



DEPARTMENT OF QUANTITY SURVEYING. TAKING-OFF FOR THE PROPOSED MEDIUM SCALE BUILDING.

(A CASE OF STUDY OF TAKING-OFF FOR PROPOSED THREE (3) BEDROOM BUNGALOW FOR OLUBIYO OLUFEMI AT OBAGBAJA ESTATE, ALIARA, ILORIN, ILORIN WEST LOCAL GOVERNMENT AREA, KWARA STATE.

BY

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ND/23/QTS/PT/0018

SUBMITTED TO

THE DEPARTMENT OF QUANTITY SURVEYING INSTITUTE OF ENVIRONMENTAL STUDIES (IES) KWARA STATE POLYTECHNIC ILORIN, KWARA STATE

IN PARTIAL FULFILMENT OF THE REQUIREMENT FOR THE AWARD OF NATIONAL DIPLOMA (ND) IN DEPARTMENT OF QUANTITY SURVEYING.

JULY, 2025.

CERTIFICATION

This is to certify that, SULYMAN ABDULQODIR OLAYINKA, YUSUF ABDULMALIK AYINDE, BABATUNDE ABDULQUDUS BOLAKALE, OLUGBILE SAMAD FOLORUNSHO, OVALA FLORENCE, JIMOH MURITALA ABIODUN, Have successfully completed the practical project work in partial fulfillment and requirement for Award of National Diploma in Quantity Surveying department, Institute of environmental studies, Kwara state polytechnic, Ilorin.


QS. MUSTAPHA LUKMAN
(Project Supervisor)

8/08/2025
DATE

QS. SIDIQ LATEEF
(HEAD OF DEPARTMENT)

DATE

EXTERNAL EXAMINER
QS ZAKARI MAHMUD TSARAGI

DATE

STUDENT

DATE

DEDICATION

This project work is dedicated to Almighty God for seeing me through my stay in Kwara State Polytechnic and it also dedicated to my Parents.

ACKNOWLEDGEMENT

My profound gratitude goes to God forgiving me the privilege to complete this course, and particular my project successfully despite all the obstacles in my path.

My appreciate goes to my parent, and everyone who are in support from one way or the other.

My appreciation goes to my project supervisor QS MUSTAPHA LUKMAN despite his tight schedule still found us precious time to go through my taking off sheet and write up, a big thanks to all our lecturers and non-academic staff may God bless and reward you all abundantly.

BABATUNDE ABDULQUDUS BOLAKALE

ND/23/QTS/PT/0009

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ABSTRACT

This project focuses on preliminary activities that led to preparation of draft Bill of quantity for proposed three Bedroom Bungalow Building located at Obagbaja Estate, Aliara, Ilorin., Ilorin West Local Government Area, Kwara State. Meanwhile, this is to prepare pre-constructional cost on any proposed project and understanding the process of site investigation and to understand the Construction Company/ industry.

CHAPTER ONE

1.0 BACKGROUND INFORMATION

This project is based on proposed residential development and take-off project residential development for Olubiyo Olufemi , Obagbaja Estate, Aliara, Ilorin., Ilorin West Local Government Area, Kwara State, is one of the 36 states in Nigeria, in which Ilorin is the capital. But our project for the proposed residential development for Olubiyo Olufemi, Obagbaja Estate, Aliara, Ilorin., Ilorin West Local Government Area, Kwara State.

The design team on consultancy, services headed by the architects, civil engineers, who carry out the design, this process is a planned office works into the requirement of the client. The production of a building in a more economical, quick and orderly manner, other professionals function along side with the architect for the cost implication and preparation of bill of quantities (BOQs).

The expected professional needed at the stage is the quantity Surveyor. His Concern is the economic of all resources Such as labour, plant materials and the financial aspect in order to produce building in the quick and economical manner because many buildings today have not been completed.

1.1 DESCRIPTION OF WORKS

This project consist of construction and erection of the proposed residential development for Olubiyo Olufemi , Obagbaja Estate, Aliara, Ilorin., Ilorin West Local Government Area, Kwara State.

he residential development and take off project residential development for Olubiyo Olufemi , Obagbaja Estate, Aliara, Ilorin., Ilorin West Local Government Area, Kwara State of about 28.78in length, 10.50 widths.

The construction is formed on reinforced concrete pad foundation and framed structure. The suspended floor is of reinforced concrete slab (150mm thick). The walls are 225mm thick concrete block.

The roofing used is long span aluminum roofing sheet fixed a roofing structure, purchase, Electrical etc.

1.2 AIM AND OBJECTIVES

The major aim of the study is to estimate and budget for a proposed residential development for Olubiyo Olufemi , Obagbaja Estate, Aliara, Ilorin., Ilorin West Local Government Area, Kwara State.

OBJECTIVES

To understand bill operation I.e taking-off process, abstract bill drafting and pricing.

To understand the process of site feasibility report.

To understand the process of given pre - constructed cost of any proposed project.

1.3 SCOPE OF THE PROJECT

The scope of the project is to prepare a draft bill of quantities for a proposed residential development for Olubiyo Olufemi , Obagbaja Estate, Aliara, Ilorin., Ilorin West Local Government Area, Kwara State.

However, the limitation may not be accurate as a result of:

A: Inability to conduct proper site investigation

B: Inability to conduct the architect that designs the project.

CHAPTER TWO

SITE REPORT

2.0 TITLE

The proposed building project for proposed residential development for Olubiyo Olufemi , Obagbaja Estate, Aliara, Ilorin., Ilorin West Local Government Area, Kwara State.

2.1 LOCATION

The site is situated at Ilorin West Local Government, The site is a loamy soil type, the site is best described as loamy soil also, the site is sloppy

2.2 SITE DESCRIPTION

Nature of the land: the proposed land is of loamy soil in nature with sloppy surface. This reducing the possibility of increase in construction cost due to strip foundation.

2.3 ACCESSIBILITY

The site is located at Obagbaja Estate, Aliara, Ilorin., Ilorin West Local Government Area, Kwara State: therefore, there is an existing road, which leads to the site.

2.4 AVAILABILITY AND PROXIMITY OF RESOURCES

Proximity means the closeness of materials to the proposed site. The construction resources include the following:

I. PLANT

Also, necessary plant needed for this proposed project is readily available here in Ilorin township, such plant include, Bulldozer, scraper, electric generator, concrete mixer vibrator Compacting machine etc.

ii. MATERIALS

The white materials necessary for this proposed building project for a proposed residential development for Olubiyo Olufemi , Obagbaja Estate, Aliara, Ilorin., Ilorin West Local Government Area, Kwara State, which is very available in Ilorin metropolis

However, all the materials needed for the execution of this proposed project is little but removed from the site of work Thus, a reasonable amount is to be set aside for the transportation of materials, which will eventually increase the constructional cost in general.

