REPUBLIC OF KENYA

COUNTY GOVERNMENT OF KAKAMEGA

MINISTRY OF ROADS, ENERGY AND PUBLIC WORKS

STRUCTURAL INTEGRITY REPORT FOR ST. ANNES' GIRLS HIGH SCHOOL - MUSOLI

PREPARED BY:

COUNTY GOVERNMENT OF KAKAMEGA
DEPT OF PUBLIC WORKS
25 MAY 2023
STRUCTURAL ENGINEER
P.O. Box 14-50100 KAKAMEGA

ENG. S.A. SHAMALA

STRUCTURAL ENGINEER

1. INTRODUCTION

The Technical Personnel from Kakamega County Engineering Department were commissioned to carry out a structural integrity assessment for *ST. ANNES' MUSOLI GIRLS SECONDARY SCHOOL*. The audit was to focus on the current condition of the building regarding the integrity and stability of the structure's support system. The audit was also to determine the number of floors the building could safely carry.

The structural system for the building is mainly reinforced concrete frame with in-fill masonry wall for partitions.

2. SITE VISIT

A site visit was undertaken on 11th May, 2023 to carry a visual inspection. This report provides a summary of the findings of this site investigation as well as proposed recommendations to the client.

3. ACTIVITY BRIEF

The client's brief for this assignment was to carry out a structural audit of the building concerning its overall structural integrity and its suitability for service. The main aim was to establish whether the existing building is structurally sound to offer services for its intended use as a library/ ICT Room/ Classroom. The internal inspection was conducted within the limits of ready accessibility and the survey excluded an inspection of the electrical and mechanical installations, and all other non-structural matters.

4. OBJECTIVES

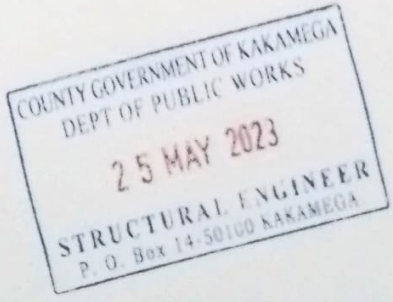
The following were the formulated:

i. To carry out a visual inspection for any visible structural weakness

5. METHODOLOGY

The following approach was used to assess the building:

i. Visual assessment was carried out on the entire building. The aim was to check for any defects or signs of deterioration on the structural members. Items of concern were cracks, signs of settlement of the building and any possible chemical attack on concrete and masonry walls. Concrete beams and columns were stripped and observed for any signs of deterioration. Reinforcement in beams and slabs was also keenly observed for any signs of corrosion.



6. FINDINGS AND DISCUSSIONS

The following were the findings based on visual observation:

i. The building comprises of a ground floor and two suspended floor slabs. The frame was designed and constructed using cast in-situ suspended beams and slab resting on load bearing walls.

ii. No signs of corrosion on reinforcement bars and settlement cracks were observed along the suspended beams. No signs of possible chemical attack of concrete were observed.

iii. There were no visible signs of soil heave near the external walls implying that settlement of the foundation was absent. This was further confirmed by the absence of cracks or movements of the ground floor slab inside the building

iv. Dampness on concrete slabs was also evidently absent implying that the damp proof membrane used during construction is still functioning well.

7. CONCLUSIONS

The building is structurally safe as it is. All structural members assessed are adequate to carry the loads as per the intended use of the building and to transmit to the foundation. Finishes works can now proceed.

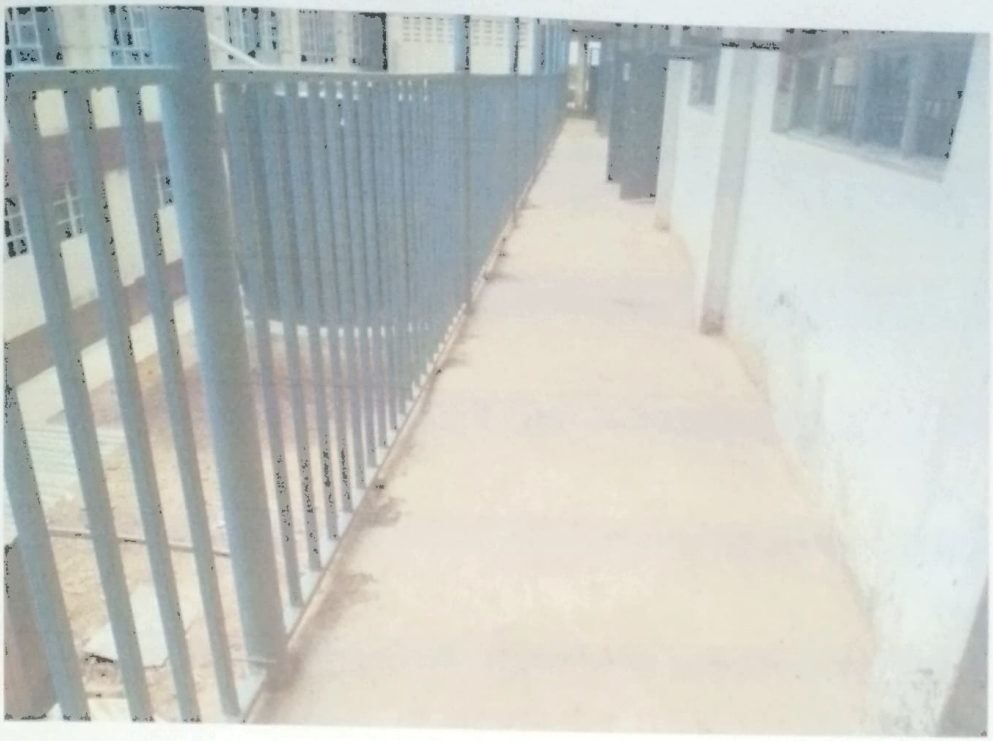
8. RECOMMENDATIONS

The findings are based on visual observations only. However, should there be need, we recommend more Non- Destructive Tests to be done.

COUNTY GOVERNMENT OF KAKAMEGA
DEPT OF PUBLIC WORKS
25 MAY 2023
STRUCTURAL ENGINEER
P. O. Box 14-50100 KAKAMEGA

9. APPENDIX

SITE PICTORIALS



COUNTY GOVERNMENT OF KAKAMEGA
DEPT OF PUBLIC WORKS
25 MAY 2023
STRUCTURAL ENGINEER
P. O. Box 14-50100 KAKAMEGA