

ESTIMATING AND BUDGETING FOR A SMALL SCALE BUILDING

**(A CASE STUDY OF A PROPOSED RESIDENTIAL BUILDING OF OFFICE
DEVELOPMENT FOR PASTOR SAMUEL OLADELE LOCATED AT ALAGBA
LAYOUT, IDO LGA, OYO STATE)**

BY

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**BEING A RESEARCH PROJECT SUBMITTED TO THE
DEPARTMENT OF QUANTITY SURVEYING,
INSTITUTE OF ENVIRONMENTAL STUDIES,
KWARA STATE POLYTECHNIC, ILORIN.**

**IN PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR
THE AWARD OF HIGHER NATIONAL DIPLOMA (ND) IN
QUANTITY SURVEYING**

JULY, 2025

CERTIFICATION

I certify that this project was carried out by ANIMASAHUN FAROUK AYOMIDE, AJASA SAMAD ALABI, AREMU BUKOLA ELIZABETH with matriculation number ND/23/QTS/FT/0004, ND/23/QTS/FT/0005, ND/23/QTS/FT/0006 respectively as meeting the requirement for the award of National Diploma in the department of Quantity Surveying, Kwara State Polytechnic, Ilorin.



QUESS.MR. ABDULRAHMAN, B.S
Project Supervisor

25-07-2025

Date

QUESS.
Project Co-ordinator

Date

QUESS. SIDIQ LATEEF
Head of Department

Date

External Supervisor

Date

DEDICATION

This project is dedicated to Almighty God who has seen us through from the beginning to the end of the course. And to our lovely parents who has always been supportive.

ACKNOWLEDGMENT

All thanks due to Almighty Allah, the owner and the creator of Universe for His divine protection and guidance throughout my life in school and this research project work.

First and foremost, we give thanks and we appreciate the efforts of our distinguished project supervisor, QUESS.MR. ABDULRAHMAN, B.S who made sure we acquired all the necessary information and Knowledge during the course of this project work may Allah reward him abundantly.

Our gratitude goes to our beloved parents Mr and Mrs Animasaun, Ajasa and Aremu we can't thank you enough for your parental advice and financial support since the beginning of this program.

Lastly, our sincere gratitude also goes to the Head of Quantity Surveying Department, in person of QUESS. SIDIQ LATEEF, and all the lecturers of Quantity Surveying Department, Kwara State Polytechnic, Ilorin

ABSTRACT

The main reason for this study is for estimating and budgeting Unpriced Bill of Quantity for a proposed RESIDENTIAL BUILDING OF OFFICE DEVELOPMENT FOR PASTOR SAMUEL OLADELE LOCATED AT ALAGBA LAYOUT IDO LGA OYO STATE The following has been discussed under the mention chapter in this project work with a view of finding solution to it.

Chapter one contain the background Information and the aim and objectives of the project work. Chapter two contains Site Report, the essence of preliminary items required. Chapter three deals with the Project Methodology that is taking off process and abstracting process. Chapter four contains the project Substructure and Super structure work, Abstracting and Bill of Quantities of the project. Chapter five is all atiou Summary, Recommendation and Conclusion of the whole project work and for further studies.

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CHAPTER ONE

INTRODUCTION

1.0 BACKGROUND INFORMATION

This project is based on a proposed storey building for office development for Pastor Samuel Oladele located at alagba layout Ido L.G.A oyo state.

In construction industry, cost is considered as one of the important element for constructing a project. Cost in construction includes the initial capital cost, and also the subsequent operation cost and maintenance cost. Generally, running a construction project will involve a lot of budget. Furthermore, the increasing rate of inflation by years, will affect the price of raw material, transportation, fuel, machinery, manpower and others will be a bothers for the clients such as developer to invest money for a project. Hence, to overcome this problem and alternative material or a new system will be the best option.

Construction Industry Development Board Malaysia (CIDBM) proposes cost saving method which are the Industrialized Building System (IBS) where the building component or the building system are pre-fabricated and then install on site. Moreover, it is proven not only reducing the cost but also reducing the construction time.

Furtherance to the information by Construction Industry Development Board (CIDB). There are five types of Industrialized Building System (IBS) that were introduced for the construction industry to practice which are pre-cast concrete framing: Panel and board system, steel formwork system, steel framing system, pre-fabricated timber framing system and finally the block work system. This report will focus on all sections of building works ie Block work, roof etc block made from cement laterized.

The usage of interlocking blocks as the construction materials has been proven to provide a lot of benefits. By implementing the cement laterized interlocking block for buildings will greatly reduce the wastage, volume of building materials, reducing unskilled workers, provide better quality control, promote a safer and more organized site; and last but not least will greatly reduce the construction cost and time.

1.1 DESCRIPTION OF WORK

The building project comprises of the construction of a proposed Teaching hospital building for Kwara State Polytechnic, Ilorin Nigeria, storey

building for office development for pastor Samuel Oladele located at alagba layout Ido L.G.A oyo state.

The building has a rectangular shape with the land area of about 30480mm in length and 15200mm width.

The construction is found on the plain in situ concrete foundation with over site concrete floor which is a reinforced concrete slab (150mm thick). The walls are 225mm thick hollow sanderete block.

The roofing used is long span aluminum on timber roof structure, windows are of aluminum frame sliding with two (2) side and of different sizes, doors are: double eaf double swing natural an odixed aluminum special made electronic controlled door, pretty glazed aluminum frame door, slide core flush panel doors with season wood of different sizes.

Plant: These are tools, machines and equipment needed for the smooth execution of project.

Project: This is a process of work organized carefully and designed e.g building or civil engineering work

The walls are rendered and painted with emulsion internally and textured paint externally, Floor finishing is tiles finishing on 150mm concrete floor.

Service conducted are mechanical and electrical installation as well as fire lighting and alarm system.

1.2 AIM:

The aim of the project is to estimate and budget for a proposed storey building office development for pastor Samuel Oladele located at alagba layout Ido L.G.A oyo state.

2.0 Title:

Proposed storey building office development for pastor Samuel Oladele located at lagba layout Ido L.G.A oyo state.

1.2.1 Objectives:

1. To determine the effect of site location and construction on the cost of building project.
2. To understand the process involved in preparation of Bill of Quantities (BOQ)

1.3 Scope and Limitations:

The scope of this project is to prepare a bill of Quantities (BOQ) for the proposed storey building office development for pastor Samuel Oladele located at lagba layout Ido L.G.A oyo state.

1.3.1 Limitation

1. Inability to conduct proper site investigation.
2. insufficient design information
3. Pricing (market survey) was not carried out to determine actual price of measured items.

1.4 Definition of Terms

Prime cost sum: This is a sum provided for work or service to be executed by nominated sub-contractor or for materials or goods to be obtained from a nominated supplier. The term includes specialist work carried out by person apart rom the main contractor (Ivor Seelay).

1. **Contingency Sum:** It is the sum allocated to unforeseen expenses it is expended only with the consent of the architect or supervisory engineer.
2. **Provisional cost sum:** This is the sum allocated to work that is subjected to change or that can't be accurately measured. The sum will later be adjusted according to the extent and true value of the work
3. **Estimating:** This can be defined as the technical process of predicting cost of Construction. It can also be further explained as a process by which cost of item is Carried out.
4. **Preliminaries item:** These are item meant for the smooth execute for smooth Execution of project. But which are not related to a particular trade section in BOQ
5. **Tender:** it is an offer to execute a given project at a certain amount of money and specify period of time

CHAPTER TWO

SITE REPORT

2.0 Title

A proposed storey building office development for pastor Samuel Oladele located at alagba layout Ido 1..G.A oyo state.

2.1 Site Description

The proposed project of storey building office development for pastor Samuel Oladele has a total length of 13,700mm and 68,750mm width which appear to be in a rectangular shape.

The site is located at Alagba layout Ido L..G.A oyo state. The site has small and big tress and bushes which needs to be cleared away from the site.

2.2 Location

The site is located within Alagba layout Ido 1..G.A oyo state.

2.2.1 Accessibility

There are untarred roads leading to the site from the main road in the school. So there is no problem delivery of materials to site and the labour are expected to resume work as early as possible.

2.2.2 Nature of the land

The proposed site of the building is a virgin land with a even/flat surface. This will minimize the construction cost of the foundation because of the balanced surface when compare to that of the study area which increases the constructional cost.

2.3 Availability and Proximity of Resources

Availability of construction resources simply means the extent of convenience at which the resources can be found in the market and the selling price.

While proximity means the closeness of the materials resources of the proposed site.

The construction resources include the following:

Plant

All necessary plant needed for the proposed projects are readily available in Ilorin. Such plant include: concrete mixer, Bulldozer, Electric generator, Compacting machine e.t.e all mentioned plant can be hired in area's not far to the site.

Materials

The whole material necessary for this project all are available at oyo state, but costly to some materials price in some area of the country.

However, all the material needed for smooth execution of this proposed project is remote to the site.

To an extent preliminaries items have a great effect on construction project. Such preliminaries items are explained below.

Scaffolding

There should be a provision for scaffolding because the project requires roofing works, there will be the need for rendering and painting at the higher level of the building.

Setting out

This is the transfer of information on the building drawing to the ground with high degree of accuracy. In setting out site clearance is necessary by cutting down of rees and edges & top soil excavation before making the provisions of setting out Instruments such as profile pegs, measuring tapes, builder square e.t.c before the commencement of site operation.

Temporary Road

This is done temporarily to provide easy access to the site during work.

Temporary fence

Temporary fence should be done to cover and protect the materials on site from vandalism.

First aid box

This is very important in any construction due to some injuries that may occur on site which might be minor or major injuries before being taken to the hospital.

Site supervision

This is the contractor's agent on the site who supervises the whole of the project. He also co-ordinates the works of sub-contractors and receives instructions from architect on behalf of the main contractor.

Setting out of the works

This contractor will set out the position of the building on the site before commencement of any actual work to the satisfaction of the Architect.

Temporary latrine

Welfare facility of this type must be provided on the site by the contractor to satisfaction of the architect.

CHAPTER THREE

PROJECT METHODOLOGY

3.0 Taking off process

Taking off process: This implies reading of dimension from drawings setting them down in a specific order on specific paper known as dimension paper and inserting an appropriate description. It also refers to the process of identifying elements of construction works that can be measured and priced.

This is necessary to produce bill of quantities and requires that the design is complete and a specification has been prepared.

Analysis of drawing and specification allow the cost consultant (usually a Quantity Surveyor) to prepare a taking off list, which lists all of the individual elements that comprises the works. These elements can be measured in number, length, area, volume, item then collected and structured to produce an unpriced bill of quantity (BOQ). This process is sometimes referred to as "working up"

The traditional dimension sheet is divided vertically into two identical halves each comprising a set of four columns. In effect, the ruling on the right half of the sheet may be considered to be a continuation of these on the left side of the sheets.

A	B	C		A	B	C	D

Column A: are the timesing columns These column are used to enter multipliers when there is more than one of the particular items being measured.

	3	<u>1.20</u>		
		<u>1.20</u>		

Timesing column

Column B: are the dimension columns, these columns are used to record the dimensions in meters. Each linear dimensions is underlined.

		7.59		Length
--	--	------	--	--------

Linear

		3.45	Length
		7.59	Width

Area

		3.458	Length
		7.59	Width
		0.75	Depth

Volume

		2				Number
--	--	---	--	--	--	--------

NOTE: The order of entering dimension is strictly

1. Length
2. Width
3. Depth/height

		items		 Allow for bringing to site and removing from site all plant required for this work section. 	
--	--	-------	--	---	--

Column c: are the squaring column: the resulting area and volumes inserted in the timesing and dimension columns are subsequently calculated and entered into the squaring column opposite their respective dimension.

	2	7.55		Squaring
		0.90		
		0.10	1.36	

Column D: The description column. There are many ways of inserting description on the dimension sheet but the most acceptable however, is description which commence in the same level with it's first dimension.

The example below show the dimension and description should be arranged in dimension sheet.

	4	3.45		Hardcore filling ton make up level under floor average thickness not exceeding 250mm.
		0.68		
		0.45	7.90	

Waste calculation

This is an imaginary column occupying the right hand side of the description columns in which the taker-off inserts any preliminary calculation (waste) which may be necessary in order to arrive at the dimensions.

All preliminary calculation must be shown in waste, they need to be set down accurately and carefully so that they can be checked.

They should be written either above or below the description to avoid confusion.

Waste: calculate is necessary for each dimension except in the following situations:

- A. When a scaled or figured dimensions, can be transferred direct from the drawing to the dimension column.
- B. When the dimension has been derived from a previous waste calculations.
- C. When a dimension has been inserted from a previous dimension.
- D. In all other instance the preliminary calculation, should be shown on waste.

Waste calculation should be done in millimeters (mm) or in three places of decimal. Final figures are then rounded off to the nearest 10mm before being transferred to the dimension column.

3.0.1 METHOD TAKING OFF

Null: is a method of cancelling wrong entries during taking-off process.

Null may be done in three (3) ways i.e. on waste calculation, on framed description and on figured dimensions.

Bracing: it is used to determine one item of measurement from another

Adding on: This is the method of connecting two or more description related to a common dimension.

3.0.2 SELECTION OF TAKING OFF

The taking off dimension is usually divided into section under the main sub division of

- a) Sub-Structure
- b) Super-Structure

c) Finishes

d) Service

e) External works

The section found in a normal building would generally comprises the following:

A) Sub Structure

B) Super-Structure

C) Finishes

D) Services

1. Sub-Structure

2. Frame

3. Upper floors

4. Roof

5. Stairs

6. External walls

7. Windows and Doors

8. Internal walls and partitions

9. Internal doors

10. Walls finishes

11. Ceiling finishes

12. Sanitary appliance

13. Disposal installation

14. Waste installation

15. Heating installation

16. Electrical installation

17. Gas installation

18. Lift installation

19. Communication installation

20. Builder's work in condition With service

E) External Work

21. Site work

22. Drainage

3.1 ABSTRACTING PROCESS

After the squaring process, the next process is abstracting. This is in a special mule sheet. The sheet are ruled with series of vertical line that are spaced about 250mm apart and usually on A4 in width, each abstract sheet is headed with the job reference, Sheet number and work section and possibly the sub-structure of the work to which the abstract dimension refer, the sheet may e divided into work section or element.

Abstracting id process where various items are stored out into their respective trades as they are entered on the abstract paper.

Description are usually spaced over two columns. The dimension are entered in the left hand column while any deductions are entered on the right hand column.

The order of abstracting is to commence with cubic items, followed by superficial (square), linear and finally enumerated items. Also labour items should proceed labour and materials. Smaller items proceeding larger ones and cheaper items proceeding more expensive items.

3.2 Bill of Quantities (BOQ)

Bill of quantities is a documents which set out the quantities and description of the items of labour, materials and plant require to erect and complete a building or other works in a systematic manner.

The preliminary sections of the bill sets out the practical and contractor conditions of the project, particular of the type of contract to be used and also the details of general matters, which may affect the price of the work together with project overheads. Project overhead are items that cannot be attributed to any particular measured work section.

The measured items are grouped in appropriate sections and each section tarts with a number of preamble clauses.

CONTENTS OF THE BILL OF QUANTITIES (BOQ)

The principal use of the bill of quantities is to obtain competitive tenders and For this purpose B.O.Q should be prepared to recognized method of measurement to tandardize the bills. Bill of quantities prepared in accordance

with a standard method of measurement, fully described and accurate respect the work to be executed and this provides a uniform basis for competitive tendering.

