B	Drainage System	

1.	U/G & A/G uPVC pipes, Fittings, Accessories.	- Terrain	- U.K.(U/G only)
2.	Gully, Bottle traps, Roof drains, Outlet and Cleanouts.	- As per Approved Supplier	
3.	Manholes and Gully Covers.	- Ducast	- UAE
4.	Pipe Hangers and Supports.	As Consultant Approval	
5.	Floor trap stainless steel.	-As Consultant Approval	

ELECTRICAL WORKS – PARTICULAR SPECIFICATIONS

GENERAL NOTES

- The contractor shall provide a cable connection from the main DP to the power location MSDP which the Facility team will identify.
- All electrical points shall be installed as shown in the drawings.
- All switches, sockets, isolators, light fittings, distribution boards, etc., installed outside/in damp areas shall be weatherproof.
- All sockets shall be three-pin shuttered type and switches 10-amp rating unless otherwise specified.
- All materials shall be confirmed to British Standard specifications.
- MEP Job includes high-quality systems and equipment as detailed in drawings and specifications. MEP contractor/subcontractor must have the required technical expertise to undertake this quality of work. The quality of work is to be such that long-term trouble-free operation of system & service installation is achieved.
- All electricians must hold a valid wiremen license issued by M/S DEWA (Elec. div.)
- Before commencement of any excavation work, the contractor shall ensure no service lines are crossing in case they are crossing it is to be protected.
- Any damage/penalty is the contractor's responsibility.
- BEFORE STARTING RESPECTIVE WORKS.

The contractor shall submit & obtain approval for the following:

- Shop Drawings.
- Load Schedules.
- Single Line Diagrams.
- Electrical Cable Layouts.
- Schematic Single Line Diagrams for Panel, DB's, etc.

Material Approval:

- All materials are to be submitted in material submittal form stating, Make, Specification and Name of the Manufacturer/Supplier, along with catalogs & samples.

AFTER COMPLETION OF THE WORKS

The contractor shall submit the following:

- As-Built Drawings.
- As-Laid Cable Layouts.
- Catalogues for all equipment used in the installation.
- Operation and maintenance manuals for the above.
- Guarantee Certificates for equipment.

All above items shall be submitted in triplicate except Guarantee Certificates.

All works shall be carried out per the latest rules and regulations of M/S DM, DEWA, ETISALAT, CIVIL DEFENCE, and any other local government authority.

The contractor will pay all testing charges, governmental fees, and any form of duty and shall be included in the quotation/tender.

ELECTRICAL WIRING:

- Minimum size of wires used for lighting 2.5mm 2, 13-amp socket 4.0 mm 2, and 15amp Power socket 4.0mm 2.
- All air conditioning and another equipment wiring shall be per equipment rating.
- The electrical wire shall run through PVC conduits 3/4" and 1" of approved make. Conduits shall run in concrete and masonry work.
- All exposed conduits inside/outside buildings should be GMS galvanized mild steel conduits (hot dipped galvanized) & not PVC.
- All accessories, saddle bars, elbows, bends, etc., shall comply with IEE Standards.
- Earth insulation tests to be carried out on the installation.
- All phase loads must be balanced and the work of standard specification of M/S DEWA.
- Any new regulation from DEWA to be followed.

ELECTRICAL CABLES:

- All Underground cables are to be armored copper cables.
- Proper protection to be provided for cables crossing different services.
- PVC ducts to be provided for incoming cables – 6" dia.
- Wherever necessary, manholes will be provided for electrical cables inside the building.
- The cover of the manhole should be the same as the floor finish, and provision for lifting the same is to be provided.

DISTRIBUTION BOARDS

- Sheet Steel enclosure surface/flush mounting with hinged lockable cover. W/P for outside. Incomer – Isolator
- Outgoing ELCB, UV relays with auto reset & MCB'S. As per M/S DEWA requirements. Spare MCBs at least two nos' to be provided for each section or one of each rating.

TELEPHONE & DATA:

- Main incoming to JN box shall be as per Etisalat requirements in general 2 Nos 2" Dia PVC ducts to be provided.
- Telephone and DATA duct to be laid in 85 cm deep trench with PVC warning tape (English and Arabic marking.) laid at 30 cm from FFL.
- Each block is to be provided with a separate JUNCTION BOX. Inside the building, all conduits shall be 1" dia.
- Block wiring to be done as per ETISALAT requirements.

Lighting and Small Power Installations

General Requirements

The contractor shall submit complete working drawings with all relevant details for the proposed lighting and small power installation in compliance with the design drawings, specifications, and local schedules for the various areas.

