PROGRESSIVE REPORT FOR
CABANA MEMORIAL BUILDING

CLIENT: SISTERS OF IMMACULATE HEART OF MARY RAPARATRIX
GOOGONYA

CONTRACTOR: BUCONS (U) LIMITED

MARCH 2016
Table of Contents

Chapter one: ................................................................................................................................. 2
Overview of the project .................................................................................................................. 2
Chapter two: ................................................................................................................................. 3
Mobilization ................................................................................................................................. 3
Site clearance ............................................................................................................................... 5
Setting out building ..................................................................................................................... 5
The construction of Cabana Building .......................................................................................... 6
  Substructure ............................................................................................................................... 6
  Foundation Excavations ............................................................................................................. 6
  Casting of the column stubs and strip concrete ......................................................................... 7
  Plinth wall construction ............................................................................................................ 7
  Hardcore filling ......................................................................................................................... 8
  Casting of the Over site concrete ............................................................................................. 8
Superstructure ............................................................................................................................. 9
  Walling of the ground floor ....................................................................................................... 9
  Formwork for columns ............................................................................................................ 10
  Reinforcements for the columns ............................................................................................. 10
  Casting of the columns ........................................................................................................... 10
  Casting of the first floor slab .................................................................................................. 11
  Block work for the first floor ................................................................................................... 12
Roofing ......................................................................................................................................... 12
Finishing ...................................................................................................................................... 13
  External finishing and internal finishing ................................................................................ 13
  Landscaping ............................................................................................................................ 13
  Fencing and other Builders works .......................................................................................... 14
Material testing ............................................................................................................................. 16
  Challenges, Recommendations and Conclusions ................................................................... 17
  Challenges ............................................................................................................................... 17
  Recommendations ................................................................................................................ 17
  Conclusion ............................................................................................................................... 17
Chapter one:

Overview of the project

Cabana Memorial building is a two storied building constructed on 1,300 square meters and located at Kisubi, 23 km along Kampala - Entebbe road on plot 309, block 419-420, Busiro, Kawuku. The structure is owned by the Sisters of Immaculate Heart OF Mary Reparatrix (IHMR) Googonya and constructed for the purpose of boosting the incomes of the Congregation of IHMR.

The structure is named after Bishop Louis Cabana the founder of the congregation in commemoration of his good works. Bishop Cabana was one of the members of the Society of the Missionaries of Africa, commonly known as White Fathers. He came to Uganda in 1924. Part of the Building will serve as a branch for Centenary bank, the fourth-largest bank in Uganda, and the second-largest indigenous commercial bank in the country, by assets. The remaining space will be rented out to potential clients. The building has enough parking space to accommodate up to about 60 vehicles.

The building is constructed by Bucons (U) limited which was awarded a contract selectively by IHMR. On 4th September 2014, and supervised by Proman Consults so that designs/drawings of BP Design moments are implemented according to the specifications. The contract duration is one year and seven months.

The objective/rationale for investing in the cabana Memorial building was to act an investment opportunity for income generating and wealth creation for the shareholders of congregation of Immaculate Heart of Mary Reparatrix.
Chapter two:

Mobilization
This began after site possession by the contractor and it involved soliciting relevant resources such as manpower, machinery and materials to enable the smooth running and success of the project.

Stocked BRC on site
Stocked Reinforcement bars at the site

Heaps of Aggregate stock piled at the site
Site clearance
This involved the removal of the vegetation, top soil, trees and tree stamps away from site. It included grubbing up roots, disposal of materials and filling voids. Grader was used to carry out this operation in order to provide a good/clear working area.

Setting out building
This involved the laying down of the excavations lines and center lines on the ground before excavations of the foundations. It involved the actual positioning of the building as shown in the plans and drawings.
The construction of Cabana Building

The construction of Cabana Building was carried out in different phases which included mobilization, site clearance and earth works, substructure, super structure and site cleaning and Hand over.

Substructure

This Phase included the excavation of the foundation strips, column bases, brickwork of the plinth wall and casting of the column stubs and over site concrete.

Foundation Excavations

After a relatively horizontal surface of the site was obtained then pad and strip foundations excavation was done manually to a depth of 1000mm from which surface trimming and side shaping was also done manually.
**Casting of the column stubs and strip concrete**

Concrete of grade 15 was casted in the foundation strips and starter columns. It was thoroughly vibrated with an electric porker to free air voids and compacted with metallic straight edge. It was then left to set and gain strength.