During the construction of the project, the client and the contractor use the bill as the basis for financial management.

Bill of Quantity may consist some all of the following:

Bill Nr.1. Preliminaries

Bill Nr.2. Preamble

Bill Nr.3. Measured works

A. CARCASS

1. Foundation (Substructure)

11. Frame (column & beam)

III. External & internal walls

IV. Partitions

V. Floors

VI. Roofs

B. FINISHING

1. External & internal finishing (walls, floor & ceiling)

II. Windows

III. Doors including opening without joinery

IV. Fixtures & Sundries

V. Stair & lifts

VI. Plumbing & Engineering service

C. EXTERNAL WORKS

1. Drainage

11. Roads, paths, site layout, out buildings e.t.c

D Sport items: These are items that are alteration and repair items of a

Building:

Bill Nr.4. Provisional quantities

Bill Nr.5. Prime cost & provisional sum

Bill Nr.6. General summary

PURPOSE OF A BILL OF QUANTITIES

- a. It serves as a schedule on which all variation in the work may be valued.
- b. To provide detailed list of every service to be performed.
- c. To supply each tenders with information which will enable them to tender on a uniform basis.
- d. To describe in addition to any description in the specification of the quantity of the work and the method of carrying it out.
- e. It can be use for further cost investigation and cost planning information.
- f. Prevent disputes as to what is and what is not included in the contract prices and the value of any work or labour which has been omitted.

PRODUCTION OF BILL OF QUANTITIES

These are several techniques of preparing bill of quantities (BOQ)

TRADITIONAL BILL METHOD: It is set down in the sequence following

he out of the building and engineering standard method of measurement (BESMM). This system provides "the taking off" with a logical system of measurement designed prevent accurate and efficient taking off.

The work is measured in series of groups, each representing a particular section of building without regard to the order in which items will finally appearing he bill. As the sequence of measurement is not related to the order of the bill the working up" process must involved the preparation of an abstract to collect and arrange the items in the order necessary for writing the defect bill. This system is mostly used in the examination.

It comprises of the following:

- i. Taking off usually group system

- ii. Working-up: Squaring, abstracting, totaling, rounding off & billing.

OPERATIONAL BILL METHOD: It is tendering document for estimating

costs prepared by architects that describes a construction project in terms of the operations (which include labour and plant) needed to build it. This form of document contracts with that bills of quantities in which such tendering and estimation is limited to the materials in the completed work operation bills have the advantages of enhancing communication between design and production, enabling realistic tender pricing and making the preparation of critical path analysis easy for the contractor.

ACTIVITIES BILL METHOD: The activity bill was a development of operational form but without the separation of labour and materials. It was sub-divided into section based on activities or operation derived from a network analysis. The work was measured in accordance with the standard method of measurement although on site and off site activities were usually separated and specialist equipment and component of and the work of nominated specialist could be grouped in spate bills (Seelay and winifield 2005).

ELEMENT BILL METHOD: Here the work is billed in trade order not in sequence of the building and engineering standard method of measurement [BESMM] but under heading that from a breakdown of the building into the main element of the structural wall, floor and roof. Although these provide a more useful control document during the construction operation, it makes the tendering procedure more complicated (T.C onouah)

ANNOTATED BILL: It is possible for the bill of quantities to give the contract fill details of the quantities, types and quantity of materials and labour and for an accurate and complete set drawing to show him precisely where and how the work is to be executed. (Seelay and winifield 2005)

CUT AND SHUFFLE BILL METHOD: This is a faster method than the traditional method. The civil engineer or surveyor take off quantities into specially designed sheet in duplicate where the original sheet is perforated into strips which can be separated from the book and collected together to form group of items.

DIVISION OF BILL PREPARATION: The traditional method of preparation of bill of quantities can be broken down into two main processes.

Taking off: Seelay 1988 defined "taking off" as the process in which dimension are scaled read from drawings and entered in a recognized form in a special ruled paper called dimension paper.

Working up: This process can be divided into two stages as follow:

Squaring: This comprises squaring the dimension and transferring the resultant lengths, area and volumes to the abstract.

Abstracting: The squared dimension are arranged in convenient order for billing and reduced to the recognized units of measure.

Other process include:

3.3 Requirement for Accuracy:

Whatever the method adopted for bill preparation, the requirement for accuracy is the same for example

Work shall be measured not as fixed in position overlaps. (General Rule 4.1)

1) Dimension used in calculating quantities shall be taken to the nearest 10mm (i.e 5mm and less than 5mm shall be disregarded). (General Rule 4.2).

All dimension shall be record to two decimal places and waste calculation are to three decimal places.

2) Quantities measured in tones shall be given to two decimal places. (General Rule 4.3).

3) Other quantities shall be given in the nearest whole except that any quantity less than ten shall be given as to the nearest first decimal. (General Rule 4.4).

4) Void or openings, which are wholly within the boundaries of measured area and voids or openings wholly at the boundaries of measured piers, column and similar member, shall always be the subject of deduction, irrespective of size (General Rule 4.5)

5) Items can be measured within a range of stated limits.

6) Average or an interpolation of level may be required for the measurement of execution. Due to problem with reprographics and the inherent inaccuracy of the process, scaling drawing should be avoided whenever possible. However, where dimension are stated on drawing there is no excuse for measurement bring anything other than correct.

PROJECT TITLE

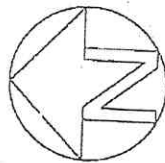
PROPOSED OFFICE DEVELOPMENT
FOR
PST SAMUEL OLADELE
LOCATED AT
ALAGBA LAYOUT IDO L.G.A
OYO STATE.

OCTOBER 2016



ARCHI-STRIDES CONCEPT

*Designs *Construction *Interior decoration
75b Ujan Shopping Mall, 2nd Floor
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ACCESS ROAD

POINT O
BOREHOLE

ARCHIT-STRIDES CONCEPT

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PROPOSED OFFICE DEVELOPMENT
FOR
PST SAMUEL OLADELE
LOCATED AT
ALAGBA LAYOUT IDO L.S.A
OYO STATE.

[illegible]

ARCH-STRADES CONCEPT
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NOTES

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REV DATE	DATE OF REVISION	REVISION	APPROVED BY
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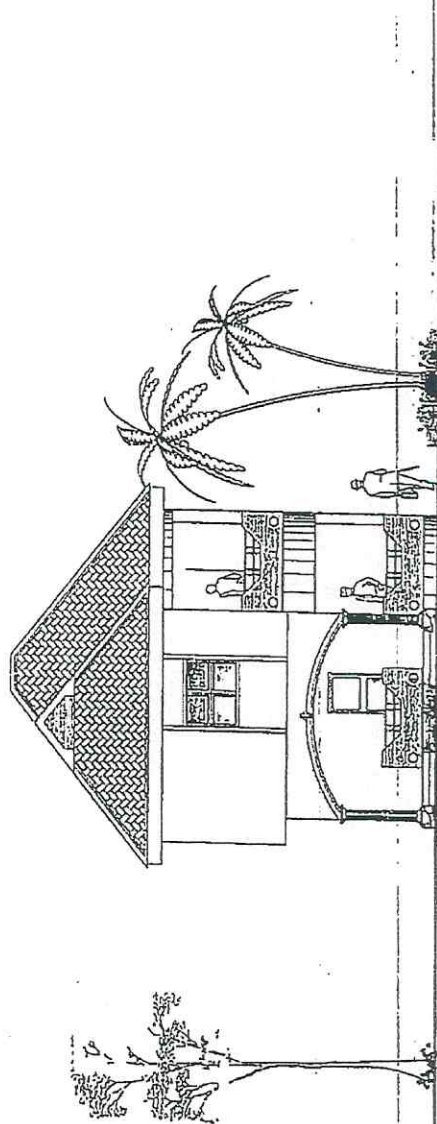
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PROPOSED OFFICE DEVELOPMENT
FOR
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OYO STATE.

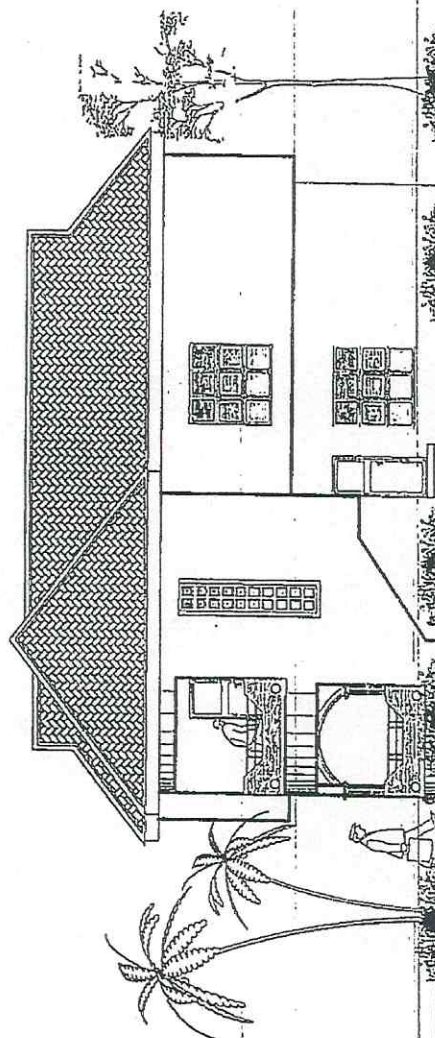
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ARCH-STRADES CONCEPT

***Designs "Construction" Interior**
Architectural Grouping, Wall, and Floor
by Diana Juncos-Wey, Ed. Rumsfeld
Port-Harcourt, Rivers State
G.S.N. NO. 08037667772, 001-865570120
adlg@net10020@yahoo.com, net10020@yahoo.com



APPROACH ELEVATION



RIGHT SIDE ELEVATION

NOTES

PROPOSED OFFICE DEVELOPMENT
FOR
PST SAMUEL OLADELE
LOCATED AT
ALAGBA LAYOUT IDO L.G.A
OYO STATE.

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SCORE 1:75	DATE OCT-2016	SUM TOTAL 50000 A.S.C.

ARCH-STRIDES CONCEPT

***Designs * Construction * Interlor**

2nd & 3rd Floor Shopping Mall, 2nd Floor

by Donna Junction Waji Rd Rumunralu

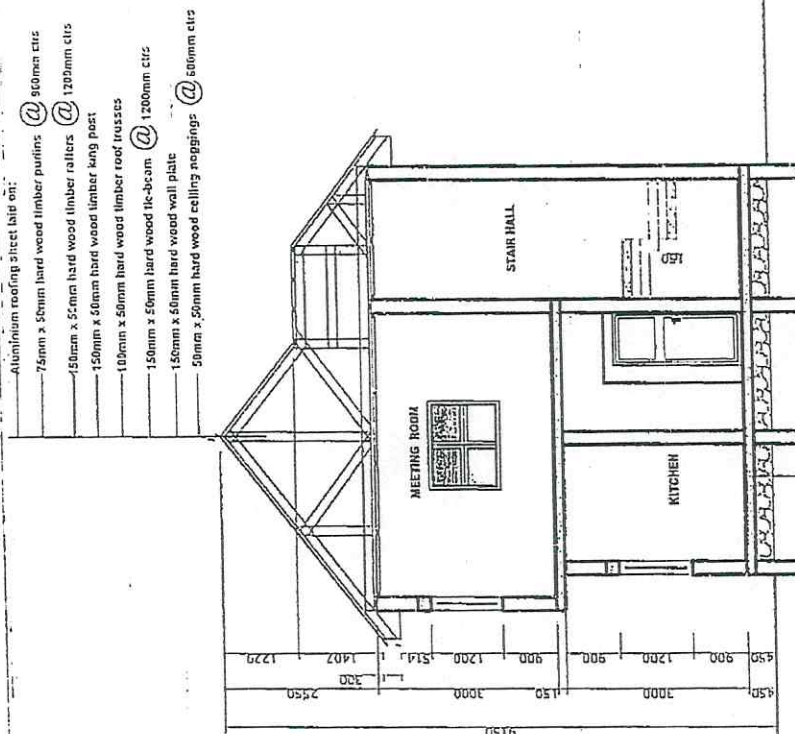
Per-Harcourt, Rivers state

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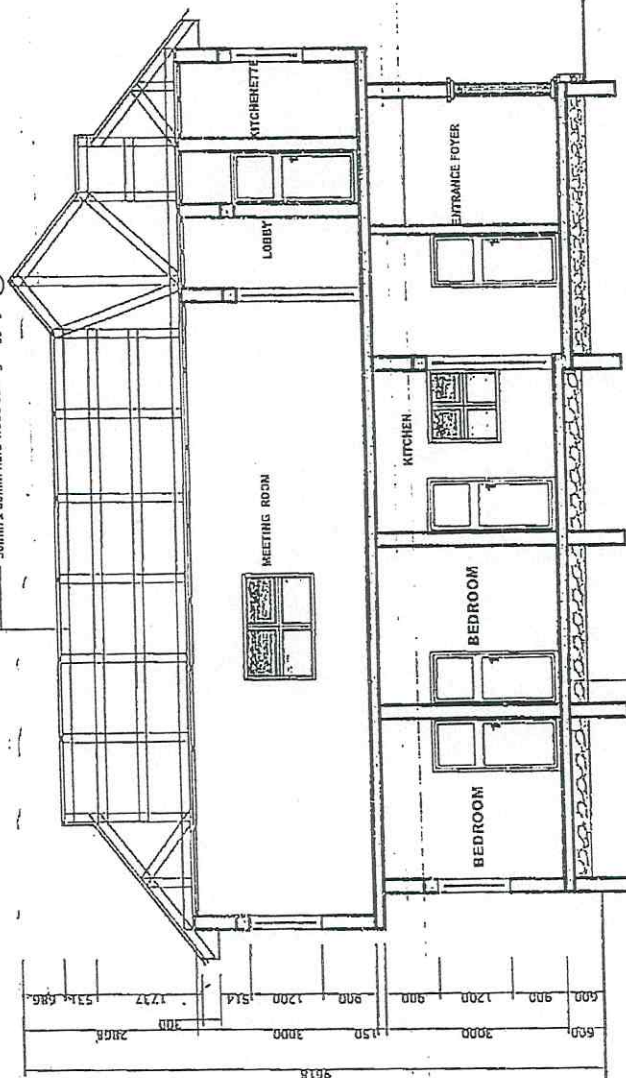
gustion2002@yahoo.com, adlesan2002@gmail.com

ARCH-STRIDES
concept

25mm floor finishes
150mm concrete
foundation to structural
engineer working details

[illegible]

25mm floor finishes
150mm concrete
foundation to structural
engineer working details



- 150mm x 50mm hard wood timber pultruse (1) 900mm c/s
 150mm x 50mm hard wood timber rafters (1) 1200mm c/s
 150mm x 50mm hard wood timber rafters (1) 1200mm c/s
 150mm x 50mm hard wood timber king post
 160mm x 50mm hard wood timber roof musses
 150mm x 50mm hard wood tie-beam (1) 1200mm c/s
 150mm x 50mm hard wood tie-beam (1) 1200mm c/s
 150mm x 50mm hard wood wall plate
 150mm x 50mm hard wood ceiling nogings (1) 900mm c/s
 150mm x 50mm hard wood ceiling nogings (1) 900mm c/s

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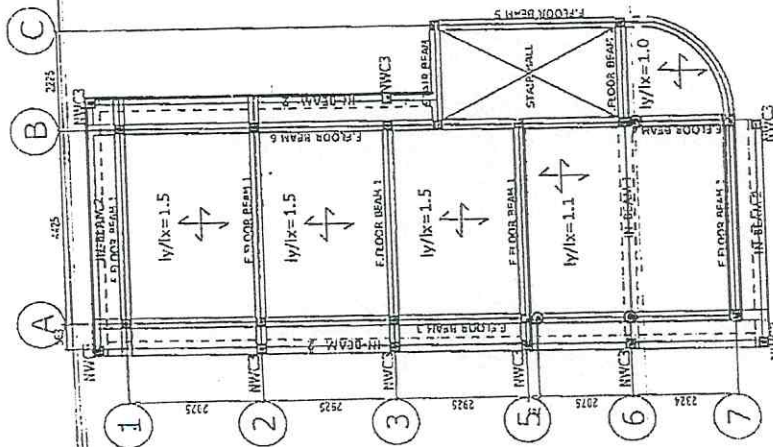
PROPOSED OFFICE DEVELOPMENT
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ALAGA LAYOUT IDO L.G.A
OYO STATE.

