



A TECHNICAL REPORT

ON

**STUDENT INDUSTRIAL WORK EXPERIENCE SCHEME
(SIWES)**

HEAD AT

**T & G PARTNERS, T & G AVENUE, OPPOSITE MATRIX
FILLING STATION KULENDE, ILORIN, KWARA STATE**

BY

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ND/23/ARC/FT/005

**SUBMITTED TO: THE DEPARTMENT OF ARCHITECTURAL
TECHNOLOGY**

INSTITUTE OF ENVIRONMENTAL STUDIES

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CERTIFICATION

This is to clarify that **OGABOR HELEN OMAGU** whose matric number is **ND/23/ARC/FT/0015** has completed her 4 months siwes program at **T & G PARTNERS**. The work contained here are original and entirely executed by the above named student in partial fulfilment of the requirement for the award of **NATIONAL DIPLOMA (ND)** in department of **ARCHITECTURAL TECHNOLOGY**.

DEDICATION

I dedicate this siwes report to God Almighty, who has been my guiding light and source of strength throughout my academic journey

I also dedicate this siwes report to my loving family who have been my rock and pillar support. Your unwavering love, encouragement, and prayers have meant the world to me.

Thank you, God, for your blessings and mercy. Thank you, family, for your unconditional love and support

ACKNOWLEDGEMENT

I would like to express my heartfelt gratitude to everyone who contributed to my siwes experience at **T & G PARTNERS**. I am deeply grateful for the opportunity to work with such a talented and dedicated team.

I would like to extend my special thanks to Mr. Abu, who provided invaluable guidance, support and mentorship throughout my internship. Your expertise and encouragement helped me grow both professionally and personally.

I also appreciate the support and contribution from Issa Abdulrasheed Aremu, Mr. Abu Bili and the entire team, T & G PARTNERS. Your collective effort made my siwes experience truly enriching.

Finally, I would like to thank T & G PARTNERS for hosting my siwes program and providing me with the opportunity to gain hands-on experience in the field.

Thank you once again for your support, guidance, and encouragement. I am grateful for the experience and look forward to applying the skills and knowledge gained in my future endeavors

ABSTRACT

Architecture is the art and science of designing buildings and structures that are aesthetically pleasing, functional, and sustainable. It involves the creation of physical environments that meet the needs of users, while also reflecting the cultural, social, and environmental context in which they are built.

Good architecture can enhance the human experience, promote social interaction, and contribute to the well-being of individuals and communities. It can also reflect the values and aspirations of a society and provide a sense of identity and belonging. Furthermore, architecture can play a critical role in addressing some of the world's most pressing challenges, such as climate change, urbanization, and social inequality.

This report gives a detailed account of my industrial work experience during my SIWES program at T & G PARTNERS, which deals with designing building and structures that are aesthetically pleasing, functional and sustainable. This report is based on practical and theory experience gained during the period of my program in the industry.

REPORT OVERVIEW

This report presents my experience and achievements during the student's industrial work experience scheme (SIWES) program undertaken at T&G PARTNERS Ilorin. The program lasted for four (4) months, from August 5th 2024 to November 11th 2024. During this period, I worked in the architectural department, where I gained practical experience in scale, lettering, dimensions, and introduction to plan.

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CHAPTER ONE

INTRODUCTION

The student industrial work experience scheme (**SIWES**) was established in 1973 in Nigeria by the industrial training funds (ITF). It was initiated by the federal government of Nigeria under the national board for technical education (NBTE).

The students industrial work experience scheme (SIWES) is an essential component of the academic curriculum designed to provide students with practical experience in their chosen fields of study.

As part of the program, students are expected to spend a specific period in a relevant industry or organization, where they gain hand-on experience and apply the theoretical knowledge acquired in the classroom to real-world scenarios.

Siwes aimed at enhancing student's understanding of their disciplines by providing exposure to practical skills, methodology, and modern technological advancements that are often not covered in academic lectures. This industrial attachment not only bridges the gap between theoretical learning and practical application, but also prepares students for future career challenges by fostering professional development and competency.

