

ABSTRAK

PERANCANGAN STRUKTUR GEDUNG KANTOR BUPATI KABUPATEN PENUKAL ABAB LEMATANG ILIR (PALI) SUMATERA SELATAN

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Perancangan struktur Gedung Kantor Bupati Kabupaten Penukal Abab Lematang Ilir (PALI), Sumatera Selatan, bertujuan menghasilkan struktur yang memenuhi persyaratan kekuatan, kekakuan, dan keamanan. Perancangan meliputi struktur atas berupa pelat, balok, kolom, dan tangga serta struktur bawah berupa sloof dan pondasi dengan mengacu pada SNI 1727:2020, SNI 1726:2019, SNI 2847:2019, dan SNI 2052:2024. Struktur menggunakan mutu beton $f_c' 25$ MPa dan mutu tulangan $f_y 420$ MPa. Pondasi yang digunakan adalah *Prestressed Concrete Square Pile* berukuran 300×300 mm dengan panjang 16,5 m produksi PT Wijaya Karya Beton Tbk, dengan kapasitas daya dukung izin sebesar 380 kN. Selain perancangan struktur, dilakukan penyusunan RKS, RAB, dan penjadwalan proyek menggunakan Bar Chart, Kurva S, serta Network Planning metode CPM. Total biaya pembangunan sebesar Rp17.378.143.752,00 dengan durasi pelaksanaan 176 hari kalender. Hasil perancangan menunjukkan bahwa struktur yang direncanakan memenuhi persyaratan teknis serta menghasilkan perencanaan biaya dan waktu yang dapat dijadikan acuan dalam pelaksanaan pembangunan.

Kata kunci: perancangan struktur, gedung kantor, beton bertulang, square pile, RAB, penjadwalan proyek.

ABSTRACT

STRUCTURAL DESIGN OF THE REGENT'S OFFICE BUILDING OF PENUKAL ABAB LEMATANG ILIR (PALI) REGENCY SOUTH SUMATRA

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The structural design of the Regent's Office Building for Penukal Abab Lematang Ilir (PALI) Regency, South Sumatra, aims to produce a structure that meets requirements for strength, stiffness, and safety. The design encompasses the superstructure—comprising slabs, beams, columns, and stairs—and the substructure—consisting of tie beams and foundations—in accordance with SNI 1727:2020, SNI 1726:2019, SNI 2847:2019, and SNI 2052:2024. The structure utilizes concrete with a compressive strength (f_c') of 25 MPa and reinforcement steel with a yield strength (f_y) of 420 MPa. The foundation system employs 300 × 300 mm square prestressed concrete piles (16.5 m in length) manufactured by PT Wijaya Karya Beton Tbk, with an allowable bearing capacity of 380 kN. In addition to the structural design, the project involves the preparation of technical specifications (RKS), a detailed cost estimate (RAB), and a project schedule utilizing a Bar Chart, S-Curve, and Network Planning via the Critical Path Method (CPM). The total construction cost is Rp17,378,143,752.00, with a construction duration of 176 calendar days. The design results indicate that the planned structure meets technical requirements and provides cost and schedule plans that can serve as a reference for construction execution. plans that can serve as a reference for actual construction.

Keywords: structural design, office building, reinforced concrete, square pile, budget plan (RAB), project scheduling.