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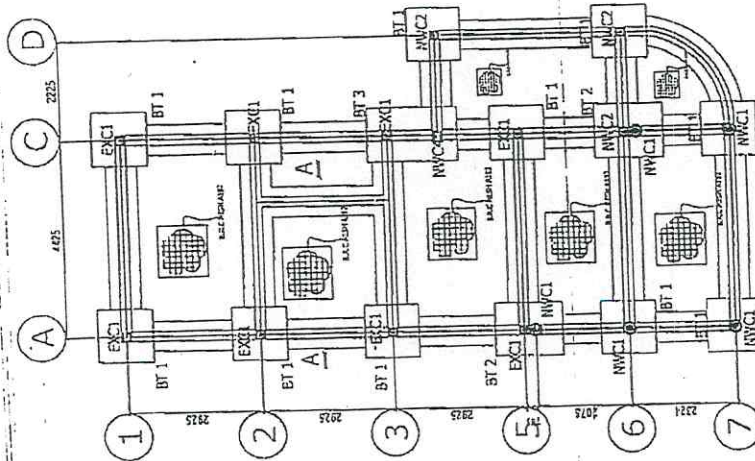
ARCHI-STRUCES CONCEPT

*Designs = Construction "Interlor"
Decorative Grouping "Kali, 2nd floor
by Dama JunctionWoj Rd Rumuruolu
Port-Harcourt, Rivers state

G.S.M. NO. 08037061722, 081866570120
www.damastudio.com



F.FLOOR BEAM LAYOUT



FOUNDATION LAYOUT

NWCL-NEW COLUMN 1
 NWCE-NEW COLUMN 2
 EXC1- EXISTING COLUMN 1

NOTES

PROPOSED OFFICE DEVELOPMENT
 FOR
 PST SAMUEL OLADELE
 LOCATED AT
 ALAGBA LAYOUT IDO L.G.A
 OYO STATE.

CLIENT	ADIGUN S.M.	DESIGNED BY	ASC/SON/10/2016	DATE	11/06/2016
NO.	ASC/SON/10/2016	SCALE	1:75	DATE	11/06/2016
NO.	ASC/SON/10/2016	SCALE	1:75	DATE	11/06/2016
NO.	ASC/SON/10/2016	SCALE	1:75	DATE	11/06/2016

ARCHITECTURAL CONCEPT

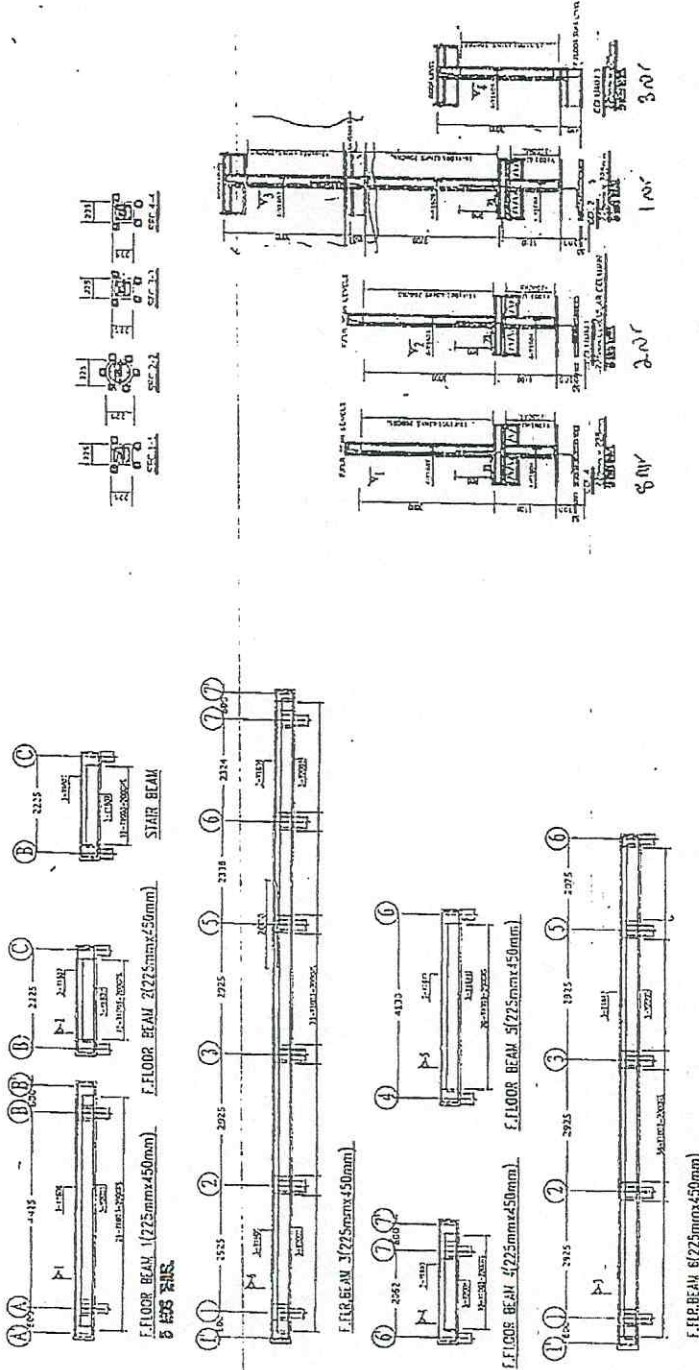
Designs "Construction" Interior
 by Dada Junction/10/2016
 Post-Harvest, Rivers State
 G.S.H. NO 08037061772 08186670120
 adgcon2003@yahoo.com, adgcon2003@gmail.com

NOTES

PROPOSED OFFICE DEVELOPMENT
FOR
PST SAMUEL OLADELE
LOCATED AT
ALAGBA LAYOUT IDO L.G.A
OYO STATE.

CLIENT: ADIGUN S.M.
DRAWING NO: ASC/50A/10/2011
DATE: 10/2011
SCALE: 1:25
SHEET: 1 OF 1
DESIGNED BY: A.S.C.

ARCHI-STRADES CONCEPT
*Designs *Construction *Interior
23C, 24th Street, 2nd Floor
by Duma Junction, Lagos
Port-Harcourt, Rivers State
G.S.N. NO. 08037061772, 08185670120
archi-stades@gmail.com

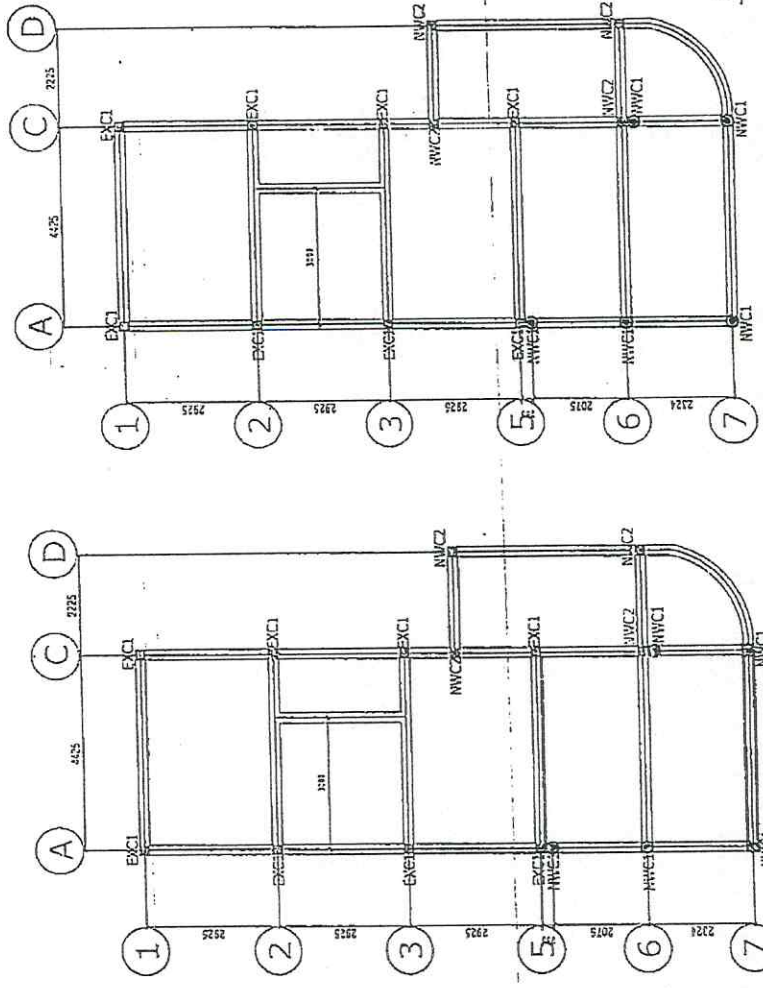


NOTES

PROPOSED OFFICE DEVELOPMENT
FOR
PST SAMUEL OLADELE
LOCATED AT
ALAGBA LAYOUT 100 L.G.A
OYO STATE.

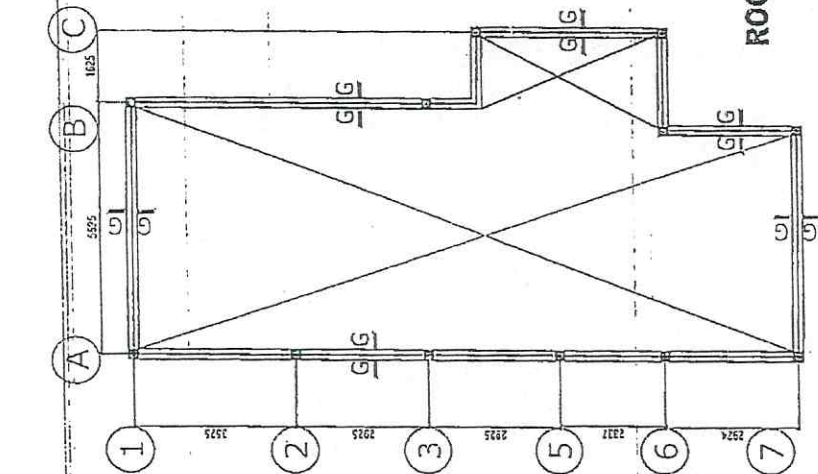
NWC1-NEW COLUMN 1
NWC2-NEW COLUMN 2
EXC1- EXISTING COLUMN 1

COLUMNS LAYOUT

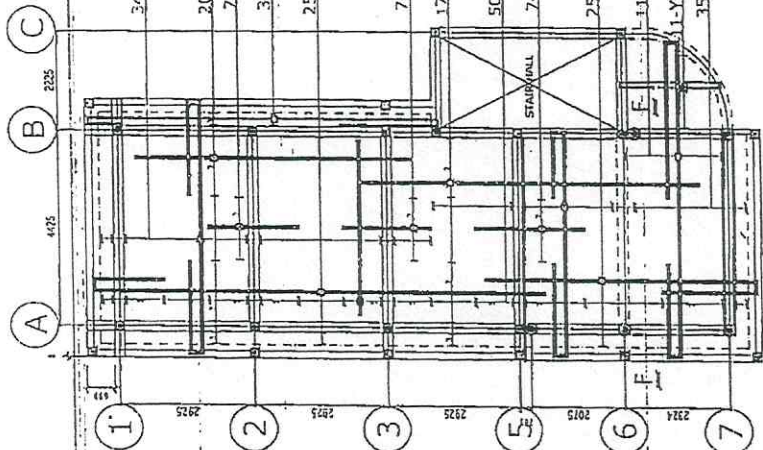


ARCHI-STRODES CONCEPT
*Designs *Construction *Interior
Decorations *Landscape Architecture
Port-Harcourt, Rivers State
G.S.M. RC 08037081772 081156670120
archi@astrodes.com yahoo.com 08037081772

NOTES



ROOF BEAM LAYOUT



F.FLOOR SLAB DETAILS

NO.	REVISION	DATE	BY	CHECKED

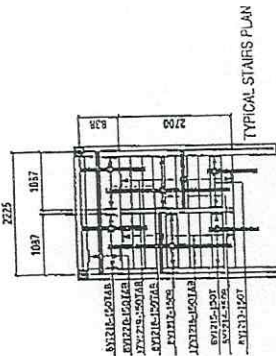
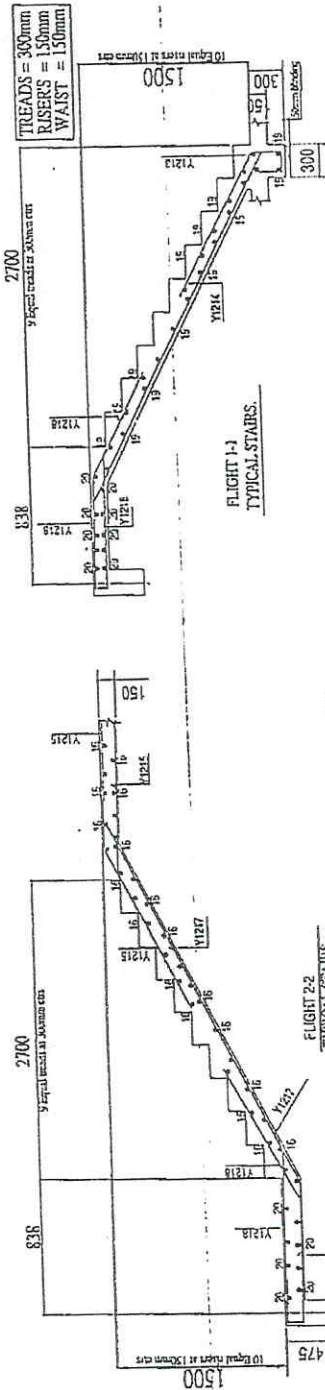
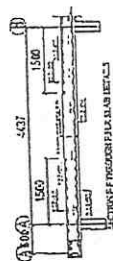
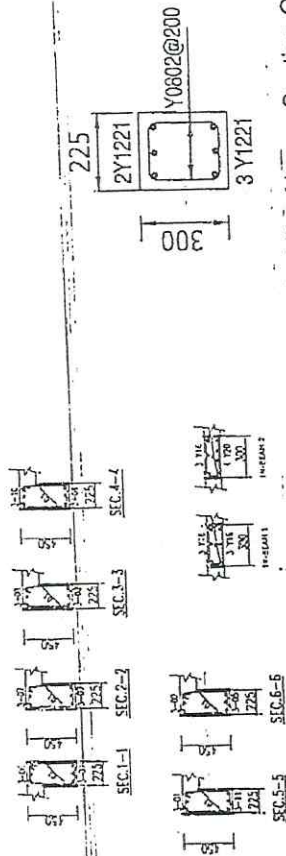
PROPOSED OFFICE DEVELOPMENT
FOR
PST SAMUEL OLADELE
LOCATED AT
ALAGBA LAYOUT IDO L.G.A
OYO STATE.