**Plinth wall construction**

A 225mm block work plinth wall was constructed with cement sand mortar of 1:3 with and including hoop iron after every three consecutive courses then plastered 12mm mortar of mix
ratio 1:3 and painted with two coats of black bitumastic paint to prevent penetration of water into the foundation walls. Back filling was done when the plaster cured and murrum compacted using a jumper compactor.

**Hardcore filling**

Hardcore was placed and compacted using a roller to attain the required thickness according to the specifications to thickness of 250 mm. The hardcore bed serves as a solid working base for building and as a bed for the concrete over site. A 50mm sand layer was spread on the compacted hardcore to fill the voids and also to prevent the dump proof course from being damaged by the hard core.

After sand blinding 1000 Gauge polythene Damp Proof Membrane sheeting laid on blinded hardcore then A142 Fabric Mesh reinforcement weighing 2.22 kg, Per square meter was also laid on the damp proof membrane. Spacer blocks of 50mm thickness where placed below the BRC in order to support it from the DPM.

**Casting of the Over site concrete**

A 200mm concrete of Class 25 with 20mm Aggregate was casted then Compacted using a poker vibrator and leveled using a straight edge. A layer of pit sand was sprinkled on the slab followed by water which was poured every after one hour to reduce the heat of hydration and also prevent the slab from cracking.
Superstructure

Walling of the ground floor

Walling was done using blocks (450mmX200mmX200mm) bedded and jointed in cement sand mortar (1:3) with and including hoop iron after every two consecutive courses. The blocks were plumbed to ensure that the blocks are leveled vertically and horizontally in position.

![Block work laying](image-url)
Formwork for columns
Cross sections of the columns based on the type of the column type gave the formwork cross section. The shape and size of the column form work was dependent on the size and dimensions of the column.

Reinforcements for the columns
The reinforcement for the columns were made of high tensile (T) 16mm diameter bars and R8 ribbed rings connected using binder wire. Reinforcement bars for the columns were first cut and hooked at end so as to grip into the ground beam and then given a slight bend in the middle to sit on the starter bars according to the bar bending schedule. The bars were then connected from the ground through R8 ring at a spacing of 200mm.

The reinforcements were then put in their respective positions and connected to the starter bars using rings and binder wire with a lap of 1200-1500mm between the reinforcement and the starter bars. Spacer block were the connected to the sides of the reinforcement to ensure 30mm cover concrete to prevent corrosion of reinforcement due to exposure to moisture.

Casting of the columns
The column boxes were first sprinkled with water and a little cement spread on the column kickers to bind the fresh concrete to set concrete of column kickers. The poker vibrator lowered into the box and concrete of grade 25 and minimum cement strength42.5MPa cast. Concrete was consolidated using a poker vibrator, which was raised slowly as the concrete was placed.

The columns were cured for at least 7 days by sprinkling water. The formwork was left in position to aid in supporting form work for the first floor slab.
Casting of the first floor slab

After laying of the formwork, fixing in the reinforcements and max pans, a 200mm Thick composite suspended slab consisting of reinforced concrete Class 25 in 75mm topping, 125mm wide ribs at 425mm centers and max pan of size 400mm long x 390mm wide x 200mm high including filling 195mm wide ends of composite slabs with Concrete Class 25 was casted.

Workers casting the first floor slab
**Block work for the first floor**

200mm and 150mm block walls were constructed bedded and jointed with 25mm thick cement sand mortar (1:4) for external and partition walls respectively. Hoop iron was laid after every two consecutive courses to prevent vertical cracking of the walls.

**Roofing**

The roof of cabana building was made timber trusses spaced 1.5 m with 50 x 100mm Purlins at spacing of 0.5m and 50 x 150mm Rafters covered with clay roofing tiles.
Finishing

External finishing and internal finishing
The building was finished with 25mm thick render coat silk vinyl paste paint and glass cladding around the staircases. The floor is covered with porcelain tile to give it a pleasant appearance.

