STUDY OF CONSTRUCTION AND MAINTENANCE OF SLOPE IN KLANG VALLEY HIGHWAY

This academic project is submitted in partial fulfillment of the requirement for the Bachelor Of Building Surveying (Hons.)

NADZREN BIN AHAYALIMUDIN
(2007122585)

OCTOBER 2009
ABSTRACT

Slope stabilization may come in various types and material, but the purpose of construction of slope stabilization is to directly control slope from landslide to occur and strengthen soil mechanically. Therefore, the slope stabilization design must be able to withstand the bearing force of the slope and harsh of the weather.

The dissertation shall focus on factor influence selection of right method of slope stabilization, method slope stabilization that have use in Klang Valley highway and maintenance method of slope in Klang Valley in this highway:

2. Shah Alam Expressway.

Based on the interview and observation, it can be said that there is several types of slope stabilization, factor of selection are based on environment factor of the slope such as types of soil, degree of slope etc. Information about the maintenance of the slope also been identify to make sure that slope it in good condition and cannot risking the user of the highway.
STUDY OF CONSTRUCTION AND MAINTENANCE OF SLOPE IN KLANG VALLEY HIGHWAY

CONTENTS

ACKNOWLEDGEMENT I
ABSTRACT II
LIST OF FIGURE III
LIST OF TABLE IV
LIST OF APPENDICES V

CHAPTER 1

INTRODUCTION
1.1 Background 1
1.2 Problem Statement 3
1.3 Research Objective 4
1.4 Scope and Limitation 4
1.5 Method of Research 5
1.6 Importance of Research 5
1.7 List of Reference 7
CHAPTER 2

INTRODUCTION TO LANDSLIDES

2.1 Introduction 8

2.2 Landslide

2.2.1 Definition 9

2.2.2 Landslide types 9

2.3 Definition of slope 18

2.4 Types of slope 18

2.4.1 Natural slope 19

2.4.2 Man-made slope 19

2.4.3 Fill slope 20

2.4.4 Dam slope 20

2.5 Phenomena of slope failure 21

2.6 Observation on mass movement 22

2.7 Causes of slope failure 23

2.8 Slope stabilization 24

2.8.1 Factor influence stabilization 24

2.9 Slope failure analysis 30

2.9.1 Method of slope failure analysis 30

2.9.2 Important factor in slope stabilization analysis 31

2.10 Summary 35
CHAPTER 3

INTRODUCTION TO SLOPE MAINTENANCE

3.1 Purpose 36
3.2 Categorize of maintenance inspection 37
3.3 Frequency of maintenance inspection 38
3.4 Point to be considered in slope inspection 39
3.5 Maintenance requirement for soil slope and rock slope 40
  3.5.1 Assessment 40
  3.5.2 Frequency and timing of routine maintenance 44

3.6 Maintenance responsibilities 46
3.7 Maintenance management 47
3.8 Maintenance manuals 54
3.9 Maintenance report 59
  3.9.1 Annual summary report 59
  3.9.2 Monthly summary report 59
  3.9.3 Daily summary report 59
  3.9.4 Periodic or special inspection report 59
3.10 Maintenance record 60
3.11 Summary 60