# ABSTRAK

Proyek Pembangunan Bendung Kamijoro berlokasi di Dusun Kamijoro, Desa Sendang Sari, Pajangan, Bantul, DI Yogyakarta. Proyek ini bertujuan untuk meningkatkan kuantitas air pada daerah tersebut karena bertambahnya jumlah kebutuhan air baku dan irigasi. Salah satu struktur bangunannya adalah dinding penahan tanah. Dinding penahan tanah adalah bangunan yang berfungsi menstabilkan tanah pada kondisi tanah tertentu khususnya untuk areal lereng alam dan lereng buatan. Pada penelitian ini dilakukan analisis stabilitas dinding penahan tanah menggunakan perhitungan secara manual dan menggunakan *software Geo* 5, untuk membandingkan hasil analisisnya. Sehingga didapatkan hasil analisis yang lebih baik. Data diperoleh dari proyek Bendung Kamijoro yang meliputi data tanah dan data perencanaan dinding penahan tanah. Berdasarkan analisis menggunakan perhitungan secara manual pada bagian hulu didapatkan hasil stabilitas guling = 7,691; geser = 6,81 dan daya dukung tanah = 7,819. Pada bagian kolam olak didapatkan hasil stabilitas guling = 7,258; geser = 4,373 dan daya dukung tanah = 5,57. Pada bagian hilir didapatkan hasil stabilitas guling = 7,501; geser = 6,038 dan daya dukung tanah = 7,77. Berdasarkan analisis menggunakan *software Geo 5* pada bagian hulu didapatkan hasil stabilitas guling = 4,97; geser = 2,904 dan daya dukung tanah = 119,28. Pada bagian kolam olak didapatkan hasil stabilitas guling = 5,36; geser = 2,359 dan daya dukung tanah = 121,52. Pada bagian hilir didapatkan hasil stabilitas guling = 5,09; geser = 2,439 dan daya dukung tanah = 117,39. Disimpulkan bahwa dinding penahan tanah aman terhadap stabilitas guling, geser, daya dukung tanah, berdasarkan analisis perhitungan secara manual dan *software Geo 5.*

Kata kunci: dinding penahan tanah, analisis stabilitas, *software Geo 5*.

# *ABSTRACT*

The Kamijoro Dam Construction Project is located in Dusun Kamijoro, Sendang Sari, Pajangan, Bantul, DI Yogyakarta. The project aims to increase the quantity of water in the area due to the increasing amount of raw water and irrigation needs. One of the structure is retaining wall. Retaining wall is a building that serves to stabilize the soil in certain soil conditions, especially for natural slope and artificial slopes. In this research, stabilities analysis of retaining wall are calculated using manual method and Geo 5 software, to compare results of the analysis. So that the results of a better analysis are obtained. The data were obtained from the Kamijoro Dam project which includes soil data and retaining wall planning data. Based on the analysis using manual calculation in the upstream results of stability overturning = 7,691; slip = 6,81 and soil bearing capacity = 7,819. In the stilling basin obtained stability results overturning = 7,258; slip = 4,373 and soil bearing capacity = 5,57. In the downstream section stability overturning = 7,501; slip = 6,038 and soil bearing capacity = 7,77. Based on the analysis using Geo 5 software on the upstream stability overturning = 4,97; slip = 2,904 and soil bearing capacity = 119,28. In the stilling basin obtained results stability overturning = 5,36; slip = 2,359 and soil bearing capacity = 121,52. In the downstream section result of stability overturning = 5,09; slip = 2,439 and soil bearing capacity = 117,39. It was concluded that the retaining walls are safe against overturning, slip, soil bearing capacity, based on using manual and Geo 5 software.



Keywords: retaining wall, stability analysis, Geo 5 software.