

## COMBINED LIME AND CEMENT TREATMENT OF EXPANSIVE CLAY

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### *ABSTRACT*

Lime treatments are often used to stabilize expansive soils in order to mitigate swell and shrink movements whereas cement stabilizations are widely adopted to enhance soil strengths. Considering the increase in volume and magnitudes of traffic loads, it is necessary to stabilize expansive soils such that they will not only exhibit high strength, but also lower volume changes. Since both lime and cement stabilizers together offer such soil property enhancements, a study was conducted to explore the use of combined lime - cement stabilization to modify expansive subsoils. This study focused on construction aspects related to lime-cement treatment. A pavement site located on high PI clay was selected, sampled and subjected to laboratory tests including Atterberg limits, free swell, linear shrinkage, and unconfined compressive strength tests. Both laboratory prepared samples and field cores of lime-cement treated clay were subjected to same tests in order to understand soil property enhancements from the field treatments. Examination of these data was useful to revise construction methods and specifications followed in the field.

**KEY WORDS:** Expansive Clay, Lime, Cement, Free Swell, Linear Shrinkage