

FINAL PROJECT
ANALYSIS OF THE CALCULATION OF ARCHITECTURAL WORK
COSTS AT FAIRFIELD AIRPORT HOTEL TANGERANG

Advisor: Dr. Dwifitra Y Jumas ST.,MSCE

BY:

NABILA APSARI MARTHA

2110015410002



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CIVIL ENGINEERING AND PLANNING FACULTY
BUNG HATTA UNIVERSITY
PADANG
2023/2024

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Proposed as one of the requirements to obtain
Diploma III in Engineering in the Department of Quantity Surveying
Faculty of Civil Engineering and Planning
Hatta University

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ENDORSEMENT SHEET
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BY :

NABILA APSARI MARTHA

2110015410002



Approved By:

Advisor:

A handwritten signature in blue ink, appearing to read 'Dwifitra Y. Jumas'.

Dr. Dwifitra Y. Jumas, ST., MSCE

Certified By:

Civil Engineering and Planning Faculty

Quantity Surveying Department

Dear

Head

A handwritten signature in blue ink, appearing to read 'Al Busyra Fuadi'.
A circular purple stamp of Universitas Bung Hatta. The text inside the stamp includes 'FAKULTAS TEKNIK SIPIL DAN PERENCANAAN', 'YAYASAN BUNGHATTA', and 'UNIVERSITAS BUNG HATTA'.

Dr. Al Busyra Fuadi, S.T., M.Sc

A handwritten signature in blue ink, appearing to read 'Wahyudi P. Utama'.

Dr. Wahyudi P. Utama, B.QS., M.T

**ANALYSIS OF THE CALCULATION OF ARCHITECTURAL WORK
COSTS IN FAIRFIELD HOTEL TANGERANG AIRPORT
JL. HUSEIN SASTRANEGARA, NO.88, BENDA, TANGERANG CITY,
BANTEN**

Nabila Apsari Martha¹ , Dwifitra Y Jumas²

Quantity Surveyor Departments, Faculty of Civil Engineering and Planning
Bung Hatta University

ABSTRACT

The Final Project is one of the graduation requirements for the Diploma 3 Quantity Surveying Departments, Bung Hatta University. This Final Project discusses about Fairfield Airport Hotel. The Fairfield Hotel Airport Building Project is a hotel building project which has a number of floors (ground to upper) 10 floors + roof floors + basement floors with a building floor area of 13,506 M² with a project value of Rp 72,248,000,000.00 The calculations and analyses carried out include the calculation of the bill of quantity using the cost budget plan calculation method, time schedule, and the preparation of cash flow. In the calculation of Bill Of Quantity, the list of wages and materials in the Banten region in 2023 is used. The results of the detailed calculation of the estimate obtained the cost of physical construction for architectural work, namely wall work, façade, floor, ceiling, doors and windows, sanitary, finishing, and lighting without VAT of Rp. 38.083.602.332,07 (without VAT) if the addition of VAT by 11% becomes Rp. 42.272.789.588,60 (including VAT). Based on the calculation of the estimate, a time schedule is prepared in the form of an S curve and cashflow. The schedule for the implementation of work on the Fairfield Hotel Airport project is 14 months, with a monthly payment system. From the analysis of the cash flow plan, it is concluded that the monthly payment system during the implementation time is 10% down payment and 5% retention (12 months maintenance period).

Keywords:

Quantity Calculation, Bill Of Quantity, Time Schedule, Cashflow, Architecture of Fairfield Hotel
Tangerang Airport

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This author realizes that there are still many mistakes and shortcomings in writing this report. Therefore, this author expects constructive input and criticism to improve the quality of this report. Hopefully this report can be useful in adding insight about the field of Quantity Surveying (QS).

Padang, 23 May 2024

Nabila Apsari Martha

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CHAPTER I

INTRODUCTION

1.1 Background Of The Study

The construction industry is a very large industry and full of challenges and opportunities. Along with the development of increasingly sophisticated technology and equipment, the construction industry can still absorb a lot of labor compared to other industries, where it has switched to using technology compared to labor. In addition, the construction industry plays an important role in the economy of a nation. This is used by investors to continue to build infrastructure facilities that can support the community's economy (Junizal.2020).

