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**MATRIC NO: 18/ENG03/013**

**DEPTMENT: Civil ENGINEERING**

**Course Title: THE ENGINEER IN SOCIETY (ENG284)**

**The Alfa Belgore Rehabilitation project is ongoing. I’m a designated Student Consulting Engineer; I am expected to do the following;**

**Scope of Works**

The project is aimed at rehabilitating and refurnishing the *Alfa Belgore Hall* of Afe Babalola University Ado- Ekiti. It includes removing already existing roof top and lengthening the building, therefore adding to the infrastructure; A Gallery. It’s aimed at increasing the capacity of the already existing edifice.

First of all there is a removal of the roofing’s and windings, which gives room to increment (destructive construction)

Then there is a careful removal of all electric works done by the electrician, and there comes in the setting up of the secondary layer that serves as the foundation which will be added to the edifice. After which the increment when fixed comes the roofing. As simple as that.

**Project team of professionals:**

This project is divided into several subprojects which will be handled by each team in their respective fields.

**The Civil Engineer**: As the chief consultant he manages the construction on site and directs the others as led by the already laid plan provided by himself.

**The Electrical Engineer**: he takes care of all the electrical work on the site, which include the removal of electrics when demolition is taking place; setting up and fixing the electrical wires so as to rein still power into the edifice. He ensures adequate supply of electricity for all works done on the site, he directs the civil engineer in the plan when it comes to making decisions which may affect power distribution to the edifice.

**The carpenter**: takes care of the roofing of the edifice

**The welder**: takes care of the metal works on the site

**The Accountant:** Checks and balances expenditure

**The Surveyor:** He ensures that the construction is not in violation of the simplest ethics if when bypassed may lead to abrupt destruction or collapse of the edifice in later years.

**The Mechatronics Engineer:** He ensures the automation of computerized machinery for construction on site; he manages the control systems in the edifice.

**The Builder**: Ensures the laying of blocks to form the increment, and also assists where the need be to suffice machinery on site

**Why the site was secured?**

*The site was secured to construct a multipurpose hall for the management, staff and students (and other authorized peoples) benefit. At the left of the edifice lies a bookshop with suites the basic needs of the staff and students, material!! On the right side lies an ICT centre which caters for the information communication needs of the people.*

**What is BEME?**

*BEME abbreviation stands for Bill of Engineering Measurements and Evaluation.   
It shows a list of items and their prices. A BEME review selects data from primary literature in a rigorous, transparent and reproducible way and analyses and synthesises this in a manner suitable for that type of data (quantitative, qualitative and mixed). In each case the analysis and synthesis methodology must be fit for purpose and will most usually be selected from the width of secondary research methodologies available, e.g. realist synthesis, theory led analysis and synthesis, statistical meta-analysis, meta-ethnography.*

**What is a Defect Liability Period?**

*The Defect Liability period is a fixed period after the completion of the construction, during which the contractor is liable to remedy any defects in the development.*

*Typically, in the UAE, the defect liability period lasts for around 12 months.*

*During this time, if any defects or faults identified, then they are called ‘obvious defects’ and are usually found by merely examining the property. On the other hand, there are some defects which are found only after using and occupying the property for some time. For example, water leakage due to lousy quality materials used. The contractor is bound to correct these defects with his expenses.*

**Who is a Lead Consultant?**

*The*[*lead consultant*](https://www.designingbuildings.co.uk/wiki/Lead_consultant)*is the*[*consultant*](https://www.designingbuildings.co.uk/wiki/Consultants)*that directs the*[*work*](https://www.designingbuildings.co.uk/wiki/Works)*of the*[*consultant team*](https://www.designingbuildings.co.uk/wiki/Consultant_team)*and is the main*[*point*](https://www.designingbuildings.co.uk/wiki/Points)*of contact for communication between the*[*client*](https://www.designingbuildings.co.uk/wiki/Clients)*and the*[*consultant team*](https://www.designingbuildings.co.uk/wiki/Consultant_team)*, except for on significant*[*design*](https://www.designingbuildings.co.uk/wiki/Design)*issues where the*[*lead designer*](https://www.designingbuildings.co.uk/wiki/Lead_designer)*may become the main*[*point*](https://www.designingbuildings.co.uk/wiki/Points)*of contact.*

*The*[*lead consultant's*](https://www.designingbuildings.co.uk/wiki/Lead_consultant)*role might include:*

