



Analysis of deformations in soft clay due to unloading

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Condition: New. Publisher/Verlag: LAP Lambert Academic Publishing | Master of Science Thesis in Geotechnical Engineering | In infrastructure projects such as road and railway construction it is necessary to perform a number of earth excavations wherever required. These excavations cause difficulties regarding deformations and slope stability on the soil mass. The deformation of soil is highly dependent on the stiffness of the soil. Therefore, it is of particular interest to determine the appropriate stiffness modulus of soil in order to study the deformation properties of soil. The objective of this thesis is to study in depth the deformation of soft clay due to unloading or excavation. In this thesis, the main deformation analysis was performed through the help of the finite element based geotechnical computer software called Plaxis. For the simulation, two soil models, namely; Mohr coulomb and Hardening soil, were used in order to catch the real deformation behavior of soft clay. The results of the analysis from these soil models are cross checked with the field deformation measurements and the unloading modulus is estimated through back calculation. Based on this, a conclusion is made to verify which approach gives a reasonable and realistic unloading modulus. | Format: Paperback...



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