ABSTRAK

STUDI ANALISIS STABILITAS LERENG TANAH TIMBUNAN MENGGUNAKAN METODE FELLINIUS DAN BISHOP SERTA PENANGGULANGANNYA

(Studi Kasus : Perumahan CitraLand Bandar Lampung)

Oleh:

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Citraland yang terletak di wilayah perbukitan, memiliki kontur yang curam dan elevasi yang berbeda. Sehingga pada daerah tersebut berpotensi terhadap longsor. Penelitian ini adalah untuk menganalisis nilai faktor aman lereng dan menghitung stabilitas lereng menggunakan dinding penahan tanah dengan perhitungan manual. Metode yang digunakan adalah metode *Fellenius dan Bishop*. Dari hasil analisis perhitungan manual, didapatkan nilai faktor aman lereng eksisting dengan metode *Fellenius dan Bishop* masing-masing sebesar 0,7296 dan 1,0637. Setelah dilakukan penanggulangan menggunakan dinding penahan tanah dengan dimensi tinggi 2 meter dan tebal 1,7 meter didapatkan nilai stabilitas terhadap geser yaitu SF = 2,3871 ≥ 2 (aman) pada kondisi normal. Stabilitas terhadap guling pada kondisi normal yaitu SF = 2,2502 ≥ 2 (aman). Stabilitas terhadap geser pada kondisi gempa yaitu SF = 2,1081 ≥ 2 (aman). Stabilitas guling pada kondisi gempa yaitu SF = 2,054 ≥ 2 (aman).. Penanggulangan menggunakan dinding penahan tanah cukup efektif terhadap meningkatnya nilai faktor aman, sehingga penanggulangan menggunakan dinding penahan tanah cukup stabil jika diterapkan di lokasi penelitian.

Kata Kunci : Stabilitas lereng, Faktor aman, *Fellenius, Bishop,* Dinding penahan tanah

ABSTRACT

STUDY ANALYSIS OF THE STABILITY OF IMPLOYED SOIL Slope USING THE FELLINIUS AND BISHOP METHOD AND THEIR MANAGEMENT

(Case Study: CitraLand Housing Bandar Lampung)

By

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Citraland, which is located in a hilly area, has steep contours and different elevations. So the area has the potential for landslides. This study was to analyze the value of the slope safety factor and calculate the slope stability using a retaining wall with manual calculations. The method used is the Fellenius and Bishop method. From the analysis of manual calculations, the value of the existing slope safety factor using the Fellenius and Bishop methods was 0.7296 and 1.0637, respectively. After countermeasures using a retaining wall with dimensions of 2 meters high and 1.7 meters thick, the value of stability against shear is obtained, namely SF = 2.3871 2 (safe) under normal conditions. Stability against rolling under normal conditions is SF = 2.2502 2 (safe). Stability against shear in earthquake conditions is SF = 2.1081 2 (safe). Overturning stability in earthquake conditions is SF = 2.054 2 (safe). Countermeasures using retaining walls are quite effective in increasing the value of the safety factor, so countermeasures using retaining walls are quite stable if applied at the research site.

Keywords*: Slope stability, Safety factor, Fellenius, Bishop, Retaining wall*