Lighting in Areas with False Ceilings

These areas shall be with 60x60cm false ceiling. Recessed 4x18W LED light fixtures suitable for the false ceiling shall be used. All downlight fixtures shall be recessed and mounted onto the false ceiling. OR AS SPECIFIED FOR SPECIFIC AREAS ELSEWHERE.

Lighting in Areas Without False Ceilings

Unless otherwise stated, all these areas shall be equipped with surface ceiling/mounted fixtures/ as indicated in the drawings.

Decorative Lighting

These shall be suspended, or surface mounted and should match the wall bracket installed in the same area.

External Lighting

All external lighting circuits shall be controlled by contactor time switch assembly as well as ELCB 100ma.

Socket Outlets

- General purpose socket outlets shall be of 13A shuttered 3-pin switched type complying with the requirements of BS 1363: 1984. These shall generally be connected to main ring circuits. Connections to the phase and neutral conductors shall be carefully made in accordance with the manufacturer's markings, and the earth pin shall be effectively earthed. Unless specified otherwise, all general purpose 13 A socket outlets shall be mounted 0.45 m above F.F.L as indicated in the drawings. In general, domestic flush type 13A socket outlets have been specified for most areas as indicated in the schedule of equipment and materials. All socket outlets shall be suitable for mounting on appropriate galvanized, pressed steel boxes. PVC boxes can be used for surface mounting only.

Switches

- All lighting switches shall comply with BS 3676: 1963. These shall be a quick make, slow break A.C type 10A rating SP, multiple 1-way, 2-way type suitable for making and breaking inductive loads. These shall generally be mounted at a height of approximately 1.4m above F.F.L. and shall be complete with galvanized steel boxes of the same manufacturer. Earth terminals shall be provided on each switch box. Domestic flush type and metal-clad surface type shall be specified for different areas.
- Single pole switches shall only be connected to the live side of the circuit.
- An internal barrier suitably engraved with circuit number and phase reference shall be fitted to multi-gang switch assemblies where more than one phase of supply is connected.

Isolators

- All Isolators shall be W/P for outdoor installation, complying with IP 55.
- The isolators should be sturdy with quick make-and-break contact. Incoming and outgoing entries shall be from the bottom.

Electrical Particular Specifications:

Sr. No.	Item Description	Brand	Local Agent
1	Switches/Sockets	Legrand or Clipsal	
2	GI Switch Box with Earth	Legrand or Clipsal	
3	PVC Conduits and Accessories	Marshall duflex	
4	W/P Isolators	Legrand or Clipsal	

5	W/P Switched Socket Outlet	Legrand or Clipsal	
6	Single Core Wires	DUCAB UAE	
7	PVC/PVC Flexible Cable	DUCAB-UAE	
8	Armored Copper Cable	DUCAB-UAE	
9	TELEPHONE & DATA Cables	CAT6	
10	Cable Glands	DUCAB-UAE	
11	Earthing System	-UK Quality	
12	Door Bell	Legrand or Clipsal	

AIR-CONDITIONING & VENTILATION PARTICULAR SPECIFICATION

- 1- DXB unit- **Carrier Inverter, DC motor, Twin-rotary inverter compressor, R410**
(Cooling capacity and energy efficiency ratio (EER) are based on ISO 5155 standards).
- 2- Ductwork within the conditioned space should be a Pre-insulated fire-rated duct **(UAE-made)**.
- 3- Sound liner **½" density 32 Kg/m³ Elastomeric rubber type -Aerofoam**.
- 4- Refrigerant copper pipe - **(Maxwell (Korean) or any other equivalent brand)**.
- 5- Refrigerant pipe insulation **Gulf-o-Flex / K Flex with ½" thick rubber pipe insulation**.
- 6- Ribbed vibration rubber isolation pads- **WEICCO/ India**.
- 7- Hook up wiring – **Ducab, Oman, or any other equivalent brand**.
- 8- Drainage pipe.
- 9- Supply & installation of white powder-coated aluminum linear bar grills & wall grills side discharge of local market- **BETA**.
- 10- Thermostat- Digital type, supplied along with the AC equipment as per manufacture standard.
- 11- Exhaust Fans for all toilets and bathrooms, and Kitchen.
- 12- Refer to AC & Ventilation layout for type and technical data.

Note: the tonnage capacity should be submitted for each room and in total, along with a shop drawing for the layout of the ducts.

