

Modeling of the Flow through an Earth Dam and Geotechnical Slope Analyzes

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Abstract : The porous media are omnipresent around us that they are natural as sand, clay, rocks, or manufactured like concretes, cement, and ceramics. The variety of porous environment indicates a wide material range which can be very different from each other. Their common point is to be made up of a solid matrix and a porous space. In our case of study, we made the modeling of the flows in porous environments through the massives as in the case of an earth dam. The computer code used (PLAXIS) offer the possibility of modeling of various structures, in particular, the works in lands because that it deals with the pore water pressure due to the underground flow and the calculation of the plastic deformations. To confirm results obtained by PLAXIS, GeoStudio SEEP/W code was used. This work treats modeling of flows and mechanical and hydraulic behavior of earth dam. A general framework which can fit the calculation of this kind of structures and the coupling of the soil consolidation and free surface flows was defined. In this study; we have confronted a real case modeling of an earth dam. It was shown, in particular, that it is possible to entirely lead the calculation of real dam and to get encouraging results from the hydraulic and mechanical point of view.

Keywords : analyzes, dam, flow, modeling, PLAXIS, seep/w, slope

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