Forensic study of a highway reinforced soil slope failure

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Abstract

As the uses of geosynthetic reinforced structures continue to increase, the possibility of their failure also continues to grow. In recent years, more failures of geosynthetic reinforced slopes initiated by intense rainfall have been reported. These incidents were likely the effect of water being absorbed by the unsaturated fill and thereby reducing its strength. This paper reports the results of a forensic study and proposes a practical approach to evaluate the probable errors in analysis that are responsible for such failures. The results of this study are consistent with those observed in the field. The rational procedures found in this research offer a logical and practical way to examine the stability of reinforced slopes upon wetting.

Keyword：reinforced soil slope, failure, rainfall