EXTENET OF PRELIMINARIES REQUIRED

Extent preliminaries have a great effect on construction, such preliminaries are explained below

1. SETTING OUT: In setting out, site clearance is necessary by cutting down for tree and hedges top soil excavation before and making the provision of setting out instrument such as profile pegs, measuring tape etc. before the commencement of site operation.

ELECTRICITY: Provision for electricity is by connecting of wires from the nearby poles in the site. And provision for electrical generator shall there is power failure, generator shall be used. These affect the cost on construction.

TEMPORERY FENCE:Temporary fence should be done to cover and protect the material left and kept onsite.

IV. FIRST AID BOX: This is very important in anyconstruction due to some injury that may occur on site,which might be minor or major injuries before going to thehospital.

V. WATER SUPPLY: Water supply will have to be fromIlorin township possibility with the use of tanker and therewill be need for reservoir tank.

SCALFOLDING: There should be a provision for scaffolding because the project building, so there will be need for scaffolding during commencement of the work.

2.5 DEFINITION OF TERMS

1. PROVISIONAL SUM: - Refers to a sum provided for work or for cost which can not be easily for seen, defined or detailed at the time the tendering documents are issued.

2. PRIME SUM COST: - This refers to a sum provided for work or services to be executed by a nominated sub-contractor.

3. BESMM 4 R: - Describe "Taking off" as the process in which dimension are scaled or read from drawings and entered in a recognized form on a specially ruled paper called dimension paper.

4. BESMM 4 R: - Define "Tender" formal offer to construct and complete the contract work in accordance with the various contract documents for the tender sum.

5. BESMM 4 R: - Define "Bill of Quantities" as one that consist of a schedule of items of work to be carried out under the contract with quantities entered against each item, prepared in accordance with the standard method of measurement of building works.

6. BESMM 4 R opened that "contract drawing depict the details and scope of the works to be executed under the contract, they must be prepared in sufficient detail to enable the contractor to satisfy only price the bill of quantities.

7. According to Willis's is "budgeting" is a targeted financial statement or document of the cost of a proposed construction project.

CHAPTER THREE

3.0 TAKING OFF PROCESS EXPLAINED

The order of taking-off as described [Seeley 1988] largely follows the order of construction to simplify the work and to reduce the risk of items being missed, but it's not necessarily that adopted in standard method of measurement. The measured items will then subsequently be solved into bill order which can embrace the work section in standard method of measurement to secure uniformity and assist with a number of skin work sections such as 1.5 (excavating and filling) 1.11 [mixing, casting turning in situ zone), 1.14 [brick and block walling].

In a simple building the order of taking off could take from shown in the following schedule, although it will be appreciated that this may be varied to suit individual preferences and specific location.

Section of work copied from [BESMM4R]

1. Groundwork and substructure or foundation work up to and including damp-proof course (DPC)
2. Brick work including face work
3. Block work
4. Fireplace, dummy breast and stats (where appropriate),
5. Floors (solid and suspended)
6. Roofs (pitched and flat, including covering and rain water installation)
7. Windows, including adjustments of openings
8. Doors, including adjustments of openings

9. Fittings and fixtures

10. Stairs

11. Finishes (walls, ceiling, and floors)

12. External walls including. Roads, path, fence, and graded areas.

13. Drainage work.

3.1 WASTE CALCULATION

Except in simple cases dimension should not be calculated mentally. Not only with the risk of error be reduced if the calculations are written down they will be calculated/ checked, but another person can readily see the origin of the dimension. These preliminary calculations known as "waste calculation" are made on the right hand side at the description column. They must be written definitely and clearly, and not scribbled as if they were a calculation worked out on scrap paper the term waste are needed for this part of the column might be through simply "useless" but in fact implies a means to an end. Every effort must be made to commit to writing the train of thought of the taken-off. Waste calculation should be limited to these necessary for the clear setting down of the dimension by the taken off, and should not be the place of squaring.

HOW CERTAIN DIMENSION ARE EVALUATED

			LENGTH
			91.29
			8,050
			6,110
			14251.29
			WIDTH

			25.69

3.Linear measurements

4. Enumerated items

5.Items

(Ref: opined from Willis's element of quantity surveying tenth edition).

3.3 DESCRIPTION

According to BESMM 4 R who quoted that considerable care and skill are required to frame adequate and yet at the same time, concise descriptions. This is probably the most difficult aspect of taking off work and one which the student should take great pains to master. The writing of description forms an important part of editing the bill.

In addition to covering all the matters detailed in the standard method of measurement of building works [Besmm 4 R] the descriptions must include all the information which the estimator will require to build up a realistic price for the item in question where there is doubt in the mind of the estimator as to the full nature and / or of the item being priced, then the description is lacking in some essential features. Description can

	91.29		
		12,000	
		13,500	
		11,700	
		4) <u>37291.29</u>	
		AW = 9322082	
99.14	under side of coric	<u>12,1050</u>	
1.00		<u>1010</u>	
1.01	Excavation, Trendiest width Exceeding		
	0.30m maximum depth not exceeding		
	2.00m		

3.4 DEDUCTIONS

Where deduction is to made, the description is preceded bydeduct which is often abbreviated deduct When carelessly writtenhas been known to be mistaken for add. It is of course, important tomake quite clear whether a measurement is to be added ordeducted and some surveyors always put the word "Add" for anydescription immediately following a deduction, others only when afollowing addition is coupled to the deduction by "& as in theexample below. In taking off on traditional paper, it is important thatall deduction in a series of coupled description are clearly marked"deduct" all doubt whether any description is an add or deductthereby being removed. An example of deductions follows:

1.0	Deduct			
2.0		One and half block wall face work one side		
		&		
	<u>Deduct</u>			
	Emulsion plaster general surface			
	internally			

(Written and drawing taken from Willis' element of quantity surveying tenth edition).

Under the traditional method of processing dimension, the function of the abstract was to collect similar items together and to classify them primarily into the SMM sections and subsequently according to certain accepted rules of order and arrangement, to put them in a suitable sequence for writing the bill. The abstract was prepared by copying the description and squared dimension from the taken-off into abstract paper in a tabulated form as nearly as practicable in the order of the bills.

