EXECUTION PLANNING OF NORTH DISTRICT HIGHWAY CONSTRUCTION
PADANG SAWAH – SIMPANG EMPAT SECTION
(STA 170+000 TO STA 175+100)
WEST PASAMAN REGENCY WEST SUMATERA PROVINCE

FINAL PROJECT

The final project is intended as eligible to get Diploma III degree
Academic Year 2007 / 2008

By :

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CIVIL CONSTRUCTION PROGRAM

CIVIL ENGINEERING DEPARTMENT
POLYTECHNIC ANDALAS UNIVERSITY
PADANG

2008

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Execution Planning of North District Highway
Padang Sawah – Simpang Empat Section (STA 170+000 to STA 175+100)
West Pasaman Regency West Sumatera Province

The Final Project for Diploma III Degree by Dewi Novita Putri and Riza Gusnita
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ABSTRACT

Road as infrastructure is one of economy growth support, we can see how very bigness the disadvantages or negative effect of non-durable material, for example agriculture commodity, if distribute by road infrastructure with bad condition and have long distributing time, it can make the high cost and low competitiveness influence for that commodity. So that, it needs effective way in executing the road project construction to achieve a good result, and give the comfortable for any parties that using the road. Therefore, the road from Padang Sawah to Simpang Empat in the West Pasaman with the length of road is 5.100 Km, should be widening and overlay, so that, the first way is planning for executing the road project by arranging the final project.

In executing the road construction, the Cost Estimating is just about Rp. 12.830.711.000,00 (*count: Twelve Billion Eight Hundred Thirty Million Seven Hundred Eleven Thousand Rupiah*) with the duration for executing the road project is 128 days. The organizational structure and controlling (quality control, time control and cost control) are important things in achieving the successful project execution. The specific evaluation is flexible pavement design for the sub base course, base course and surface in North District Highway Padang Sawah – Simpang Empat Section by using Bina Marga Method, the result is differ from the real road construction design because of some assumption data in designing the specific evaluation.

The final project had been presenting in the evaluation test and certified on August 28th 2008. The abstract had been approving by assessor team as follows:

Signature	1.	2.	3.	4.
Name	Apwiddhal, ST.,MT NIP. 131 914 346	Aguskamar, ST.,MEng NIP. 132 884 481	Lusyana, ST.,MT NIP. 132 258 569	[illegible] Atmaja, Ir.,MSi NIP. 131 789 158

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The Alumnus had registered to Andalas University with the number of Alumnus:

	Name:	
No Faculty Alumnus:	Name:	Sign:
No University Alumnus:	Name:	Sign:

CHAPTER I
INTRODUCTION

1.1 Background of Final Report

Facing the advance era especially in technology sector which rising, that technology advancement will be influential to transportation advancement, because transportation is a facility to distributing goods or service from one place to other place. So by this advancement in transportation sector be able improving people economy development

To increase the trend and perception of student in transportation sector, so that the Civil Department of Polytechnic of Andalas University oblige the student at the sixth semester to finish the final project (*tugas akhir*), which this final project as requirement to finish the Diploma III program. Process of writing final project appropriate with education curriculum presented in polytechnic or other college. So that after to graduate from Civil Engineering, hoped the student can answer and facing technology improvement especially in transportation sector.

In final project more emphasized in actuating aspect in the field, in this writing the writer choosing the final project title **"Execution Planning of North District Highway Construction, Padang Sawah – Simpang Empat Section, (STA 170+000 to STA 175+100), West Pasaman Regency, West Sumatera Province"**.

1.2 Objective of Final Project

The objectives of this final project as follow:

1.2.1 General Objective

Generally, the objective of this final project is for fulfilling the requirement for passing on the Diploma III program in Padang State of Polytechnic in Andalas University and the student can apply the knowledge which get when study or self experience.

1.2.2 Specific Objective

The specific objective of this final project so as to the writer:

1. Be able to understand and know the type of work and steps of construction well.
2. Be able to calculation the budget of road project (*Cost Estimate*) which effective and efficient.
3. Be able to make Precedence Diagram Method (PDM) and Time Schedule of project well.
4. Be able to determine highway pavement thickness by *Bina Marga* Method (*SKBI-2.3.26.1987*).

