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16. ABSTRACT: Departments of transportation across the U.S. are faced with the persistent problem of landslides and slope failures along roads and highways. Repairs and maintenance work associated with these failures cost these agencies millions of dollars annually. Over the past few decades, Mechanically Stabilized Earth (MSE) technology has been successfully used as a cost-effective solution for the construction and repair of slopes and retaining structures in transportation applications. Significant cost-savings in the re-construction and repair of highway slopes and embankments could be achieved by using locally available soils and reinforcing them with geosynthetics. However, locally available soils in many locations are of marginal quality and their shear strength and interaction with the geosynthetic reinforcement can be significantly dependent on their moisture content. As a result, the influence of soil moisture content and suction on the soil-reinforcement interaction needs to be properly accounted for in the design of reinforced soil slopes and embankments. Provisions related to the influence of soil suction on the shear strength of soil-reinforcement interfaces are currently lacking in the existing design guidelines for these structures. In this study, a moisture reduction factor was developed for the pullout resistance of a geotextile reinforcement material in an Oklahoma soil (termed here as Chickasha soil) that could be used for the design of reinforced soil structures with marginal soils.

17. KEY WORDS: Mechanically stabilized earth, Slope stability, Marginal soil, Geosynthetics, Moisture reduction factor	18. DISTRIBUTION STATEMENT No restrictions. This publication is available from the planning and research Div., Oklahoma DOT.		
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