DESIGNER	ADIGUN S.M.	DATE	OCT. 2016	SCALE	1:75
CHECKED	ASC/SCA/10/2016	DATE	OCT. 2016	SCALE	1:75
APPROVED	A.08	DATE	OCT. 2016	SCALE	1:75

ARCH-STUDIOS CONCEPT
 "Designs" "Construction" "Interior"
 332, Alagba Shopping Mall, 2nd Floor
 by Dada Junction (Voj) ad Purnirele
 Per-Hardcourt, Rivers state
 G.S.M. NO 08037061772.08186670120
 adigun2002@yahoo.com adigun2002@gmail.com

NOTES

Typical Roof beam Section G-G



PROPOSED OFFICE DEVELOPMENT
FOR
PST SAMUEL OUADELE
LOCATED AT
ALAGBA LAYOUT IDO L.G.A
OYO STATE.

ADIGUN S.M.
ASC/SOA/10/2016
A 08
DATE 1:75
OCT 2016
YEAR FAUQ
A.S.C.

ARCH-STRADES CONCEPT
*Designs *Construction *Interior
286/244 Shopping Mall, 2nd Floor
by Dome Junction Woji Rd Rumurolu
Port-Harcourt, Rivers state
G.S.M. NO 08037061772, 081856670120
adigun2002@yahoo.com, adigun2002@gmail.com

NOTES

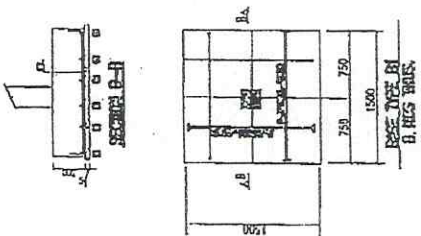
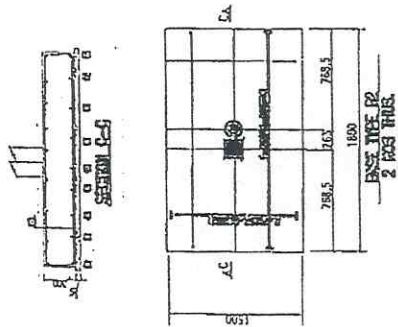
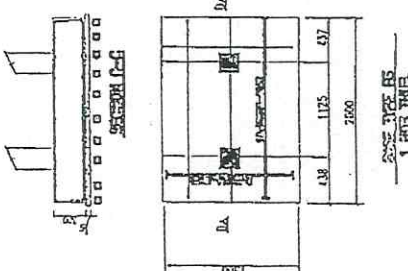
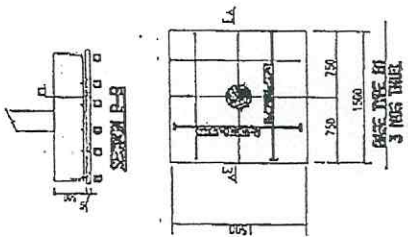
PROPOSED OFFICE DEVELOPMENT
FOR
PST SAMUEL OLADELE
LOCATED AT
ALAGBA LAYOUT IDO L.G.A
OYO STATE.

ADIGUN S.M.

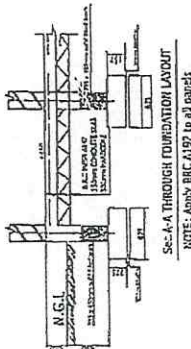
ASC/SOA/10/2016 A 08

DATE: OCT. 2016 BY: FASUQ A.S.C.

ARCHI-STRODES CONCEPT
"Designs - Construction - Interior"
204, 2nd Floor Shopping Mall, 2nd Floor
Port-Harcourt Rivers State
G.S.N. NO 030.37061772.05186670120
archi-strodes@yahoo.com, archi-strodes@gmail.com



(A) 3000 (B)



Doors

Doors

$$D_1 = 2100 \times 900$$

6 nos

$$D_2 = 2100 \times 750$$

Window Schedule for ground floor

Windows

$$W_1 = 1200 \times 1500$$

2 nr

$$W_2 = 1200 \times 1800$$

3 nr

$$W_3 = 1200 \times 900$$

1 nr

$$W_4 = 600 \times 600$$

$$W_5 = 1200 \times 1200$$

first floor

Windows

$$W_1 = 1800 \times 1200$$

3 nos.

$$W_2 = 1500 \times 1200$$

3 nos.

$$W_3 = 600 \times 600$$

3 nos.

first floor

Doors

$$D_1 = 2100 \times 1200$$

1 no.

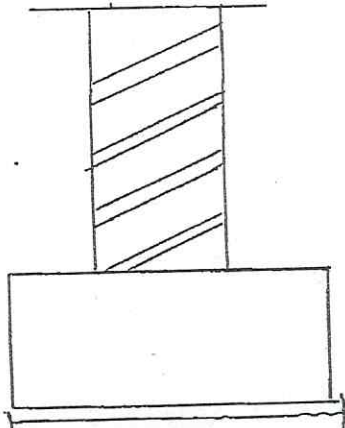
$$D_2 = 2100 \times 750$$

2 nos.

$$D_3 = 2100 \times 900$$

3 nos.

T	D	S	DESCRIPTION	T	D	S	DESCRIPTION
			<u>TAKING OFF FOR A</u> <u>PROPOSED OFFICE</u> <u>DEVELOPMENT FOR PASIOR</u> <u>SAMUEL OLADELE, LOCATED</u> <u>AT ALAGBA LAYOUT 100</u> <u>L.G.A OYO STATE.</u> <u>This work is measured</u> <u>in accordance with</u> <u>BESMM4.</u> <u>The plan is drawn in</u> <u>1:74</u> <u>1</u> <u>TAKING OFF LIST</u> <u>SUBSTRUCTURE</u> <u>ALL PROVISIONAL</u> A. DESCRIPTION OF WORK B. EARTHWORK & EXCAVATION - SITE PREPARATION M² - REMOVAL OF TREES NR - SITE CLEARANCE M² - TOP SOIL EXCAVATION M² - TOP SOIL DISPOSAL M³ - TRENCH EXCAVATION M³ - PIT EXCAVATION M³ - BACK FILLING M³ - LEVELLING & COMPACTION M² - SURFACE TREATMENT M² - EARTHWORK SUPPORT M² - LIME FILLING M³ - HARD CORE FILLING M³ - D.P.M M² C. CONCRETE WORK - CONCRETE IN BLINDING M³ - CONC. IN FOUNDATION M³ - CONC. IN COL. BASE M³ - CONC. IN COLUMN M³				- CONCRETE OVERSITS D. REINFORCEMENT - REINFT IN PIT BASE (kg/ton) - REINFT IN COLUMN (kg/ton) - STIRRUP & LINKS (kg/ton) - FABRIC MESH (kg/ton) E. FORMWORK - FORMWORK IN PIT BASE (M) - FORMWORK IN COLUMN (M) - FORMWORK TO EDGES OF SLAB (M) F. BLOCK WORK - BLOCK IN FOUNDATION (M²) G. FINISHES - RENDERING (M²) - PAINTING (M²)

T	D	S	DESCRIPTION	T	D	S	DESCRIPTION				
			the work measured in this section comprises of sub-structural work up to Superstructural work including the d.p.c level the soil is firm and ground water level is well below the foundation trench The land is 15,200mm by 30,480mm rectangular in shape EXCAVATION & EARTHWORK - SITE PREPARATION & REMOVAL OF TREES Cutting down or removal of trees Scrup up to their root including filling voids Girth 500mm - 1500mm 8/1 8 1° 5° 2° 2 & 1° 5° 3° 2 2/1 2 1° 5° 2° 2 & 1° 5° 3° 2 * SITE CLEARANCE M²  675				L=13700 W=6875 Add Spd 2/225 <table><tr><td>450</td><td>450</td></tr><tr><td><u>14150</u></td><td><u>7325</u></td></tr></table> * Clear site off existing vegetation Scrup up to their root and fill voids 1° 5° 4° 1 14° 15 7° 33 103° 72 * TOP SOIL EXCAVATION M² Excavate vegetation topsoil 150mm depth, comm. below existing ground level 1° 5° 5° 2° 1 14° 15 7° 33 103° 72 * TOP SOIL DISPOSAL M³ Remove vegetation topsoil and dispose off site to a distance of 1m; in a Spoil heap 1° 5° 5° 1° 1 14° 15 7° 33 0° 15 15° 56	450	450	<u>14150</u>	<u>7325</u>
450	450										
<u>14150</u>	<u>7325</u>										

T	D	S	DESCRIPTION
---	---	---	-------------

TRENCH EXCAVATION

$$L = 13700$$

$$W = 6875$$

$$2/20,575$$

$$41,150$$

less

4 corners

$$4/1/2/225 \quad 900$$

$$40,250$$

Internal girth

horizontal

$$3000$$

$$2775$$

$$1950$$

$$1050$$

$$1200$$

$$2025$$

$$2000$$

$$14,000$$

Vertical

$$4/2700 = 10800$$

$$2700$$

$$2700$$

$$3875$$

$$20,075$$

Internal girth

$$H = 14,000$$

$$V = 20,075$$

$$34,075$$

T	D	S	DESCRIPTION
---	---	---	-------------

TOTAL GIRTH

$$\text{External} = 40,250$$

$$\text{internal} = 34,075$$

$$74,325$$

Less column pit
bars

$$11/1500 = 16500 \text{ (BT}_1\text{)}$$

$$2/1800 = 3600 \text{ (BT}_2\text{)}$$

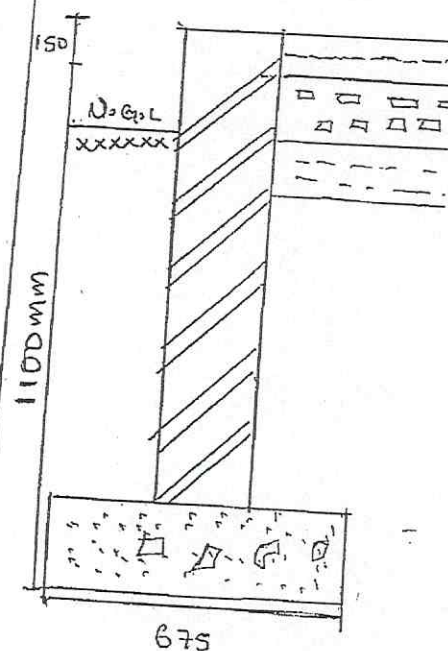
$$2000 \text{ (BT}_3\text{)}$$

$$20,300$$

$$74,325 - 20,300$$

$$= 54,025$$

Depth of fdn



[illegible]

T	D	S	DESCRIPTION	T	D	S	DESCRIPTION
2/1080	1050	1080	(BT2)				↑ EARTHWORK Supp
2000	1050	3000	(BT3)				M ²
		75020					Trench:
							Earth work Supp
							to faces of excavat
							max < 1080m dist
							between opp faces
							< 2.00m
			<u>SURFACE TREATMENT</u>	2/5403	0068	7349	
			TRENCH				Bottom
			Prepared and apply				Ditto pit made dep
			dieldre & anti termite				1.00m
			solution to bottom & side				
			to excavate.				
			Bottom	11/4/1050	1045	9507	(BT1)
5403	0068	3674		2/2/3030	1045	19014	
			Ditto to pit	4/2000	1045	1106	
			BT1				105080101
11/1050	1050	2475					199092m ²
2/1080	1050	6048					
2000	1050	3000					
		3421					
2/5403	1010	11087	SIDES				LATERITE
			Ditto to pit				FILLING M ³
11/4/1050	1045	9507	(BT1)				Compacted laterite fill
2/4/1080	1045	20088	(BT2)				850mm thick spread
1/4/2000	1045	11060	(BT3)				In 150mm layers well
							ram & consolidation to
							cross all to access fund
							finishes
							1850120202
			162039M ²				
				3000	2070	015	10215
				2078	2070	015	1013
							Office -
							Office 2

T	D	S	DESCRIPTION	T	D	S	DESCRIPTION
2.70	1.095	0.15	(Sec office)	4.40	4.27	0.30	(Sec office)
		0.79				5.64	
2.70	1.20	0.15	(Lobby)			19.24	(19.21 m ³)
		0.485					D.O.M M ²
2.70	2.70	0.15	(Bath w.c)				Two layer of d.p.n of poly-thene sheet 1200mm gauge laid filling
		1.10					1.5.16.1
2.70	2.25	0.15	(Lobby to sec office)				
		0.91					
3.88	2.00	0.15	(Stairs)	4.20	4.40	18.48	(Entrance paver)
		1.16					
4.40	4.27	0.15		2.70	1.96	5.29	(Sec office)
		2.82					(Lobby to sec)
		8.39		2.70	2.03	5.48	
			HARDCORE FILLING M³	3.88	2.00	7.76	(Stairs)
			Hardcore filling 300 mm thick imported hardcore filling to make upto level underground floor slab.	2.20	2.78	6.12	(Office 1)
3.00	2.70	0.30	(Office 1)				
		2.43		2.70	1.20	3.24	(Lobby to office)
2.78	2.70	0.30	(Office 2)				
		2.25		2.70	3.00	8.10	(Office 2)
2.70	1.095	0.30	(Sec office)				
		1.58		2.70	1.05	2.84	(Bath w.c)
2.70	1.20	0.30	(Lobby)				
		0.97					
2.70	2.70	0.30	(Bath w.c)				
		2.19					
2.70	2.25	0.30	(Lobby to sec office)				
		1.82					
3.88	2.00	0.30	(Stairs)				
		2.33					

T	D	S	DESCRIPTION
			Reinf'd insitu concrete mix 1:2:4 19mm agg in column 225 mm thick filled into formwork & well packed 1:11:5 = 10:10:1

$$\pi r^2$$

$$\pi = 3.142 \quad r = \frac{d}{2} = \frac{225}{2} = 112.5$$

$$\frac{3}{1010}$$

$$3.142$$

$$12.77 \quad 182.11$$

$$\frac{3}{1010}$$

$$0.23$$

$$0.23 \quad 0.18$$

$$\frac{6}{1010}$$

$$0.23$$

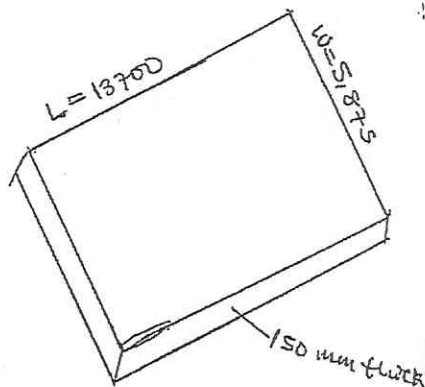
$$0.23 \quad 0.47$$

$$183.06$$

Col 1

Col 2

Col 4



Reinf'd insitu conc.
1:2:4 - 19mm agg
in floor slab 150mm thick
filled into formwork &
well packed.

