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**AFE BABALOLA UNIVERSITY, ADO-EKITI, EKITI**

**BAKARE KEHINDE HAMMEEDAT**

**(19/ENG/03/032)**

**COURSE CODE: ENG 284**

**COURSE TITLE: THE ENGINEER IN SOCIETY**

**APRIL, 2020**

**ALFA BELGORE REHABILITATION PROJECT**

Below are the important and summary of the required rehabilitation works, for more detail refer to BEME, the work shall include but not limited to the following:

A - **Planning and Design**: Planning is the pre-production activity in any technical construction project. It involves drawing up construction plans, financing, recruiting staff, safety, preparing materials, plant and workers as well as getting rights and permission to build or construct.

B - **Demolishing, Dismantling and Preparing**: The works consultant shall first study relevant documentation, such as statutory orders (if any), floor plans and DMC of the building to assist owners/OCs in their review of requirements stipulated in the orders with relevant government departments. Afterwards, the consultant shall carry out a thorough inspection of the building, which covers structures and public facilities at common areas of the building, to identify defects as well as any installation and structure contravene to the regulations and ordinances in force.

C - **Concrete Works**: Concrete work includes the following basic processes: preparation of the concrete mix; delivery of the mix to the construction site; feeding, distribution, and compaction of the mix in the formwork (molds); the curing of the concrete while it is hardening; and quality control of the concrete work.

D - **Block Works**: Construction with concrete or cement blocks that are larger than a standard clay or concrete brick. To make them lighter and easier to work with they have a hollow core that also improves their insulation capacity. They are available in a variety of densities to suit different applications.

E - **Waterproofing system provisions**: Waterproofing is the formation of an impervious barrier that is designed to prevent water from entering or exiting from various sections of the building structure. The waterproofing system is a series of integral components that function in unison to prevent moisture intrusion into the facility.

F - **Plastering Works**: Plastering is the process of covering rough walls and uneven surfaces in the construction of houses and other structures with a plastic material, called plaster, which is a mixture of lime or cement concrete and sand along with the required quantity of water.

G - **Painting Works**: Painting is done to protect the surface of the building from the effects of weathering and provide aesthetic appearances to the surfaces

H - **Tiling and Marble Works**: Tile and marble are usually installed after most of the construction has been completed, so the work area is typically clean and uncluttered

I - **Doors, Windows, Metal Works, and Suspending Ceilings**

J - **Plumbing & Sanitary Works**: Sanitary work is about carrying the wastewater to the disposal system through plumbing fixtures. Plumbing and sanitary items that are used in building construction are as follows: Piping, fixtures, and appliances are used to supply water and for drainage of wastewater

K - **Electrical Works**: procurement, supply, installation, connection and commissioning of the complete electrical equipment and installations required in the building.

L - **Cleanup:** A cleanup crew is in charge of dusting, shining, and polishing appliances. They also clean furnishings and hardware. They will also clear large debris.

**GANTT CHARGE REPRESENTING THE CONSTRUCTION TIMELINE**

**HUMAN RESOURCES REQUIRED FOR THE PROJECT**

1. **Designer/Planner**: Designs, estimate and implement the process of landscape element development.
2. **Architect/Building Designer:** Has the responsibility of designing the visible component of the building superstructure.
3. **Quantity Surveyor:** Prepares a document known as Bill of Quantities (BOQ). This document can assist the project owner in obtaining mortgage fund to finance the project.
4. **Structural Engineer**: Prepares structural detail drawings to guide the construction operation.
5. **Geotechnical Engineer:** Conducts and present report on, geophysical survey in respect of a site.
6. **Builder:** A builder comes in as man-power capable of interpreting the specifications of other survey and design professionals. Also he plans and organizes implementation of building operations.
7. **Constructors:** A constructor is an individual who utilizes skills and knowledge, acquired through education and experience, to manage the execution of all or a portion of a construction project.
8. **Fabricators:** Fabricators utilize technical drawings, blueprints or other specifications to construct metal products, as well as a number of products ranging from sheet metal parts to metal molds.
9. **Material Suppliers:** The materials supplier for a construction project determines, to a great deal, the success of the project. A good supplier helps to reduce the amount of unexpected costs and inconveniences suffered.
10. **General Contractor:** Outside the jurisdiction of a builder are other options of financing personnel management and plant scheduling, at this point comes the general contractor.
11. **Project Manager:** This is the Lead Consultant of the project team. He directs the work of the consultant team and is the main point of contact for communication between the client and the consultant team.

**REASON FOR SECURING THE SITE**

The site is secured to prevent theft of materials. Protecting against vandalism and arson. Preventing trespassers from entering the building site and climbing on equipment which puts not only the valuables but also the trespasses in danger





1. **BEME**: Bill of Engineering Measurement and Evaluation (BEME) also referred to as 'Bill'; is a tool used before, during and post-construction to assess and value the cost of construction works. This includes the cost of materials, labor, equipment and all/any other resource(s) required for the success of any construction endeavor based on a pre-determined scope and specification.
2. **Defects Liability Period**: A defects 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. Depending on the form of contract you are reading, it may also be referred to as a rectification period or defects correction period. A defects liability period is usually a period of around six or 12 months but it can vary depending on the contract used. Any defects or faults which arise during this period (for example - due to defective materials or workmanship) must be put right by the contractor at its own expense.
3. **Lead Consultant**: The 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.
4. **Project Life Cycle**: Every project has a beginning, a middle period during which activities move the project toward completion, and an ending (either successful or unsuccessful). A standard project typically has the following four major phases (each with its own agenda of tasks and issues): initiation, planning, implementation, and closure. Taken together, these phases represent the path a project takes from the beginning to its end and are generally referred to as the project “life cycle.”
5. **Environmental Impact Assessment (EIA):** is a process of evaluating the likely environmental impacts of a proposed project or development, taking into account inter-related socio-economic, cultural and human-health impacts, both beneficial and adverse.

The fundamental components of an EIA would necessarily involve the following stages:

a. **Screening** to determine which projects or developments require a full or partial impact assessment study;

b. **Scoping** to identify which potential impacts are relevant to assess (based on legislative requirements, international conventions, expert knowledge and public involvement), to identify alternative solutions that avoid, mitigate or compensate adverse impacts on biodiversity (including the option of not proceeding with the development, finding alternative designs or sites which avoid the impacts, incorporating safeguards in the design of the project, or providing compensation for adverse impacts), and finally to derive terms of reference for the impact assessment;

c. **Assessment and evaluation** of impacts and development of alternatives, to predict and identify the likely environmental impacts of a proposed project or development, including the detailed elaboration of alternatives;

d. **Reporting the Environmental Impact Statement** (EIS) or EIA report, including an environmental management plan (EMP), and a non-technical summary for the general audience.

e. **Review of the Environmental Impact Statement** (EIS), based on the terms of reference (scoping) and public (including authority) participation.

f. **Decision-making** on whether to approve the project or not, and under what conditions; and

g. **Monitoring, compliance, enforcement and environmental auditing**. Monitor whether the predicted impacts and proposed mitigation measures occur as defined in the EMP. Verify the compliance of proponent with the EMP, to ensure that unpredicted impacts or failed mitigation measures are identified and addressed in a timely fashion.