The need for an abstract was eliminated by the use of the cut and shuffle system. The principles behind the abstract were retained but the order was affected by noting each item on a separate slip of paper and sorting them into the correct order, as described.

(Copied Willis' element of quantity surveying tenth edition)

3.7 ABSTRACTIONS

Under this traditional method of taking off abstraction can be extensively used to shorten description and individual words.

However, in the case of cut and shuffle taking-off such abbreviations are restricted to solve slip description in the examples that follow abbreviations have been kept to a minimum.

A special note might perhaps be made here of the abbreviations "ab" for "as before". Where this is used and might refer to more than one item it always refers to the last types of 44 door measures, if there had been several different varieties of however, there is any doubt it is also best to add to the brief description sufficient for it to be identified or to say '44mm' door abcol. 146. The reference in the column number being a definite guide other abbreviations also includes;

1. Med	-	Medium
2. Jst	-	Joist
3. Jt	-	Joint

4. Irreg	-	Irregular
5. Mo	-	Moulded
6. Ov'll	-	Over all
7. O.b	-	one brick
8. m/ce	-	Mortice
9. A.b.d	-	as before described

3.8 NILLING

Nilling is simply defined as the method of canceling wrong calculation or writings during taking-off process. Instead of crossing or shouting the calculated or written item "Willis' best in this process, there are three listed areas where Nilling is used is applied in taking off which include;

- i. On waste educations
- ii. On figured dimension
- iii. And on figured descriptions

An example of Niling on a dimension sheet on taking off drawn below:

Bill of quantities usually known as the BOQ contains required complete analysis of labour, materials and plants required, contained outlined and defected in the architects and civil engineer drawings and details and accurately representing the work to be executed and obtaining the cost of a proposed project before it is been carried out

PURPOSE/ FUNCTION OF A BILL OF QUANTITY

- I. First and foremost it enables all contractors tendering for a contract to price on exactly the same information.
- II. It limits the risks element borne by the contractor to the rate but enters the bill and thereby results in more realistic and competitive tenders
- III. It prompts the client and design team to finalize most project particulars before the bill is prepared and ideally based on full production drawing and project specification
- IV. After being priced it provides a satisfactory basis for the evaluation of various and adjustments to the final account.

V. Priced bills also provide a useful basis for the valuation of certified stage payment throughout a contract.

VI. It gives an itemized list of the component point of each part, and could form an approximate checklist for the successful contractor in ordering material and components and assessing L.S requirements of labour and other resource and in progressing the work.

VII. After being priced, it provides a good basis for the preparation of cost analysis for use in the cost planning of future projects

3.10 COMPOSITION AND PREPARATION OF BILL OF QUANTITIES

According to Willis's the element quantity surveying 1998, which says the traditional preparation of a bill of quantities divides itself into two distinct stages which are listed as follows:

1. The measurement of the dimension and the completion of the descriptions from the drawing and specification. This process is commonly known as taking - off.
2. the preparation of the bill: this involves the calculation of volume, area etc (squaring the dimension) traditionally this, was followed by entering the description and the squared dimension
3. on an abstract (abstracting) to (collect descriptions and the squared dimensions) NIL Collect similar items together and present them in a recognized bill order from this abstract that draft was written (billing).

3.11 STAGES IN BILL OF QUANTITIES

There are four distinct stages in the preparation of a bill of quantities that are listed below

- I. Talking- off
- II. Squaring

III. Abstracting

IV. Billing

Conclusively, for a standard and acceptable bill of quantities to be provided / produced all the above discussions in the chapter must be carefully dealt with.

3.12 METHOD OF BILL PREPARATION

There is several method of preparing bill but five methods are mentioned and explained here. And these are:

I. Activity bill method

II. Annotated bill method

III. Cut and shuffle method

IV. Elemental bill method

V. Nm operational bill method [derived from iv or H. Seeley[1988]

Means while, in the course of this study the section order was adopted while the bit was prepared in all elemental form: the reason is that it's the best order to pricing and making enquiries

Also it is suitable on the cost analysis purpose and post contract arrangement. Lastly is the best understanding for any taker - off

EXPLANATION OF THE METHOD ABOVE BILL PREPARATION METHOD

ACTIVITY BILL METHOD: This bill was a development of the operation form list without the separation of labour and materials. It was sub- divided into section based on the activities or operation derived from a network analysis. The work was measured in accordance with the standard method although, on site and off site activities were usually separated and special

equipments and components and the work of nominated specialists could be grouped in [section) NIL} separation bills.

[Copied from Seeley 1988 building quantity explained]

ANNOTATED BILL METHOD: it is possible for the bill of quantities to give the contractor full details of the quantity types and quantity of materials and labour. Nevertheless, there are always some billed items whose location in the works is not readily identifiable and it is most useful to leave a note against them in the bill giving their location. This approach has resulted in the production of annotated bill.

Annotation may be prepared in a separate document from the bill of quantities or they may be bound in at the back of the bill. This provides the clearest and most helpful method.

OPERATION BILL METHOD: This was developed by the building research establishment in the 1960's and they sub-divided the work into site done by a distinct from Trade's or element.

Operation was defined as work done by a man, or by gang of men some definite stage in the building process. It involved fundamental divergence from a traditional bill, with the separation of labour and materials items and required significant changes in the rules of measurement prescribed in the standard method.

Operational bills were both bulky and costly to produce. On the other hand typing and printing of the bill could be started at an earlier stage and there was a reduction in the amount of editing necessary (derived from Seeley 1988 building quantities explained).

ELEMENTAL BILL METHOD: This bill method is divided into appropriate building elements instead of the normal work sections. Hence excavating and filling mixing walling are replaced by such bill headings as substructure, external walls internal walls and floors. There are benefits to be gained by using RICS building cost information services (BICS) Element and sub elements to secure standardization and assist with planning and cost analysis work.

[Copied from Seeley 1988 building quantities explained].

CUT AND SHUFFLE BILL METHOD: the system was developed in the early 1960's and by the late 1970's was probably one of the most widely used methods of entering dimension and description. It has been aptly described as a rationalized traditional procedure. Unlike abstracting and building there is no universally accepted format and many different paper rulings and methods of implementations are used in different offices.

The cut and shuffle system is designed to eliminate the preparation and checking of the abstract and draft bill. Hence there is only one major written operation namely taking off compared with the drawing to illustrate a normal cut and shuffle paper and ruling is below

3.13 RULES OF BILL

The order of billed terms will be the same as in the abstract as far as practicable and they will generally follow the order and terminology item to be priced in the bill is referenced by letters and number in first column. It will be noticed that all work in the below description are written in full.