$$10 \times 11.7 = 117$$

$$10m^2$$

Ddt void area

$$13.70$$

$$5.88$$

$$0.15 \quad 12.08$$

$$11.08 \quad 2$$

$$6.98$$

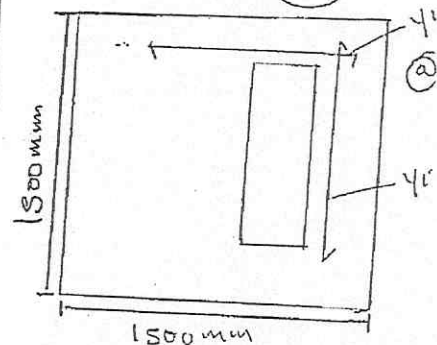
$$2.23$$

$$0.15 \quad 2.033$$

$$2.22$$

$$9.75 m^3$$

T	D	S	DESCRIPTION
			REINFORCEMENT Chg Reinf'd in col. void (BT1)



$$L = 1500$$

less
con. cover
2 cc 2/25

50
1450

Add
bind.
2 cc 2/25

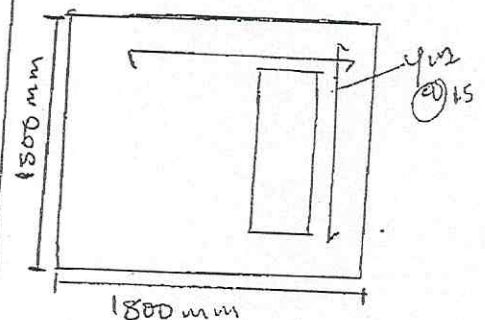
288
1738

No of reinf'd required

$$150 \quad 1500 \quad 10+1$$

$$= 11nr$$

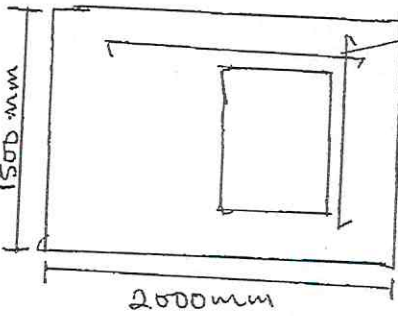
Base type ②

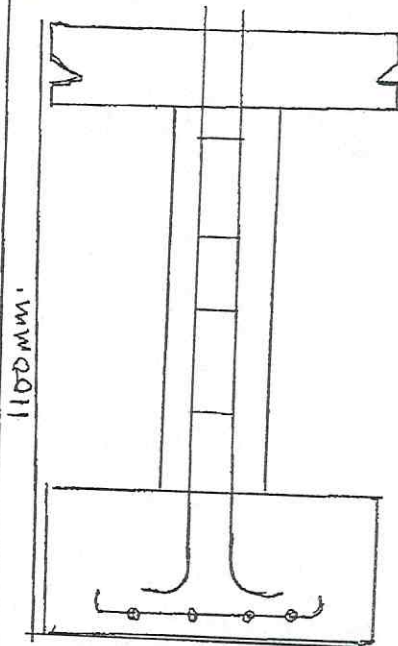
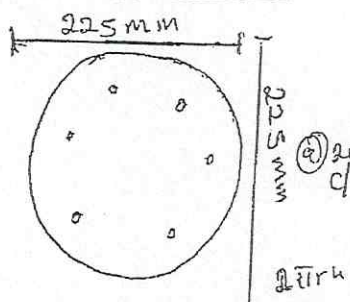
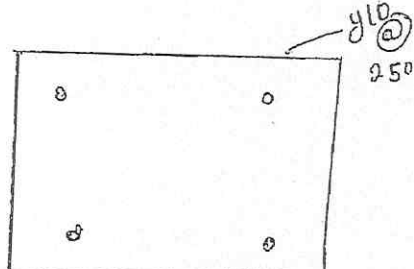


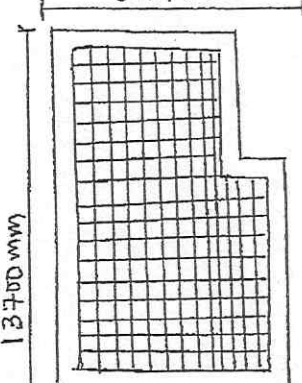
$$L = 1500$$

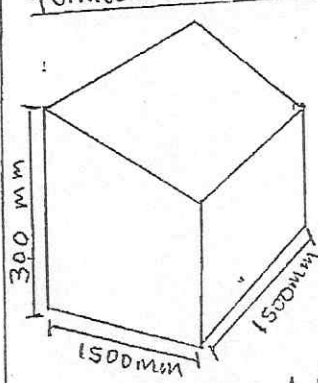
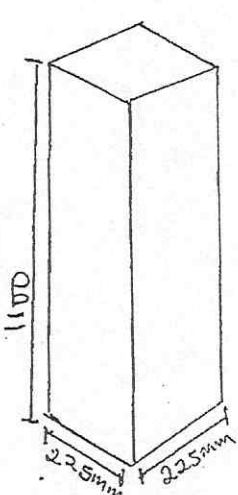
less
con. cover
2 cc 2/25

50
1450

T	D	S	DESCRIPTION	T	D	S	DESCRIPTION
			<u>Add</u> hook bent 2ϕ2 2/12/12 288 1738 No of reinf'd required 150 1800 12+1 = 13 nrs W 1800 less acc cover 50 2/25 1750 <u>Add</u> hook bent 2ϕ2 288 2/12/12 2,038 No of reinf'd required 150 1500 10+1 = 11 nrs Base typ 3  L = 2000 less acc cover 50 2/25 1950				<u>Add</u> hook bent 2ϕ2 288 2/12/12 2,238 No of reinf'd required 150 1500 10+1 = 11 nrs W 1500 less acc cover 50 2/25 1450 <u>Add</u> hook bent 2ϕ2 288 2/12/12 1738 No of reinf'd required 150 2000 13+1 = 14 nrs High yield tensile 12mm ϕ reinf'd bar Column base 1ϕ11.34ϕ10.2 $Kg = \frac{\phi^2 \times 0.22.2}{36}$ 0.888×560.20 $= 497.46 Kg$
							11/2 10.74 421.05 13/2 10.74 45.24 13/2 20.04 44.68 11/2 20.24 24.64 14/1 10.74 24.36 560.2

T	D	S	DESCRIPTION	T	D	S	DESCRIPTION																																																																										
			Reinf't to column  L = 1100 <table> <tr> <td>Less</td> <td></td> <td></td> </tr> <tr> <td>conc. cover</td> <td>25</td> <td></td> </tr> <tr> <td>25</td> <td></td> <td>1075</td> </tr> <tr> <td>Less</td> <td></td> <td></td> </tr> <tr> <td>bar thickness</td> <td>32</td> <td></td> </tr> <tr> <td>2/16</td> <td></td> <td>1043</td> </tr> <tr> <td>Add</td> <td></td> <td></td> </tr> <tr> <td>bend</td> <td>500</td> <td></td> </tr> <tr> <td>200</td> <td></td> <td>1,555</td> </tr> <tr> <td>2/16/16</td> <td></td> <td></td> </tr> <tr> <td>Add</td> <td></td> <td></td> </tr> <tr> <td>flange bar</td> <td>450</td> <td></td> </tr> <tr> <td>450</td> <td></td> <td>2005</td> </tr> </table> High yield tensile 16mm & reinforced bar to column base 10 110340 10 1 <table> <tr> <td>1/4</td> <td>10.55</td> <td>85.20</td> </tr> <tr> <td>2/4</td> <td>10.55</td> <td>12.40</td> </tr> <tr> <td>4/1</td> <td>10.55</td> <td>6.20</td> </tr> <tr> <td></td> <td>86.80</td> <td></td> </tr> </table> 86.80 X 10.579 kg = 1370.06 kg	Less			conc. cover	25		25		1075	Less			bar thickness	32		2/16		1043	Add			bend	500		200		1,555	2/16/16			Add			flange bar	450		450		2005	1/4	10.55	85.20	2/4	10.55	12.40	4/1	10.55	6.20		86.80				Stirrup & Links  225 mm 225 mm 25 c/c 2 turn girth = 225 mm <table> <tr> <td>less</td> <td></td> <td></td> </tr> <tr> <td>cover</td> <td>25</td> <td></td> </tr> <tr> <td>25</td> <td></td> <td>200</td> </tr> <tr> <td></td> <td></td> <td>800</td> </tr> <tr> <td>Add</td> <td></td> <td></td> </tr> <tr> <td>hook bend</td> <td>200</td> <td></td> </tr> <tr> <td>2/10/10</td> <td></td> <td>1000</td> </tr> <tr> <td></td> <td></td> <td>1000</td> </tr> </table> 100 required in column. 200 1100 5.5+1 = 7 nrs Column 2  250 250 length of stirrup is 90 100 required in column 250 1100 4.4+1 5 nrs	less			cover	25		25		200			800	Add			hook bend	200		2/10/10		1000			1000
Less																																																																																	
conc. cover	25																																																																																
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Add																																																																																	
hook bend	200																																																																																
2/10/10		1000																																																																															
		1000																																																																															

T	D	S	DESCRIPTION
			High yield steel reinf bar 10mm in foundation column as stirrup and link. 10 11 20 1.
11/2	3147	0.50	34.56
2/5	0.90	10.00	
5/0.90	4.50		
	48.56		X 0.617 = 29.65 kg.
			<u>FABRIC MESH</u> 6875mm 13700mm 
			OLAL OLAB 13700 6825
			less ace cover 2/25 50 50 13,650 6825
			BAC fabric mesh reinf weight 150kg/m ² laid on floor slab to receive concrete 10 11 37 10 2 Ddt. void
			13.70 6.88 94.26
			6.70 2.22 14.87
			79.39

T	D	S	DESCRIPTION
			<u>form work</u> formwork to col bar 
			Sawn treated h/w formwork for col bar Max depth 0.30m. 10 11 13 1
11/4	1.50	1.20	79.20
2/2	3.30	1.20	15.84
2/3.5	1.20	8.40	
		103.44	
			<u>form work to c</u>
			
			Sawn treated h/w formwork for side of column. 1100mm
11/2	3147	0.11	8.36
2/4	0.23	1.10	2.02
4/0.23	1.10	1.012	
		11.39	

T	D	S	DESCRIPTION	T	D	S	DESCRIPTION
---	---	---	-------------	---	---	---	-------------

Formwork to edges of slab

$$L = 13700$$

$$W = 6875$$

Sawn treated w/w formwork to edges of floor slab to provide smooth finishing not exceeding 2.25mm.

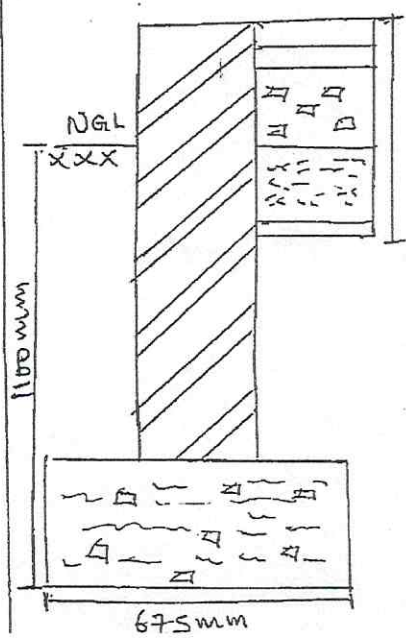
$$1.11.24.1$$

$$\begin{array}{r} 2/13.70 \\ 2/6.88 \end{array} \begin{array}{r} 27.40 \\ 13.76 \\ \hline 41.16 \end{array}$$

Block work M²

$$\begin{array}{r} \text{Excl girth} = 40250 \\ \text{Internal girth} = 34,075 \\ \hline 74,325 \end{array}$$

$$\begin{array}{r} \text{less} \\ \text{Cont. thickness} \\ 14/225 \end{array} \begin{array}{r} 3150 \\ \hline 71,175 \end{array}$$



$$\text{Depth} = 1100$$

$$\begin{array}{r} \text{less} \\ \text{Cont. footing} \\ 300 \end{array} \begin{array}{r} 300 \\ \hline 800 \end{array}$$

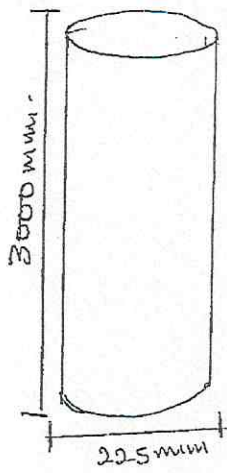
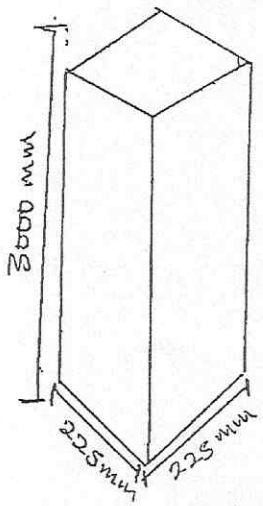
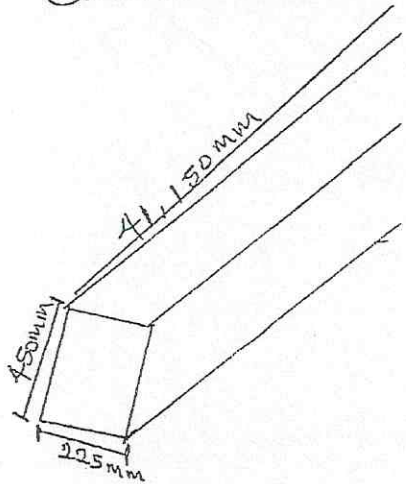
$$\begin{array}{r} \text{less} \\ \text{blinding} \\ 50 \end{array} \begin{array}{r} 50 \\ \hline 750 \end{array}$$

Block m fdn 225;
225x450mm hollow
Sandcrete block fill
Solid with hand con
(1:3) bedded & joint
in C/S mortar
lead in stretch
bond in foundation

$$\begin{array}{r} 71018 \\ 0.75 \end{array} \begin{array}{r} 53.89 \end{array}$$

$$1.11.1.2.1.1$$

T	D	S	DESCRIPTION	T	D	S	DESCRIPTION
			<u>Finishing</u> <u>External rendering.</u> <u>to block work m²</u> 14mm thick C/S mortar (1:3) rendered to fdn wall $ \begin{array}{r} L = 13700 \\ W = 6875 \\ \hline 2 \overline{) 20575} \\ \hline 41,150 \end{array} $				
	41.15	0.60	24.69				
			PAINTING Apply for coat of texture paint as rendered wall.				
	41.15	0.60	24.69				

