PROPOSED DESIGN OF SEVEN-STOREY PROVINCIAL CENTRALIZED LIBRARY-MUSEUM IN SILANG, CAVITE

Design Project

BILLIE MHARK G. ALAVA
MARK JOSEPH A. ROMERO

College of Engineering and Information Technology
CAVITE STATE UNIVERSITY
Indang, Cavite

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Undergraduate Design Project
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BILLIE MHARK G. ALAVA
MARK JOSEPH A. ROMERO

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ABSTRACT

ALAVA, BILLIE MHARK G. and ROMERO, MARK JOSEPH A. Proposed Design of a Seven-Storey Provincial Centralized Libarary-Museum in Barangay Lalaan I, Silang, Cavite. Bachelor of Science in Civil Engineering. Cavite State University, Indang, Cavite. May 2018. Adviser: Engr. Marcelino A. Dagasdas Jr.

Cavite is one of the most urbanized and historic provinces in the Philippines, and as a developing province, it seeks the need for modernized establishments and institutions that can help in the aspect of gathering data, information, and knowledge. The design of seven-storey provincial centralized library museum in Silang, Cavite was conducted from October 2017 to March 2018 at Cavite State University.

The study addressed the need of the province of Cavite on having a seven-storey library-museum. This project aimed to design a library-museum provided with facilities present on a library on its ground floor up to the fourth storey, museum on its fifth and sixth storey, and a viewing deck on its seventh storey.

The main objective of the study was to conduct structural design and analysis of the proposed Seven-Storey Provincial Centralized Library Museum in Silang, Cavite.

The study provided architectural, structural, electrical, and plumbing plans, construction specifications, and cost estimates (See Appendix 1, 2, 3 and 6 respectively).

The structure was designed as per the codes and specifications of the National Structural Code of the Philippines (NSCP 2015). Allowable Stress Design (ASD) and Ultimate Stress Design (USD) were used in designing steel and concrete members respectively. The total amount of the structure excluding electrical and plumbing

estimates is P 62,537,480.36 (See Appendix 6). The total floor area of the building is 6556.5 mm^2. The cost per square meter of the whole project is P 9,538.25.

After the analysis and computations, the design was proven safe. The researchers recommended that the design and computation of connections of trusses, and electrical and plumbing plans with cost estimate must be included in the study for a more detailed research.

The design project conducted could be used by other researchers as reference regarding the construction of a library, museum or a library-museum building.

TABLE OF CONTENTS

LIST OF APPENDIX TABLES

LIST OF APPENDIX FIGURES

LIST OF APPENDICES

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Billie Mhark G. Alava

Mark Joseph A. Romero

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INTRODUCTION

Cavite is one of the most urbanized provinces in the Philippines. It is also the most populated province having 3,678,301 occupants as of 2015. In recent years, Cavite showed abundant development in industrial, commercial, and public facilities, making it an important part of the economic growth of the country. As a developing province, Cavite seeks the need for establishments and institutions that can help in the aspect of gathering data, information, and knowledge.

Aside from economic growth, the province of Cavite is famous of its rich history. Cavite played a big part in the history of the Philippines back in the Spanish, Japanese and American colonization, thus making it one of the most historical places in the country. Although institutions that showcase history, such as museums are present in the province, plenty of them lacks modernized facilities and are outdated.