THESIS INFORMATION

Title: **STUDY ON STRESS DISTRIBUTION IN THE EMBANKMENT UP TO SOFT SOIL IN THE SOFT GROUND TREATMENT SOLUTION BY COMBINING CONCRETE PILE SYSTEMS WITH GEOTEXTLE.**

PhD. Student: **Nguyen-Tuan-Phuong**

Major: **Geotechnical Engineering**

Major Code: **62.58.60.01**

Training Institute: **University of Technology, VNU-HCMC**

Scientific Supervisors: **Associate Prof. Dr. Vo-Phan**

Associate Prof. Dr. Chau-Ngoc-An

Soft soil treatment by combining reinforced concrete piles with geotextile is one of the most popular solutions in the soft soil area of the southern provinces. The advantage of this solution was a significant reduction in settlement due to pile head load, the quality of the constructions was controlled conveniently and a little affection of the physic or chemical environment on the pile manufacturing materials (compared to the cement soil piles), significantly reduced replenishment materials (compared to the pre-loading methods) and some other advantages. Moreover, to analyze and evaluate the characteristics and rules of stress distribution on the pile heads and soft soil ground, real - model experiments were performed.

The study results showed that the concentration stresses on the pile heads accounted to large proportion, depending on the fluctuation of the ground water level, the stress in the soft soil was irregularly distributed depending on the tension of the geotextile and the location measurement points.

The stress that was distributed in the soft soil ground at the near piles had higher value than the locations away from the piles.

When the soft soil was submerged, the concentration total stress on the pile heads was increased, while the total stress distributed on the soft soil did not change. Therefore, the coefficient of stress concentration (n) was smaller in the dry season and higher in the rainy season.

The results of the experiment showed that the stress concentration coefficient was larger during the ground leveling and ground compacting, then it was gradually seen to reduced and stabilize after a month.

The concentration total stress on the pile heads (n) in the geological of the Tien river was $n = [4 \div 6]$.

The results of studying could be considered a good reference in calculation and design construction by soft soil treatment with reinforced concrete piles, loose material piles, cement soil piles combined with the geotextile.

Scientific Supervisors:	**PhD. Student**
Associate Prof. Dr. Vo-Phan	**Nguyen-Tuan-Phuong**
Associate Prof. Dr. Chau-Ngoc-An	