

**SEWER SYSTEM DESIGN USING MS EXCEL  
FOR UiTM PULAU PINANG**

By

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## **ABSTRACT**

Sewer system design need an adequate and proper design to prevent the water pollution in our country because sewage is a current major pollutant of our in land waterways. This report will give the result in sewer system design at UiTM Pulau Pinang. This design was provided according to the guidelines that approved by the regulatory authorities. In this report it also shows that the spreadsheet in MS office Excel can give the solution to design and analysis of the sewer system. Besides that, the development of sewer network database in UiTM Pulau Pinang and the potential uses of a Geographical Information System (GIS) as a tool to manage the sewerage infrastructures were conducted.

# CHAPTER 1

## INTRODUCTION

### 1.1 Introduction

Sanitary sewer systems are pipe networks designed to carry waste water from different sources to an outfall. The sources include residential, industrial or commercial areas. Expanding and maintaining a very large and rapidly aging wastewater collection system in the age of limited budgets is a major problem facing in Malaysia. The population in the city and its surrounding cities is expected to double during the next century and the wastewater collection system must be expanded.

The sewer system represents a significant investment, which has been made during the last century. An inadequate design of a sewer system may cause severe economical and environmental damages. Reasons could be inadequate flow capacity of the sewers resulting in flooding of residential areas; combined sewer overflows causing pollution incidents and maybe fish kill in the receiving waters. Or at accidents in urban areas where different pollutants may enter the sewer system, either accidentally, or it is intentionally flushed down into the system to remove it from the surface area

In the design of sanitary sewer systems, it is necessary to have detailed information on the surface and subsurface characteristics for the area under