Wrought Mahogany

		Starting, picture eails, architects and the like			
	F	25 × 150 mould: screwed with bass cup and screw:			
		Plugged to masonry	71	m	
	G	Extra over for mitres	16	nr	
	H	Extra over for ends	12	nr	
	N	25× 20 ditto	22	m	
	K	Extra over for mitres	8	nr	
(Taken from Seeley 1998 building quantities explained)					

CHAPTER FIVE

SUMMARY RECOMMENDATION AND CONCLUSION

5.0 SUMMARY

The research was carried out to estimate and budget for a proposed student Hostel project A case study of college Development and take off project residential development for pastor Paul, Ilorin south local govt. area Ilorin kwara state.

5.1 CONCLUSION

Conclusion, we observed that estimating and budgeting for residential development for pastor Paul, Ilorin south local govt. area Ilorin kwara state.

- A. . It enables a basis for the valuation of variations, which often Occur during the progress of the work.
- B. It enables all contractors to tender for a contract to price exactly the same information with a minimum of effort.
- C. It gives an itemized list of the component of the building with a full description and the quantity of each part and this may assist successful contractor in ordering materials and accessing his labour requirement for the contractor.
- D. It serve as a Guideline for any contractors
- E. After items are been priced, it provides a good basis for an analysis which subsequently will be of use on future contract in cost planning work.
- F. Fully described and accurately represent the quantity of the workers to be carried out.

5.2 RECOMMENDATION

From the analysis of death in chapter of the project, the following recommendation should be made

- a. The quantity surveyor should provide an estimate during the preliminary stage of the project in order to forecast it's likely cost
- b. It is important in order not to overestimate, proper estimating procedure should be used and the layout of the estimated should be clear and logical

PROPOSED DEVELOPMENT OF RESIDENTIAL BUILDING

**FOR
OLUBIYO OLUFEMI**

@

**OBAGBAJA ESTATE, ALIARA, ILORIN, ILORIN WEST
LOCAL GOVERNMENT AREA, KWARA STATE.**

ARCHITECTURAL WORKING DRAWINGS

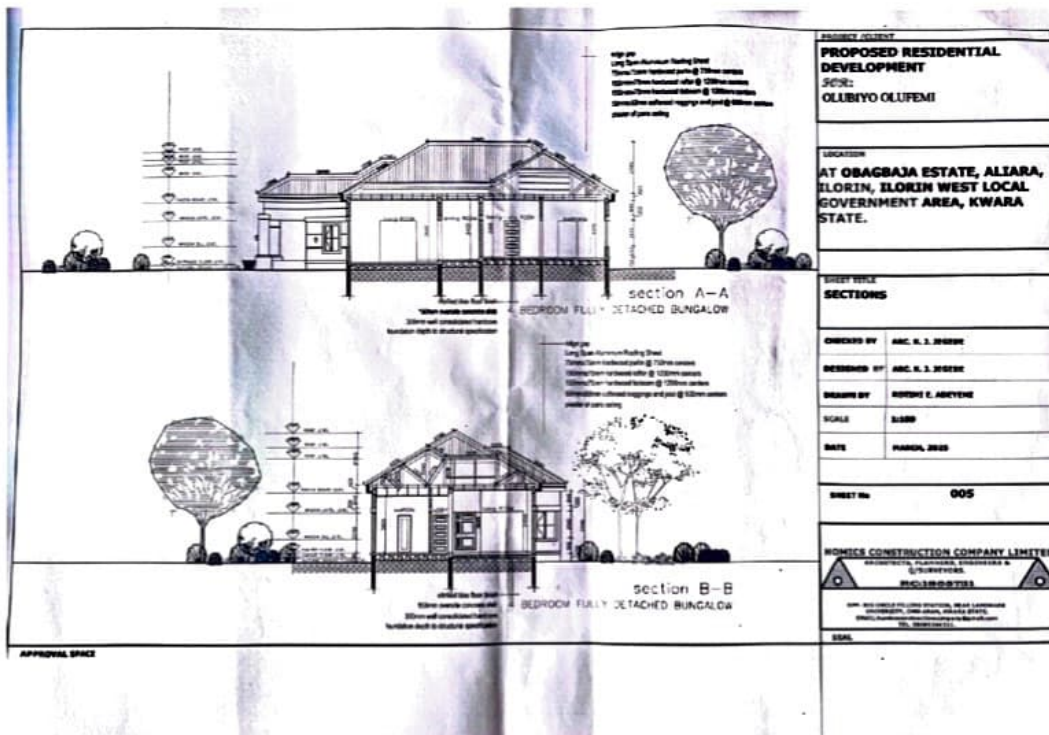
MARCH, 2025

HOMICS CONSTRUCTION COMPANY LIMITED

ARCHITECTS, PLANNERS, ENGINEERS & Q. SURVEYORS.

RC:1905731

**OPP. BIG UNCLE FILLING STATION, NEAR LANDMARK UNIVERSITY, OHU-ARAN,
KWARA STATE. TEL. 08065244311. EMAIL: homicsconstructioncompany@gmail.com**