Terms:

- 1- To enter the tender process, the contractor should submit two proposals, one for four master rooms and service areas as per the proposal layout (Option 1) and the second

proposal for three master rooms and service areas as per the proposal layout (Option 2)

- 2- The Contractor shall submit B.O.Q. and the total amount for the items mentioned under provisional for each sum (Each option has a different B.O.Q therefore, the contractor must do two separate calculations and submit each one separately) before signing the Contract.
- 3- The commercial proposal should be separated from the technical proposal. If the contractor fails to achieve these terms, their submission will not enter the tender competition.
- 4- The contractor should fill in the following table and submit it along with the commercial offer for each proposal (Option 1 and Option 2):

S/No	Description	Unit	Qty	Rate	Cost AED
1	MOBILIZATION				
2	EARTHWORK				
3	SUBSTRUCTURE				
4	SUPERSTRUCTURE				
5	BLOCK WORKS				
6	PLASTER WORKS				
7	PAINTING WORKS				
8	MARBLE, TILES, STONE & FLOORING FINISH WORKS				
9	SKIRTING				
10	FALSE CEILING & GYPSUM WORKS				
11	WATERPROOFING WORKS				
12	ALUMINUM WORKS (INCLUDING PAINT, LOCKS, HINGES&HANDLE)				
13	WOODEN WORKS (INCLUDING PAINT, LOCKS, HINGES&HANDLE)				
14	ELECTRICAL WORKS				
15	PLUMBING WORKS				
16	AIRCONDITIONING (CARRIER INVERTER)				
17	CIVIL DEFENSE WORKS				
18	EXTERNAL WORKS				
TOTAL					

- 5- The contractor shall provide necessary attendance, accessories, wiring, and sleeves for service pipes and electrical power points.

- 6- To enter the tender process, the contractor must submit two completion certificates issued by Dubai municipality, dated one year old, for the same category of the proposed building.
- 7- The Contractors must submit the tender documents at their own expense and shall visit and inspect the site of works and its surroundings before submitting their tenders.
- 8- The Contractors are reminded that this tender summary should be duly filled in and submitted with the tender. The rates mentioned in the tender summary shall be considered fixed rates regardless of any variations in market prices.
- 9- ICBA will not pay for any cost incurred related to failure of securing the building permits.
- 10- The name of the Sub-Contractors, if any, with whom the contractor / second party intends to place on sub-contract any portion of the work must be stated and approved by the ICBA/ Facility section before signing the Agreement.
- 11- ICBA party will not be responsible for any expenses the contractor may incur in preparing the tender.
- 12- ICBA party does not bind himself to accept the lowest tender and reserves his right to reject any or all tenders.
- 13- The contractor should not assume or mention any conditions not mentioned in the specifications or not to exclude or change any of them.
- 14- It is the main contractor's full responsibility to co-ordinate and provide all services (such as scaffolding, water, electricity, and storage) to all sub-contractors activities, whether the signed between the owner and sub-contractor or the contract signed between the main contractor and sub-contractor. All the sub-contractors nominated by the owner or contractor are to be approved by ICBA/Facility Section before awarding the contract.
- 15- ICBA shall provide the main contractor with a temporary water supply and power.
- 16- Proper storage space to be provided by the main contractor for the materials delivered by the main contractor, owner, and by the approved sub-contractor to the site.
- 17- Samples of all materials used for the construction shall be submitted along with proper submittal forms and a covering letter for approval of the ICBA/Facility section at least two weeks before starting the respective works.
- 18- The contractor should inform the facility team before proceeding to the next stage of the work.
- 19- If the contractor changes any specifications for the materials without informing the facility and taking their clear approval, he/she will expose himself to a penalty of 5% of the total value of the LPO. If this incident is repeated three times, ICBA has the full right to cancel the contract with the main contractor.
- 20- The contractor shall provide and fix two numbers of signboards (size 10' X 6' each) with the name of the consultant and two numbers of signboards with the name of the contractor. The boards are to be fixed on the road around the plot as per consultant approval & it's the contractor's responsibility before starting work contractor must fix a fence inside the plot to provide a separate Entrance for the landlord. The contractor must clean a site from the ground floor on daily bases.
- 21- The Contractor must pay the building permit, Insurance, and other deposits/funds.

22-The Contractor shall demolish the existing structure (if any) with Consultant's approval.

23-The main contractor must arrange full insurance for the project, including the following:

- Workmen compensation insurance for all workers on the site.
- All risk insurance for the project during the construction period.

