

عنوان مقاله:

Use of Commercially Available Bentonite Clay for Treatment of Micaceous Sand

محل انتشار:

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خلاصه مقاله:

Micaceous soils are considered to be detrimental due to low compactability, high compressibility and low shear strength behavior; which results in failures of pavements under traffic loading, earthen dams, embankments, cuts & excavations of retaining walls etc. Mica particles are platy, fragile and resilient in nature with inherent material anisotropy due to numerous intact mica flakes foliated over each other with low stiffness & hardness unlike spherical sand particles. As a result of resilient and fragile nature of mica particles, typical failures such as potholes, differential settlement, peeling of asphalt finish, warping of bituminous layer, subsidence and distortion are common feature in micaceous soils. The conventional stabilizing agents available are lime, cement, etc. but these techniques have a negative impact on the environment and ecosystem. In this study, bentonite was used as a stabilizing agent to treat micaceous sand due to its cohesive and eco-friendly nature. Different percentages of bentonite were used to increase the shear strength of micaceous sand. Also, conventional non ecofriendly lime stabilization was also used to conduct a comparative study on effective stabilization of micaceous sand with bentonite and lime in terms of improvement in .shear strength, swelling-shrinkage characteristics, compressibility and overview on environmental impacts

کلمات کلیدی:

Micaceous sand, Differential settlement, Stabilization, Bentonite, Lime

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