

## SARI

### **GEOLOGI DAN DAYA DUKUNG TANAH DAERAH SEGARA ANAKAN DAN SEKITARNYA, KECAMATAN KAMPUNG LAUT, KABUPATEN CILACAP, PROVINSI JAWA TENGAH**

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Daerah penelitian terletak di daerah Segara Anakan dan Sekitarnya, Kecamatan Kampung Laut, Kabupaten Cilacap, Provinsi Jawa Tengah. Satuan geomorfologi daerah penelitian terbagi menjadi 4 satuan. Satuan geomorfologi tersebut adalah Satuan Dataran Banjir Purwodadi, Satuan Dataran Banjir Ujunggak, Satuan Dataran Banjir Panikel, Satuan Dataran Banjir Nusa Wates. Susunan stratigrafi yang menyusun daerah penelitian terbagi atas Endapan Alluvial. Penelitian bertujuan untuk mengetahui kondisi geologi, sifat keteknikan tanah pada daerah penelitian, serta analisis daya dukung tanah pondasi dangkal. Pengujian sifat keteknikan tanah dilakukan untuk mengetahui berat jenis, ujuran butir dan batas Atterberg tanah pada daerah penelitian. Metode yang digunakan untuk analisis daya dukung tanah berupa metode analitik (Terzaghi, 1943). Hasil uji sifat keteknikan tanah pada daerah penelitian menunjukkan bahwa jenis tanah termasuk dalam lempung organik (OH) dengan aktivitas mengembang yang sedang hingga tinggi berdasarkan hasil pengujian Atterberg dan ukuran butir. Hasil analisis daya dukung tanah pondasi dangkal pada daerah penelitian menunjukkan nilai daya dukung yang diizinkan pada kedalaman dangkal rata-rata berkisar 10,07 kN/m<sup>2</sup>.

**Kata kunci:** Daya Dukung Tanah, Pondasi Dangkal, Lempung, XRD, Kampung Laut

## ABSTRACT

### **GEOLOGY AND CARRYING CAPACITY OF SEGARA ANAKAN AND SURROUNDING AREAS, KAMPUNG LAUT SUBDISTRICT CILACAP REGENCY, CENTRAL JAVA PROVINCE**

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The research area is located in the Segara Anakan area and its surroundings, Kampung Laut District, Cilacap Regency, Central Java Province. The geomorphological units of the study area are divided into 4 units based on BMB (2006). The geomorphological units are the Purwodadi Flood Plain Unit, the Ujunggagak Flood Plain Unit, the Panisel Flood Plain Unit, and the Nusa Wates Flood Plain Unit. The stratigraphic arrangement that composes the research area is divided into Alluvial Deposits. This study aims to determine the geological conditions, the engineering properties of the soil in the research area, and to analyze the bearing capacity of shallow foundation soils. Testing of soil engineering properties was carried out to determine the specific gravity, grain size and Atterberg limit of the soil in the study area. The method used for the analysis of the bearing capacity of the soil is an analytical method (Terzaghi, 1943). The results of the soil engineering properties test in the study area showed that the soil type was classified as organic clay (OH) with moderate to high swelling activity based on the Atterberg test results and grain size. The results of the analysis of the bearing capacity of shallow foundation soils in the study area show the value of the permissible bearing capacity at shallow depths on average is around 10,07 kN/m<sup>2</sup>.

**Keywords:** Bearing Capacity, Shallow Foundation, Clay, XRD, Kampung Laut