24-The insurance by the main contractor should cover all items delivered, stored, or installed by the owner or his nominated sub-contractors. The main contractor shall be fully responsible for safeguarding and protecting all materials items which are supplied by the owner at the site and receiving them from suppliers in good condition, and storing and protecting them from damage, fire, etc., in case of any damage to any of the above items, the contractor shall pay for the damage.

25-The completion certificate shall be issued to the contractor only after satisfactory testing of all services like water supply, drainage, electricity, air-conditioning, lift, etc.

26-The contractors are reminded that this is a lump sum turnkey TOR and that they are responsible for calculating their quantities and estimates.

27-The Contractor can add any item to BOQ not listed but required as per drawing & site condition in consultation and coordination with ICBA/ Facility.

28-Contractor to add any additional Items to B.O.Q with quantities and rates as per drawings & specifications not previously included to complete the buildup of the lump sum tender price for the respective section of the works should the tenderer fail to insert any items herein, it will be deemed that his lump sum price for the tender included all items necessary to make the Various System outlined in the specifications and drawings and no subsequent claim for any additional item will be entertained.

29-The contractor's responsibility is to renew NOCs from all authorities (DEWA, ETISALAT & DM Drainage) and strictly follow all NOC conditions after finishing all work to approach all Authorities concerned for connection of connection services ahead of time to have connection completed within the construction period.

30-Price reduction shall be made regarding a decrease of quality or value due to a substitute of materials. No price addition shall be made regarding the increased quality or value of the accepted and approved substitute materials.

31-ICBA/Facility Section does not accept In case of substitute materials, the contractor shall be solely liable for any delay or loss accessioned by his failure to provide the specified materials.

32-The site should be kept clean of waste/debris. Otherwise, the work shall be stopped, and the contractor shall be responsible for the delay.

33-Contractor to submit Detailed Work Program to Get Approval from ICBA/Facility Section Before Starting Work.

34-ICBA/Facility may not accept substitute materials in case of different options of specified materials. The ICBA/ Facility Section has the right to select the option it feels is more suitable for work without any objection by the contractor.

35-If the delay penalty reaches 10% of the effective contract price (which means contractor price less provisional and contingencies). ICBA has the right to take over and complete the project and charge any extra cost to the contractor and a 10% penalty until all works are completed.

- 36- If the contractor cancels the contract from his end, then he will pay 10% of the total value of the contract as exit close to ICBA; therefore, the main contractor must submit a security cheque equal to 10% of the contract value which will be kept with ICBA until the completion of the project.
- 37- Contractor to comply with the latest rules and regulations of the concerned authorities in his offer. At the time of signing the contract.
- 38- ICBA has the right to demand a copy of the contracts between the contractor and the approved subcontractors or suppliers for reference and record at any time.
- 39- If the contractor fails to pay the approved subcontractors/ suppliers their dues as per the contract, despite the dues received from the employer. ICBA has the right to stop the contractor's payment or deduct it from the contractor pay subcontractors due to the subcontractor/ suppliers without any objection from the contractor.
- 40- Any discount the contractor makes to the tender price should not apply to provisional sums or Prime cost items.
- 41- The contractor shall provide a temporary fence around the site during the work progress.
- 42- Any damages during the work progress will be charged to the contractor.
- 43- The contractor will be responsible for loading and offloading any related materials of the structure.
- 44- The contractor will be responsible for all the offloading and loading of any materials related to the project.
- 45- The contractor should do the site cleaning after completing the work.
- 46- The contractor should provide an incident report monthly during the work progress.
- 47- The contractor must approve all the above terms and conditions and singe on them before signing the contract.
- 48- The main contractor should accept all terms and conditions in this TOR.

Project timeline:

The period allotted for this project shall be (4) months starting from the date of demarcation and issuing the building permit from Dubai municipality.

Penalty for any delay in the work by the Contractor shall be as follows: Payable to the Owner: 0.15 % per day up to 10 % of the project value.

