

Analysis of Reinforced Granular Pile in Soft Soil

Authors : G. Nitesh

Abstract : Stone column or granular pile is a proven technique to mitigate settlement in soft soil. Granular pile increases both rate of consolidation and stiffness of the ground. In this paper, a method to analyze further reduction in settlement of granular column reinforced with lime pile is presented treating the system as a unit cell and considering one-dimensional compression approach. The core of the granular pile is stiffened with a steel rod or lime column. Influence of a wide range of parameters such as area ratio of granular pile-soft soil, area ratio of lime pile-granular pile, modular ratio of granular pile and modular ratio of lime pile with respect to granular pile on settlement reduction factor, etc. are obtained and presented.

Keywords : lime pile, granular pile, soft soil, settlement

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