

Piyapong Kesawadkorn. 2000. *A Study of Effect of Moisture Content on the Bearing Capacity of Silty Sand*. Master of Engineering Thesis in Structural Engineering, Graduate School, Khon Kaen University. [ISBN 974-678-130-8]

Thesis Advisory Committee : Asst.Dr. Watcharin Gasaluck, Asst. Piti Angsuwotai

ABSTRACT

The silty sand found on Khon Kaen University campus was loessial soils, therefore, they had loose structure with natural dry density of 1.48 tons per cubic meter on the average, and especially with non-plastic quality. The results of this study indicated the behavior of collapsible soils.

From the study of effect of moisture content on the bearing capacity of these soils, which underwent tests, both in the laboratory and on the field, it was found that the shear strength would gradually decrease in relation to the increase in moisture content, that was, when the amount increased from 9 to 15 percent the bearing capacity would decrease about 40 percent as a consequence.

As for the study of behavior of collapse, it was found that in natural condition with less than 20 percent of degree of water saturation, the soils would have high shear strength, could bearing capacity of over 15 tons per square meter, but with over 80 percent of degree of water saturation, the soils would collapse by their own weight. Another finding still showed that the increase in applied stress would have an effect on the increase in the amount and rate of collapse.