

ABSTRAK

PERENCANAAN GEOMETRIK JALAN DAN PERKERASAN LENTUR PADA RUAS JALAN LINTAS BELITANG DESA KURUNGAN NYAWA – GUMAWANG STA 2+350 – 9+850

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Perencanaan geometrik jalan dan perkerasan lentur diperlukan untuk meningkatkan keamanan, kenyamanan, dan kelancaran lalu lintas. Ruas Jalan Lintas Belitang Desa Kurungan Nyawa–Gumawang STA 2+350–STA 9+850 memiliki peran penting dalam mendukung mobilitas masyarakat dan distribusi hasil pertanian. Perencanaan ini bertujuan menentukan geometrik jalan, struktur perkerasan lentur, serta biaya dan waktu pelaksanaan pekerjaan. Metode yang digunakan berupa analisis data sekunder, meliputi data topografi, lalu lintas, dan CBR tanah dasar dengan mengacu pada standar teknis dan MDPJ 2024. Hasil perencanaan menunjukkan jalan direncanakan sebagai jalan kolektor tipe 2/2-TT pada medan datar dengan kecepatan rencana 60 km/jam. Alinyemen horizontal terdiri dari 1 tikungan FC dan 2 tikungan SCS, sedangkan alinyemen vertikal terdiri dari 12 lengkung cembung dan 14 lengkung cekung. Volume pekerjaan tanah meliputi galian sebesar 35.335,0 m³ dan timbunan sebesar 25.748,3 m³. Struktur perkerasan berdasarkan nilai ESA5 sebesar 4.406.777,97 terdiri dari AC-WC 40 mm, AC-BC 65 mm dan 80 mm, LFA Kelas A 200 mm, serta LFA Kelas B 150 mm dengan umur rencana 20 tahun. Total biaya pembangunan diperoleh sebesar Rp43.418.677.000,00 dengan waktu pelaksanaan 127 hari kalender. Hasil perencanaan ini diharapkan dapat menjadi acuan dalam pembangunan jalan yang aman, nyaman, dan sesuai kebutuhan pelayanan transportasi.

Kata Kunci: Perencanaan Geometrik Jalan, Perkerasan Lentur, Alinyemen Horizontal, Alinyemen Vertikal, ESA5.

ABSTRACT**GEOMETRIC ROAD DESIGN AND FLEXIBLE PAVEMENT PLANNING ON THE
BELITANG MAIN ROAD SECTION FROM KURUNGAN NYAWA VILLAGE TO
GUMAWANG VILLAGE STA 2+350 – STA 9+850**

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Geometric road and flexible pavement planning is essential to improve traffic safety, comfort, and efficiency. The Belitang Road section connecting Kurungan Nyawa and Gumawang Villages at STA 2+350–STA 9+850 plays an important role in supporting community mobility and agricultural product distribution. This planning aims to determine the road geometric design, flexible pavement structure, construction cost, and implementation duration. The method used was secondary data analysis, including topographic, traffic, and subgrade CBR data, referring to applicable technical standards and MDPJ 2024. The results show that the road is designed as a collector road with a 2/2 undivided configuration on flat terrain and a design speed of 60 km/h. The horizontal alignment consists of 1 Full Circle (FC) and 2 Spiral-Circle-Spiral (SCS) curves, while the vertical alignment consists of 12 crest curves and 14 sag curves. The earthwork quantities include 35,335.0 m³ of excavation and 25,748.3 m³ of embankment. Based on an ESA5 value of 4,406,777.97, the pavement structure consists of 40 mm AC-WC, 65 mm and 80 mm AC-BC, 200 mm Class A Aggregate Base, and 150 mm Class B Aggregate Base for a 20-year design life. The total construction cost is Rp43,418,677,000.00 with an implementation period of 127 calendar days. The results are expected to serve as a reference for developing a safe, comfortable, and technically appropriate road.

Keywords: *Road Geometric Design, Flexible Pavement, Horizontal Alignment, Vertical Alignment, ESA5.*