

**THE IMPACT OF LAND DEVELOPMENT
ON SURFACE RUNOFF AND THE EFFECT
ON EXISTING DRAINAGE SYSTEM
(ITM AREA)**

*A project report presented in partial fulfillment
of the requirements for the award of
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By

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SYNOPSIS

Nowadays there are many developments in ITM area. These development project will have a significant impact to surface runoff and existing drainage system. This study will try to relate the impact of land development to surface runoff and the effect on existing drainage system at the ITM campus, Shah Alam. A data base to monitor the performance of existing drainage system is set up to facilitate maintenance of the drainage system.

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1.0 INTRODUCTION

1.1 Surface Runoff.

When a storm occurs, a portion of the rainfall infiltrates into the ground while some portion evaporates. The rest flows as a thin sheet of water over the land surface which is termed as surface runoff. Low soil permeability favours surface runoff. If there is an impermeable stratum in the subsoil, the infiltrating water moves laterally in the sub-surface soil and joins the stream flow which is termed as underflow. If there is no impeding layer in the subsoil the infiltration water percolates into the ground as deep seepage and builds up the ground water table. The ground water may also contribute the stream flow if the ground water table is higher than the water surface level of the stream, creating the hydraulic gradient towards the stream. Low soil permeability favours surface runoff. While all three types of flow contribute to the stream flow, it is the surface runoff which first reaches stream channel, the interflow being slower to reach after a few hours and the ground water flow being the slowest to reach the stream channel after some days.