

**PEKERJAAN DED (*DETAIL ENGINEERING DESIGN*)  
PENGAMAN JALAN MANGGOPOH – PADANG LUAR  
(P.025)**

**LAPORAN TEKNIK**

**ADRATUS SETIAWAN  
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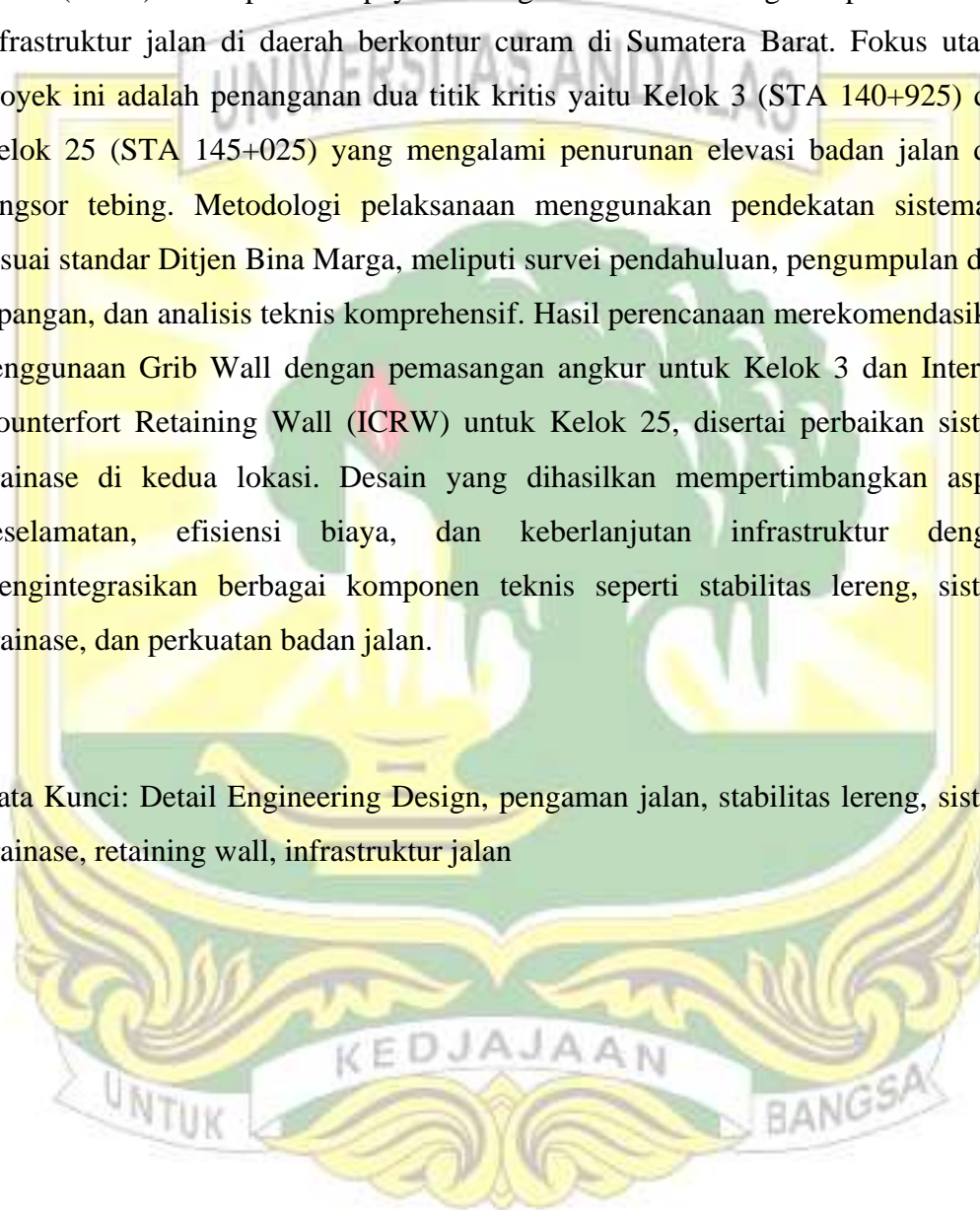


**PROGRAM STUDI PENDIDIKAN PROFESI INSINYUR  
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## ABSTRAK

Pekerjaan Detail Engineering Design (DED) Pengaman Jalan Manggopoh - Padang Luar (P.025) merupakan upaya strategis untuk menangani permasalahan infrastruktur jalan di daerah berkontur curam di Sumatera Barat. Fokus utama proyek ini adalah penanganan dua titik kritis yaitu Kelok 3 (STA 140+925) dan Kelok 25 (STA 145+025) yang mengalami penurunan elevasi badan jalan dan longsor tebing. Metodologi pelaksanaan menggunakan pendekatan sistematis sesuai standar Ditjen Bina Marga, meliputi survei pendahuluan, pengumpulan data lapangan, dan analisis teknis komprehensif. Hasil perencanaan merekomendasikan penggunaan Grib Wall dengan pemasangan ankur untuk Kelok 3 dan Internal Counterfort Retaining Wall (ICRW) untuk Kelok 25, disertai perbaikan sistem drainase di kedua lokasi. Desain yang dihasilkan mempertimbangkan aspek keselamatan, efisiensi biaya, dan keberlanjutan infrastruktur dengan mengintegrasikan berbagai komponen teknis seperti stabilitas lereng, sistem drainase, dan perkuatan badan jalan.

Kata Kunci: Detail Engineering Design, pengaman jalan, stabilitas lereng, sistem drainase, retaining wall, infrastruktur jalan



## ABSTRACT

*The Detail Engineering Design (DED) project for Road Protection of Manggopoh - Padang Luar (P.025) represents a strategic effort to address road infrastructure issues in the steep contoured areas of West Sumatra. The main focus of this project is handling two critical points: Kelok 3 (STA 140+925) and Kelok 25 (STA 145+025), which are experiencing road elevation decline and slope failures. The implementation methodology employs a systematic approach following Directorate General of Highways standards, including preliminary surveys, field data collection, and comprehensive technical analysis. The design recommendations include the use of Grib Wall with anchor installation for Kelok 3 and Internal Counterfort Retaining Wall (ICRW) for Kelok 25, along with drainage system improvements at both locations. The resulting design considers safety aspects, cost efficiency, and infrastructure sustainability by integrating various technical components such as slope stability, drainage systems, and road body reinforcement.*

**Keywords:** *Detail Engineering Design, road protection, slope stability, drainage system, retaining wall, road infrastructure*