* *Co-ordinating, monitoring and reviewing the*[*work*](https://www.designingbuildings.co.uk/wiki/Works)*of the*[*consultant team*](https://www.designingbuildings.co.uk/wiki/Consultant_team)*(and others, such as*[*specialist designers*](https://www.designingbuildings.co.uk/wiki/Specialist_designers)*and*[*specialist contractors*](https://www.designingbuildings.co.uk/wiki/Specialist_contractors)*).*
* *Arranging*[*consultant team*](https://www.designingbuildings.co.uk/wiki/Consultant_team)*meetings and*[*planning*](https://www.designingbuildings.co.uk/wiki/Planning)[*work stages*](https://www.designingbuildings.co.uk/wiki/Work_stages)*.*
* *Preparing*[*programmes*](https://www.designingbuildings.co.uk/wiki/Programme)*and*[*progress*](https://www.designingbuildings.co.uk/wiki/Progress)[*reports*](https://www.designingbuildings.co.uk/wiki/Report)*.*
* *Seeking*[*instructions*](https://www.designingbuildings.co.uk/wiki/Instruction)*from the*[*client*](https://www.designingbuildings.co.uk/wiki/Clients)*.*
* *Advising the*[*client*](https://www.designingbuildings.co.uk/wiki/Clients)*on the choice of*[*procurement route*](https://www.designingbuildings.co.uk/wiki/Procurement_route)*.*
* *Advising the*[*client*](https://www.designingbuildings.co.uk/wiki/Clients)*on the need to*[*appoint*](https://www.designingbuildings.co.uk/wiki/Appoint)*additional advisers,*[*consultants*](https://www.designingbuildings.co.uk/wiki/Consultants)*or*[*specialist designers*](https://www.designingbuildings.co.uk/wiki/Specialist_designers)*.*
* *Establishing*[*change control procedures*](https://www.designingbuildings.co.uk/wiki/Change_control_procedures)*at key stages, for example when the*[*project brief*](https://www.designingbuildings.co.uk/wiki/Project_brief)*is frozen or when*[*detailed design*](https://www.designingbuildings.co.uk/wiki/Detailed_design)*is frozen.*
* *Arranging*[*value management*](https://www.designingbuildings.co.uk/wiki/Value_management)*exercises.*
* *Advising the*[*client*](https://www.designingbuildings.co.uk/wiki/Clients)*on the choice of*[*contract*](https://www.designingbuildings.co.uk/wiki/Contract)*and*[*contract conditions*](https://www.designingbuildings.co.uk/wiki/Contract_conditions)*.*
* *Assist the*[*client*](https://www.designingbuildings.co.uk/wiki/Clients)*in defining*[*selection criteria*](https://www.designingbuildings.co.uk/wiki/Selection_criteria)*for*[*contractors*](https://www.designingbuildings.co.uk/wiki/Contractors)*and preparing*[*pre-qualification questionnaires*](https://www.designingbuildings.co.uk/wiki/Pre-qualification_questionnaire)*.*
* *Co-ordinating the*[*review*](https://www.designingbuildings.co.uk/wiki/Review)*of*[*tenders*](https://www.designingbuildings.co.uk/wiki/Tenders)*.*

*Some of these roles may appear to duplicate tasks undertaken by the*[*project manager*](https://www.designingbuildings.co.uk/wiki/Project_manager)*, however the*[*project manager*](https://www.designingbuildings.co.uk/wiki/Project_manager)*is acting as if they were the*[*client*](https://www.designingbuildings.co.uk/wiki/Clients)*, whereas the*[*lead consultant*](https://www.designingbuildings.co.uk/wiki/Lead_consultant)*is co-ordinating the*[*activities*](https://www.designingbuildings.co.uk/wiki/Activities)*of the*[*consultant team*](https://www.designingbuildings.co.uk/wiki/Consultant_team)*.*

*As the role of*[*lead consultant*](https://www.designingbuildings.co.uk/wiki/Lead_consultant)*involves additional*[*services*](https://www.designingbuildings.co.uk/wiki/Services)*, beyond those that might be expected from a*[*consultant*](https://www.designingbuildings.co.uk/wiki/Consultants)*that is not*[*appointed*](https://www.designingbuildings.co.uk/wiki/Appointed)*as*[*lead consultant*](https://www.designingbuildings.co.uk/wiki/Lead_consultant)*, it is important that it is discussed with*[*consultants*](https://www.designingbuildings.co.uk/wiki/Consultants)*before they are*[*appointed*](https://www.designingbuildings.co.uk/wiki/Appointed)*and their*[*scope of services*](https://www.designingbuildings.co.uk/wiki/Scope_of_services)*and*[*fee*](https://www.designingbuildings.co.uk/wiki/Fees)*agreed. The*[*client*](https://www.designingbuildings.co.uk/wiki/Clients)*cannot assume that these*[*services*](https://www.designingbuildings.co.uk/wiki/Services)*will be carried out within the agreed*[*fee*](https://www.designingbuildings.co.uk/wiki/Fees)*unless the role of*[*lead consultant*](https://www.designingbuildings.co.uk/wiki/Lead_consultant)*has been allocated.*

