

CERTIFICATION OF APPROVAL

RAINFALL-RUNOFF SIMULATIONS FOR SUNGAI KURAU, PERAK

By

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A project dissertation submitted to the
Civil Engineering Programme
Universiti Teknologi PETRONAS
in partial fulfilment of the requirement for the
BACHELOR OF ENGINEERING (Hons)
(CIVIL ENGINEERING)

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January 2015

This is to certify that I am responsible for the work submitted in this project, that the original work is my own except as specified in the references and acknowledgements, and that the original work contained herein have not been undertaken or done by unspecified sources or persons.

MADINA BINTI ABDULLAH

ABSTRACT

Flood risks can be reduced by either reducing the probability or the causes of a flooding. These causes can be quantified with rainfall-runoff models. The calibration process was carried out by using the available data in Kerian district. This project was conducted in order to develop Hydrologic Model for Sungai Kurau and analyze the precipitation-runoff processes from year 2005 to 2010. The impact of northeast monsoon was causes the Bukit Merah Dam release the excess water when reaches dangerous level, therefore it was released to Sungai Kurau and low-lying areas. To achieve the project objectives, the hydrological modeling is a common practice tool to estimate the basin's hydrological response due to precipitation. In this project, Hydrologic Engineering Centre-Hydrologic Modelling System (HEC-HMS) is used to simulate rainfall-runoff process at Sungai Kurau, Kerian for year 2005 to 2010 whereby the HEC-HMS are suitable model to predict the hydrologic changes in Sungai Kurau.

ACKNOWLEDGEMENTS

First and foremost, I express my highest gratitude and praises to Allah S.W.T for all the blessing He has showered onto us. Alhamdulillah, I am able to go through the paces of this Final Year Project (only with His will), from the beginning until completed the project.

My highest appreciation is extended to my supervisor, Dr. Muhammad Raza Ul Mustafa for being very helpful throughout the whole project, in giving me a lot of encouragements, ideas, suggestions, and comments. He was always there to support the development of this Final Year Project from the beginning and throughout the whole process of completing it.

Not forgetting Dr. Nik & Associates staffs for providing assistance to author during hydrologic modelling, their assistance is gratefully acknowledged.

Other than that, my highest appreciation goes to my mother, Madam Fatimah binti Mohd Ali for keeping me motivated always throughout the year. Not forgetting my family, they are my key sources of strength in whatever I do in my life. Thank you so much for always be there through my ups and downs.

Last but not least, the author would like to thank Miss Zainab, PhD student which always motivated me, assist me in whatever condition until my final project done. To Jabatan Pengairan dan Saliran, Jabatan Pertanian and Majlis Daerah were provide hydrologic data for my final year project. Thank you so much for everything.

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ABBREVIATIONS AND NOMENCLATURES

No	Abbreviation	Abbreviated Term
1	HEC-HMS	Hydrologic Engineering Center's Hydrologic modeling system.
2	DID	Drainage and Irrigation Department
3	CN	Curve Number
4	HSG	Hydrologic Soil Group

5	ARC	Antecedent runoff condition
6	GIS	Geographic information system