



**A TECHNICAL REPORT ON  
STUDENT INDUSTRIAL WORK EXPERIENCE SCHEME  
(S.I.W.E.S)**

UNDERTAKEN  
AT  
KWARA STATE MINISTRY OF WORKS AND  
TRANSPORT DEVELOPMENT  
HEAD-QUARTERS P.M.B 1384, AMADU BELLO ILORIN KWARA STATE.

**BY**

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SURVEYING, KWARA STATE POLYTECHNICS**

**AUGUST TO NOVEMBER**

## **DEDICATION**

This report is dedicated foremost to God almighty who made it possible for me to be alive and healthy and who made me to participate fully in this training program and made it a successful one, may his name be praised forever, amen

Also, it is dedicated to my lovely parent Mr & Mrs who has helped me in making my dream to be established and also for their parental support inform of also for their parental support inform of finances , advices and lots more. I pray you would eat the fruit of your labour in Jesus name.

## **ABSTRACT**

During my siwes program, the major area of participation is basically on the patrol unit and taking off of some plan the organization has many department in which I was taken to the patrol department because of any students were in works department so the organization took me to patrol unit to avoid clumsiness.

## **ACKNOWLEDGEMENT**

My deepest appreciation and gratitude goes to god the maker, alpha and omega, the creator of all things for being there for me from the I was born even till now, I say thank you God,

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# **CHAPTER ONE**

## **1.1 Introduction**

SIWES was established by Industrial Training Fund (ITF) in 1973 to solve the problem of lack of adequate practical skills preparatory for employment in industrial by Nigerian graduates of tertiary institution.

The scheme exposes students to industry based skill necessary for a smooth transition from the classroom to the world of work. It affords student of tertiary institution the opportunity of being familiarized and exposed to the needed experience in handling machinery and equipment which are usually not available in the educational institution.

## **1.2 Purpose of Siwes**

In the earlier stage, student are graduating without any technical knowledge or working experience and this makes them to undergo further training after securing an employment. With this reason, student industrial training was established.

During this programme, as designed by the ITF, students are expected to get technical assistance and acquire more experience scheme in their chosen field of study and exposed them to the usage of source machine and safety precaution where relevant before the completion of their programme in their various institutions.

## **1.3 Aims and Objectives**

1. To provide an avenue for student in the Nigerian Institution to acquire industrial skills and experience during their course of study.
2. To prepare students for the work situation they are likely to meet after graduation
3. To expose the student to work method and techniques in handling equipment and machinery that may not be available in their institution.
4. To allow the transition phase from school to the world of working environment easier and facilitate students contact for later job placements.
5. To provide student with an opportunity to apply their theoretical knowledge in real work situation thereby bridging the gap between theory and practical.

## **CHAPTER TWO**

### **2.0 COMPANY PROFILE**

#### **COMPANY PROFILE (KWARA STATE MINISTRY OF WORK AND TRANSPORTATION)**

##### **Historical background of the organization**

The Kwara State Ministry of Works and Transportation, established in 1984, aims to manage the state's infrastructure and transportation systems, with a focus on road construction, urban renewal, and public transport development.

Here's a more detailed look at its historical background:

##### **FORMATION:**

The Ministry of Transportation was merged with the Ministry of Works in 1984, under Governor Gbolahan Mudasiru, to form the Ministry of Works and Transport.

##### **OBJECTIVES:**

The ministry's primary objectives include establishing a centralized transit system within the state and improving overall infrastructure.

##### **KWARA LINE:**

The introduction of the Mass transit system in Kwara State dates back to 1975 when the state government introduced 'Kwara Line'.

Kwara State Transport Corporation:

In line with the Federal government's objectives of stemming the tide of mobility crisis in the country, the Kwara State Transport Corporation was created by the Kwara State Government in 1989.

##### **ROADS MAINTENANCE AGENCY:**

The Kwara State Roads Maintenance Agency was established by law in 2004 to manage and maintain the state's roads.

Recent Developments:

In 2025, the Kwara State government announced the creation of a new Ministry of Transportation to enhance governance and service delivery in the transport sector.

**CURRENT FOCUS:**

The ministry is currently focused on road construction, urban renewal, and transportation, with a recent emphasis on compressed natural gas (CNG) initiatives to promote cleaner energy and affordable public transport.

**KWARA STATE ROADS MAINTENANCE AGENCY LAW:**

This law provides for the establishment of the Roads Maintenance Agency for Kwara State and for matters connected therewith



In Kwara State, the hierarchy within the Ministry of Works and Transportation, as with other ministries, typically follows this structure: Commissioner, Permanent Secretary, Heads of Departments, and other staff.

