EKOK NZIE OKPOKAM
18/ENG05/045
MECHATRONICS ENGINEERING
ENGINEERS IN THE SOCIETY ASSIGNMENT

SCOPE OF WORK

Project Statement:

Alfa Belgore Hall is being renovated as to accommodate more people. The main purpose of this project is to enlarge the building and also update it with new structural designs and techniques that add to the overall functionality of the building.

Week of April 1
Site Visit to Alfa Belgore
Meeting with all consultants and surveyors

Week of April 2
Clearing out offices located in the hall
Securing the construction site

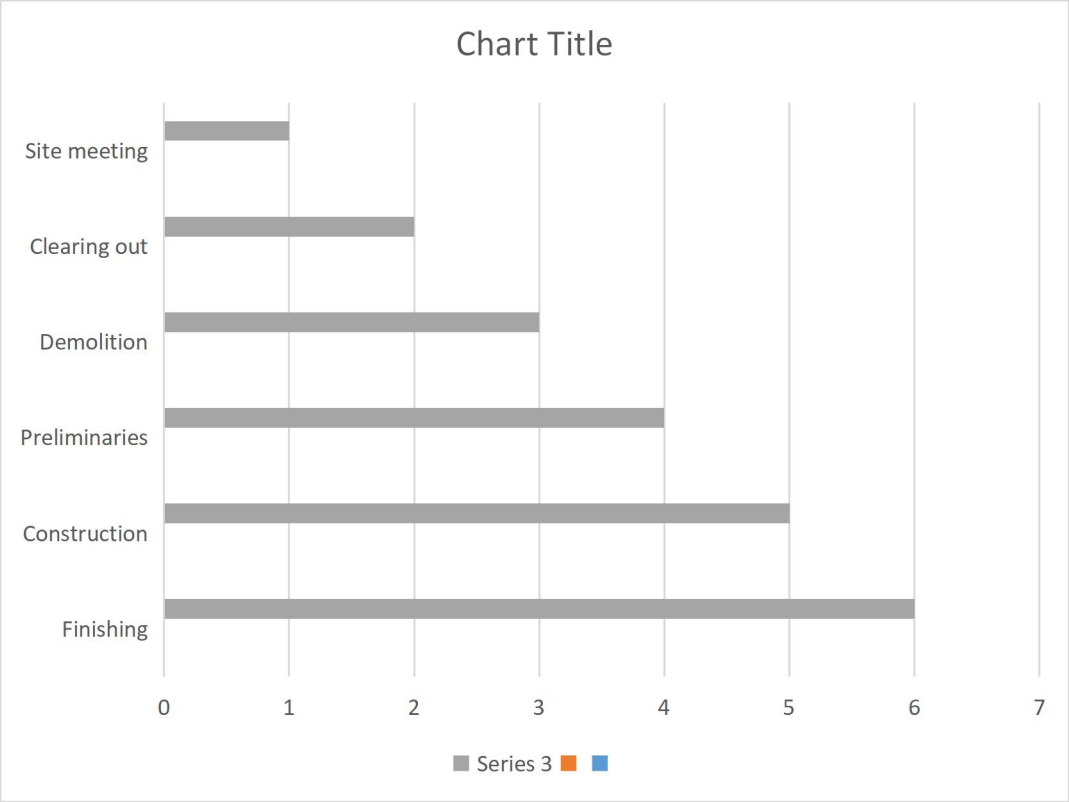
Week of April 3
Demolition of the old building as directed by the structural Engineering Consultant
Meeting with Consultants to provide building drawings and BOQs

Week of April 4
Arrival of Building materials
Selection of Contractor

Week of May 1 - Week of June 2
Consultants and Contractors begin renovation and construction

Week of June 3
Finishing and Painting

GANTT CHART



HUMAN RESOURCES

- ✓ Lead Consultant:

  The lead consultant is the consultant in charge of the other consultants in the overall oversee of the project and in most cases is usually the Engineer.

  - ✓ Soil Engineer:

    On the event of the renovation of Alfa Belgore hall a soil engineering consultant would be hired at first to test the soil, if the foundation would be able to carry more load and if the soil would be able to withstand the transferred load without giving way.

