

ABSTRAK

Judul : Analisis Nilai Alpha pada Daya Dukung Tiang Bor berdasarkan Loading Test dan Metode Analisa Manual (Studi Kasus Proyek Holland Village, Cempaka Putih – Jakarta Pusat), Nama : Adelfy Dara Arianti, NIM : 41113010015, Dosen Pembimbing : Pintor T. Simatupang, Ir., MT., Dr. Eng, dan Desiana Vidayanti, Ir., MT., 2017.

Dalam mendesain daya dukung tiang bor, sifat dan karakteristik tanah (*indeks dan engineering properties*) sepanjang tiang mentransfer beban struktur atas merupakan hal penting yang perlu diperhatikan. Dimana kondisi tanah lempung pada saat uji beban statis menyerupai kondisi *undrained* dibanding dengan kondisi *drained*. Sehingga metode *alpha* sering digunakan apabila stabilitas pondasi tiang ditinjau dari perilaku *undrained* atau *total stress analysis*, dengan parameter yang sering digunakan *undrained shear strength* tanah.

Analisis nilai alpha pada tiang bor berdasarkan *loading test* dan metode analisa manual dilakukan untuk mengetahui besarnya korelasi *undrained shear strength* dengan *faktor adhesi* pada kawasan Proyek Holland Village, Cempaka Putih – Jakarta Pusat. Dengan pengumpulan data – data seperti hasil tes bor dan uji laboratorium, hasil loading test, dan analisa daya dukung ujung tiang berdasarkan beberapa metode analisa manual yang di rekomendasikan oleh para ahli geoteknik.

Analisis terhadap korelasi N – SPT dengan *Undrained Shear Strength* berdasarkan hasil uji laboratorium pada lokasi penelitian juga dilakukan untuk mendapatkan hasil yang lebih relevan. Dari 10 tiang bor yang telah dianalisis, didapatkan nilai alpha pada kawasan Proyek Holland Village, Cempaka Putih – Jakarta Pusat berkisar antara 0,72 – 0,59.

Kata kunci : daya dukung, tiang bor, korelasi, faktor adhesi, O'Neill and Reese

ABSTRACT

Title : Analysis of Alpha Values on Capacity of Bore Pile by Loading Test and Manual Analysis Method (Case Study of Holland Village Project, Cempaka Putih – Central Jakarta), Name : Adelfy Dara Arianti, NIM : 41113010015, Supervisor : Pintor T. Simatupang, Ir., MT., Dr. Eng, and Desiana Vidayanti, Ir., MT., 2017.

In designing the capacity of bore piles, soil properties and characteristics (indexes and engineering properties) along the piles transferring the upper structural loads are important things to note. Where clay soil conditions at static load test resembles undrained conditions compared with drained conditions. So the alpha method is often used if the stability of the pile foundation is evaluated from undrained behavior or total stress analysis, with parameters often used undrained shear strength of the soil.

Analysis of alpha values on bore pile based on loading test and manual analysis method was performed to determine the magnitude of undrained shear strength correlation with adhesion factor in Holland Village Project area, Cempaka Putih - Central Jakarta. With data collection such as drill test results and laboratory tests, loading test results, and pile capacity based on some analysis methods recommended by geotechnical experts.

Analysis of N - SPT correlation with Undrained Shear Strength based on laboratory test results at the study sites was also conducted to obtain more relevant results. Of the 10 bore piles analyzed, the alpha value of the Holland Village Project, Cempaka Putih - Central Jakarta is between 0.72 - 0.59.

Keywords: capacity, bore pile, correlation, adhesion factor, O'Neill and Reese