Here's a more detailed breakdown:

**COMMISSIONER:**

The Commissioner is the head of the ministry, appointed by the Governor and responsible for the ministry's overall performance and policy implementation.

**PERMANENT SECRETARY:**

The Permanent Secretary is the chief administrative officer of the ministry, responsible for the day-to-day operations and management of the ministry's staff and resources.

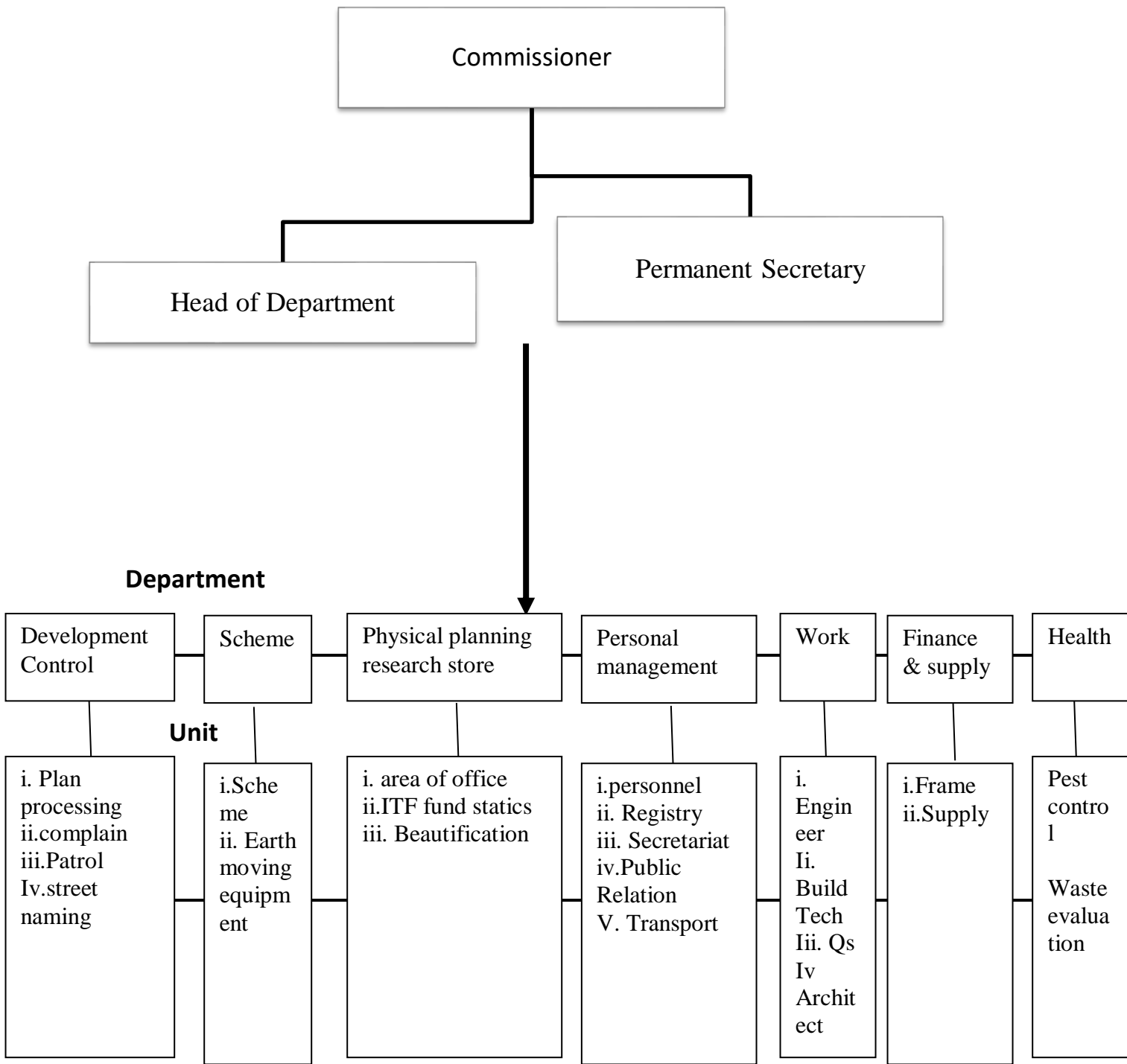
**HEADS OF DEPARTMENTS:**

These individuals oversee specific departments within the ministry, such as road construction, maintenance, or transportation planning.

**OTHER STAFF:**

This includes various staff members, including engineers, technicians, and administrative personnel, who carry out specific tasks under the supervision of the Heads of Departments.