*The*[*lead consultant*](https://www.designingbuildings.co.uk/wiki/Lead_consultant)*will often be the*[*architect*](https://www.designingbuildings.co.uk/wiki/Architects)*, however this is not necessarily the case and*[*appointment documents*](https://www.designingbuildings.co.uk/wiki/Appointment_document)*for other*[*consultants*](https://www.designingbuildings.co.uk/wiki/Consultants)*will generally offer provision for them the be*[*nominated*](https://www.designingbuildings.co.uk/wiki/Nominated)[*lead consultant*](https://www.designingbuildings.co.uk/wiki/Lead_consultant)*.*

**What is the project life cycle?**

*A project life cycle is the sequence of phases that a project goes through from its initiation to its closure. The number and sequence of the cycle are determined by the management and various other factors like needs of the organization involved in the project, the nature of the project, and its area of application. The phases have a definite start, end, and control point and are constrained by time. The project lifecycle can be defined and modified as per the needs and aspects of the organization. Even though every project has a definite start and end, the particular objectives, deliverables, and activities vary widely. The lifecycle provides the basic foundation of the actions that has to be performed in the project, irrespective of the specific work involved.*

*Project life cycles can range from predictive or plan-driven approaches to adaptive or change-driven approaches. In a predictive life cycle, the specifics are defined at the start of the project, and any alterations to scope are carefully addressed. In an adaptive life cycle, the product is developed over multiple iterations, and detailed scope is defined for iteration only as the iteration begins.*

**What is Environment Impact Assessment?**

*Environmental Impact Assessment (EIA) is a tool used in most environment based organisations to measure the impact of the environment through the assessment tool. It measures the environmental consequences of a particular plan or policy. This could be important for Urban Planning and Development policies because many of these policies are centered on the environment. It supports development projects for people who access and analyse the environmental projects.*

*EIA does not only involve environment but also considers social, cultural and health impacts on the environment. For instance, climate change can be used as an example where EIA could be a useful tool to measure the impact of the environment on climate issues. EIA is usually used prior to making a final decision by experts, giving the people of authority a detailed plan of the positives and negatives of the EIA.  Environmental assessments can be monitored by administrations and large companies prior to considering Strategic Environmental Assessment (SEA).*

**Benefits of EIA**

*There are* *many benefits to conducting an EIA. Many government and donor agencies make use of EIA to understand and implement complex environmental issues, such as waste management or water management techniques. Some countries have specific legal and institutional regulations before conducting an EIA. An EIA is a part of Resource Management Acts in many countries who are particularly interested in preserving and maintaining their environment such as Canada and Australia.*

*Some general benefits of an EIA include cost saving and reduced time of project implementation and adhering of legal regulations. EIA is economically feasible because it takes relatively minimal time compared to other environment assessment techniques which might not be precise and might not be advantageous to the organisation. Another benefit of EIA is that it if it is followed according to the methods involved, it can be used to protect the forestry, trees, water, waste, agriculture, recreational and cleanliness of cities. These are very important benefits for positive and vibrant city planning.*

*There will also be increased communal activity and knowledge about the resources that are involved during the assessment of the EIA. For important environmental concerns such as climate change, the society and community can largely be involved in assessing the methods used to combat such challenges. In a country like India, where water is very sparse and unregulated, with water shortage, EIA would be an important technique to measure water and implement techniques such as rain water harvesting in Indian neighborhoods. Since the government of India is not progressive about environmental issues, citizens are taking the issue of water shortage in their own hands with the help of private companies. Such community involvement is important for the discussion and implementation of EIA.*

*Because EIA involves research and regulations, many developing countries fail to use it according to standards and regulations. Private environmental organisations are paving the way forward for EIA implementation in the developing world. This needs to be challenged as government agencies become more aware of the techniques of methods used in EIA.*