1.3 Boundary of Problem

In writing of final project with title **"Execution Planning of North District Highway Construction, Padang Sawah – Simpang Empat Section, (STA 170+000 to STA 175+100), West Pasaman Regency, West Sumatera Province."**

The writer observes a few of problem, among of that boundary as follow:

1. Project preparation and execution
2. Calculation the volume of work
3. Counting the budget of project (*Cost Estimate*)
4. Making Precedence Diagram Method (PDM)
5. Making Time Schedule
6. Making the Structure Organization
7. Pavement Thickness Design

1.4 Technical of Data Collection

1.4.1. Interview Method

By this method, data and information about project execution thought get by direct interview with relevant parties in project and lecturer or instructor of final project in Padang State Polytechnic of Andalas University.

CHAPTER V
CONCLUSION AND SUGGESTION

5.1. Conclusion

In Execution of North District Highway Section Padang Sawah – Simpang Empat (STA 170+000 to STA 175+100), West Pasaman Regency, West Sumatera Province in the context of final project writing which writer design are cost estimate design and project execution method, so that we get final conclusion as follow:

1. Highway improvement and capacity in order to maintain highway function as serve to inter-province traffic, that is to North Sumatera Province and give safety and comfortable sense for driver.
2. After observation about planning and execution of highway improvement project as long as 5,100 Km (STA 170+000 to 175+100) need cost as big as Rp 12.830.711.000,00 (*count: Twelve Billion Eight Hundred Thirty Million Seven Hundred Eleven Thousand Rupiah*)
3. In that highway improvement execution need the time as long as 128 days which the work done every day (calendar day)
4. The thickness pavement design which use Bina marga Method (SKBI-2.3.26.1987) so get some alternative of pavement thickness design as follow:

Alternative	Pavement Thickness		Cost (Rp)	Comparison Cost (%)
1	Surface Base Course Sub Base Course	: 7,80 cm : 21,00 cm :11,00 cm	2.833.851.953,63	Alternative 1:3 18,598%
2	Surface Base Course Sub Base Course	: 5,00 cm :27,00 cm :11,00 cm	2.153.312.413,37	Alternative 1:2 24,015%
3	Surface Base Course Sub base Course	: 5,00 cm :21,00 cm :18,00 cm	2.306.813.986,54	-

From third alternative as above get efficient cost and economize cost by comparison by cost difference between 1 -3 are:

1 – 3 ⇨ Rp. 2.833.851.953,63 – Rp. 2.306.813.986,54

= Rp. 527.037.967,09

5.2. Suggestion

1. In Cost Estimate calculation must be done careful, especially in heavy equipment analyze because the cost of heavy equipment have great influence to project executing cost.
2. Time, Quality and Cost control must be done well, to getting valid result both of owner or contractor.
3. In pavement thickness design must be planning in effective and efficient way, and fulfill valid rules and certainty.

BIBLIOGRAPHY

rahim, H.Bachtiar, *Rencana dan Estimate Real of Cost*, Cetakan keempat, Jakarta: Bumi Aksara, 2003.

am Soeharto, *Managemen Proyek (Dari Konseptual Sampai Operasional)* Jilid I, Jakarta: Erlangga, 1999.

via Sukirman, *Dasar-dasar Perencanaan Geometrik Jalan*, Bandung: Nova, 1999.

_____, *Beton Aspal Campuran Panas; Edisi 1*, Jakarta: Granit, 2003.

_____, *Perkerasan Lentur Jalan Raya; Edisi 1*, Bandung: Nova, 2003.

rley L. Hendarsin, *Perencanaan Teknik jalan Raya Jilid 1*, Bandung: Politeknik Negeri Bandung, 2000.

Djoko Untung Soedarsono, *Konstruksi Jalan Raya*, Jakarta: Badan Penerbit Pekerjaan Umum, 1979.

Mochamad. Materi Pelatihan Supervisi. Bogor: PT.PLN,2008.