The Effects of Site Conditions on the Predicted Time Rate of Heave

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ABSTRACT

This paper investigates the effect of various surface and subsurface site conditions on the predicted time rate of heave for expansive soils. A review of the migration of the wetting front for two project sites in the Denver Area is presented. Seepage analyses using VADOSE/W software (Geo-Slope, 2005) was conducted to evaluate the rate at which the wetting front will migrate under various boundary conditions. Heaving associated with change in water content of two soil profiles was computed to obtain the time rate of heave for these profiles. Poor grading and drainage are shown to have a large effect on the time rate of heave. The depth of wetting and its effect on the amount of heave to be expected in the lifetime of the structure are presented.

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