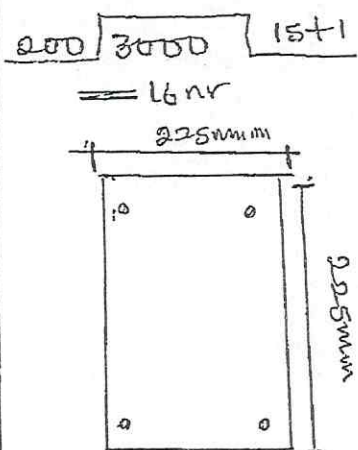
T	D	S	DESCRIPTION	T	D	S	DESCRIPTION
			SUPER STRUCTURE ALL PROVISIONAL 1. DESCRIPTION 2. FRAME WORK - Conc. in column - Conc. in beam - Reinf^t in column - Reinf^t in beam - Stirrup in column - stirrup in beam - formwork in column - formwork in beam. 3. External & internal walls - conc. in lintel - Reinf^t in lintel - stirrup & links in lintel - formwork in lintel - Block work -> Doors & window schedule 4. finishes - wall finishing - floor finishing - ceiling finishing * <u>DESCRIPTION OF WORK</u> the work measured in this section comprised of super structural work in ground floor * <u>frame structure</u> * Concrete in col m³				(Col 1)  3000 mm 225 mm Trash. (Col 2)  3000 mm 225 mm 225 mm Reinforced with conc. 1323 4 19 mm agg in colun 225mm thick filled into formwork and well packe 13115511 Concrete in beam  450 mm 225 mm 41150 mm
				3/2	3-142		
					12-65		
					3-00	715-43	
					3-00		
					D-23		
					O-23	3-51	
						719-23	

T	D	S	DESCRIPTION	T	D	S	DESCRIPTION
			Reinforced with conc. mix 1:2:4 19mm agg in beam running on external girth of the building 10110703				L = 3000 less Cover 25 25 2975 Add bend 20 ² 2/16/16 512 3487 16mm at high yield reinf ^t bar in col 10110840101 Col 1 Col 284
41015	0043	0023 4023	Reinf ^t to beam. L = 41150 less Cover 25 41125 Add bends 20 ² 2/16/16 512 41637 16mm at high yield reinf ^t bar in beam. 10110840101	11/6/3049 23034 5/4/349 69080 30014			X 1.578 = 473.62 kg Stirrups in col. 225mm 225mm 2πr = 0. 2 X 3.142 X 112.5 = 706.95 less Cover 2/25 50 656.95 Add hook bend 20 ² 200 2/10/10 856.95
			 6/41064 24902 x 1.578 = 394.23 kg Reinf ^t in col 3000mm				

F D S

DESCRIPTION

Stirrup in col.
no required in col.



girth 225

$$\begin{array}{r} \text{less} \\ \text{cover} \quad 50 \\ 2/25 \quad 4/175 \\ \hline 700 \end{array}$$

$$\begin{array}{r} \text{Add} \\ \text{hook bend} \\ 2/22 \quad 200 \\ 2/10/10 \quad 900 \\ \hline \end{array}$$

nr required in col.

$$\begin{array}{r} 200 \quad 3000 \quad 15+1 \\ \hline = 16 \text{ nr} \end{array}$$

10 mm high yield steel
reinf't bar as stirrup &
link 40 column
1.11.39.14

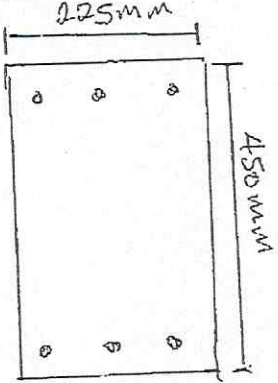
$$\begin{array}{r} 11/16 \quad 0.86 \quad 151.36 \\ 5/16 \quad 0.90 \quad 72.00 \\ \hline 223.36 \end{array}$$

$$\begin{array}{r} \times 0.616 \\ \hline = 137.73 \text{ kg} \end{array}$$

T D S

DESCRIPTION

Stirrup in beam



girth 675

$$\begin{array}{r} \text{less} \\ \text{corner} \quad 50 \\ 2/25 \quad 2/625 \\ \hline 1250 \end{array}$$

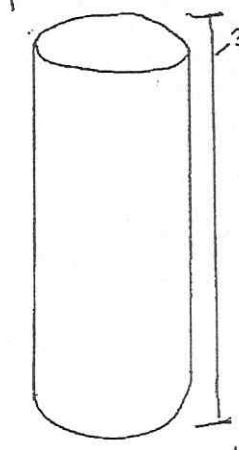
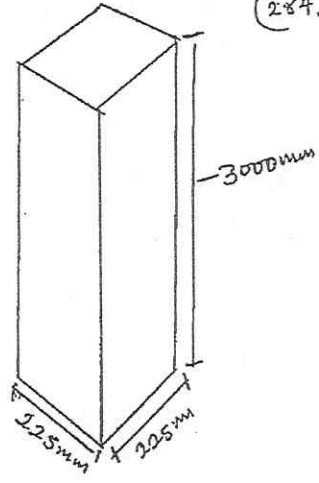
$$\begin{array}{r} \text{Add} \\ \text{hook bend} \quad 200 \\ 2/10/10 \quad 1450 \\ \hline \end{array}$$

NO required in beam

$$\begin{array}{r} 200 \quad 44750 \quad 223.8+ \\ \hline = 225 \text{ nr} \end{array}$$

10 mm high yield st
reinf't bar as stirrup
& link to beam

$$\begin{array}{r} 225/1.45 \quad 326.25 \\ \hline \times 0.616 \\ \hline = 201.19 \text{ kg} \end{array}$$

T	D	S	DESCRIPTION	T	D	S	DESCRIPTION
			form work in column ^①  225 mm 3000 mm $2\pi rh$ $2 \times 3.142 \times 112.5$ $= 706.95$ (col 284)  3000 mm 225 mm 225 mm Seven treated soft wood formwork to column max depth 300 mm high from ground floor slab. 1011.20.1				form work in beam Seven treated l/w formwork to sides and support to beam. 1011.17.1 2/44.95 0.45 ~~30.25~~ 37.04 ✓ ③ External and internal wall Concrete in lintel Door 1 L = 900 Add proj. 2/22.5 450 1350 Door 2 L = 750 Add proj. 2/22.5 450 1200 Window 1 L = 1500 Add proj. 2/22.5 450 1950 Window 2 L = 1800 Add proj. 2/22.5 450 2250
3/3.00	0.71	6.39					
3/8/4/3.00	0.23	66.24					
		72.63	✓				

T	D	S	DESCRIPTION	T	D	S	DESCRIPTION
			Window 3 L = 900	0.95			(W4)
			<u>Add</u> pro 450 2/225 1350	0.23			
			Window 4 L = 600	0.23 0.05			
			<u>Add</u> pro 450 2/225 950	1.67			(W5)
			Window 5 L = 1200	0.23			
			<u>Add</u> pro 450 2/225 1650	0.23 0.09			
			Rempt in situ conc. 1:2:3:4 19mm agg in lintel 225 mm filled into finishes & well packed 1.11.2.1.2.1	1.27			
6	1.35		(D1)				Rempt in lintel
	0.23						D1 L = 1350
	0.23 0.43						<u>less</u> 2cc cover 50 2/25 1300
	1.20		(D2)				<u>Add</u> hook bent 512 2/16/16 1812
	0.23						D2 L = 1200
	0.23 0.06						<u>less</u> 2cc cover 50 2/25 1150
2	1.95		(W1)				<u>Add</u> hook bent 512 2/25/16 1662
	0.23						Window 1 L = 1950
	0.23 0.21						<u>less</u> 2cc cover 50 2/25 1900
3	2.25		(W2)				<u>Add</u> hook bent 512 2/16/16 2412
	0.23						
	0.23 0.36						
	1.35		(W3)				
	0.23						
	0.23 0.07						

T	D	S	DESCRIPTION	T	D	S	DESCRIPTION
			Window 2 L = 2250				16mm high tensile reinf in numerical size straight and bent in bent
			less 2cc cover 2/25				1.11.34 = 1.01
			50 2200				(D1)
			Add hook bent 2/25				(D2)
			512 2712				(W1)
			2/16/16				(W2)
			Window 3 L = 1850				(W3)
			less 2cc cover 2/25				(W4)
			50 1300				
			Add hook bent 2/25				
			512 1812				
			2/16/16				
			Window 4 L = 950				
			less 2cc cover 2/25				
			50 900				
			Add hook bent 2/25				
			512 1412				
			2/16/16				
			Window 5 L = 1650				
			less 2cc cover 2/25				
			50 1600				
			Add hook bent 2/25				
			512 2112				
			2/16/16				

6/4/1081 43.44

1/4/1066 6.64

2/4/2041 19.28

3/4/2071 32.52

1/4/1081 7.24

4/1041 5.64

4/2011 8.44

123.2 X 1.579

= 194.53 Kg

STIRRUPS 110 Lintel

D1
length of stirrup is 900

200 [1812] [9.06 + 1]

10 nr

D2
length of stirrup is 900

200 [1662] [8.3 + 1]

9 nr

(39)

T	D	S	DESCRIPTION	T	D	S	DESCRIPTION
			W1 length of stirrup is 900	10/	0.90	9.00	
			200 $\boxed{2412}$ 12.06+1	9/	0.90	8.10	
			= 13 nr	13/	0.90	11.70	
			window 2.	15/	0.90	13.50	
			200 $\boxed{2712}$ 13.6+1	11/	0.90	9.90	
			= 15 nr	9/	0.90	8.10	
			W3 length of stirrup is 900	12/	0.90	10.8	
			200 $\boxed{1812}$ 9.06+1			71.10	X 0.616
			= 11 nr				= 43.80 kg.
			window 4				
			length of stirrup is 900 mm	6/	1.35		
			200 $\boxed{1412}$ 7.06+1		0.68	5.51	
			9 nr	1/	1.20		
			window 5		0.68	0.82	
			length of stirrup is 900 mm	2/	1.65		
			200 $\boxed{2112}$ 10.56+1		0.68	2.24	
			12 nr	3/	2.25		
			10 mm high yield steel reinf as stirrup & link in lintel		0.68	4.59	
			10 11.30 1.4	1/	1.35		
					0.68	0.92	
				1/	1.50		
					0.68	1.02	
				1/	1.65		
					0.68	1.12	
						14.22	

form work to lintel
Sawn treated w/w form work to the side of lintel
D1
L1

(D1)

(D2)

(W1)

(W2)

(W3)

(W4)

(W5)

T	D	S	DESCRIPTION	T	D	S	DESCRIPTION
			<u>Block work</u>				Doors & window Schedules (or)
			450 X 225 X 225 Hollow				Door 1
			Sandcrete block laid				Solid flush ~~door~~ panel
			on stretcher bond				door with Season wood
			jointed with C/S				2100mm X 900mm
			mix (1:4)				Door 2
			thight 3150	6	1	6	Solid flush panel do
			less				with Season wood
			floor slab 150				750mm X 2100mm
			3.000				Window 1 & 2
54.03							Aluminium frame &
3.00	162.00						sliding window
							1200mm X 1500mm
							Window 3
6/2.10							Aluminium frame
0.90	11.34						sliding window
2.10							1200mm X 1800mm
0.75	1.58						Window 4 & 5
2/1.20							Aluminium frame &
1.50	3.60						sliding window
3/1.20							600mm X 600mm
1.80	6.48						1200mm X 1200mm
1.20							
0.90	1.08						
0.60							
0.60	0.36						
1.20							
1.20	1.44						
	22.96						

Oct openings

(D1)

(D2)

(W1)

(W2)

(W3)

(W4)

T	D	S	DESCRIPTION	T	D	S	DESCRIPTION
			<u>finishing</u>				Sec office
			<u>Wall finishing</u>				2700
			<u>External wall</u>				1959
			13700	9.32			<u>2/4659</u>
			6875	3.00	27.96		9318
			<u>2/20,575</u>				
			41,150				lobby to sec. off
			14mm thick C/S (1:4)				2700
			rendering to wall				2025
			&	9.45			<u>2/4725</u>
			prepare and apply	3.00	28.33		9450
			Coat emulsion paint				
			or rendered wall				Stairs
			1.28 x 1.1				2825
41.15			dot void & opening				4175
3.00	123.45			14.00			<u>2/7000</u>
				3.00	42.00		14,000
6.90							
3.00	27.06		6975				Office 1
			2225				2700
			<u>9200</u>				2775
2/1.20			(W1)	18.98			<u>2/5475</u>
1.50	3.60			3.00	32.86		10,950
3/1.20			(W2)				
1.80	6.48		(W3)				Office 2
1.20			(W4)				2700
0.90	1.08						3000
0.60							<u>2/5700</u>
0.60	0.36						11,400
	84.83						Lobby to office 1
			<u>internal walls</u>				2700
			Entrance porch	11.40			<u>2/5700</u>
			4200	3.00	34.20		11,400
			4399				
			<u>2/8599</u>				2700
			17,198				2100
17.20							<u>2/41800</u>
3.00	51.60			9.60			9600
				3.00	28.80		

T	D	S	DESCRIPTION	T	D	S	DESCRIPTION
			Bath w.c				floor finishing
			2700				thick vitrified floor
			1050				with cement and sand
			2/3750				screeded bed (1:3)
			7500				1:2:8 = 2:2
7.50				3.00			(Office 1)
3.00	22.50			2.70	8.10		(Office 2)
	268.27			2.70			(Sec office)
				2.78	7.51		
6/2.10			Odd openings	2.70			
0.90	11.34		(D1)	1.95	5.27		
2.10			(D2)	2.70			(Lobby to sec)
0.75	1.58		(W1)	2.25	6.08		
2/1.20			(W2)	4.20			(Entrance porch)
1.50	3.60		(W3)	4.40	18.48		
3/1.20			(W4)	2.55			(Bath w.c)
1.80	4.82			1.05	2.68		
1.20					48.12		
0.90	1.08						
0.60							
0.60	0.36						
1.20							
1.20	1.44						
	24.42	55					
			16mm thick C/S				
			(1:4) rendered to tile	3.00			(Office 1)
			paint of wall exceeding	2.70	8.10		(Office 2)
			300mm thick	2.70			(Sec office)
				2.78	7.51		
				2.70			(Lobby to sec)
				1.95	5.27		
				2.70			(Entrance porch)
				2.25	6.08		
				4.20			(Bath w.c)
				4.40	18.48		
				2.55			
				1.05	2.68		
					48.12		

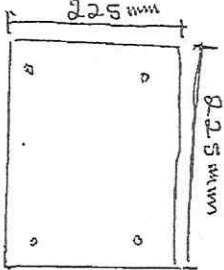
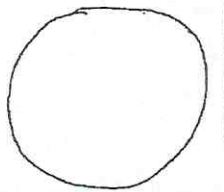
T	D	S	DESCRIPTION	T	D	S	DESCRIPTION
			first floor taking off list				① Description of work
			1- Description				the work measured in this section comprise of superstructural work in first floor
			2- frame work				2- frame work
			— concrete in slab				Concrete in slab m ³
			— concrete in column				Reinf'd conc. in situ
			— concrete in beam				Mix (1:2:4) 10mm
			— Reinf't in slab				with the thickness of 150 mm
			— Reinf't in column				
			→ Reinf't in beam				
			— stirrups in column				
			— stirrup in beam				
			→ form work to edges of slab				
			→ formwork to the soffits of slab				
			→ formwork in column				
			→ formwork in beam				
			3- External & Internal wall				
			— concrete in lintel				
			— Reinf't in lintel				
			→ stirrups in lintel				
			— form work in lintel				
			— Block work				
			— Doors & window schedule				
			4- finishings				
			— wall finishing				
			→ floor finishing				
			→ ceiling finishing				