The program offers students an opportunity to familiarize themselves with the working environment, improve their technical and interpersonal skills, and better understanding industry-specific practices. It is integral part of the academic development of students particularly in fields such as engineering, technology, sciences, business, where practical experience is crucial for career success.

The siwes program is a mandatory requirement for students pursuing degrees in science, technology, engineering, and mathematics (STEM) fields, as well as other related disciplines. The program's primary objective is to equip students with the practical skills, knowledge, and attitudes necessary to excel in their chosen professions.

Over the years, siwes program has undergone significant transformation to address the evolving needs of the Nigerian economy and the global workforce. Today, the program is designed to provide students with a comprehensive understanding of the work environment, industry culture, and professional ethics.

By participating in the siwes program, students gain valuable insight into their chosen careers, develop important life skills, and establish connections with professionals in their fields. The program also provides students with the opportunity to apply theoretical concepts to real-world problems, thereby enhancing their critical thinking, problem-solving and creativity skills.

Ultimately, the siwes program plays a critical role in preparing students for the workforce, promoting economy growth and development, and enhancing the country's global competitiveness.

- Operators: The ITF, the coordinating agencies (NUC, NCCE, NBTE), employers of labor and the institution.
- Funding: The federal government of Nigeria
- Beneficiaries: undergraduate students of the following engineering, technology, mathematics, business, environmental
- Duration: Four (4) months for polytechnics and colleges of education and six (6) months for the university.

OBJECTIVES OF SIWES

- Practical skills acquisition: to provide students with hands-on experience in their chosen fields
- Industrial familiarization: to expose students to the work environment, culture and ethics of the industry
- Career guidance: to help students make informed career choices and develop a sense of professionalism
- Enhancing employability: to equip students with the skills and knowledge by employers, making them more employable

BENEFIT OF SIWES

- Improved practical skills
- Industry connections
- Career development
- Enhance employability
- Personal growths

CHAPTER TWO

2.1 DESCRIPTION OF THE ESTABLISHMENT OF ATTACHMENT

I was opportune to start my industrial attachment training in the month of August 2024 with T & G PARTNERS. The name of the organization is T & G PARTNERS is located Along jebba road opposite matrix filling station, Ilorin kwara state.

T & G PARTNERS was established on the year of 1978, The firm is compressive of two set of people, the two set of people are from ILORIN, and their name are TEMIM IBRAHIM and ABDULGANIY IDRIS, from there they form there partnership alphabetical to achieve there aim as partnership the word T stand for TEMIM while G stand for GANIY, That's why is been called T & G PARTNERS.

T & G PARTNERS is an architectural firm that is dedicated to design in excellence which integrates function, aesthetics, sustainability and affordability and also ensures every project comes out unique with exquisite designs features. We also carryout structural, mechanical, electrical and quantity survey at the cooperation. Our designs have exceptional attributes where every detail counts. Our Core values Integrity, Timeliness, Fairness, Competence, Openness and Efficiency.

CHAPTER THREE

SCALE, LETTERING, DIMENSION

SCALE

Importance of scale in architectural drawings

Scale is a fundamental aspect of architectural drawings, as it allows designers to communicate ideas and intentions clearly and accurately. Scale ensures that the drawings are proportional and realistic, enabling architects, engineers, and builders to understand the relationships between different component of the building.

A well -chosen scale also facilitates the measurement and calculation of various elements such as room size, door and window openings, and construction details

SCALE USED IN MY DRAWINGS

In my architectural drawings, I used a scale of 1: 100. This scale was chosen for the floor plan, elevations and sections to provide a clear and concise representation of the building's layout and design.

When working with scale, it's essential to consider

- ❖ Accuracy
- ❖ Consistency
- ❖ Clarity

CONVERSION OF SCALE

I was taught how to convert scale from feet to inches and from inches back to feet

Scale can be converted from feet to inches by multiplication and from inches to feet by division. E.g. 3075mm=10' _3", 5475mm=18' _3", 2325mm=7' _9", 4200mm=14' _0" etc.

