ADJEROH PRINCEWILL EZECHINYERE

18/ENG05/006

MECHATRONICS ENGINEERING

ENG 284 ASSIGNMENT

REHABILITATION OF ALPHA BELGORE HALL

SCOPE

This project is currently unable to accommodate all then student of the school, staff and parents simultaneously.

The goal of this project is primarily to improve the sitting capacity, improve the lighting and cooling system and increase the aesthetic value of the hall.

**Improving sitting capacity:** this can be achieved by expanding the hall in width and in height. It can achieved by employing the help of a civil engineer.

**Improving the lighting and cooling system**: this can be achieved by inviting electrical and mechanical engineers to give professional views and advice on then type of lights and air conditioning systems to be used and then amount of power that they would consume.

**Improving the aesthetic value:** this can be achieved by employing a team of interior designers and structural engineers to evaluate the project and give expert advice on what to do.

This project is estimated to be carried out within a period of six months; with a duration of two months for each goal.

GANT CHART

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| TASK |  START DATE | STOP DATE | Time Period |  |  |  |  |
| Project kickoff | 01-03-2020 | 06-05-2020 | 66 |  |  |  |  |
| Improve Seat capacity | 10-05-2020 | 18-07-2020 | 69 |  |  |  |  |
| Improve the lighting and cooling system | 20-07-2020 | 29-09-2020 | 71 |  |  |  |  |
| improve the aesthetic value | 30-09-2020 | 16-11-2020 | 47 |  |  |  |  |

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| HUMAN RESOURCES;The people involved must: have up to 3 years experience with electrical works. have minimum 4 years experience in refurbishing.  have up to 3 years experience with plumbing. Project Team* Client
* Consultant
* Contractors which may consist of:

 An ArchitectElectrical engineersStructural engineersMechanical engineersCivil engineersInterior designers* Subcontractors

The client is the lead consultant.4.) To prevent unnecessary injuries to different persons. In order to reduce the risk to the construction site you need to increase the risk to the potential criminal. ... Deterrence – there are many ways to deter a criminal. Whereas an open, unprotected site looks welcoming to a potential criminal, a site with fences, locks, CCTV and security guards will discourage them.5.) BEME

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| ITEM | DESCRIPTION  | QUANTITY  | UNIT | RATE ₦ | AMOUNT ₦  |
| 1 | Cement  | 800 | Bags | 500 | 400000 |
| 2 | Sand | 20 | Tons | 30000 | 600000 |
| 3 | Water | 24  | Gallons | 5000 | 120000 |
| 4 | Cables  | 50 | Yards | 300 | 15000 |
| 5 | Pipes | 60 |  | 1000 | 60000 |
| 6 | Consultancy fee |  |  |  | 150000 |
| 7  | Transportation  |  |  |  | 120000 |
| 8 | Site preparation and clearing  |  |  |  | 50000 |
|  | Total |  |  |  | 1515000 |

6.)

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| S/N | DESCRIPTION  | SCHEDULE DATE | PERCENTAGE OF TEC(%) | AMOUNT  | PAYMENT DATE |
| 1 | Mobilization  | 01/03/2020 | 30 | 6 000 000 | 14/01/2020 |
| 2 | 50% completion  | 16/07/2020 | 30 | 6 000 000 | 17/03/2020 |
| 3 | Completion and handover  | 06/11/2020 | 30 | 6 000 000 | 29/05/2020 |
| 4 | Defect liability period  | 12/10/2030 | 10 | 2 000 000 | 12/10/2020 |

 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.Defect 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. ... A defects liability period is usually a period of around six or 12 months but it can vary depending on the contract used.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, except for on significant design issues where the lead designer may become the main point of contact.PROJECT LIFE CYCLE: The Project Life Cycle refers to the four-step process that is followed by nearly all project managers when moving through stages of project completion. This is the standard project life cycle most people are familiar with. The Project Life Cycle provides a framework for managing any type of project within a business.ENVIROMENTAL IMPACT ASSESSMENT(EIA): Environmental assessment 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. |  |  |  |  |  |  |  |
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