

عنوان مقاله:

Evaluating the effects of fluctuating groundwater level upon settlement and stiffness of soil using finite elements method

محل انتشار:

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خلاصه مقاله:

Of parameters for designing foundations is settlement affected by parameters including shape and stiffness of foundation, sub-grade reaction module, soil type and groundwater level. Groundwater variation has various impacts on different soils. Regarding the different behavior in vicinity of the groundwater level, the present paper is to study this behavior at different states. To get this target, a sample of coarse soil was loaded (around Tehran) in different states of groundwater (inside and outside of slice failure domain) using Plaxis 3D Foundation and a behavior Hardening soil model which its characteristics were determined through Plate Load Test. A distribution of settlement and stiffness of soil under foundations was achieved with help of modeling in different conditions. Given the rising underground water level causes increasing pore pressure and consequently reducing the effective stress, the underground water level increases settlement and decreases stiffness of soil.

کلمات کلیدی:

settlement, finite elements method, groundwater level, sub-grade reaction module, Plaxis 3D Foundation

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