JUSTIFICATION FOR CHOICE OF SCALE

I choose a scale of 1:100 for several reasons

- Clarity and readability: A scale of 1:100 allows for clear and concise representation of the building's design, making it easy to read and understand
- Proportion and accuracy: This scale ensures that the drawings are proportional and accurate, enabling precise measurement and calculation of various elements.
- Industry standards: A scale of 1:100 is a commonly used and acceptable scale in the architectural and construction industries, making it easier to communicate and collaborate with stakeholders.
- Space and detail: This scale provides sufficient space to include necessary details such as door and window openings, construction details and rooms layout, without overwhelming

LETTERING (Significance of lettering)

Lettering is a crucial aspect of architectural drawing as it conveys essential information about the design, layout, and construction of a building.

Clear and legible lettering enables architects, engineers, contractors, and the stakeholders to quickly understand the drawings and make informed decision.

The significance of lettering lies in its ability to

- Communicate design intent
- Provide crucial information
- Enhance readability

LETTERING STYLE AND FONT USED

In my architectural drawings, I employed a consistent lettering style and font to ensure clarity and readability. The lettering style and font used are

- Font: I used the retro font
- Font size: I used a font size of 2.5mm for headings
- Letter spacing: 1.5mm
- Text orientation: parallel to the drawing's edge making it easier to read and understand

DIMENSIONS

Importance of accurate dimensions

Accurate dimensions are crucial in architectural drawings, as they ensure that the building is constructed correctly and safely. Inaccurate dimensions can lead to costly mistakes, delays, and even structural failures. Therefore, it is essential to prioritize accuracy when measuring and representing dimensions in architectural drawings.

METHODS USED TO ENSURE ACCURATE DIMENSIONS

To ensure accurate dimensions in any drawings, I employed the following

- Precise measure
- Verification and cross checking
- Use a reference point

Representation of Dimensions in drawings

In my drawings, I represented dimensions using the following methods

- Dimension lines
- Dimension text
- Scale bars
- Tolerances

By employing these methods, I ensure that my drawings accurately represented the building's dimensions, providing a reliable foundation for construction and minimizing the risk of errors and misunderstanding.

CHAPTER FOUR

PURPOSE OF AN INTRODUCTION TO PLAN

The introduction to plan is a critical component of architectural drawings serving as a gateway to rest of the drawings. its primary purpose is to provide an overview of the project, establishing the context and framework for the detailed drawings that follow. The introduction to plan set the stage for the reader to understand the project's scope, scale, and complexity.

In architecture, a plan is two_ dimensional representation of a building or structure showing the arrangement of spaces, walls, doors, windows, and other features. Plans are crucial part of the architectural design process as they enable architects to communicate their ideas and vision to clients, contractors, and other stakeholders.

KEY ELEMENT INCLUDED IN MY INTRODUCTION TO PLAN

- Scale
- Legend
- Note
- Dimensions

PROJECT 1

One Bedroom

I was mandated to design a bedroom of two units. The following are the features; verandah, living room, dining, kitchen, lobby, toilet, store. Using scale 1:100

Lesson learned 1: I was able to dimensioned appropriately and made sure that the spaces were well accessible, the window sizes were 1200mm by 1200mm and was enough ventilation.

PROJECT 2

Twin Bedroom

I designed twin bedroom apartment as sketched by my supervisor with these features; living room, entrance, bedroom, toilet, kitchen, store

Lesson learned 2: I was able to manage space due to land size and made sure that the spaces were well accessible and also made sure that the rooms were cross ventilated.

PROJECT 3

Five bedroom face me face you

Floor plan, elevation, bubble diagram

I was mandated to design a five bedroom face me face you, apartment as sketched by my supervisor with these features; 5 bedrooms, parlor, passage, 2 kitchens, verandah, 4 toilets, and enough ventilation.