PROJECT / CLIENT

**PROPOSED RESIDENTIAL
DEVELOPMENT**

969:
OLUBIYO OLUFEMI

LOCATION

**AT OBAGBAJA ESTATE, ALIARA,
ILORIN, ILORIN WEST LOCAL
GOVERNMENT AREA, KWARA
STATE.**

SHEET TITLE

ROOF PLAN

CHECKED BY **ARC. K. J. JEGEDE**

DESIGNED BY **ARC. K. J. JEGEDE**

DRAWN BY **NOTEMI E. ADOTYEMI**

SCALE **1:1500**

DATE **MARCH, 2023**

SHEET No **004**

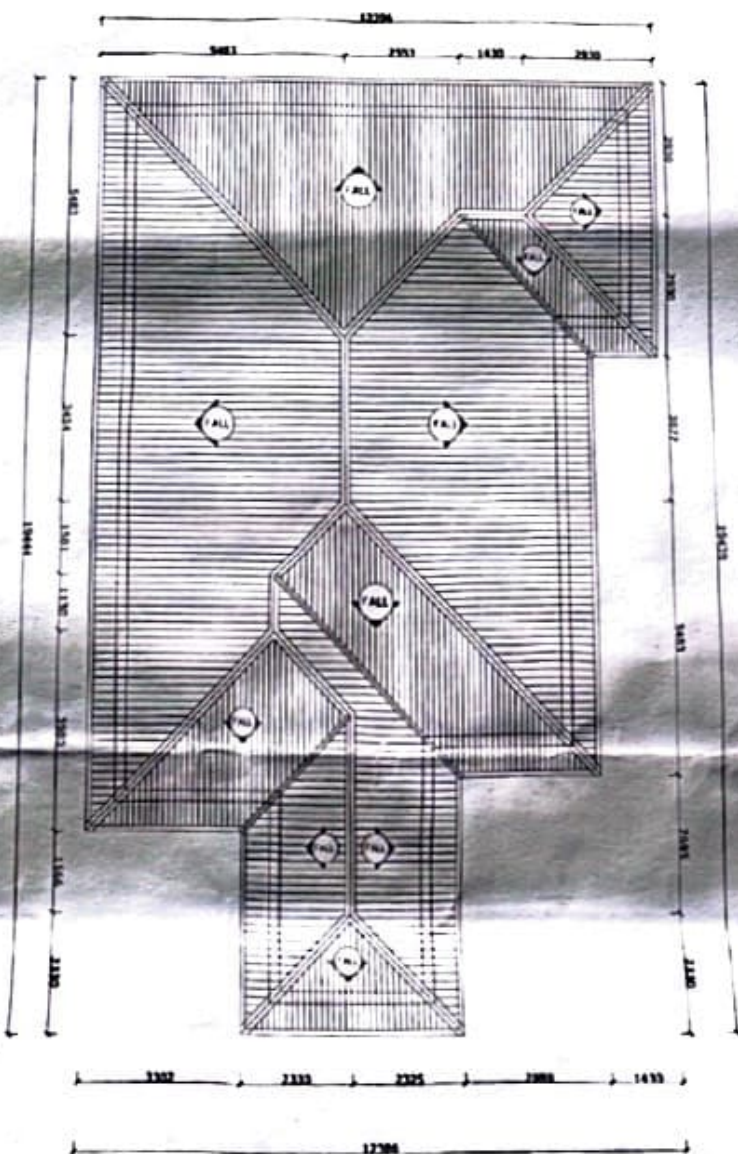
HOMICS CONSTRUCTION COMPANY LIMITED
ARCHITECTS, PLANNERS, ENGINEERS &
SURVEYORS.

012080701

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TEL: 0901204211

SEAL

APPROVAL SPACE



Roof PLAN
3 BEDROOM FULLY DETACHED BUNGALOW

PROJECT CLIENT

**PROPOSED RESIDENTIAL
DEVELOPMENT**

563:
OLUBIYO OLUFEMI

LOCATION
AT OBAGBAJA ESTATE, ALIARA,
ILORIN, ILORIN WEST LOCAL
GOVERNMENT AREA, KWARA
STATE.

SHEET TITLE

FLOOR PLAN

CHECKED BY ANC. E. J. JEROME

DESIGNED BY ANC. E. J. JEROME

DRAWN BY BOTTINI E. ADOTYEMI

SCALE 1:1500

DATE MARCH, 2023

SHEET NO 003

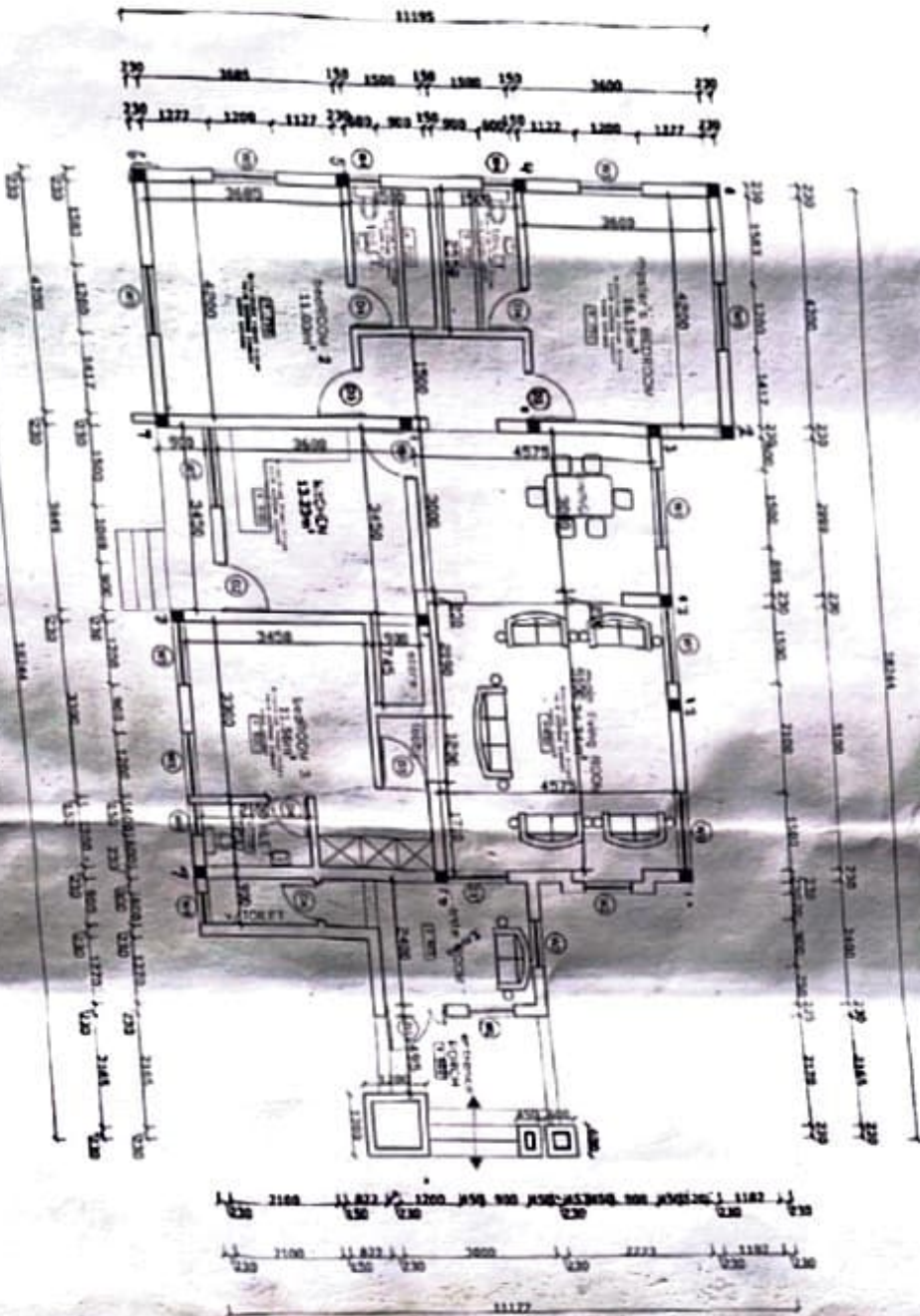
HOMICS CONSTRUCTION COMPANY LIMITED
ARCHITECTS, PLANNERS, ENGINEERS &
QUANTITY SURVEYORS.

