

ABSTRAK

Gempa bumi dan tsunami Teluk Palu pada akhir September 2018 adalah salah satu peristiwa bencana alam terbesar di tahun 2018 yang mengguncang Indonesia. Peristiwa ini menyebabkan banyak korban jiwa dan kerusakan pada fasilitas yang penting untuk mendukung kelanjutan perekonomian. Salah satu fasilitas umum yang sangat terdampak oleh bencana ini adalah pelabuhan yang terletak di Teluk Palu, antara lain: Pelabuhan Pantoloan, Pelabuhan Donggala, dan Pelabuhan Wani yang memiliki peranan penting dalam menggerakkan perekonomian di Provinsi Sulawesi Tengah.

Dalam penelitian ini dilakukan analisis daya dukung fundasi tiang berdasarkan data CPT, data SPT, dan data uji laboratorium.

Hasil perhitungan dan analisis daya dukung ijin fundasi tiang kedalaman 15 meter dengan variasi diameter tiang berdasarkan data CPT didapat daya dukung ijin fundasi tiang untuk diameter 40 cm = 171,653 ton, untuk diameter 60 cm = 320,483 ton, dan untuk diameter 80 cm = 510,773 ton, berdasarkan data SPT didapat daya dukung ijin fundasi tiang untuk diameter 40 cm = 176,200 ton, untuk diameter 60 cm = 349,300 ton, dan untuk diameter 80 cm = 592,106 ton, dan berdasarkan data uji laboratorium didapat daya dukung ijin fundasi tiang untuk diameter 40 cm = 191,342 ton, untuk diameter 60 cm = 298,841 ton, dan untuk diameter 80 cm = 414,983 ton.

Kata Kunci : daya dukung fundasi tiang, CPT, SPT, uji laboratorium

ABSTRACT

The Palu Bay earthquake and tsunami at the end of September 2018 was one of the biggest natural disaster events in 2018 that rocked Indonesia. This event caused a lot of loss of life and damage to facilities that are important to support the continuation of the economy. One of the public facilities that was greatly affected by this disaster was a port located in Palu Bay, including: Pantoloan Port, Donggala Port, and Wani Port which have an important role in driving the economy in Central Sulawesi Province.

In this research, an analysis of the bearing capacity of the pile foundation was carried out based on CPT data, SPT data, and laboratory test data.

The results of the calculation and analysis of the carrying capacity of the foundation permit for a pile foundation depth of 15 meters with variations in pile diameter based on CPT data obtained the bearing capacity of the pile foundation permit for a diameter of 40 cm = 171.653 tons, for a diameter of 60 cm = 320.483 tons, and for a diameter of 80 cm = 510.773 tons, based on the SPT data, the bearing capacity of the pile foundation permit for a diameter of 40 cm = 176,200 tons, for a diameter of 60 cm = 349,300 tons, and for a diameter of 80 cm = 592,106 tons, and based on laboratory test data, the bearing capacity of a pile foundation permit for a diameter of 40 cm = 191.342 tons, for a diameter of 60 cm = 298.841 tons, and for a diameter of 80 cm = 414.983 tons.

Key Words : bearing capacity of pile foundation, CPT, SPT, laboratory test