A LABORATORY STUDY ON THE BEHAVIOUR OF SHALLOW FOUNDATION IN VIBRATED MARINE RESIDUAL SOIL

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By

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DECLARATION BY THE CANDIDATE

I, *Tracy Anak Lawrence Ghundy, 2003636138* confirm that the 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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ABSTRACT

The recent earthquakes experience enhanced the important of earthquake engineering related study. This research emphasized on the effects of vibrating on shallow foundation in residual marine alluvial soil. Shaking table model tests are considered as one of the best methods for simulation of seismic loading and it also provides a better understanding of the behaviour and performance of ground during shaking. The soil samples tested were collected from local alluvial marine soil underneath Penang Bridge near Seberang Perai. A series of experiments was carried out on a shaking table in order to monitor the behaviour of shallow foundation due to seismic loading and vertical loading. Five series of model tests were performed with a square foundation and one series of was performed with a rectangle foundation. It is found that the displacement of the foundation during strong shaking showed a gradual accumulation. Higher load applied on the foundation resulting a higher vertical and rotational displacement. The mechanism of failure by rotation and vertical displacement were clearly illustrated.