ABSTRAK

PERANCANGAN STRUKTUR BANGUNAN GEDUNG INSTALASI GAWAT DARURAT (IGD) RSUD OKU TIMUR

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Peningkatan kebutuhan pelayanan kesehatan menuntut tersedianya fasilitas rumah sakit yang mampu menunjang pelayanan secara optimal, salah satunya melalui pembangunan Gedung Instalasi Gawat Darurat (IGD). Keandalan struktur bangunan menjadi aspek penting untuk menjamin keamanan dan fungsi bangunan selama masa layan. Laporan akhir ini bertujuan menghasilkan rancangan struktur Gedung Instalasi Gawat Darurat (IGD) RSUD OKU Timur yang meliputi penentuan dimensi elemen struktur, detail penulangan, estimasi Rencana Anggaran Biaya (RAB), serta menentukan time schedule pekerjaan struktur. Pendekatan yang digunakan meliputi pengumpulan data, penentuan pembebanan sesuai standar yang berlaku, pemodelan dan analisis struktur menggunakan perangkat lunak analisis, perhitungan elemen struktur beton bertulang yang terdiri atas pelat, balok, kolom, tangga, sloof, dan fondasi, serta penyusunan RAB dan penjadwalan proyek. Berdasarkan hasil perhitungan, didapat Pondasi Bored Pile dengan diameter 40 cm dengan kedalaman 8 m ; pile cap berukuran 120 × 240 × 60 cm dan 100 × 100 × 60 cm; dimensi sloof 25 × 45 cm dan 20 × 35 cm ; dimensi Kolom 40 × 40 cm ; dimensi balok induk 25 × 45 cm dan 25 × 40 cm ; dimensi balok anak 20 × 35 cm dan 20 × 30 ; serta tebal pelat lantai 130 mm. dengan mutu beton yang digunakan fc’25 Mpa dan mutu baja yang digunakan 420 Mpa dan 280 Mpa. Dapat disimpulkan bahwa struktur ini stabil dan aman, sehingga aman digunakan. Biaya yang diperlukan untuk sturktur pada proyek ini diperkirakan sebesar Rp9.132.951.887,85.

Kata kunci: beton bertulang, perancangan struktur, permodelan struktur, RAB, *time schedule.*

ABSTRACT

STRUCTURAL DESIGN OF THE EMERGENCY DEPARTMENT (IGD) BUILDING EAST OKU REGIONAL GENERAL HOSPITAL (RSUD)

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The growing demand for healthcare services requires the availability of hospital facilities capable of supporting optimal service delivery, one of which is through the construction of an Emergency Department (ED) building. The structural reliability of the building is a critical factor in ensuring its safety and functionality throughout its service life. This final report aims to produce a structural design for the Emergency Department (ED) building at the OKU Timur Regional General Hospital, which includes determining the dimensions of structural elements, reinforcement details, estimating the Budget Plan (RAB), and establishing a construction schedule for the structural work. The approach used includes data collection, determination of loads in accordance with applicable standards, structural modeling and analysis using analysis software, calculation of reinforced concrete structural elements consisting of slabs, beams, columns, stairs, footings, and foundations, as well as the preparation of the Cost Estimate (RAB) and project scheduling. Based on the calculation results, the following were determined: bored pile foundations with a diameter of 40 cm and a depth of 8 m; pile caps measuring 120 × 240 × 60 cm and 100 × 100 × 60 cm; footing dimensions of 25 × 45 cm and 20 × 35 cm; column dimensions of 40 × 40 cm; main beam dimensions of 25 × 45 cm and 25 × 40 cm; secondary beam dimensions of 20 × 35 cm and 20 × 30 cm; and a floor slab thickness of 130 mm. The concrete strength class used is fc'25 MPa, and the steel grades used are 420 MPa and 280 MPa. It can be concluded that this structure is stable and safe, making it safe to use. The estimated cost of the structure for this project is Rp9,132,951,887.85.

Keywords: construction cost estimate, project schedule, reinforced concrete, structural design, structural modeling