**KWARA STATE TOWN PLANNING AND DEVELOPMENT AUTHORITY  
ORGANIZATION CHART**



## **CHAPTER THREE**

### **3.0 Area of involvement of the student at specific various units**

During the period of the four month industrial training, I was involved in patrol unit and taking off of a bedroom self contain. The student industrial work experience scheme(SIWES) gave me a practical knowledge of what we have been taught theoretically in school and it also enable me to know and understand why certain buildings are demolish as a result of non approval of such building project by the Kwara state town planning and development authority . It also enlighten me about understanding the different view a plan has, and also the miscellaneous equipment and materials used in different process of construction works

## CHAPTER FOUR

### 4.0 relevance of experience gained

#### a) Taking off

This implies reading off dimensions from drawings and setting them down in a specific order on special paper known as dimension paper and inserting an appropriate description.

#### Standard Dimension Paper

|  |   |   |   |   |   |   |   |   |
|--|---|---|---|---|---|---|---|---|
|  | 1 | 2 | 3 | 4 | 1 | 2 | 3 | 4 |
|--|---|---|---|---|---|---|---|---|

On the left-hand side is a narrow binding margin. The remainder of the sheet is divided into two identical halves each containing three narrow columns and a wider one; the timesing column, the dimension column, the squaring column and the description column respectively. The columns are used as follows

1. **Timesing column:** is used for multiplying (timesing) the dimensions when necessary, each multiplying factor followed by an oblique stroke. A factor followed by a dot indicates addition instead of multiplication.
2. **Dimension column** is used for recording the dimensions in metres and centimetres. Each linear dimension is underlined.
3. **Squaring column:** the resulting areas and volumes inserted in the timesing and dimension columns are subsequently calculated and entered into the squaring column opposite their respective dimensions.
4. **Description column:** This wide column is for entering descriptions of the measured work. eg Hardcore filling to make up levels under floors, average thickness not exceeding 250mm
5. **Waste column:** This is an imaginary column occupying the right hand side of the description columns in which the taker-off inserts any preliminary calculations

(waste) which may be necessary in order to arrive at his dimensions. All preliminary calculations must be shown in waste. They need to be set down accurately and carefully so they can be checked. They should be written either above or below the description not level with it to avoid confusion. Nearest 10mm before being transferred to the dimension column:

### **Take off list for sub structure and superstructure works**

The taking off list contains different listed items to be calculated for and it varies for different construction works and different building i.e the taking off list of a building without column is quite different from a building with column and as well the taking off list of a building with upper floors is also quite different from buildings without upper floors.

Every building construction passes through two mainly stages which are :

1. Sub structure works
2. Superstructure works
1. Sub structure works: sub structure works means works below the ground level and substructure works act as determinant of how long a building will stand and loads the building can carry, examples of sub structure works include soil excavation, earthwork support, trench excavation, top soil disposal etc.
2. Superstructure works: Superstructure works means works means works commencing on the sub structure or above the ground level and the roof work is also a superstructure work eg of superstructure works formwork in lintel, form work in column, king post, rafter, wall plates, tie beam. Etc

### **Excavation and embankment**

Excavation is done to receive the foundation that will be constructed for a building this done after setting out and marking out. Excavation is the cutting of earth work i.e soil to ton a required level (datum level) it is also the removal of soil that is not needed on the site.

Embankment involves the filling of the earth to a required level with an earthwork brought from the borrow pits

### Excavating equipments

1. Backhoe loader
2. Dredge
3. Excavator
4. Wheeled
5. Trencher
6. Chain

**Foundation:** this is the structure found below the earth surface of the ground in which it rest the combined dead and imposed load in a way that will not allow part of a building i.e. collapsing of the building

The function of any foundation is to safely sustain and transmit to the ground on which it rests the combined dead, imposed and wind loads in such a manner as not to cause any settlement or other movement which would impair the stability or cause damage to any part of the building..

Various type of foundation depends on the nature of soil on which the foundation would be constructed, the nature of the soil is the major factor that influences the choice of foundation to be constructed or used, and other factors are:

1. The amount of settlement produced by loading
2. The total load of the building.

**Hardcore filling:** this involves the filling of the foundation with materials like broken bricks demolition waste broken rock, compacted laterite soil to satisfy and level the upper most surface of a building area before the ground and concrete. This involves the method of layer of about 50 – 75mm thick or weak concrete under all – reinforced

**Concrete foundation:** the foundation of the building is to provide a good level surface from which the reinforcement can be positioned

**Termite treatment:** termite present a danger to building by eat the cellulose in the timber used for building, to avoid this danger, the termite nest must be dug out and the content must be destroyed , anti-termite treatment like toxic chemicals aims to eradicated termite and the consequence hazard they pose to the building and its component

**Damp proofing :** this is the process of preventing the passage of moisture to the interior part of the building through the walls or floors, this can be achieved by the use of damp proof course and damp proof membrane

The dpc is used vertically to prevent the entering of moisture (water content) into the building through the walls while the dpm is used horizontally to prevent the entering of moisture into the building through the floor.

