UNIVERSITI TEKNOLOGI MARA

ECS358
CIVIL ENGINEERING DESIGN PROJECT

REINFORCED CONCRETE BUILDING DESIGN PROJECT

PROJECT BASED LEARNING (CASE STUDY)

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ACKNOWLEGDEMENT

Assalamualaikum,

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For the construction of a double-story house, a reinforced concrete building design project will be conducted. The house I chose for the project is in Kuala Lumpur's Taman Setiawangsa neighborhood. The content for project 1 (Reinforced Concrete Building Design Project) and project 2 (Project Based Learning) are the elements that I included in this report (Case Study). For project 1, I must prepare the many things such as architecture drawings, Project schedule, design of structure elements in manual and software design, taking off and bill of quantities.

A technical drawing of a house, a building, or any other structure is known as an architectural drawing. Technical drawings are graphic representations of lines and symbols that adhere to certain size and projection norms. They are employed in the fields of architecture, building, engineering, and cartography. They are, in other words, a collection of sketches, diagrams, and plans used to design, construct, and document structures. It's a representation of a building in schematic form. A structural drawing is a sort of engineering drawing that depicts the construction of a building or other structure. Architectural drawings inform structural drawings, which are typically prepared by registered professional structural engineers.

Bills of Quantities (BQ) are a systematic method used in the construction industry to document items of work for tendering reasons and to create a fair agreement between the parties engaged in the contracting process. The benefit of BQ is not properly utilized by the construction team, and the majority of them are unable to relate BQ to regular construction activities and processes. As a result, the goal of this paper is to investigate the significance of BQ and its functions in the construction industry.

Students will be able to construct a structural drawing based on the architectural drawing provided by the company at the end of this project. Design work can be completed with the software PROKON on a variety of projects. The primary goal of structural analysis and design was to create a structure that could withstand all applied loads for the duration of its projected life. Students must design effectively with thorough and error-free checks using the Prokon software.

This project teaches students that if a detail is not provided, they must provide a new parameter or design as a designer. Proposed a new design genuinely requested students to consider what they should do with the project based on the structure's suitability and capacity. For this project, the student calculated using manual calculations and Prokon software, his three tasks were critical in obtaining a comparison of the two methods of calculation. To reach the same or close to the same value, the same parameter was employed in both manual and software calculations.