Payment:

Will be based on the completion stages as per the following schedule:

S/No	Description	% of the contract
1	MOBILIZATION	
1.1	Mobilization & Shop drawings & Authorities approval	4%
2	EARTHWORK	
2.1	Excavation	3%
2.2	Backfilling	
2.3	Road Base	
2.4	Anti Termite Treatment	
3	SUBSTRUCTURE	
3.1	1000Gag PVC sheet	13%
3.2	PCC for Footing & Tie beam	
3.3	RCC for Footing	
3.4	RCC for Neck Columns	
3.5	RCC for Tie Beams	
3.6	Grad on slab 100mm	
3.7	Bitumen Water Proofing for sub-structure elements	
4	SUPERSTRUCTURE	
4.1	RCC for Columns	13%
4.2	RCC for Beams	
4.3	RCC for Slabs	
4.4	RCC for Lintels & Arch	
4.5	RCC for Parapet	
5	BLOCK WORKS	
5.1	Solid Block 20CM under Tie beam	5%
5.2	Thermal Block 20CM	
5.3	Hollow block 20 cm	
5.4	Hollow block 10 cm	
6	PLASTER WORKS	
6.1	Internal Plaster	9%

6.2	External plaster	
7	PAINTING WORKS	
7.1	Internal Paint for Walls	3%
7.2	External Paint for walls	
7.3	Ceiling Paint	
8	WATERPROOFING WORKS	
8.1	Wet Area	3%
8.2	Roofing Combo System	
9	FINISH WORKS	
9.1	Granite & Marble Tile Main Entrance	5%
9.2	Screed Concrete 100 mm for flooring level	
9.3	Ceramic & Porcelain Tiles for Flooring	
9.4	Ceramic & Porcelain Tiles for Flooring Bathroom	
9.5	Ceramic Tiles for Walls	
9.6	Marble Counter for Kitchen and base & upper cabinet	
9.7	Dressing Cabinet height 3000 mm	
9.8	Ceramic & Porcelain Skirting	
10	WOODEN WORKS (INCLUDING PAINT, LOCKS, HINGES&HANDLE)	
10.1	Internal Doors(100x220 cm)	2%
10.2	External Doors(180x220 cm)	
10.3	External Doors(100x220 cm)	
11	FALSE CEILING & GYPSUM WORKS	
11.1	Gypsum Board for rooms, corridor, living room	5%
11.2	60x60 False Ceiling Tiles for bathrooms, kitchen, store, laundry	
12	ELECTRICAL WORKS	
12.1	ELECTRICAL WORKS (Chasing, Conduits, Wiring, DB,s, Switch-gear, Isolators, Socket, Switches, installation light...Etc)	10%
12.2	Supply Light Fixture	
13	ALUMINUM WORKS (INCLUDING PAINT, LOCKS, HINGES&HANDLE)	
13.1	Aluminum windows(80 * 80) cm	2%
13.2	Aluminum windows (250*270) cm	

13.3	Aluminum windows (318*270)cm	
13.4	Aluminum windows (300*270)cm	
13.5	Aluminum Doors (210*80)cm	
14	PLUMBING WORKS	
14.1	Septic Tank & Soakaway	5%
14.2	Internal Pipes & Fittings	
14.3	External drainage Pipe & manhole covers	
14.4	GRB tank & transfer Grundfos pump	
14.5	Solar heater	
14.6	Supply & installation Sanitary ware for bathrooms	
15	AIRCONDITIONING (Carrier inverter)	
15.1	Supply and installation DXB units	5%
15.2	Supply and installation of Fire-rated duct with fittings, cooper pipe with insulation, VCD, diffusers, and grills....Etc	
15.3	Supply and installation of Exhaust Fan for bathrooms and kitchen (concealed Type in the ceiling)	
15.4	AC units footing and related civil works	
16	CIVIL DEFENSE WORKS	
16.1	F.F System Fire hose reel & extinguisher	5%
16.2	F.A system with an interfacing module	
16.3	E.L system	
17	External works	
17.1	Cat ladder steel staircase	5%
17.2	External Interlock 1.00 meter surrounding the building	
17.3	Curbstone	
18	Testing and Commissioning	
18.1	DM Completion Certificate	8%
18.2	Layouts and Shop drawing handover	
	TOTAL	100%

Note: Each payment should be 15 % and above to be processed.

All the above percentages will change depending on the project value and the costs from the contractor.

Warranty:

Guarantee Certificates:

For the following Items, guarantees in original to be submitted before handing over:

Combo Roof Waterproofing: 25 Years.

Water Tanks: 10 Years.

Plumbing works: 3 Years.

Electrical works: 3 Years.

Painting indoors and outdoors: 3 Years.

Ceramic Cladding: 5 Years.

Aluminum works: 3 Years.

Joinery works 3 Years.

Water Heater Shell & Lining: 5 Years.

Air Conditioning: 5 years compressor and 3 Years for the AC units.

Mixers: 5 Years.

Anti-Termite: 20 Years.

Structural Guarantee for the Building: 35 Years.

Note: 10% of the contract value will be paid after one year from DM completion which will serve as retention for warranty.

Prepared by:

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