

**PERENCANAAN ULANG STRUKTUR DERMAGA
SAMUDRA 16.000 GT DI PELABUHAN PULANG PISAU
KALIMANTAN TENGAH**

ABSTRAK

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Mendesain ulang struktur dermaga samudra 5.000 DWT menjadi 10.000 DWT setara 16.000 GT di Dermaga Pulang Pisau Kalimantan, tepatnya di Sungai Kahayan yang tempatnya strategis di Provinsi Kalimantan yang memungkinkan untuk pengembangan dermaga guna memperlancar berkembangnya segala potensi dan mewujudkan pemberdayaan, kemandirian peningkatan pendapatan asli daerah.

Dalam perencanaan ulang sebuah struktur diperlukan data – data dalam dasar perencanaan. Data-data perencanaan ulang tersebut seperti data tanah, data arus, data angin. Analisis perhitungan struktur menggunakan pemodelan struktur 3D dibantu dengan *software* SAP2000 v.20. Balok dari struktur dermaga dimodelkan sebagai elemen *frame* sedangkan plat lantai dimodelkan sebagai elmen shell dan analisis beban gempa menggunakan *respons spectrum* karena bangunan berada di atas perairan.

Hasil analisis perhitungan Dermaga Samudra 16.000 GT Pelabuhan Pulau Pisang Kalimantan Tengah meliputi perhitungan: plat, balok serta jenis pondasi, dengan hasil: plat setebal 300mm menggunakan tulangan D16-200mm, balok anak dengan dimensi 600/900mm, dan pondasi dengan diameter 800mm dengan kedalaman 35m. Serta beban dan gaya yang bekerja pada dermaga ini berupa beban hidup dan beban mati dan gaya yang bekerja berupa gaya angin, gaya gempa, gaya arus, gaya pasang surut.

Kata Kunci : Desain; Perhitungan Struktur; SAP200 v.19,

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**RE-STRUCTURAL PLANNING OF DERMAGA
SAMUDRA 16,000 GT AT PULANG PULAU PORT
CENTRAL KALIMANTAN**

ABSTRACT

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Redesigning the 5,000 DWT ocean pier structure to 10,000 DWT equivalent to 16,000 GT at the Pulang Pisau Harbor Pier, precisely in the Kahayan River which is strategically located in Kalimantan Province which allows for the development of the pier in order to facilitate the development of all potentials and realize empowerment, independence to increase local revenue.

In re-planning a structure, it is necessary to have data in the basic planning. The re-planning data such as land data, flow data, wind data. Analysis of structural calculations using 3D structure modeling is assisted with SAP2000 v.20 software. The beam of the pier structure is modeled as a frame element while the floor plate is modeled as an elmen shell and earthquake load analysis uses response spectrum because the building is above water.

The results of the analysis of the Ocean Pier 16,000 GT calculation of the Central Kalimantan Banana Island Port include calculations: plates, beams and types of foundations, with the results: 300mm thick plates using D16-200mm reinforcement, joists with dimensions of 600 / 900mm, and foundations with 800mm diameters with 35m depth . As well as the load and force acting on this pier in the form of live and dead loads and the forces acting in the form of wind force, earthquake force, current force, tidal force.

Keywords: Design; Structure Calculation; SAP200 v.19,

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