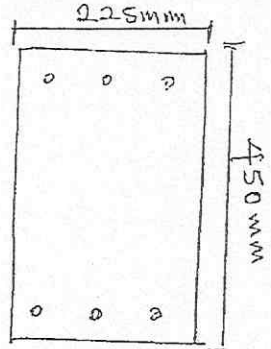
T	D	S	DESCRIPTION	T	D	S	DESCRIPTION
			<u>Concrete in beam</u>			<u>5.91</u>	
			Beam 1				Reinf ^g in Slab 1
			$600 + 4425 + 600$				$L = 14900$
			$= 5625$				less
			Beam 2				Cover $\frac{2}{25}$ 50
			$= 2225$				<u>14850</u>
			Beam 3				Add
			$600 + 2925 + 2925 + 2388$				hook bend
			$= 26454$				$\frac{2}{2}$ 288
			Beam 4				$\frac{2}{12/12}$ 15,138
			$2062 + 600 = 8062$				Add
			Beams				Lap 500
			$= 4138$				<u>15638</u>
			Beam 6				190 required
			$600 + 2925 + 2925 + 2095$				$200 \quad 7475 \quad 37.4 + 11$
			$+ 2075 = 10620$				$= 38 \text{ nr}$
			Reinf ^d m st u concr				$W = 7475$
			mix 1:2:4 19mm agg				less
			in beam running on				Cover $\frac{2}{25}$ 50
			external girth in the				<u>7425</u>
			building 1				Add
			1.11.7.5				hook bend
							$\frac{2}{2}$ 288
							$\frac{2}{12/12}$ 7713
							Add
							Lap 500
							<u>8,213</u>
							not required
							$200 \quad 14900 \quad 74.51$
							12mm high yield steel, run
							in slab in
							Reinforced m st u cov
							mix 1:2:4 19mm c
							w

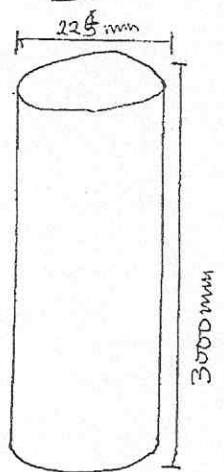
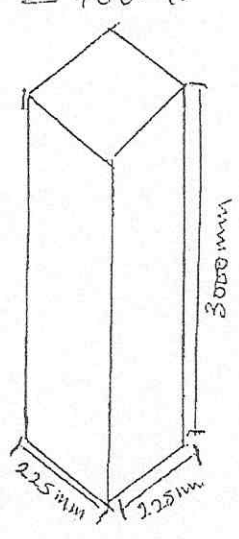
5.63	
0.45	
0.23	0.58
2.23	
0.45	
0.23	0.23
26.46	
0.45	
0.23	2.74
8.06	
0.45	
0.23	0.83
4.14	
0.45	
0.23	0.43
10.62	
0.45	
0.23	1.10

12mm high yield steel, run
in slab in
Reinforced mstu cov
mix 1:2:4 19mm c
w

[illegible]

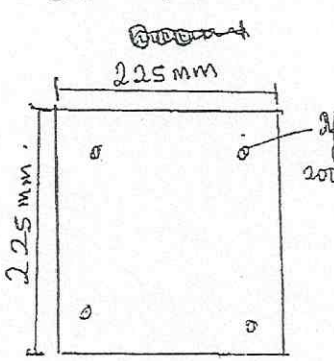
T	D	S	DESCRIPTION
			16mm of high yield reinft bar in beam 1-11-34-1-1
6/	6-04	36-34	
6/	2-18	13-08	
6/	26-92	161-52	
6/	8-53	51-18	
6/	4-60	27-6	
6/	10-57	63-12	
6/	11-08	66-48	
		419-82	X 1.579
			= 662.89 Kg
			<u>Stirrup in column</u> (Col 2)
			 length 225
			$\begin{array}{r} \text{less} \\ \text{Cover} \end{array} \quad \begin{array}{r} 50 \\ 4/175 \end{array}$
			$\begin{array}{r} \text{Add} \\ \text{hook bend} \\ 2\phi^2 \\ 2/10/10 \end{array} \quad \begin{array}{r} 700 \\ 200 \\ 900 \end{array}$
			$\begin{array}{r} 100 \text{ require} \\ 200 \sqrt{3000} \quad 15+1 \end{array}$
			= 16nr
			 225mm.

T	D	S	DESCRIPTION
			$2\pi r \quad \frac{225}{2} =$ $2 \times 3.142 \times 112.5 = 706$
			$\begin{array}{r} \text{less} \\ \text{Cover} \end{array} \quad \begin{array}{r} 50 \\ 656.95 \end{array}$
			$\begin{array}{r} \text{Add} \\ \text{bent} \\ 2\phi^2 \\ 2/10/10 \end{array} \quad \begin{array}{r} 200 \\ 856.95 \end{array}$
			$\frac{200}{\sqrt{3000}} \quad 15+1 = 16nr$
			10 mm high yield ste reinft bar as stirrup to col.
			1-11-39-1-4
16/	0-86	13-76	
16/	0-90	14-40	
		28-16	X 0.617
			= 17.37 Kg.
			<u>Stirrup in beam</u>
			 width 225mm height 450mm
			width 675
			$\begin{array}{r} \text{less} \\ \text{Cover} \end{array} \quad \begin{array}{r} 50 \\ 2/625 \end{array}$
			1250
			$\begin{array}{r} \text{Add} \\ \text{bent} \\ 2\phi^2 \\ 2/10/10 \end{array} \quad \begin{array}{r} 200 \\ 1450 \end{array}$

T	D	S	DESCRIPTION	T	D	S	DESCRIPTION
			Beam 1 length of stirup is 1450 $\frac{200}{5625} \frac{28.18+1}{= 29 \text{ nr}}$	$\frac{29}{1045} 42.05$ $\frac{12}{1045} 17.40$ $\frac{133}{1045} 192.85$ $\frac{4}{1045} 59.45$ $\frac{22}{1045} 31.90$ $\frac{34}{1045} 78.30$ 421.95×0.617 $= 260.34 \text{ kg.}$			
			Beam 2 length of stirup is 1450 $\frac{200}{2225} \frac{11.13+1}{= 12 \text{ nr}}$				form work to col. 
			Beam 3 length of stirup is 1450 $\frac{200}{26454} \frac{132.23+1}{= 133 \text{ nr}}$				
			Beam 4 length of stirup is 1450 $\frac{200}{8062} \frac{40.31+1}{41 \text{ nr}}$				
			Beam 5 length of stirup is 1450 $\frac{200}{4138} \frac{20.69+1}{22 \text{ nr}}$				$2\pi r h$ $2 \times 3.142 \times 212.5$ $= 706.95$
			Beam 6 length of stirup is 1450 $\frac{200}{10620} \frac{53.1+1}{54 \text{ nr}}$				
			10mm high yield steel reinf ^d bar as stirup and link to beam $1 \times 11.34 \times 1.4$				

[illegible]

T	D	S	DESCRIPTION	T	D	S	DESCRIPTION
			<u>Window 1</u> L = 1800 ~~Add~~ Pro 2/225 <u>450</u> 2250 <u>Window 2</u> L = 1500 ~~Add~~ Pro 2/225 <u>450</u> 1950 <u>Window 3</u> L = 600 ~~Add~~ Pro 2/225 <u>450</u> 1050 Rempt^d insitu conc. 1:2:4 19mm agg in Lintel 225mm filled into furnishes and well packed 1:11:2:1:2:1				<u>Rempt^d in lintel</u> Door 1 L = 1650 ~~Less~~ Cover 2/25 <u>50</u> 1600 ~~Add~~ block bent 2/25 <u>512</u> 2/16/16 2112 Door 2 L = 1200 ~~Less~~ Cover 2/25 <u>50</u> 1150 ~~Add~~ block bent 2/25 <u>512</u> 2/16/16 1662 Door 3 L = 1350 ~~Less~~ Cover 2/25 <u>50</u> 1300 ~~Add~~ block bent 2/25 <u>512</u> 2/16/16 1812 <u>Window 1</u> L = 2250 ~~Less~~ Cover <u>50</u> 2200 ~~Add~~ block bent 2/25 <u>512</u> 2/16/16 2712
11	1.65						
	0.23						
	0.23	0.09					
2	1.020						
	0.23						
	0.23	0.23					
3	1.35						
	0.23						
	0.23	0.21					
3	2.25						
	0.23						
	0.23	0.36					
3	1.95						
	0.23						
	0.23	0.31					
3	1.05						
	0.23						
	0.23	0.17					
		1.37					

T	D	S	DESCRIPTION	T	D	S	DESCRIPTION
			Window 2 L = 1950 Less 2cc cover 50 2/25 <u>1900</u> Add hook bend 2Ø² 512 2/16/16 <u>2412</u> Window 3 L = 1050 Less cover 50 <u>1000</u> Add hook bend 2Ø² 512 2/16/16 <u>1512</u> 16mm high tensile reinf in numerical size straight and bent in lintel 1011-34-101 1/4/ 2011 8044 2/4/ 1066 13028 3/4/ 1081 21072 3/4/ 2071 32052 3/4/ 2041 28092 3/4/ 1051 18012 12300 X 10579 1940217 kg.				Stirrup in lintel  girth = 225 Less Cover 50 4/175 <u>700</u> Add hook bend 2Ø² 200 2/10/10 <u>900</u> Door 1 length of stirrup is 200 1650 8025+ = 9 nr Door 2 length of stirrup is 200 1200 6+1 = 7 nr Door 3 length of stirrup is 200 1850 6075+ = 8 nr

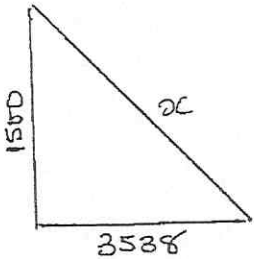
T	D	S	DESCRIPTION	T	D	S	DESCRIPTION
			Window 1 length of stamp is 900 $\frac{200}{2250} \left[\frac{11.25+1}{12nr} \right]$ Window 2 length of stamp is 900 $\frac{200}{1950} \left[\frac{9.75+1}{11nr} \right]$ Window 3 length of stamp is 900 $\frac{200}{1050} \left[\frac{5.25+1}{6nr} \right]$ 10 mm high yield steel temp 4 as stamps in lute $10 \times 11 \times 3 \times 1 \times 4$				form work in lute Sawn treated fa/w formwork to the side of lute $\frac{2}{1.65} \left[\frac{0.68}{2.24} \right]$ $\frac{2}{2} \left[\frac{1.20}{0.68} \right] \left[\frac{3.26}{3.26} \right]$ $\frac{3}{2} \left[\frac{1.30}{0.68} \right] \left[\frac{5.30}{5.30} \right]$ $\frac{3}{2} \left[\frac{2.25}{0.68} \right] \left[\frac{9.18}{9.18} \right]$ $\frac{3}{2} \left[\frac{1.95}{0.68} \right] \left[\frac{9.48}{9.48} \right]$ $\frac{3}{2} \left[\frac{1.05}{0.68} \right] \left[\frac{4.28}{4.28} \right]$ $\frac{32.24}{32.24}$ (D1) (D2) (D3) (W1) (W2) (W3)
1/9/0-90	8.10						Block work L = 14900 W = 7475 $\frac{2}{22375}$ Q = 44750 internal gutter horizontal 2250 1200 1800 2400 9.00 5400 18950
2/7/0-90	12.6						
3/8/0-90	21.60						
3/12/0-90	22.40						
3/11/0-90	29.90						
3/6/0-90	16.20						
			1206 X 0.617				
			74.41 kg.				

T	D	S	DESCRIPTION
			Vertical
			4175
			1200
			2/1160
			1425
			= 9126
			internal girth
			13950 + 9126
			wf = 23076
			EX = 44750
			2/67826
			135,652
			less
			Cotton Space
			6/225 1350
			134,302
			Height of building 3000mm
			225 x 225 x 450 Hollow sandcrete block filled with solid concrete (153) bedded and jointed in C/S mortar laid in stretcher bond in found- ation.
			Ddt. openings
			(D ₁)
			(D ₂)
			(D ₃)
134.30			
3.00	402.90		
2.10			
1.20	2.52		
2/2.10			
0.75	3.15		
3/2.10			
0.90	5.67		

T	D	S	DESCRIPTION
3/1.80			(W ₁)
1.20	6.48		
3/1.50			(W ₂)
1.20	5.40		
3/0.60			(W ₃)
0.60	1.08		
			379.6m ²
			Doors & window Schedules
			<u>Door 1</u>
			Double leave partly glazed aluminium frame door 2200mm x 2100mm
			<u>Door 2</u>
			Solid flush panel door with season u 750mm x 2100mm
			<u>Door 3</u>
			Solid flush panel door with season u 900mm x 1200mm
			<u>Window 1, 2 & 3</u>
			Aluminium glaze and sliding window 1800mm x 1200mm
			1500mm x 1200mm
			600mm x 600mm.

[illegible]

T	D	S	DESCRIPTION
			General store
			2250
			1200
			<u>2/3450</u>
			6900
	6090		
	3000	2090	
			Stairs wall
			4175
			2825
			<u>2/7000</u>
			14000
	14000		
	3000	4200	
			W.C.
			1200
			1163
			<u>2/2363</u>
			4726
	2/4723		
	3000	2888	
			Lobby to we
			2476
			1050
			<u>2/3526</u>
			7052
	7005		
	3000	2115	
			Art
			2400
			1425
			<u>2/3825</u>
			7650
	7065		
	3000	2245	
			<u>229053</u>

T	D	S	DESCRIPTION
			50x50 mm Sawn treated hardwood noggins.
10	10.33	103.30	(meeting room)
18	5.40	97.2	
3	2.25	6.75	(General store)
5	1.20	6.00	
2/3	1.16	6.96	(W.C)
2/3	1.20	7.20	(Lobby to W.C)
6	2.48	14.88	
5	1.50	7.50	(Kit)
3	2.40	7.20	
5	1.43	7.15	
		264.14	
<u>Stair case</u>			
			
$x^2 = (1.5)^2 + (3.84)^2$ $x^2 = 2.25 + 12.53$ $x^2 = 14.78$ $x = \sqrt{14.78}$ $= 3.845 \text{ m}$			
<u>Concrete waist</u>			
$L = 3.845$ $W = 300$ $\text{thickness} = 150$			
2	3.85		
	0.30		
	0.15	0.35	

T	D	S	DESCRIPTION
			Reinpt in waist
			$L = 3845$
			$\begin{array}{r} \text{less} \\ \text{cover} \end{array} \quad \begin{array}{r} 50 \\ 3.795 \end{array}$
			$\begin{array}{r} \text{Add} \\ \text{bend} \end{array} \quad \begin{array}{r} 288 \\ 40.83 \end{array}$
			$W = 300$
			$\begin{array}{r} \text{less} \\ \text{cover} \end{array} \quad \begin{array}{r} 50 \\ 2.50 \end{array}$
			$\begin{array}{ c c c } \hline 150 & 250 & 1.6+1 \\ \hline \end{array}$
			$= 3nr$
			12mm ϕ bar high
2	3.85	23.18	tensile load in waist
			$X 0.888 = 20.51 \text{ kg}$
<u>Formwork in side waist</u>			
			$L = 3845 \text{ mm}$
			$W = 300 \text{ mm}$
2	3.85	2.31	
	0.30		
<u>Side of waist</u>			
			$L = 3845$
<u>Concrete in tread & riser</u>			
			$L = 150$
			$W = 300$
			$h = 150$
2	3.85		
	0.15		
	0.60		
	0.15	0.51	