HC/18/02/723

GEN. AIR MAIL/PAID STATION, 25/11/2023
UNIVERSITY, GPO BOX, KADUNA STATE.
TEL: 08181111111.

SEAL

FLOOR PLAN
3 BEDROOM FULLY DETACHED BUNGALOW



Ditto openings			Ditto openings		
1.20			1.20		Lobby 2
1.20	1.44	D1	0.90	1.08	
0.90			2.15		Bedroom 3
2.10	2.52	D3	3.30	11.37	
0.25			3.00		Art room
2.10	6.30	D4	2.40	7.20	
	15.30		2.10		Toilet
			1.20	2.52	
			2.10		Visitors Toilet
			0.90	1.87	
			3.00		Entrance
			1.50	4.50	
				123.32	
Floor Areas			400x400x8mm thick glazed Vitrified VIRONY Ceramic floor finish of approved color bedded and protect on screeded bed (measured separately) exceeding 600mm wide Ditto skirting p.c 600mm wide height 100mm Net width (1.22+100) <u>Protection</u> Protect all works in this section of block		
4.20					
3.60	15.12	Master Bedroom			
0.55					
1.50	7.65	Toilet			
4.20					
3.60	15.60	Bedroom 2			
3.23					
1.50	4.85	Lobby			
4.78					
2.50	14.20	Dining			
3.60					
3.45	12.42	Kitchen			
5.10					
4.50	23.26	Living Room			
0.90					
1.25	1.60	Store			

1.20		
0.90	1.08	Lobby 2
3.15		
7.30	11.37	Bedrooms
3.00		
2.40	7.20	First room
2.10		
1.20	2.53	Toilet
2.10		
0.90	1.87	Visitors Toilet
3.00		
1.60	4.50	Entrance
	123.32	

4 Hoopla Brown
 thick glazed Vitrified
 VIRONY Ceramic Floor
 finish of approved color
 bedded and protection on
 screeded bed (minimum
 separately exceeding
 600mm wide
 Ditto skirting in
 600mm wide height
 x 100mm
 Net width
 (1.23+100
Protection
 Protect all works
 within section of
 work

T	D	S	DESCRIPTION	T	D	S	DESCRIPTION
			Dinning				Art room
			3000				2400
			4575				3000
15.15			<u>2/7,575</u>	10.50			<u>2/5,400</u>
3.00	45.45		15,150	3.00	32.40		10,800
			Master Bedroom				Visitors Toilet
			4200				2100
			3000				900
14.40			<u>2/7200</u>	6.00			<u>2/3000</u>
3.00	47.20		14,400	3.00	18.00		6000
			Bedroom 2				2 Toilet 1
			4200				2550
			3685				1500
15.77			<u>2/7885</u>	2/8.10			<u>2/4050</u>
3.00	47.31		15,220	3.00	48.10		8100
			Kitchen				Toilet 2
			3450				1200
			3600				2100
14.10			<u>2/7050</u>	6.60			<u>2/3300</u>
3.00	42.30		14100	3.00	19.80		6600
			Store				lobby
			900				1200
			1745				900
5.27			<u>2/2645</u>	4.20			<u>2/2100</u>
3.00	15.87		5,290	3.00	12.60		4200
						42093	

[illegible]

Stirrup to link y/lam

$$L = 230$$

$$\text{Less } 1/2 \times 50$$

$$\frac{4}{180}$$

$$720$$

$$\text{Add } 1/2 \times 250$$

$$920$$

$$W_1 = 200 \sqrt{2400}$$

$$12+1 = 130r$$

$$W_2 = 200 \sqrt{2400}$$

$$9+1 = 100r$$

$$W_3 = 200 \sqrt{2400}$$

$$11+1 = 120r$$

$$W_4 = 200 \sqrt{1500}$$

$$8+1 = 90r$$

$$D_1 = 200 \sqrt{1100}$$

$$11+1 = 120r$$

$$D_2 = 200 \sqrt{1800}$$

$$9+1 = 100r$$

$$D_3 = 200 \sqrt{1800}$$

$$9+1 = 100r$$

$$D_4 = 200 \sqrt{1600}$$

$$9+1 = 100r$$

10mm high yield reinforcement
bar straight and bent
stirrup

(1.11/3.2.0.0)

DESCRIPTION		
3/10/0.92	35.90	W1
3/10/0.92	27.60	W2
2/10/0.92	22.28	W3
4/10/0.92	33.18	W4
1/10/0.92	11.04	D1
1/10/0.92	9.20	D2
4/10/0.92	36.80	D3
4/10/0.92	36.80	D4
	269.76	X 0.612 kg
	165.20	

Roof Beam

Reinforced Concrete
(1:2:4) Concrete in
Roof beam

(1:1.5:1.1)

External 57,928

Internal 33,235

30000

94,213

Block Work in

Super Structure

225mm block

External 57,928

Less
thickness
Concrete

1/2 x 2700

55,228

T	D	S	DESCRIPTION	T	D	S	DESCRIPTION
			Bitto Stirrup to Column y lomo $L = 220$ $2 \times 3 \times 5$ 4×180 720 Add 200 920 <u>No required for</u> <u>Column</u> $200/5000$ $1571 = 16 \text{ Ht}$ $145.34 \times 0.612 \text{ kg}$ 201.19 346.57 kg $(1.11:13.1.1.0)$				Concrete to [artel] Reinforce inside Concrete 1:2:4 in 1 part $(1.11:52.1.1.0)$ $W1$ $L = 1500$ Add $2 \times 3 \times 5$ 900 2400 $W2$ $L = 900$ Add $2 \times 3 \times 5$ 900 1800 $W3$ $L = 1200$ Add $2 \times 3 \times 5$ 900 2100 $W4$ $L = 600$ Add $2 \times 3 \times 5$ 900 1500 $D1$ $L = 1200$ Add $2 \times 3 \times 5$ 900 2100

