

Analisis Kestabilan Lereng di Area Pembangunan Jalan Tol Cisumdawu, Daerah Legok Kaler, Kabupaten Sumedang, Jawa Barat = Analysis of Slope Stability in the Cisumdawu Toll Road Development Area, Legok Kaler Area, Sumedang Regency, West Java

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Abstrak

Pada pembangunan jalan tol ini, untuk memaksimalkan penggunaan lahan maka dibuat jalur melewati bukit dan membelah bukit yang menyebabkan terbentuknya lereng-lereng. Lereng-lereng yang terbentuk mempunyai potensi longsor jika tidak direkayasa sebaik mungkin. Penelitian ini dilakukan pada daerah konstruksi jalan tol oleh PT. Wijaya Karya Tbk. di Legok Kaler hingga Paseh, Kabupaten Sumedang, Jawa Barat. Tujuan dari penelitian ini adalah untuk memetakan kondisi geologi teknik, menganalisa kondisi kestabilan lereng pada daerah penelitian serta membandingkan dua cara perhitungan metode analisis kesetimbangan batas yaitu Bishop dan Morgenstern & Price terhadap nilai faktor keamanan yang didapat. Peta geomorfologi pada daerah penelitian dibagi menjadi dua satuan yaitu satuan perbukitan-perbukitan tinggi vulkanik agak curam-curam dan satuan perbukitan tinggi vulkanik datar-agak curam. Kondisi geologi teknik dibagi menjadi empat yaitu satuan tanah pasir lanauan plastisitas tinggi (SMH), satuan tanah pasir lanauan plastisitas rendah (SML), satuan batuan tuff lapuk rendah-sedang, dan satuan batuan breksi tuff lapuk rendah. Hasil analisis kestabilan lereng di daerah penelitian menunjukkan nilai faktor keamanan sebesar 1,319 dengan metode Bishop dan 1,444 dengan metode Morgenstern & Price.

.....n the construction of this toll road, to maximize land use, a route was made to pass through the hill and divide the hill which causes the formation of slopes. The slopes that are formed have the potential for landslides if not engineered as well as possible. This research was conducted in the toll road construction area by PT. Wijaya Karya Tbk. in Legok Kaler to Paseh, Sumedang Regency, West Java. The purpose of this study was to map engineering geological conditions, analyze slope stability conditions in the study area and compare the two methods of calculating the boundary equilibrium analysis method, namely Bishop and Morgenstern & Price against the obtained safety factor values. The geomorphological map in the study area is divided into two units, namely the high volcanic hills unit is rather steep and the high volcanic hills unit is flat-rather steep. The engineering geological conditions are divided into four, namely high plasticity silty sand soil units (SMH), low plasticity silty sand soil units (SML), low-medium weathered tuff rock units, and low weathered tuff breccia rock units. The results of the analysis of slope stability in the study area showed a factor of safety of 1.319 with the Bishop method and 1.444 with the Morgenstern & Price method.