STRUCTURAL DESIGN OF NURSING HOME IN YOGYAKARTA

Final Project Report

As one of the requirements to get a Bachelor's degree from
University of Atma Jaya Yogyakarta

By:

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CIVIL ENGINEERING DEPARTMENT

FACULTY OF ENGINEERING

UNIVERSITY OF ATMA JAYA YOGYAKARTA

YOGYAKARTA 2022

ABSTRACT

Nursing Homeis planned to be built in Gunungkidul Regency, Special Region of Yogyakarta. The main building of the Nursing Home has a total of 3 (three) floors with an area of 2275 m² and a height of 16 m. This building has 16 (sixteen) rooms on each floor with a total of 48 rooms. This building also has two open gardens on the right and left because this garden does not use a roof covering. There are also corridors in front and beside the rooms which are used as road access for residents. Apart from residential buildings, there are also various supporting buildings such as visitor buildings, management, support and services. In this design, the author designs the main building or residential building.

The structure will support the load of the structure above it. For example, in the Gunung Kidul Nursing Home building, the roof will support the wind load and the roof itself, the 3rd floor will support the roof load and the 2nd floor will support the roof load, the 3rd floor load, and the 2nd floor itself, and so on. It can be concluded from this statement that basically, the structure will support its own load and the load on it.

Based on the precautions at a depth of 3 m it is safe from the potential for liquefaction, so the foundation used is a shallow footprint foundation with dimensions of 3x3 m. Furthermore, the Designing of foundation reinforcement can be carried out. In Designing foundation reinforcement, the planned foundation must be examined for its resistance to one-way shear failure, two-way shear failure and bending moments that occur. The Wreda Nursing Home project uses a pile foundation. Foundation dimension are of 600 x 600 cm. The design of this foundation has been analyzed to be safe from the liquefaction potential, and the amount of land subsidence is still ideal. The project will run for 8 months. with a budget of 19,601,259,921.72.

Keywords: *Nursing Home, Structure, Geotechnical, Project Management*

STATEMENT

We, the undersigned,

First Student Name :	I Putu Bimo Artadiningrat
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First Student Name :	Putra Apriyanto Habirun
Student ID	191317810

Truly declare that the Final Project with the title:
Structural Design of Nursing Home in Yogyakarta is an original work and is not the result of plagiarism from the work of others. We, the undersigned, contribute to this Final Project in the same proportion. Thus we make this statement as a complement tothis Final Project Report.

Yogyakarta, 02nd February 2023

(I Putu Bimo Artadiningrat)

(Putra Apriyanto Habirun)

VALIDATION

Final Project Report

STRUCTURAL DESIGN OF NURSING HOME IN YOGYAKARTA

Arranged By:

I Putu Bimo Artadiningrat 191317582

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Checked By:

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VALIDATION

Final Project Report

CONSTRUCTION OF A NURSING NURSING HOME

Arranged By:

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Has been tested and approved by:

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Examiner 1	: Johan Ardianto, S.T., M.Eng.	.....	17/7/23 .....
Examiner 2	: Peter F. Kaming, Ir., M.Eng	.....	17/07/2023 .....
Examiner 3	: Lulie Y., Ir., M.T.	.....	18-07-2023 .....

FOREWORD

All Praise and Gratitude we give to God Almighty because of His blessings and abundance of grace, in the end we were able to complete the Final Infrastructure Planning Project Report smoothly. We realize that we cannot follow the Infrastructure Design Final Assignment and the preparation of this report, without the help of other parties. Therefore, in this opportunity we would also like to thank:

1. God Almighty because of His blessings and grace we were able to carry out the Practicum and prepare the Final Infrastructure Design Report properly.
2. Mr. Dr. Eng. Luky Handoko ST, M.Eng., as Dean Faculty of Engineering
3. Dr. Ir. Imam Basuki, M.T., Chair of the Civil Engineering Study Program at UNIVERSITY of Atma Jaya Yogyakarta.
4. Mr. Johan Ardianto S.T, M.Eng., as a lecturer of the Final Project of Infrastructure Design I, University of Atma Jaya Yogyakarta, Supervisor, and 1st Examiner of Final Project of Infrastructure Design II (FINAL PROJECT II)
5. Mr William Wijaya, S.T, M.Eng., as a lecturer of FINAL PROJECT II, University of Atma Jaya Yogyakarta.
6. Dr. Nectaria Putri Pramesti, S.T., M.T., as a lecturer of FINAL PROJECT II, University of Atma Jaya Yogyakarta.
7. Mr. Peter F. Kaming, Ir., M.Eng., as 2nd Examiner of FINAL PROJECT II
8. Mr. Lulie Y., Ir., M.T. as the 3rd Examiner of FINAL PROJECT II
9. Parents and friends who have supported us.
10. As well as all parties who have helped complete this Infrastructure Design Final Project Report that we cannot mention one by one.

The author is fully aware that the writing of this report is still far from being perfect.

Yogyakarta, 16th February 2023

Writer

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