Super Structure

Concrete in Column (sqm)

Concrete in beam (1st floor beam) (sqm)

Concrete in roof beam (sqm)

Form Work

Form work to side of Column (sqm)

Form work to side of Slab & 1st floor beam (sqm)

Side of roof beam (sqm)

Reinforcement kg/ton

Reinforcement in Column kg/ton

Reinforcement in 1st floor beam kg/ton

Reinforcement in roof beam kg/ton

Stirrups/kg/ton

Concrete in (1st floor) (sqm)

Reinforcement in (1st floor) kg/ton

Block work 23% (sqm)

Door and window etc

Finishing

Wall finishing (sqm)

Ceiling finishing (sqm)

Floor finishing (sqm)

Painting

Decoration

16/

3.00

0.23

0.23

2.54

16/

3.00

0.92

44.16

16/

3.54

226.58

201.19

Concrete in Column

Reinforce kg/ton

Concrete 1:2:4

Developing minimum

Strength of 21 Ksi

in 28 days

(1.11:5:2.11)

Formwork to sideof Column

230

230

2/460

920

Sawn treated form

work to side of

Column

(1.11:1.13:1)

Reinforcement inColumn

Height 3000

less 2/5

2,950

add 288

3238

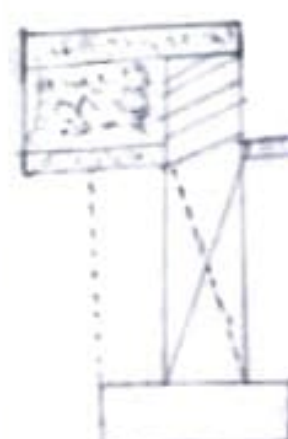
add 200

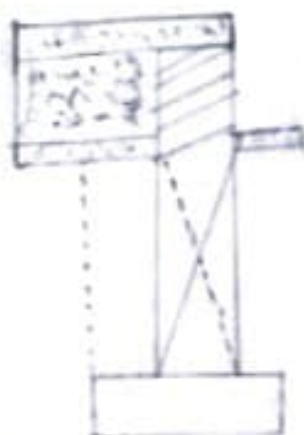
3538

12 mm high yield reinforced

bar in column

20-88kg

T	D	S	DESCRIPTION	T	D	S	DESCRIPTION
			<u>Adjustment For Backfilling</u>				<u>Finishing</u>
							External perimeter = 57.925
			Length of wall 1200				<u>Height</u>
			$\frac{1200}{A.C.L.} = 450$	57.98			A.C.L. = 450
			% = $\frac{150}{600 \text{ mm}}$	0.60	34.28		Add % $\frac{150}{600 \text{ mm}}$
			<u>Depth</u>				25mm thick Cement and Sand render (1:3) extending 600mm wide rendered on block wall (1.29:7.2:0.0)
57.98			Backfilling to Excavation				Prepare and apply one prime coat and two finishing coats of high grade premium portland cement mortar on general surface of rendered wall extending 300mm girth external (1.29:1.2:2)
0.23							
0.60	8.00						
57.24							
0.23							
0.60	4.60						
	12.60						



$$\frac{150}{450} = \frac{150}{600 \text{ rev}}$$

Depth

and

disposed of surplus
excavated material
and

Finishing
External painter
= 57,928

height
AGL = 450

height

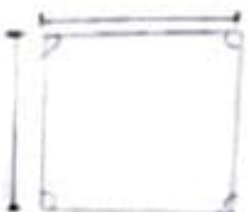
AGL = 450

$$\frac{150}{600}$$

25mm thick Cement
and Sand mortar (1:3)
extending 600mm
wide rendered on
block wall

(1.28.7.2.0.0)

Prepare and apply one
prime coat and two
finishing coats of high
grade premium portland
cement paint on
general surface of
rendered wall exceeding
300mm girth external
(1.29:1.2.2)

T	D	S	DESCRIPTION	T	D	S	DESCRIPTION
			Base type 7				High yield steel bars
4/		3	4				10mm & bent in column
4/	0.42	30.08	850				X0.612kg/m
4/	1.114	5.76	50				$\frac{237.40 \times 0.612}{1.000}$
4/	0.69	2.76	4100				$= 0.15t$
4/	0.84	7.16	288				
		41.96	688				
			838				
			Link / stirrup				Wire mesh
				18.24			BRC fabric square
			Cor. Gsw = 25mm	11.20	204.38		Wire mesh #10/5
			length = 285				Weighting 2.92kg/m
			$\frac{1.22}{Cor} \times \frac{285}{25} = 50$				Laid as detailed in
			$\frac{4 \times 175}{900}$				Manufactural manual
			$\frac{Add}{Total} \times 800 = \frac{2.00}{900mm}$				(1.11/37.1)
			No Required				Masonry
			L = 2877				Block Work in Slab:
17/10/	0.70	237.40	$\frac{1.22}{Cor} \times \frac{285}{25} = 300$				Structure
			$\frac{4 \times 2500}{12.541}$	57.98			External Girth = 57.98
			$\approx 1341 \approx 14$	1.20	69.58		Internal Girth = 33.25
				37.24			Height = 1580
				1.20	37.57		$\frac{1.20}{C/C} = \frac{1.50}{220}$
							$\frac{1200}{1200}$
							Vibrated hollow sand-
							crete block unit, filled
							with concrete (1:1.5:10) as
							work proceed, bedded and
							joined to concrete and
							grout (1:1) and laid in
							structure band in foundation
							(1.14/102.1.1)

T	D	S	DESCRIPTION	T	D	S	DESCRIPTION
			<u>Concrete in Column Base</u>				<u>Vertical Work</u>
			Reinforced Insitu Concrete mix (1:2:4 - 20mmagg) to Column base; exceeding 300mm thick to structure				Concrete in Column
14	0.23						Depth = 1.050
	0.23						Less
	0.40	0.34					Width 1.50
	1.20						% <u>11.00</u>
	1.20		(1:1:2:2:2:2)				600
	0.40	0.58					<u>Net</u>
	0.45						Ts 1.50
	0.60						A-G-L <u>4.50</u>
	0.40	0.11					1200
	0.60						Reinforced Insitu
	0.60						Concrete mix (1:2:4 - 20mmagg) Vertical work
	0.40	0.74		17	0.23		Exceeding 300mm thick
		1.17			0.23		In foundation column
					1.20	1.21	reinforced
			<u>Concrete in Vertical</u>				(1:1:1.5:2:1:1)
			Plate Insitu Concrete Mix (1:2:4 - 20mmagg)				
	57.98		Horizontal work in				
	33.25		outside bed n-e				
	0.15	91.38	300mm thick in				
			structure poured on				
			unblinded hardcore				
			(1:1:1.2:1:1)				

