A PROPOSED DESIGN OF A FOUR STOREY SCHOOL BUILDING AT MENDEZ, CAVITE

Design Project

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Undergraduate Design Project
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ABSTRACT

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The proposed design of a four-storey school building at Mendez, Cavite was conducted at Cavite State University – Main Campus from August 2016 to May 2017.

Generally, the study aimed to design a four–storey school building at Mendez, Cavite. Specifically, it aimed to design a four-storey school building within the municipality; to develop the researchers' ability in surveying, planning and designing; prepare architectural plan of the four-storey school building; prepare structural plan of the building; provide a detailed cost estimate of the project excluding the electrical and plumbing costs; and provide a tarpaulin printout of the project's perspective as an output of the study.

The study aimed to prepare a design of a four–storey school building having a floor area of 3727.4337 square meters. Its highest point from the natural grade line is 20.5 meters.

The study provided the architectural plan and structural details of the proposed building. Architectural plans comprised perspective, floor plans and elevations. Structural plans included detailed design of beam, slab, column, footing, stairs and landing, truss, and purlins. The analysis of the structural members was completed with the use of Structural Aided Analysis and Design (STAAD) software.

The structural design of the structure was prepared in accordance to the procedures and requirements indicated in NSCP standards ACI Code. All the sections and materials

used can be concluded to be safe and economical based on the result of the design analysis and computation.

Electrical and plumbing layouts for the proposed school building were also provided by the researchers.

The estimated project cost of the proposed school building is P 50,422,651.20 and the cost per square meter is P 13, 527.44, excluding electrical and plumbing works.

The researchers recommend that the design of the electrical, both lighting and power, and plumbing should have a detailed plan by future researchers. The cost estimate regarding the electrical and plumbing plan should be considered together with the estimate of construction materials. Appropriate development administration ought to be finished. Critical Path Method is recommended to give a tried and true point of view of the wander activities and timetables. Site probe should be properly done to determine the geological aspects that could affect the plan criteria of the project.

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An undergraduate design project presented to the faculty of Engineering, Cavite State University, Indang, Cavite in partial fulfillment of the requirements for the degree of Bachelor of Science in Civil Engineering with Contribution No. CEIT-2016-17-2-021. Prepared under the supervision of Engr. Marcelino A. Dagasdas Jr.

INTRODUCTION

Education in the Philippines had undergone so many development and changes for the past few years. In order to meet the needs of society there were changes which had been made in terms of educating people. The continuous changes and developments influenced the lives of many Filipinos in different manners. These influences had given both advantages and disadvantages. Inadequacies and problems arise as the educational system in the Philippines was developed. Issues concerning Philippine educational system includes: quality and affordability of education, budget for education, educational irregularities, and the facilities for accommodation.

Nowadays, educational system in the Philippines was facing a lot of problems. One of these was the relationship of the quality and affordability of education. Students, from families who belonged to below average class, often drop out of school because they cannot afford the cost of education. Budget was also an issue in the educational systems. Lack of