Tanawan Wannawong 2012: Engineering Properties of Undisturbed Bangkok Stiff Clays. Master of Engineering (Civil Engineering), Major Field: Civil Engineering, Department of Civil Engineering. Thesis Advisor: Associate Professor Korchoke Chantawarangul, Ph.D. 103 pages.

Engineering design and construction of structures in geotechnical engineering works has directly related to aims to study the properties of soil. Engineering properties of soils becomes very important parameters for the design. Nowadays, the data in Bangkok stiff clays from subsoil investigation for undisturbed samples of stiff clays test for values its strength and compressibility are still not widespread.

In this study compiles and systematically collect the results of subsoil investigation by only selection of the results of undisturbed samples of stiff clays totally more than 247 boreholes over the area of Bangkok. Physical and engineering properties analysis for which focuses on its shear strength and compressibility characteristics.

Study results showed the thickness of Bangkok stiff clays ranges between 3 to 12 meters at average depth from 15 m. to 23 m. Average natural water content (w_n) of stiff clays are in range of $27.02 \pm 7.41\%$. Liquid limit (L.L.) are $53.87 \pm 16.31\%$. Plasticity index (P.I.) are $30.67 \pm 12.00\%$. Total unit weight (γ_t) are 1.96 ± 0.13 t/m^3. The shear strength properties namely average undrained shear strength (S_u) are in range of 8.83 ± 3.57 t/m^2. Undrained modulus of elasticity (E_u) are 787.69 $\pm$ 383.58 t/m^2. The compressibility properties namely average initial void ratio (e_0) are in range of 0.737 ± 0.108 Compression index (C_C) are 0.155 ± 0.042. Recompression index (C_r) are 0.045 ± 0.025. Coefficient of consolidation (C_v) are 1.63 ± 1.07 m^2/year. Maximum past pressure (σ_p') are 29.43 ± 9.03 t/m^2. Over consolidation ratio (OCR) are 2.33 ± 0.64 and shows that the clay is lightly over consolidated clay.

____ / ____ / ____

Student's signature ลายมือชื่ออาจารย์ที่ปรึกษาวิทยานิพนธ์หลัก