

## **ABSTRACT**

According to the 2009 and 2019 census statistics, there has been an annual population change of 5.0% in Machakos County. It is a fast-growing county due to the cheap land value and rural to urban migration. These factors have mainly contributed to an increase in population thus increasing demand for housing. The project presents a 12-storey residential building mainly targeting the newly employed people who have relocated from rural areas for job opportunities. The building was designed to meet both strength and serviceability requirements when subjected to vertical and horizontal loads. The project covers the analysis and design of a twelve-storey residential building designed with a lift to serve all floors. The project report involves analysis of the architectural drawings, determination of the loadings, precursory sizing of structural members, detailed design and analysis of structural members, deflection checks and representation of the design in form of structural drawings in which the structural design was done in compliance with the Eurocode. Structural drawings were done with the aid of Auto CAD. Calculations were done manually and also with the help of Microsoft Excel and Tekla Tedds Software.