ABSTRAK

Pertumbuhan infrastruktur di Indonesia khususnya konstruksi semakin pesat dan banyak, seperti struktur bangunan, struktur jalan, dan struktur jembatan. Semua infrastruktur/struktur tersebut berada di atas tanah. Tanah merupakan material yang sangat berpengaruh dan berperan penting dalam suatu pekerjaan konstruksi, baik untuk perkerasan jalan, bangunan bawah tanah, ataupun jembatan.

Dalam penelitian ini digunakan tanah di daerah Gedebage, Kota Bandung dan dilakukan stabilisasi tanah dengan campuran kapur dalam pengujian kuat tekan bebas (UCS).

Hasil pengujian UCS pada tanah asli kondisi tidak terganggu didapat nilai $qu = 3,78$ kg/cm^2 dan $cu = 1,89$ kg/cm^2, sedangkan untuk tanah asli kondisi terganggu didapat nilai $qu = 3,47$ kg/cm^2, $cu = 1,73$ kg/cm^2, $S_T = 1,09$.

Hasil pengujian UCS untuk campuran tanah + kapur didapat peningkatan 117,52% (tidak terganggu, kapur 4%), 115,52% (terganggu, kapur 4%), 132,142% (tidak terganggu, kapur 6%), 129,07% (terganggu, kapur 6%), 147,46% (tidak terganggu, kapur 8%), dan 143,41% (terganggu, kapur 8%).

Kata Kunci : stabilisasi tanah, uji kuat tekan bebas, kapur, tidak terganggu, terganggu

ABSTRACT

The growth of infrastructure in Indonesia, especially construction, is increasingly rapid and numerous, such as building structures, road structures and bridge structures. All infrastructure/structures are above ground. Soil is a very influential material and plays an important role in construction work, whether for road pavement, underground buildings or bridges.

In this research, soil was used in the Gedebage area, Bandung City and soil stabilization was carried out with a lime mixture in the unconfined compressive strength (UCS) test.

The UCS test results on original soil in undisturbed conditions obtained values of $qu = 3.78$ kg/cm2 and $cu = 1.89$ kg/cm2, while for original soil in disturbed conditions obtained values of $qu = 3.47$ kg/cm2, $cu = 1, 73$ kg/cm2, $ST = 1.09$.

The UCS test results for the soil + lime mixture showed an increase of 117.52% (not disturbed, 4% lime), 115.52% (disturbed, 4% lime), 132.142% (not disturbed, 6% lime), 129.07% (disturbed, 6% lime), 147.46% (not disturbed, 8% lime), and 143.41% (disturbed, 8% lime).

Key Words : soil stabilization, unconfined compressive strength test, lime, undisturbed, remolded