

Phanu Chaiyawan 2006: Study of Large Diameter Pile Capacity Behavior in Bangkok Subsoil. Master of Engineering (Civil Engineering), Major Field: Civil Engineering, Department of Civil Engineering. Thesis Advisor: Assistant Professor Korchoke Chantawarangul, Ph.D. 143 pages.  
ISBN 974 – 16 – 2942 – 7

In this study 12 instrumented pile load test data in Bangkok subsoil were collected. All pile are large diameter bored pile 0.80 – 1.20 m. diameter, with pile length greater than 45 m. with their pile tip found in the very dense sand layer (2<sup>nd</sup> sand layer). The load transfer of pile to the surrounded soil layers were interpreted and back calculated for the design parameters, in the working condition and ultimate pile capacity.

The results of the study showed that the load transfer behavior of pile start from the frictional resistance of the surrounding soil, and then to the pile end bearing. The frictional resistance is fully mobilized to their maximum value at small amount of deformation, less than 12 mm., while the end bearing require much larger deformation to about 0.1 – 0.8% of pile diameter. Hence, the pile in Bangkok subsoil are classified as friction pile, eventhough their diameter are large and very long.

Result form back calculation found that the  $\alpha$  value is between 0.2 – 0.8, the  $\beta$  value is between 0.2 -0.5, and the  $N_q$  for end bearing is much lower than the theoretical values, in the range of 2-12. The  $N_c$  value for end bearing in clay layer is about 9.4.

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Thesis Advisor's signature

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