PERANCANGAN GEOMETRIK DAN TEBAL PERKERASAN KAKU RUAS JALAN MUARA PADANG – MUARA SUGIHAN STA 16+800 – 25+000 KABUPATEN BANYUASIN SUMATERA SELATAN

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ABSTRAK

Perancangan Jalan Muara Padang – Muara Sugihan STA 16+800 – STA 25+000 Kabupaten Banyuasin dilakukan untuk meningkatkan aksesibilitas wilayah, memperlancar arus lalu lintas, serta mendukung pertumbuhan ekonomi masyarakat di kawasan Muara Padang dan sekitarnya. Ruas jalan ini merupakan jalur penghubung antarwilayah yang memiliki peranan penting dalam mendukung mobilitas penduduk dan distribusi barang. Berdasarkan hasil analisis lalu lintas, ruas jalan direncanakan sebagai Jalan Kolektor dengan tipe jalan 2 lajur–2 arah (2/2 TT), lebar perkerasan 7 m, dan lebar bahu jalan 2 m. Panjang ruas jalan yang direncanakan adalah 8,2 km pada STA 16+800 sampai STA 25+000 dengan kecepatan rencana sesuai ketentuan Bina Marga Tahun 2025. Perencanaan geometrik jalan meliputi alinyemen horizontal dan alinyemen vertikal. Hasil perencanaan alinyemen horizontal menghasilkan 6 tikungan yang terdiri atas 3 tikungan tipe *Full Circle* (FC) dan 3 tikungan tipe *Spiral*-Circle-*Spiral* (SCS). Perkerasan yang digunakan adalah perkerasan kaku (*Rigid Pavement*) dengan struktur perkerasan berupa pelat beton semen setebal 23 cm, beton kurus (*Lean Concrete*) setebal 15 cm, lapis stabilisasi tanah semen setebal 20 cm, dan Lapis Pondasi Agregat (LPA) setebal 20 cm. Sistem drainase direncanakan menggunakan saluran *U-Ditch* yang mampu menampung dan mengalirkan debit limpasan air hujan secara efektif sehingga dapat mengurangi potensi genangan pada badan jalan. Selain itu, telah disusun *Network Planning* (NWP) dan Kurva S sebagai alat pengendalian pelaksanaan proyek. Berdasarkan hasil perhitungan, total biaya pembangunan Jalan Muara Padang – Muara Sugihan STA 16+800 – STA 25+000 Kabupaten Banyuasin diperkirakan sebesar Rp107.189.025.209(Seratus tujuh miliar seratus delapan puluh sembilan juta dua puluh lima ribu dua ratus sembilan rupiah)

Kata kunci: Jalan, Desain Geometrik, Tebal Perkerasan Kaku, Rencana Anggaran Biaya.

GEOMETRIC DESIGN AND RIGID PAVEMENT THICKNESS OF MUARA PADANG – MUARA SUGIHAN ROAD SECTION STA 16+800 – STA 25+000, BANYUASIN REGENCY, SOUTH SUMATRA

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ABSTRACT

The design of the Muara Padang – Muara Sugihan Road Section STA 16+800 – STA 25+000 in Banyuasin Regency was carried out to improve regional accessibility, facilitate traffic flow, and support economic growth in the Muara Padang area and its surroundings. This road section serves as an interregional connector and plays an important role in supporting community mobility and goods distribution. Based on the traffic analysis results, the road was planned as a Class II Collector Road with a two-lane, two-way undivided configuration (2/2 UD), a pavement width of 7 m, and shoulder widths of 2 m. The planned road section has a total length of 8.2 km, extending from STA 16+800 to STA 25+000, with a design speed in accordance with the 2025 Bina Marga Road Design Guidelines. The geometric road design includes both horizontal and vertical alignments. The horizontal alignment design resulted in six curves consisting of three Full Circle (FC) curves and three Spiral-Circle-Spiral (SCS) curves. The pavement structure adopted is a Rigid Pavement system consisting of a 23 cm concrete slab, a 15 cm Lean Concrete layer, a 20 cm cement-treated subbase layer, and a 20 cm Aggregate Base Course (ABC). The drainage system was designed using U-Ditch channels capable of effectively conveying stormwater runoff and reducing the potential for water ponding on the roadway. In addition, a Network Planning (NWP) schedule and S-Curve were developed as project implementation control tools. Based on the cost estimation, the total construction cost for the Muara Padang – Muara Sugihan Road Section STA 16+800 – STA 25+000 in Banyuasin Regency is estimated at IDR 107.189.025.209 *(One hundred seven billion one hundred eighty-nine million twenty-five thousand two hundred nine rupiah).*

Keywords: *Road, Geometric Design, Rigid Pavement Thickness, Cost Estimate.*