NAME: Omenoku Perpetual

DEPARTMENT: Mechanical Engineering

MATRIC NO: 18/ENG06/060

Course: ENG 284 `

Consulted as a student consulting engineer in the renovation of the Alfa Belgore Hall and I’m required to, (i) outline the scope of work in detail in order of occurrence, (ii) prepare a gant chart, (ii) List all the human resources needed and constitute the project team stating who the lead consultant is.

Firstly, we will be looking at the first point:

**Outline The Scope Of Work In Detail In Order Of Occurrence**

1. **Taking Required permission from the town Planning Association:**
2. **Contacting the Architect:** The architect so as to make a preview of the new project
3. **Relocating from the building:** I.e. packing out appliances and materials from the building this will be carried out by Laborers, an electrician is also required to remove the electrical appliances including the AC,S, FANS, LIGHT, SPEAKERS, and other electrical appliances, a glazer to remove all the aluminum doors and windows a carpenter is also called in the case where there is a wooden door, after clearing everything in the building The carpenters are called upon again to remove the ceilings and the zinc. And then a temporary fence is now made around the site
4. **Demolition of the building:** This process will depend on the new projected plan, if the building is to be totally or partially broken-down. The part of the building which is no more in the new plan will be brought down by brick layers lead by the Civil Engineer.
5. **Implementation of the new plan:** This may include the expansion of the hall, addition of more windows and doors, flooring & tiling, repainting and addition of new apartment to the project etc. the work will be carried out by the brick layers lead by the construction engineer. The electrical engineers will be called to direct the wiring of the newly made structure.
6. **Finishing:** This has to do with the painting, fixing the switches and other electrical appliances, clearing of the site i.e. carrying out the material that are not needed away from the site

**Prepare the project Gant Chart**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Works | March 25 – 31 | April 1- 15 | April 17 - 31 | May 1 – 15 | May 17 - 31 |
| Commencement of project |  |  |  |  |  |
| Visiting Site and review Document |  |  |  |  |  |
| Submission of Draft D & S (50%) |  |  |  |  |  |
| Submission of D & S (90%) |  |  |  |  |  |
| Submission of D & S Final |  |  |  |  |  |

**List all the human resources needed and constitute the project Team starting who the lead Consultant is**

1. **The Civil Engineers:** Perform engineering duties in planning, designing, and overseeing construction and maintenance of building structures and facilities.
2. **The Electrical Engineers**: They design, develop, and test electrical devices and equipment and deal with the complete wiring of the building.
3. **Structural Engineers**: They design, assess and inspect structures to ensure that that are efficient and stable.
4. **The Consultant:** Only one Consultant is needed for the construction of such scale, the lead consultant will therefore be the architect who develops the blueprint and building plan for the construction and all other work in relation to him.

**Explain Why the site was secured**

The site was secured because of the following reasons listed below:

1. For security Reasons
2. For safety Reasons
3. For Privacy Reasons

**Develop a BEME for the project by lump sum projectors including 10% of The total estimated cost (tec) as miscellaneous, 15% tech as consultancy fee, 5% tec for site preparation and clearing after completion, 12% of tec for transport cost. 20% tec as profit**

**Estimation and Evaluation:** Prior to the preparation of the Bill, the project is broken down into Miscellaneous, Building Rehabilitation & Construction, finishing and Furnishing, and the Total cost estimated for the project was N 30,000,000

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Item | Item Description | Quantity | Unit | Rate  % | Amount  N | Amount  (Kobo) |
| 1. | Miscellaneous: this include the varieties of things done in the site like relocation, removal of electrical material, roof etc. |  |  | 10 | 3,000,000 | 00 |
| 2. | Consultant Fee: this is |  |  | 15 | 4,500,000 | 00 |
| 3. | Site Preparation |  |  | 5 | 1,500,000 | 00 |
| 4. | Transport cost |  |  | 12 | 3,600,000 | 00 |
| 5. | Income |  |  | 20 | 6,000,000 | 00 |
| 6 | Materials needed  For the construction |  |  | 25 | 7,500,000 | 00 |
| **7.** | Maintenance |  |  | 13 | 3,900,000 | 00 |
| **8.** | **TOTAL** |  |  |  | **30,000,000** | **00** |

**Payment Schedule**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **S/N** | **ITEM PAID FOR** | **RATE** | **COST** | **DATE** |
| 1 | Mobilization | 30% | 9,000,000 | March 25th |
| 2 | Payment for 50% completion of the project | 30% | 9,000,000 | April 17th |
| 3 | Payment for final completion of project | 40% | 12,000,000 | May 17th |

**Definitions**

**Bill of Engineering Measurement and Evaluation(BEME)**: is a tool used before, during and post-construction to assess and value the cost of construction works.

**Deficit Liability Period**: is a period of time following practical completion during which a contractor remains liable under the building contract for dealing with any defects which become apparent.

**Lead Consultant**: is the consultant that directs the work of the consultant team and is the main point of contact for communication between the client and the consultant team.

**Project Life Cycle**: is the sequence of phases that a project goes through from its initiation to its closure.

**Environmental Impact Assessment(EIA)**: is the assessment of the environmental consequences of a plan, policy, program, or actual projects prior to the decision to move forward with the proposed action.