

**PERENCANAAN GEOMETRIK DAN TEBAL PERKERASAN KAKU
(RIGID PAVEMENT) PADA JALAN SUMBERJAYA – SUMBER HARAPAN
– SUMBER REJO – TOTOREJO 0+000 – 8+423 KABUPATEN OKU
TIMUR PROVINSI SUMATERA SELATAN**

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ABSTRAK

Jalan Sumberjaya – Sumber Harapan – Jalan Sumberjaya – Sumber Harapan – Sumber Rejo – Totorejo di Kabupaten Ogan Komering Ulu Timur, Provinsi Sumatera Selatan merupakan ruas jalan yang berperan penting dalam mendukung mobilitas masyarakat dan distribusi hasil pertanian. Seiring meningkatnya kebutuhan transportasi, diperlukan perencanaan jalan yang memenuhi aspek keselamatan, kenyamanan, dan kelancaran lalu lintas. Penelitian ini bertujuan untuk merencanakan geometrik jalan, tebal perkerasan kaku (*rigid pavement*), bangunan pelengkap jalan, serta manajemen proyek pada ruas jalan tersebut. Perencanaan geometrik mengacu pada Pedoman Desain Geometrik Jalan (PDGJ) 2021, sedangkan perencanaan perkerasan menggunakan Manual Desain Perkerasan Jalan (MDPJ) 2024. Analisis meliputi alinyemen horizontal dan vertikal, perhitungan volume pekerjaan tanah, desain perkerasan, bangunan drainase, serta estimasi biaya dan waktu pelaksanaan proyek. Hasil perencanaan menunjukkan bahwa ruas jalan memiliki panjang 8,423 km dengan klasifikasi Jalan Kolektor Kelas II dan tipe jalan 2/2 TT. Alinyemen horizontal terdiri atas 5 tikungan, yaitu 2 tikungan *Full Circle* (FC) dan 3 tikungan *Spiral-Circle-Spiral* (SCS), sedangkan alinyemen vertikal terdiri atas 11 lengkung. Struktur perkerasan kaku yang direncanakan terdiri dari pelat beton semen setebal 15 cm, *Lean Mix Concrete* 12,5 cm, lapis pondasi agregat kelas A 20 cm, dan lapisan stabilisasi tanah 20 cm. Total biaya pembangunan yang dibutuhkan sebesar Rp 85.398.948.753,00 dengan waktu pelaksanaan selama 208 hari kerja. Perencanaan ini diharapkan dapat meningkatkan aksesibilitas, keselamatan, dan mendukung perkembangan ekonomi wilayah.

Kata Kunci : geometrik jalan, perkerasan kaku, rigid pavement, alinyemen, manajemen proyek.

**GEOMETRIC DESIGN AND RIGID PAVEMENT THICKNESS PLANNING
ON THE SUMBERJAYA – SUMBER HARAPAN – SUMBER REJO –
TOTOREJO ROAD SECTION KM 0+000 – KM 8+423, OKU TIMUR
REGENCY, SOUTH SUMATRA PROVINCE**

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ABSTRACT

The Sumberjaya – Sumber Harapan – Sumber Rejo – Totorejo Road section in Ogan Komering Ulu Timur Regency, South Sumatra Province, plays an important role in supporting community mobility and agricultural product distribution. Along with the increasing transportation demand, road planning that fulfills safety, comfort, and traffic efficiency aspects is required. This study aims to design the geometric layout, rigid pavement thickness, supporting road structures, and project management for the road section. The geometric design refers to the Indonesian Road Geometric Design Guidelines (PDGJ) 2021, while pavement design is based on the Indonesian Pavement Design Manual (MDPJ) 2024. The analysis includes horizontal and vertical alignments, earthwork volume calculations, pavement structure design, drainage structures, as well as project cost and time estimation. The results show that the road section has a total length of 8.423 km and is classified as a Class II Collector Road with a 2/2 undivided roadway type. The horizontal alignment consists of 5 curves, including 2 Full Circle (FC) curves and 3 Spiral–Circle–Spiral (SCS) curves, while the vertical alignment consists of 11 vertical curves. The designed rigid pavement structure consists of a 15 cm cement concrete slab, a 12.5 cm Lean Mix Concrete layer, a 20 cm Class A aggregate base course, and a 20 cm soil stabilization layer. The total construction cost is estimated at IDR 85,398,948,753.00 with a construction duration of 208 working days. This planning is expected to improve accessibility, enhance road safety, and support regional economic development.

Keywords: *road geometric design, rigid pavement, pavement design, alignment, project management.*