PROPOSED OFFICE DEVELOPMENT FOR PASTOR SAMUEL OLUDOL
 LOCATED AT ALAGBA LAYOUT IDO L.G.A OYO STATE

ABSTRACT SHEET FOR SUBSTRUCTURAL WORK

<u>UPROOT OF TREES</u> Cutting down or removal of trees Scrub up to their root including filling voids Girth 500mm — 1500mm 8nr Girth 1500mm — 3000mm 2nr	<u>Back filling</u> filling to excavate all depth 20: arising from excavation 20m³
<u>SITE CLEARANCE</u> Clear site of existing vegetation scrub up to their root and fill void 104m²	<u>LEVELLING & COMPACTING</u> levelling and compacting the bottom of excavation 75.29 ~ 75m²
<u>TOP SOIL EXCAVATION</u> Excavate vegetation top soil 150mm depth comm. below existing ground level 104m²	<u>SURFACE TREATMENT</u> prepare and apply dredex anti-termi solution to bottom & side of excav 182m²
<u>TOP SOIL DISPOSAL</u> Remove vegetation topsoil and dispose off site to a distance of 1m in spirit wrap 16m³	<u>SURFACE TREATMENT</u> earthwork support to faces of excavat max < 1.50m distance between opp faces < 2000m 194.92 ~ 200m²
<u>TOP SOIL DISPOSAL</u> Remove vegetation topsoil and dispose off site to a distance of 1m in spirit wrap 16m³	<u>LATEXITE FILLING</u> well compacted latexite filling 150mm thick spread in 150mm layers well ram & consolidation to cross all to access further finishes 8.39 ~ 8m³
<u>TRENCH EXCAVATION</u> excavate foundation trench standing at surface strip level max depth not 2m 40.41 ~ ~ 40m³	<u>HARDCORE FILLING</u> well compacted hardcore filling 300: thick imported to make up level underground floor slab 19.21 ~ ~ 19m³

PROPOSED OFFICE DEVELOPMENT FOR MINION DAMU ULMOLE
LOCATED AT ALAGBA LAYOUT WOLGA OYO STATE

ABSTRACT SHEET FOR SUBSTRUCTURE WORK

<u>D.P.M</u> Two layer of d.p.m of polythene sheet 1200mm gauge laid on filling 78.69 m 79 m²	<u>REINFT. IN COL.</u> High yield tensile 16mm ϕ reinf bar to column base 137 kg
<u>CONCRETE IN BINDING</u> 50 mm thick cement & sand binding poured against faces of pit excavation and foundation trench. 2.55 m 4.1 m³	<u>STIRUP & LINK IN COL.</u> High yield steel reinf bar 10mm in foundation column a stirrup and link 30 kg
<u>CONCRETE IN FOUNDATION</u> Plain insitu conc. 1:2:4 20mm agg in foundation trench 9 m³	<u>FABRIC MESH</u> BRC fabric mesh reinf weight 150kg/m² laid on floor slab to receive concrete 80 m²
<u>CONCRETE IN PIT BASE</u> Reinf insitu conc mix 1:2:4 19mm agg pit base 300mm thick filled into formwork and well pored. 9 m³	<u>FORMWORK TO COL BASE</u> Sawn treated w/w formwork p. col. base max depth 0.30m 103.44 m 103 m²
<u>CONCRETE IN COLUMN</u> Reinf insitu conc. mix 1:2:4 19mm agg in column 225mm thick filled into formwork & well packed 133 m³	<u>FORMWORK TO COL</u> Sawn treated w/w formwork for side of column 1100mm 11 m²
<u>CONCRETE IN SLAB</u> Reinf insitu conc. 1:2:4 19mm agg in floor slab 150mm thick filled into formwork & well packed 9.78 m 10 m³	<u>FORMWORK TO EDGES OF SLAB</u> Sawn treated w/w formwork edges of floor slab to provide smooth finishing not exceed 2.25mm 41 m²
<u>REINFT. IN COL. BASE</u> High yield tensile 12mm ϕ reinforced bar to column base 498 kg	<u>BLOCKWORK</u> Block in fdn 225x225x450mm hollow sandcrete block filled with hardcore (1:3) bedded & jointed in mortar laid in stretcher bond in fdn 53 m²

PROPOSED OFFICE DEVELOPMENT FOR PASTOR SAMUEL OLUDU
LOCATED AT ALEAGBA LAYOUT 100 LGA OYO STATE

ABSTRACT SHEET FOR SUB-STRUCTURE WORK.

EXTERNAL RENDERING TO
BLOCKWORK

14mm thick CSS mortar (1:3)
rendered to foundation wall

25m²

PALTING

Apply for coat of texture
point as render wall

25m²

PROPOSED OFFICE DEVELOPMENT FOR PASTOR SAMUEL OLADILE
 LOCATED AT ALAGBA LAYOUT 100 LG/A OYO STATE
 ABSTRACT SHEET FOR SUPERSTRUCTURE WORK GROUND FLOOR

<u>CONCRETE IN COL</u> Reinforced with conc 1:2:4 19mm agg in col 225mm thick filled into formwork and well packed (719 m³)	<u>FORMWORK IN BEAM</u> Sawn treated hardwood formwork to sides and support to beam (37 m²)
<u>CONCRETE IN BEAM</u> Reinforced with conc. mix 1:2:4 19mm agg in beam running on external girth of the building (4 m³)	<u>CONCRETE IN Lintel</u> Reinforced with conc. 1:2:4 19mm agg in lintel 225 mm filled with fines & packed (1.3 m³)
<u>REINFT TO BEAM</u> 16mm at high yield reinft bar in beam (394 kg)	<u>REINFT IN Lintel</u> 16mm high tensile reinft in numerical side straight on bend in lintel (195 kg)
<u>REINFT IN COL</u> 16mm at high yield reinft bar in col (474 kg)	<u>STIRRUPS IN Lintel</u> 10mm high yield steel reinft as stirrup & link in lintel (44 kg)
<u>STIRRUP IN COL</u> 10mm high yield reinft bar as stirrup & link to column (138 kg)	<u>FORMWORK IN Lintel</u> Sawn treated h/w formwork the side of lintel (14 m²)
<u>STIRRUP IN BEAM</u> 10mm high yield steel reinft bar as stirrup & link to beam (201 kg)	<u>Blockwork</u> 450x225x225 hollow sand. cret block laid on stretcher bond. jointed with c/s mix (1:3:4) (18 m²)
<u>FORMWORK TO COL</u> Sawn treated soft wood formwork to column max depth 300mm high & ground floor slab (73 m²)	

PROPOSED OFFICE DEVELOPMENT FOR PASTOR SAMUEL OLAN
 LOCATED AT ALAGBA LAYOUT KDO LGA OYO STATE
 ABSTRACT SHEET FOR SUPERSTRUCTURE WORK, GROUND FLOOR

<u>DOORS & WINDOWS</u> DOOR 1 Solid flush panel door with season wood 2100x900mm (6nr)	<u>WALL FINISHES</u> <u>EXTERNAL</u> 14mm thick C/S (1:3:4) rendering to wall & prepare and supply coat emulsion paint or render wall (84m²)
DOOR 2 Solid flush panel door with season 750mm x 2100mm (1nr)	<u>INTERNAL WALL</u> 16mm thick C/S rendered to other parts of wall exceeding 300mm thick & prepare and supply two coat emulsion p (245m²)
<u>WINDOW 1</u> Aluminum frame & sliding window 1200mm x 1500mm (2nr)	<u>FLOOR FINISHING</u> thick. reinforced floor with con crete screeds bed (48m²)
<u>WINDOW 2</u> Aluminum frame & sliding window 1200mm x 1800 (3nr)	<u>CEILING FINISHING</u> Paint and apply 3 coat of emulsion paint to buff of slabs (48m²)
<u>WINDOW 3</u> Aluminum frame window 1200mm x 900mm (1nr)	
<u>WINDOW 4</u> Aluminum & sliding window 600x600mm (1nr)	
<u>WINDOWS</u> Aluminum frame & window 1200mm x 1200mm (1nr)	

PROPOSED OFFICE DEVELOPMENT OF PASTOR SAMUEL OLADISI
LOCATED AT ALABA LAYOUT 100 LGA OYO STATE.

ABSTRACT SHEET FOR SUPERSTRUCTURE WORK (FIRST FLOOR)

<u>CONCRETE IN SLAB</u> Rempt conc. with mix (1:2:4) 19mm agg. with thickness of 150mm <u>11 m³</u>	<u>REINOF IN BEAM</u> 16mm at high yield reinf to in beam <u>663 kg</u>
<u>CONCRETE IN COLUMN</u> Rempt with concrete 1:2:4 19mm agg in column 225mm thick filled into formwork & well packed <u>7.15 m³</u>	<u>STIRRUP IN COL</u> 10mm high yield steel reinf bar as stirrup to column. <u>17 kg</u>
<u>CONCRETE IN BEAM</u> Rempt with conc. mix 1:2:4 19mm agg in beam running on external girders in the building <u>6 m³</u>	<u>STIRRUP IN BEAM</u> 10mm high yield steel reinf to as stirrup and link to beam. <u>260 kg</u>
<u>REINOF SLAB</u> 12mm high yield steel running in slab, in reinf with conc. mix 1:2:4 19mm agg <u>1082 kg</u>	<u>FORMWORK TO COLL.</u> Sawn treated wood work form work to the side of col. <u>15 m²</u>
<u>REINOF IN COL</u> 16mm at high yield reinf bar in col. <u>165 kg</u>	<u>FORMWORK IN BEAM</u> Sawn treated w/w formwork side of the beam. <u>51 m²</u>
	<u>FORMWORK TO THE EDGE OF SLAB</u> Sawn treated wood work to the edges of slab not exceed 150mm. <u>45 m</u>
	<u>FORMWORK TO THE SOFFIT THE SLAB</u> Sawn treated w/w to the sup of the slab <u>112 m²</u>

PROPOSED OFFICE DEVELOPMENT AT FUTURE SITE
 LOCATED ALAGA LAYOUT NO L 9 AT OYO STATE
 ABSTRACT SHEET FOR SUPERSTRUCTURE WORK (FIRST FLOOR)

CONCRETE IN LINTEL

Reinf^t with conc = 1:2:4
 19mm agg in lintel 225mm
 filled into fushes and well
 packed

1:37
 1 m³

DOORS & WINDOWS

Door 1

Double leave partly glazed
 aluminum frame door
 1200mm X 2100mm

1 nr

Door 2

Solid flush panel door with
 Season wood
 750mm X 2100mm

2 nr

Door 3

Solid flush panel door with
 Seasoned wood
 900mm X 1200mm

Reinf^t IN LINTEL

16mm high tensile reinf^t in
 numerical size straight and
 bent in lintel

194 kg

STIRRUP IN LINTEL

10mm high yield steel reinf^t
 as stirrup in lintel

74 kg

Window 1, 2 & 3

Aluminum glaze and slide
 window

1800mm X 1200mm

3 nr

1500mm X 1200mm

3 nr

600mm X 600mm

FORMWORK IN LINTEL

Season treated w/w formwork to
 the side of lintel

32 m²

BLOCK WORK

225 X 225 X 450 Hollow sandcrete
 block filled with solid concrete
 (1:3) bedded and jointed in
 c/s mortar laid in stretcher
 bond in foundation.

m²

WALL FINISHING (EXT.)

14mm thick C/S (1:4) render
 to wall

119 m²

prepare and apply 2 coats
 emulsion paint or rendered in

PROPOSED OFFICE DEVELOPMENT OF PASTOR SAMUEL BLADU
LOCATED ALAGBA LAYOUT W0 LG14 OYO STATE.

ABSTRACT SHEET FOR SUPERSTRUCTURE (FIRST FLOOR).

WALL FINISHING (INT.)
16mm thick CSS rendered to
other part of wall exceeding
200mm thick & prepare sand
Apply two coat emulsion
paint

205 m².

FLOOR FINISHING

50 mm thick reinforced floor
with cement and sand
screeded bed (1:3)

71 m²

Ceiling finishing

200mm wide high quality
AMOLAR PVC ceiling sheet

71 m²

PROPOSED OFFICE DEVELOPMENT OF PASTOR SAMUEL OLADISI
 LOCATED -ALABURA LAYOUT 100 LGTA OYO STATE

ABSTRACT SHEET - FOR ROOF WORK

<u>WALL PLATE</u> 100mm x 50mm handwood wall plate (94m)	<u>RIDGE CAP</u> 300mm girth ridge cap (21m)
<u>TIE BEAM</u> 100 x 50 mm handwood (94m)	<u>FASCHAL BOARD</u> 25mm x 300mm hand wood fasc board (45m)
<u>RAFTER</u> 100mm x 50mm sawn treated handwood rafter (125m)	<u>ROOF COVERING</u> 0.055mm thick longspan Alu zinc roofing sheet to nail to handwood purlin in accordance with manufacturer catalogue (83 m²)
<u>STRUCT</u> 100 x 50mm sawn treated handwood struct (351m)	<u>DOG EYE</u> 50mm x 50mm sawn treated handwood dog eyes (264 m)
<u>KING POST</u> 100mm x 50mm sawn treated handwood (39m)	
<u>PURLINS</u> 75mm x 50mm sawn treated handwood purlin (268m)	

PROPOSED OFFICE DEVELOPMENT OF PASTOR SAMUEL BLADES
LOCATED ALABAMA LAYOUT 100 L.G.A OYO STATE

ABSTRACT SHEET FOR STAIR CASE

<u>CONCRETE IN WAIST</u> Reinforce insitu conc mix 1:2:4. 19 mm egg 0.35 m³	<u>REINFT IN TREAD</u> <u>& RISER</u> 12 mm ϕ bar high tensile in tread & riser 4 kg
<u>REINFT IN WAIST</u> 12 mm ϕ bar high tensile load in waist 21 kg	<u>FORMWORK IN LANDING</u> Sawn treated hand wood to the landing 2 m
<u>FORMWORK IN SIDE</u> <u>WAIST</u> Sawn treated formwork to sides of waist 2 m²	<u>REINFT IN LANDING</u> 12 mm ϕ bar high tensile 5 kg
<u>CONCRETE IN TREAD</u> <u>-AND RISER</u> Reinforce insitu conc mix 1:2:4 19 mm egg 0.51 m³	
<u>FORMWORK IN TREAD</u> <u>-AND RISER</u> Sawn treated hand wood to tread and riser 0.05 m²	

CHAPTER FIVE

5.1 SUMMARY

This research was carried out to estimate and budget for a medium scale building for a proposed storey building office development for pastor Samuel Oladele located at alagba layout Ido L.GA oyo state.

It is also designed to show the process of taking off, abstracting and method of preparing bill of quantities.

5.2 CONCLUSION

In conclusion, we observed that estimating for medium scale building project is very important. !

- i. It gives an itemized list of the component parts of the building with a full description and quantity of each part.
- ii. It serve as a guidelines for the contractor.
- iii. It provides a basis for a valuation of variable which often occur during the progress of the work.
- iv. It enables all contractor tendering for a contract to price on exactly the same information with a minimum of effort.

5.3 RECOMMENDATIONS

From the analysis of the data in chapter four of this project, the following Commendations was be made.

The Quantity Surveyor should provide an estimate during the preliminary stage of the project in order to forecast its likely cost.

- ii. It is important not to under estimate and over estimate, proper estimating procedures should be used and the layout of the estimate should be clear and logical.

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