PRODUCING A COMPLETE PRESENTATION DRAWING FOR DEPARTMENTAL APPROVAL (An office building)

As part of my student industrial work experience scheme (SIWES) I was mandated to produce a complete presentation drawing. (An office building) with the following order

- Introduction
- Definition
- Project background
- Justification
- Aim and objectives
- Preliminaries
- Design zoning
- Floor plan
- Roof plan
- Functional flow chart
- Bubble diagram

CHAPTER FIVE

SUMMARY

My experience in the architectural department at T&G PARTNERS was invaluable learning opportunity. I gained practical skills, knowledge, and insight into the architectural design process. I appreciate the guidance and support provided by the team and recommend this experience to future siwes students.

RECOMMENDATIONS

For future siwes students

- ❖ Be prepared to learn and take on a new challenge
- ❖ Ask questions and seek feedback from colleagues and mentors
- ❖ Stay organized and manage your time effectively
- ❖ Take initiative and be proactive on projects

For the architectural department

- ❖ Consider providing more training and workshops on software applications and design principles
- ❖ Encourage team members to share their knowledge and expertise with interns
- ❖ Provide opportunities for the interns to work on live project and contribute to the design process

PROBLEMS ENCOUNTERED DURING MY SIWES

❖ Transportation costs

I had to spend a significant amount of money on transportation every day, which affected my budget and made it difficult for me to afford other necessities

❖ Financial challenges

Insufficient stipend: The stipend I received was not enough to cover my expenses, including transportation, food, accommodation. I had to rely on my little savings to supplement my stipend.

Unexpected expenses: I incurred some unexpected expenses during my siwes program, including medical bill, and equipment costs. These expenses put on a strain on my finances and made it difficult for me to manage my budget

PERSONAL CHALLENGES

Physical and mental strain: The siwes program was physically and mentally demanding, and I felt exhausted at the end of each day. I had to find ways to manage my stress and maintain my physical and mental health

❖ Inadequate facilities and equipment

❖ Poor communication

SUGGESTIONS FOR IMPROVEMENT OF THE SCHEME

❖ Upgrade facilities and equipment

❖ Enhance communication

❖ Prioritize safety

SCOPE OF SIWES

- ❖ Duration: The siwes program typically lasts for 4-6 months depending on the institution and program requirements
- ❖ Industry/Sector: Siwes is applicable to various industrial sectors including manufacturing, construction, ICT, healthcare and more.
- ❖ Student participation: Siwes is mandatory for students in specific programs, such as science, technology, engineering, and mathematics (STEM) fields as well as other related disciplines

- ❖ Skill acquisition
- ❖ Industrial familiarization
- ❖ Career guidance.

CHAPTER TWO

Description of the establishment of attachment

Location and brief history of the organization

I was opportune to start my industrial attachment in the month of August 5th 2024 with
T&G PARTNERS

The name of the organization is T&G PARTNERS located at sango, opposite matrix filling station kulende area, Ilorin kwara state directly. T&G PARTNERS was established

USEFUL EXPERIENCE GAINED

- I was opportune to visit the site where I learned about setting out

The setting out refers to the process of establishing the physical boundaries and layout of building or structure on the construction site

The importance of setting out

- Accuracy
- Efficient construction
- Safety

Setting out process

- Site preparation
- Establishing the grid
- Marking the building footprint
- Setting out structural elements
- Verification and quality control

Methods

- String and peg method
- Optical method
- GPS method
- Robotic method

Conduit pipe in a building on my second visitation to the site

Familiarization with building materials used on the site, such as concrete, steel, and wood

Knowledge of site layout and organization

Application of safety protocols

Reading scale

TITLE PAGE

Title: Students industrial work experience scheme (SIWES) report

Name: Ogabor helen omagu

Matriculation number: ND/23/ARC/FT/0015

Institution: kwara state polytechnic

Department: architectural technology

Company: T & G PARTNERS

Location: kwara, Nigeria

Date of submission: 9th march, 2025

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