  - ✓ Civil Engineer :

    The civil/structural Engineering consultant is responsible for the overall structural outlay of the building's renovation. The structural Engineer make sure the right structural materials are put in place for the development of building to prevent collapse.

  - ✓ Quantity surveyor:

    The quantity surveyor is the cost analyst. He/She ensures that the total infrastructural cost of the total renovation is given to the client, as well as payment schedules regarding the project.

  - ✓ Architect:

The Architect is responsible for the new design of the building, the architect works hand in hand with the civil engineering consultant to ensure designs which are structurally possible and improves the overall functionality of the building based on maximum person capacity and comfort.

- ✓ Mechanical Engineer:

  The mechanical engineering consultant handles the plumbing and ventilation of the building. They ensure that the building is designed as to ensure waste ways for efficient waste disposal as well as cooling systems.

- ✓ Electrical Engineer:

  The Electrical Engineering consultant is responsible for the electrical design of the whole building. The consultants ensures proper lightning and power designs most efficient and applicable to the building.

- ✓ Lead Building Technologist (often called contractor) and team:

  The Contractor is the person or organization responsible for building the whole structure from the ground up to completion. He/She is responsible for material acquisition specified by the consultants.

WHY SITE WAS SECURED

The Building site was secured with a zinc metal fence around it at the beginning of the renovation process because of the reasons listed below:

- ❖ The protection and accountability of the materials needed for construction
- ❖ Given the building site is located in a learning facility the safety of the students is a major priority the Building site has to be secured as to avoid unforeseeable injuries.

BEME

The Bill of Engineering measurement and Evaluation

BEME SUMMARY

	ELEMENT		***TOTAL***
	ELEMENT R. 1 SUBSTRUCTURE		*17,692,730.00*
	ELEMENT NR. 2 FRAME		*7,225,440.00*
	ELEMENT NR. 3 ROOF & COVERING		*4,107,900.00*
	ELEMENT NR. 4 STRUCTURAL STEEL		*8,436,000.00*
	ELEMENT NR. 5 STAIRCASE		*621,712.00*
	ELEMENT NR. 6 EXTERNAL AND INTERNAL WALLS		*2,351,920.00*
	ELEMENT NR. 7 DOORS		*415,000.00*
	ELEMENT NR. 8 WINDOWS		*384,000.00*
	ELEMENT NR. 10 WALL FINISHES		*1,721,280.00*
	ELEMENT NR. 11 FLOOR FINISHES		*3,697,122.00*
	ELEMENT NR. 12 CEILING FINISHES		*3,096,000.00*
	ELEMENT NR. 13 PAINTING AND DECORATING		*820,480.00*
	ELEMENT NR. 13 PLUMBING AND MECHANICAL INSTALLATIONS		*2,342,984.00*
	ELEMENT NR. 14 ELECTRICAL INSTALLATIONS		*5,707,750.00*
	ELEMENT NR. 15 EXTERNAL WORKS		*6,001,040.00*
	TO GENERAL SUMMARY		*64,621,358.00*

Item	%	Amount(N)
Miscellaneous	10	6,462,135
Consultancy fee	15	9,693,202
Site preparation	5	3,231,067
Transport	12	
Profit	20	12,924,270

PAYMENT SCHEDULE

ITEM	%	AMOUNT(N)
MOBILIZATION	30	
COMPLETION	30	
FINAL HANDOVER	30	
RETAIN	10	6,463,135

1. BEME is short for Bill of Engineering Measurements and Estimates is a tool used before, during and post construction to assess and value the cost of construction works.

2. Defect Liability period provides a mechanism to the employer for the repair and making well of defects which may not be apparent before completion without resorting to dispute resolution.

3. Lead consultant: The lead consultant can be defined as the consultant in charge of the overall completion of the project. The lead consultant plays a role as the head of the consulting team.

4. Project Life Cycle involves the stages followed through that leads to the completion of the project as well as the time involved for those stages to be completed.

5. Environmental Impact assessment is a screening process carried out on firms and infrastructural developments to ensure the the project that is to be carried out does not involve any processes harmful to the ecosystem.