ANALISIS KARAKTERISTIK MEKANIS TANAH LEMPUNG PADA KAWASAN DELTAMAS CIKARANG PUSAT, KABUPATEN BEKASI.

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ABSTRAK

Pembangunan infrastruktur di Indonesia, termasuk di daerah Deltamas, Cikarang, Kabupaten Bekasi, memerlukan pemahaman yang mendalam tentang karakteristik mekanis tanah, terutama tanah lempung. Tanah lempung yang tidak memenuhi kriteria untuk konstruksi dapat menyebabkan kerusakan pada bangunan seperti retak dan jebol. Oleh karena itu, penyelidikan tanah lempung sangat perlu untuk memastikan stabilitas dan keamanan struktur yang dibangun di atasnya. Pengujian dilakukan di Laboratorium Mekanika Tanah MSL Bandung dengan pengujian-pengujian, Uji Kompaksi, CBR (*California Bearing Ratio*), Uji Triaxial UU, dan Uji UCS (*Unconfined Compressive Strength*). Tanah lempung di kawasan ini memiliki nilai Kadar Air Optimal (OMC) sebesar 20,28% dan Kepadatan Kering Maksimum (MDD) sebesar 1,726 gr/cm^3. Nilai CBR Tanpa Rendaman yaitu 9.817%. Nilai Triaxial dengan metode UU yaitu c = 0.028 kg/cm^2 dan Ø = 16.065º. Didapat nilai UCS yaitu qu^u = 2.009 (kg/cm^2), qu^{re} = 2.828 (kg/cm^2) dan St = 0,710 (kg/cm^2).

Kata Kunci : Tanah Lempung, Uji Pemadatan, Uji CBR Tanpa Rendaman, Uji UCS, Uji Triaxial UU.

ANALYSIS OF THE MECHANICAL CHARACTERISTICS OF CLAY SOIL IN THE DELTAMAS AREA, CENTRAL CIKARANG, BEKASI REGENCY

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ABSTRACT

The development of infrastructure in Indonesia, including in the Deltamas area of Cikarang, Kabupaten Bekasi, requires a deep understanding of the mechanical characteristics of the soil, particularly clay. Clay that does not meet construction criteria can cause damage to buildings, such as cracks and collapses. Therefore, soil investigation is crucial to ensure the stability and safety of structures built on it. Tests were conducted at the Soil Mechanics Laboratory MSL in Bandung, including Compaction Tests, CBR (California Bearing Ratio), UU Triaxial Tests, and UCS (Unconfined Compressive Strength) Tests. The clay in this area has an Optimal Moisture Content (OMC) of 20.28% and a Maximum Dry Density (MDD) of 1.726 gr/cm³. The CBR Unsoaked value is 9.817%. The Triaxial UU test results show c = 0.028 kg/cm² and Ø = 16.065°. The UCS values obtained are qu^{u} *= 2.009 (kg/*cm^2*),* qu^{re} *= 2.828 (kg/*cm^2*) and* St *= 0,710 (kg/*cm^2*).*

Keywords : Clay Soil, Compaction Testing, Unsoaked CBR Testing , UCS (Unconfined Compressive Strength) Testing, UU Triaxial Testing.