Material used for damp proof course

1. Asphalt
2. Bitumen
3. Lead/aluminum core
4. A sheet of copper
5. Polythene sheet
6. Metal sheet
7. Concrete cement

### **Types of ground floor**

1. Soil concrete ground floor, which is made up of solid concrete
2. Suspend timber ground floor, which is made up of timber

**Setting out;** this is done after casting of the floor and the floor is ready for use i.e. bringing out the information on the drawing, then processing and transferring the details of the plan to the ground floor with high degree of accuracy, by the aid of the following equipment, measuring tape, builder square line etc. Laying blocks for the construction of walls takes place, blocks are laid up to the window level usually courses from the ground.

**Location of window:** Windows are located in the building by using the building plan, a window of about 1700mm in height is mostly found in the sitting room, bedroom, whereas windows found in the toilet, bath room, store and kitchen are lesser in height compared to that of bedroom and sitting room.

This is then followed by the construction of formwork which is used for casting lintel at the top of the window, and placing of reinforcement inside of form work, the lintel is then casted by using a mixture of aggregate with required ratio.

After the lintel have dried off, two courses of blocks are then laid on it, if the building has any other fenestration, it is then located.

**Stair case:** these are structure which is usually inclined in nature and allow the access to the upper part of a building. If the building under construction is a storey building, then stair case is constructed to give access to the upper part of the building, however if the building is not a storey building eg bungalow a stair case is not required.

**Roof** this is the uppermost structure found on a building component, its function include the following:

1. To insulate or resist against heat from entering into the interior part of the building
2. To shed water more quickly without linking into the building
3. To keep out grit and dust away from the building
4. To provide shade and sometimes light inside the building.

### **Types of roofs**

1. Pitched roofs
2. Flat roofs

**Ceiling:** a structure made of insulator like asbestos, wood, found below the roof of a building, its function is to regulate the warmth within a building and also to control sound, they are generally two major classification of ceiling

1. The suspended ceiling
2. The non – suspended ceiling

**Finishes:** finishes are requirement in building for its beautification, these include plastering, rendering, tiling, painting, wiring and decorating the building with furniture's and electronic gadget.

- \* General decoration, i.e. paint and wallpaper condition damaged, faded
- \* Woodwork/joinery condition, defects, damage, paintwork
- \* Plaster ceiling (plasterboard or lath and plaster?) Condition and stability



- \* Plaster walls render and plaster or plasterboard, damage and quality of finish
- \* Staining plumbing leaks (ceiling), moisture penetration (wall openings), and rising damp
- \* Fittings and ironmongery adequacy and function, weather exclusion and security

**Plastering:** is the internal application of coats of plaster to the wall of a building. The process involves the application of three coats of plaster.

**Rendering** this is the external application of coats of plaster to the wall of a building.

## **CHAPTER FIVE**

### **Impression about the Organization**

Impression about the industrial training base on four months programs (siwes) was the acceptance of my siwes letters in their organization and also for provision of a lecture class to enlighten us more about construction work which all siwes student settle down there every day for their day to day activities before being taken to the field

### **Personal relationship with the Organization**

The personal relationship with the company is highly correlating, because the company accepts the training of the siwes students as their personal assignment, by showing us different techniques in quantity surveying and patrol. The welfare and care given to us in company was highly impressive because the company attached each and every one of the siwes students to different supervisors in which we are free to ask questions about every unclear aspect during the taking off process and at field during patrol services.

### **Recommendation**

As a result of difficulties experienced during the Four months SIWES program, I will like to recommend the following changes;

- The Industrial Training Fund should make monthly allowance available for students, so as to put an end to financial difficulties that may arise as a result of transportation problems.
- The Institution must confirm that each student partakes in the Industrial Training program, by making sure that they pay every student a visit before the end of the program.
- The Institution and Industrial Training Fund should help the student to get the place of attachment, so that the program will commence as planned.

➤ Students on SIWES program should be posted or deployed to the Organizations, Department or Firms that are relevant to their Course of study, so that the sole aim of SIWES can be achieved.

## **Conclusion**

This program has brought improvement to my field of study. The experience gained through this program is majorly based on building construction; this program has inspired me to have technical knowledge and practical aspect of what I have learnt in school.

I hereby forward my appreciation to the rector and director of the institute , HOD of my department, professional lectures in my department including my colleague in training, friends and every member of my family for their support both moral and financial . My prayer to you all is for God to in his infinity mercy bless you and reward every of endeavor abundantly. AMEN