FINAL YEAR PROJECT

ADVANCED DIPLOMA IN CIVIL ENGINEERING
SCHOOL OF ENGINEERING
MARA INSTITUTE OF TECHNOLOGY
SHAH ALAM

title

PROCESS DESIGN OF OXIDATION POND AND PACKAGE TREATMENT PLANT (ITM SHAH ALAM)

prepared by
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SYNOPSIS

It is important to treat sewage to a required so that the effluent be kept to the minimum strength by careful planning, collection and disposal. To achieve this, this project is concerned with the application of the multi-process treatment model known as "BIOTREAT". This program was developed by Douglas R. Christensen CH2M HILL, Inc. and Professor Perry L. Mc Carty , Civil Engineering Department Stanford University.

Actually, part of this project has been done by our previous students, Kamal Baharin Bin Saidin and Mohammad Fakri Abd. Rahman in Mei 1985. Their project are titled as the 'Design of sewage treatment plant using "BIOTREAT" model.

At that time, the project was emphasised on the theoretical part and the data used was only for comparison for purposes. For my project, the emphasis is on the usage of the actual data from two places in ITM, the Delima Oxidation Pond and Perindu Package Treatment Plant, so that the local kinetic coefficient parameters could be determined.

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CHAPTER 1

1.0 INTRODUCTION

In the design of biological treatment plant, the importance of utilising the bacteria, cannot be over emphasized. Many results found outside this country are not really applicable in local situations, for example, the effect of temperature and the nature of wastewater are different in different environments. Furthermore, most of this data are obtained either empirically, based on pilot plant and prototype treatments plants. This study will of help to determine the local process parameters, for example decay rate, flow characteristics and other relevant process design parameters.

1.1 OBJECTIVE

The purpose of my project is to determine local process design parameter for two types of wastewater treatment plants :

a. ITM Package Plant (Modification Aeration Activated Sludge Process).

b. Oxidation Pond.

Both of these are of suspended growth process type.