T	D	S	DESCRIPTION	T	D	S	DESCRIPTION
	3.45		Bedroom ³	14	0.23		CB1
	3.30				0.23		
	0.15	1.71			0.05	0.04	
	3.00		Art room		1.20		CB2
	2.40				1.20		
	0.15	1.08			0.05	0.07	
	2.10		Toilet 2		0.45		CB3
	1.20				0.60		
	0.15	0.38			0.05	0.01	
	2.10		Visitor Toilet		0.60		CB4
	0.90				0.60		
	0.15	0.28			0.05	0.02	
	3.00		Entrance			0.14	Concrete in foundation
	1.50						
	0.15	0.68					
		18.63					Plain in situ concrete
			<u>D.P.M</u>				Mix (1:2:6 - 20mmagg)
			Polythene (2000mm high		57.98		230mm thick poured on
			density polythene water		0.68		or against earth surface
			proofing membrane		0.23	9.10	(1.11.1-1.2.1)
18.24			Exceeding 500mm wide		33.25		
11.19	204.11		<u>In situ concrete work</u>		0.68		
			<u>Mass concrete</u>		0.23	5.20	
			<u>Concrete in building</u>			14.30	
			Plain in situ concrete				
			Mix (1:4:8 - 20mmagg)				
			50mm thick poured on				
			or against the earth				
			surface (1.11.1-1.2.1)				

T	D	S	DESCRIPTION	T	D	S	DESCRIPTION
			17,495 + 15,740 33+ <u>33,235</u> <u>Width of excavation</u> $3/25 = 675\text{mm}$ <u>Depth</u> 1,050 <u>Loss</u> Excavate 150 Under 450 Topsoil 150 <u>300</u> Excavate for foundation branch connecting from stripped lot extensively 2.00mm deep (1.5:1.2:1) § Backfill with material rising from excavation Final thickness exceeding 300mm (1.5:1.2:2)				<u>Filling</u> <u>Imported Filling</u> Note: structural drawing for foundation layout adopted for the measurement for filling to make up level 150mm thickness imported laterite lay by 150mm (1.5:1.2:1.1)
				4.20 3.60 0.15	9.27		Master Bedroom
				2.55 1.50 0.15	1.15		Toilet 1
				4.20 3.69 0.15	2.33		Bedroom
				3.23 1.50 0.15	0.93		Lobby 2
				4.75 3.00 0.15	2.15		Dinning
				3.60 3.45 0.15	1.86		Kitchen
				5.10 4.52 0.15	3.47		Living Room
				0.90 1.75 0.15	0.24		store
				1.20 0.90 0.15	0.16		Lobby 2
97.98 0.68 0.30	11.82						
33.25 0.68 0.30	6.78						
	18.61						

T	D	S	DESCRIPTION	T	D	S	DESCRIPTION
			<u>Site Clearance</u> Clear site of bushes Cutting down bushes and small trees, grubbing their root and cart away from site (1.5:4:1.0)				<u>Strip Foundation</u>  675mm
			L W 18,244 11,195 Add spread 3/5				<u>External Girth</u> L 18,244 W 11,195 2/29,878 58,848 Less corner 3/5 900 57,948
18.67			450 450 18,694 11,645				<u>Internal Girth</u> H V 1800 1500 2550 1500 1900 3600 600 3450 600 900 2100 4600 2190 1200 1215 1200 1300 520 1310 920 1200 12495 18740
11.65	217.74		217.74 § Excavated Vegetable topsoil average depth not exceeding 0.15m (1.5:5:1.0) § Refining excavated topsoil into temporary spilted heap average distance from site not 30m				
18.67							
11.65							
0.15	32.66		32.66				

T	D	S	DESCRIPTION	T	D	S	DESCRIPTION
			Taking-off for Quantities for a proposed Residential building for OLUBIYO OLUFEMI located at Obayinka Estate, Alimosho, Lagos West Local Govt area, Kwara State. In accordance to BESMMUK prepared by: Name: Matrix No: Date: Taking-off list <u>Sub-structure</u> <u>Excavating and filling</u> * site Clearance (m²) - site preparation - Topsoil Removal (m³) * Retaining excavated Topsoil (m³) * Foundation excavation - Strip Foundation (m³) * Disposal - Excavated material (m³) * Filling - Back filling (m³) - Lint * Imported Filling - Laterite Filling (m³) - Hardcore Filling (m³)				* Deep form Membrane - Waste Concrete Waste * Mass concrete - Concrete in building (m³) - Concrete in foundation (m³) * Horizontal Works (m²) - Concrete in Column base - Concrete in outside bed - Concrete in step bed * Vertical Work - Concrete in Column (m³) * Form Works - Sides of Column base (m²) - Sides of Column (m²) - Edges of outside bed (m²) - Edges of step bed (m²) * Reinforcement - To Column base (t) - To Column (t) - Link (Stirrup) (t) - Wire mesh - Masonry * Block Work (m³) - Wall - External - Internal - Step <u>Finishing</u> * Wall Finishing - External rendering - Decoration * Painting to general Surface - Wall (m²)

T	D	S	DESCRIPTION	T	D	S	DESCRIPTION
			<u>Ceiling finish</u>				
			15mm thick concrete and sand mortar (1:3) plain rendering finishing to horizontal surface of suspended slab exceeding 3000mm wide	4.25			
			(1.28 x 7.20 m)	2.00	14.24		Dinning
				3.60			
				3.45	12.42		Kitchen
				5.10			
				4.52	23.26		Living Room
				0.70			
				1.25	1.60		Store
				1.20			
				0.70	1.08		Lobby
				3.45			
				3.30	11.37		Bedroom
				3.00			
				2.40	2.20		Art room
				2.10			
				1.20	2.52		Toilet
				2.10			
				0.70	1.87		Visitors Toilet
				3.00			
				1.50	4.50		Entrance
					123.30		
4.20							
2.60	15.12		Master's Bedroom				
2.55							
1.50	4.65		Toilet				
4.20							
3.67	15.50		Bedroom 2				
3.23							
1.50	4.85		Lobby				