The internal walls and ceiling were finished with 25mm plaster layer later painted with three layer coats silk vinyl paint

![Rear view of cabana memorial building](image)

Rear view of cabana memorial building

Landscaping
The compound was scapped with flower gardens and most of the part laid with a smooth layer of Asphaltic concrete.
The ground was cut to reduce the levels till the firm ground to sustain the surface loading; the sub-base was compacted and rolled with stabilized murrum. The compacted surface was primed and a layer of asphalt concrete placed, compacted and rolled using a drum compacting roller.

For the section of the flower garden, the existing surface was cut about 150 mm thick and replaced with black fertile peat soils that were approved and favorable to the flowers in the compound.

Landscaping and compound designing still ongoing

Fencing and other Builders works
The perimeter wall encloses all the structures to the building with a two leaf hinged metallic gate. This was constructed with concrete blocks. The perimeter wall at about 1 m is continued
with welded metal grills embedded into the wall making the wall monolithic. Other builder’s works are still pending and these are to the compound.

Perimeter wall construction still ongoing
**Material testing**

All the materials used in this project were tested in the National Materials Laboratory located in Kireka and conformed to the specifications. Attached below are the results.

### CENTRAL MATERIALS LABORATORY

<table>
<thead>
<tr>
<th>CLIENT</th>
<th>M/S BUCONS (U) LTD</th>
</tr>
</thead>
<tbody>
<tr>
<td>PROJECT</td>
<td>ARCHBISHOP JOSEPH HOUSE (CABANA MEMORIAL HOUSE)</td>
</tr>
<tr>
<td>DATE</td>
<td>06 DECEMBER 2014</td>
</tr>
</tbody>
</table>

#### TEST RESULTS FOR AGGREGATES

1. **GRADING**

<table>
<thead>
<tr>
<th>SIEVE SIZES</th>
<th>PERCENTAGE PASSING THE SIEVES</th>
<th>SPECIFICATION: BS 882:1992</th>
</tr>
</thead>
<tbody>
<tr>
<td>37.5</td>
<td>100</td>
<td>100</td>
</tr>
<tr>
<td>20.0</td>
<td>98</td>
<td>85 – 100</td>
</tr>
<tr>
<td>14</td>
<td>39</td>
<td>0 – 70</td>
</tr>
<tr>
<td>10</td>
<td>3</td>
<td>0 – 25</td>
</tr>
<tr>
<td>5</td>
<td>1</td>
<td>0 – 5</td>
</tr>
</tbody>
</table>

Flakiness Index (%) 20 35 Maximum

2. **MECHANICAL STRENGTH**

<table>
<thead>
<tr>
<th>TEST</th>
<th>UNITS</th>
<th>RESULTS</th>
<th>SPECIFICATION: BS 882:1992 (CONCRETE WORKS)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aggregate Impact Value</td>
<td>(%)</td>
<td>17</td>
<td>30 Max.</td>
</tr>
<tr>
<td>Aggregate Crushing Value</td>
<td>(%)</td>
<td>22</td>
<td>30 Max.</td>
</tr>
<tr>
<td>Los Angeles Abrasion Value</td>
<td>(%)</td>
<td>26</td>
<td>50 Max.</td>
</tr>
<tr>
<td>10% Fines Value</td>
<td>(kN)</td>
<td>198</td>
<td>100 Min.</td>
</tr>
</tbody>
</table>
Chapter four

Challenges, Recommendations and Conclusions

Challenges

The contractor has faced with a number of challenges which include the followings:

1. The greatest challenge faced is the inflation. By the time the contract was signed all the parties didn’t anticipate such an inflation as it has been. During the signing of the contract the dollar was at 2600/=Uganda shillings, two months later it rose up 3,700/= and now it’s at 3,400/= all the materials almost doubled the prices leading to increased cost of production on the contractors side. The common question is whether the employer will be able to address it.

2. Weather conditions such as rain which disrupts work causing delays in the progress of the project.

3. Inconsistence Cash flow.

4. Changes in the design which involved breaking and new construction leading to wastage of resources and time

Recommendations

The client should address the above mentioned challenges.

Conclusion

The contractor has completed 96% of the project work load and by April/2016, the contractor will hand over the project to the client.

Lastly let us take this opportunity to thank all our dear sponsors and all people of good will who have helped us in the construction of Cabana Memorial Building. May God bless you all.