



UNIVERSITY OF NAIROBI

STRUCTURAL DESIGN OF A PROPOSED OFFICE BLOCK ALONG KINDARUMA LANE OFF NGONG ROAD – NAIROBI COUNTY.

ANTHONY CHOMBA NDWIGA. F16/40265/2011

A project submitted as a partial fulfillment for the requirements for the award of the degree of

BACHELOR OF SCIENCE IN CIVIL ENGINEERING

2016

DECLARATION:

I, the undersigned, declare that the work contained herein is the original and has not been submitted for examination or degree at any other university.

Signedí í í í í í í í í í .

Dateí í í í í í í í í í .

SUPERVISOR'S APPROVAL

This project report has been submitted with my approval as the supervisor

ENG. SAMUEL.S MIRING`U

Lecturer

School of Engineering

Department of Civil and Construction Engineering

Signedí í í í í í í í í í Date -----

DEDICATION:

This project is humbly dedicated to my family and friends for their revered love and support throughout my life and the endless sacrifices for my success.

To Mrs. Charity Ndwiga, mum, your prayers always remind me that I have no option but to succeed in all what I focus on. You instilled the necessary discipline required in this life and made me strongly believe that I can be whoever I wanted, your dream has now come true. Thank you.

ACKNOWLEDGEMENT:

My greatest gratitude goes to the Almighty God for the strength, good health, safety and the wisdom that have enabled me to complete this study.

My sincere acknowledgement to Eng. Miring`u my project supervisor, a mentor and structural design lecturer my favorite course. His guidance, patience and positive criticism made me realize and sometimes recite clauses in BS8110,part 1. Kudos Sir.

To my family and friends for encouragement and prayers. You made a great impact on my studies.

ABSTRACT:

This project presents the analysis and design of a five storey building located in the residential outskirts of Nairobi central business district. It was designed to meet both strength and serviceability requirements when subjected to both gravity loads and lateral loads. The project was designed by manual method and by use of computer aided software (PROKON) and the results obtained were compared in terms of moments and bending schedule.

The project report has adopted the following model: an introduction giving the basic needs and requirements of any civil engineering project as well as project needs. Literature review that gives important properties of materials used in construction. Methodology which gives an overview on how the design of the project will be done and various codes in practice to be used in the design process. Calculation and analysis shows the application of the codes and knowledge learnt. References that show various sources of knowledge that is applied to the research study.