PROPOSED DESIGN OF A FOUR-STOREY ADMINISTRATION AND RESEARCH CENTER BUILDING IN CITY OF IMUS POLYTECHNIC INSTITUTE

Undergraduate Design Project
Submitted to the Faculty of the
College of Engineering and Information Technology
Cavite State University
Indang, Cavite

In partial fulfillment
of the requirements for the degree
Bachelor of Science in Civil Engineering

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ABSTRACT

NAVARRO, RENZO A. and ROMANES, ALYSSA BIANCA V. Proposed Design of a Four-Storey Administration and Research Center Building in City of Imus Polytechnic Institute. Undergraduate Design Project. Bachelor of Science in Civil Engineering. Cavite State University, Indang, Cavite. June 2018. Adviser: Engr. Rico C. Asuncion.

The study entitled "Proposed Design of a Four-Storey Administration and Research Center Building in City of Imus Polytechnic Institute" was conducted at Cavite State University – Main Campus from October 2017 to April 2018.

The general objective of the study was to design a Four-Storey Administration and Research Center Building in City of Imus Polytechnic Institute. Specifically, the study aims to provide site development plan, architectural plans, and structural plans of the proposed structure, to provide a structural design of the structure, and to provide a detailed cost estimate to be used in the construction.

The study aimed to provide a physical development plan and to design a Four-Storey Administration and Research Center Building in City of Imus Polytechnic Institute. The lot area allotted for the design of the project 2,250.36 square meters and the floor area of the building 1,115 square meters. The total height of the project is 20.2 meters from the natural ground line to roof apex. The study included architectural and structural plan, electrical and plumbing layout. The architectural plan, structural plan, electrical and plumbing layout were drawn through Computer Aided Drafting Device (CADD) and Google Sketch Up software. The analysis of structural members was obtained with the aid of Structural Aided Analysis and Design (STAAD) software. Structural plan included the design of the purlins, sagrods, tie rods, truss, slabs, beams, columns and footings. The

estimated cost of the proposed design project was P 58,174,390.00 having a cost of P 13,044.00 per square meter. The data gathered from the computations of the structural members of the proposed project were found safe and economical; and could be used for future implementation.

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