عنوان مقاله:

Numerical modeling of Mechanically Stabilized Earth Walls

محل انتشار:

هشتمین کنگره ملی مهندسی عمران (سال: 1393)

تعداد صفحات اصل مقاله: 8

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خلاصه مقاله:

This paper describes the numerical modeling details of an example full-scale physical steel reinforced soil wall taken from a series of structures constructed at the FHWA Reinforced Soil Project site at Algonquin, Illinois. In this research, numerical analyses were performed with the finite difference based computerprogram FLAC (Fast Lagrangian Analysis of Continua). Details of the numerical model and constitutive modeling of the component materials are described. The modeling results are presented and compared to the field measurements from case histories to assess the accuracy of the numerical approach. Exampleparametric analyses are carried out using the verified numerical code to investigate the influence ofinternal stability design factors on Earth Pressure Coefficient of a theoretical wall of 7.6 m height. The lessons learned here are of value to modelers who wish to: (a) explore the mechanical behavior of these systems; (b) generate data to fill in the gaps in performance data from the limited number of monitored structures reported in the literature; and (or), (c) carry out parametric analyses

کلمات کلیدی:

reinforced soil, numerical analyses, Earth Pressure Coefficient, FLAC

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