

**BACK ANALYSIS FOR PILE BEARING CAPACITY USING
STATIC LOAD TEST RESULT**

By

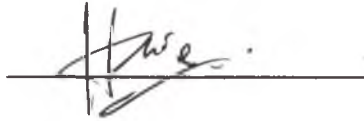
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Report is submitted as
The requirement for the degree of
Bachelor Engineering (Hons) (Civil)

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DECLARATION BY THE CANDIDATE

I am Nurharnani Bt Hassan, 2001389687 confirm that work is my own and that appropriate credit has been given where reference has been made to the work of others.

A handwritten signature in black ink, appearing to read 'Nurharnani Bt Hassan', is written over a horizontal line.

(Nurharnani Bt Hassan)

18/03/2005

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*In the name of Allah, The Most Merciful and The most Beneficent. All praises to Allah,
God of the universe and peace be upon his messenger.*

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ABSTRACT

In Civil Engineering point view, the important aspect during design stage is to obtain the cost effective design or to avoid over and under estimate design on pile bearing capacity. Chin Method is one of the simplest way and widely used in Malaysia in order to estimate the ultimate pile bearing capacity. This study has chosen Chin Method because this method was accurate and easy to understand. The result of this study found that in Penang, the piles foundation design could be considered as under estimate, and a few of them are reasonable and over estimate. The under estimate pile design has $P_{ultimate}$ based on Chin Method larger than 2x design load. This resulted in wastage of material and ineffective cost utilisation for the project. This study also focus on determine the status of pile deduced from design assumption and manufacturer's specification. Based on this study, it can be concluded that most test piles in Penang were experience geotechnical govern while some of them are under structural govern and pile overloaded. This study also concern about failure analysis in term of excessive settlement. Excessive settlement was not the major cause in pile failure. Only 3 projects in Penang were having excessive settlement. JKR failure criteria were used to compare between settlement values from Static Load Test with standard value from JKR criteria.

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