

UNIVERSITI TEKNOLOGI MARA



REUSE OF SLUDGE FROM WATER
TREATMENT PLANT AS A CONSTRUCTION
MATERIAL

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DECLARATION BY THE CANDIDATE

I am Suhaida binti Sulaini, 2003339805 confirm that work is my own and that appropriate credit has been given where reference has been made to the work of others.

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APRIL 2006

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ABSTRACT

Sludge are known as waste material or dewatered solid from a commercial or industrial wastewater treatment plant and potable water treatment plants. Its consist of clay, microorganisms and chemical generated from the use of coagulant material. The study of sludge is based on alum coagulant was carried out at the sedimentation tanks of Perbadanan Bekalan Air (PBA). The objectives of the study are reused water treatment sludge as a mass concrete and to determine the effectiveness of water treatment sludge as mass concretes. In order to meet these objectives the several test were done in the laboratory material such as sieve analysis, slump test, air-dry density of concrete and the most important was compression strength test. The result from this study indicates that 10% sludge passed the compressive strength requirements 25 N/mm². However, the usage of 50% sludge improves the air –dry density of the mass concrete. It is conclude that the usage of sludge from water treatment plant is not suitable material for structural use in heavy construction industry. From the observation, it is recommended using sludge as unloading structure such as partition.

TABLE OF CONTENTS

CONTENT	PAGE
Acknowledgement	i
Table of Contents	ii
List of Tables	vii
List of Graphs	ix
List of Figures	x
List of Photos	xii
List of Abbreviation	xiii
Abstract	xiv

CHAPTER

1	INTRODUCTION	1
1.1	Background	1
1.2	Problem Statement	2
1.3	Objectives	3
1.4	Significant of this study	3
1.5	Scope of the study	4