From year to year the construction industry has undergone changes, where the development of infrastructure facilities is built based on increasing human needs. Not only residential houses are built, but public infrastructure facilities such as roads, airports, ports and others are very important developments because they are the mobility of community activities for economic movement (Al-Azan, 2021).

Therefore, in the implementation of construction, it is very necessary to have a QS (Quantity Surveyor) in it, The role of QS in the implementation of construction is cost management in construction projects. The Quantity Surveyor profession is required to have expertise in volume calculation, project assessment, construction, so that a job can be described in the form of estimated costs that will be entrusted as the basis for the implementation of the construction project. To understand the task of the Quantity Surveyor, a lecture program will be carried out, namely the Final Project (Rizkia, 2019).

It can be said that job opportunities for QS (Quantity Surveyor) graduates of DIII Construction Economic Engineering are available. To increase a deeper understanding of a QS, one of the tasks of a QS will be carried out, namely by recalculating the volume of the Fairfield Hotel Building project as the title of the Final Project. The purpose of preparing the Final Project is as a sign of completing the study period at the university, in addition to being able to measure the ability to understand work drawings, calculate volume, estimate costs, schedule projects, and prepare cash flow.

1.2 Problem Formulation

The formulation of the problems of the Final Project includes:

- a. How is the quantity/volume of architectural work calculated in the Fairfield Hotel Airport project?
- b. How to prepare a Unit Price Analysis of the Fairfield Hotel Airport project?
- c. How to estimate the Budget Plan for building work?
- d. How to prepare time schedule to describe the implementation schedule?
- e. How is cashflow based on time schedule?

1.3 Final Project Objectives

The objectives of the Final Project include:

- a. To calculate the quantity/volume of architectural work at the Fairfield Hotel Airport.
- b. To compile a Unit Price Analysis of Work based on wage and material prices in an area.
- c. To estimate the Budget Plan for building work costs.
- d. To compile a time schedule to describe the implementation schedule.
- e. To arrange cashflow based on the time schedule that is prepared.

1.4 Significance of Final Project

The benefit of working on this Final Project is as a medium to add insight and hone the basic abilities of a Quantity Surveyor who has his expertise. Some of his skills are calculating volume, compiling Cost Budget Plans, planning working time (time schedules) and compiling cash flow (cashflow). In addition, it trains accuracy in calculating volume and cost planning in multi-storey buildings or complex buildings.

1.5 Scope Of Problem

In the writing of the Final Project, limitations are needed in writing, these limitations serve as guidelines in the process of writing the Final Project. The case study raised was the architectural work of the Fairfield Hotel Airport project. In architectural work, there are work components that include wall work, floor work, ceiling work, façade work, door and window work, sanitary work and finishing work of architectural work items.

The Fairfield Hotel Bandara project has 10 floors plus 1 roof floor with a building area of 13,506 m². For the calculation of architectural work, starting from calculating the volume of work, preparing the Cost Budget Plan, planning the schedule to creating cash flow (cashflow). In compiling the RAB, it is guided by the analysis of unit prices issued by the government, namely the Regulation of the Minister of PUPR No. 8 of 2023 and AHSP uses the AHSP of PT Reynolds Partnership (including coefficients and material prices), where the installation wage price is 1.5% of the price of materials. To support AHSP, unit prices of wages and materials from the area of origin of the project are needed, namely the price of wages and materials in the Banten region in 2023.

1.6 Final Project Systematics

In writing the Final Project consists of 4 chapters, namely:

CHAPTER I :INTRODUCTION

Explain the background, problem formulation, objectives of the Final Project, limitations of the problem, benefits of the Final Project, and the systematics of the Final Project.

CHAPTER II : PROJECT DATA

Explaining general information about the Office Building project of The Kahyangan Boulevard Solo Baru. Project data information includes the project name, location and parties involved.

CHAPTER III : CALCULATION AND ANALYSIS

Explaining the description of the main problems prepared in the problem formulation, namely the calculation of the volume of architectural work, the preparation of the Cost Budget Plan, the implementation schedule (time schedule) and the project cash flow (cashflow) in the Fairfield Hotel Airport project.

CHAPTER IV :CONCLUSION AND SUGGESTIONS

Contains conclusions and suggestions prepared based on the results of calculations and analysis in the case study of CHAPTER III in the Final Project report.