

**FIELD DETERMINATION OF
RUNOFF COEFFICIENTS FOR DIFFERENT URBAN CONDITIONS
IN THE HUMID TROPICS**

By

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**A Report Submitted to the Faculty of Civil Engineering,
MARA Institute of Technology, Shah Alam, Malaysia
in Partial Fulfilment of the Requirements for the award
of a Bachelor in Engineering (Hons.) (Civil)**

ACKNOWLEDGMENTS

Praise be to Allah SWT for His grace, I have successful completed my work.

I wish to express my sincere thanks very much and gratitude to my project advisors,

En.Turahim Abd. Hamid and Pn. Ramlah Mohd Tajuddin. Thanks are also conveyed to Ir.Chong Sun Fatt, Pn. Norlida bt. Mohd Dom of the Hydrology Branch, Jabatan Pengairan dan Saliran Malaysia (JPS), Ampang, Kuala Lumpur for their helps throughout the course of this project.

Also to all staffs in Hydrology Branch, Jabatan Pengairan dan Saliran Malaysia, especially, to En. Megat Ahmad Tarmizi for his assistance and companion, En.Azlan b. Abas and En.Mohd Fauzi Chek Nen for providing the necessary facilities required and unselfishly helping hand.

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ABSTRACT

This project is about an urban hydrology study in Taman Mayang sub-catchment. The main aim of the project is to obtain the field runoff coefficients for different urban conditions in the humid tropic, such as open spaces, residential and commercial. Taman Mayang is chosen for this study because it is a fully developed urban area with mixed development setup primarily housing and some commercial activities and also some open spaces. These activities may represent the required setup necessary to determine field runoff coefficients under different urban conditions. The study area is also equipped with required instrumentation necessary to carry out field measurement.

Rainfall and streamflow data needed for this project are either obtained from direct measurement in the field or obtained from Drainage and Irrigation Department (DID). Field measurements are organized to represent storm events but in most cases field measurement cannot be conducted due to dry weather condition. The findings of this study are very useful because the runoff coefficients obtained can be used to verify the values used by many engineers in Malaysia to design urban drainage system.

CHAPTER ONE

INTRODUCTION

1.1 General

Urbanization in Malaysia has taken place very rapidly in the last ten years or more due to the economic booms in the country especially in the Klang Valley. One direct consequence of rapid urbanization is the rapid increase in impervious area like roads and highways, pavements, parking lots etc, which are preventing the natural infiltration process of rainfall to occur thus resulting in huge amount of runoff which in turn causing flood problems in many urban areas.

To overcome flood problems in urban areas, we need to be reexamine the method of designing urban storm drainage system. In Malaysia many urban drainage systems are designed based on the Planning and Design Procedure No.1 (Urban Drainage Design Standard and Procedure for Malaysia Peninsular, 1975) produced by DID. The problem is the procedure adopted runoff coefficient from overseas, which is not suitable with local conditions. Therefore, this study is very important in the sense it can improve the design process by having runoff coefficients which represent the local conditions.