

Recommendation

Based on observed field conditions, proof roll performance, and available testing, PEC recommends removal and replacement of unstable subgrade with suitable engineered fill as the corrective measure for this area.

This approach is consistent with the Contract Documents and represents the most direct, conservative, and predictable method for achieving the intended long-term subgrade performance. The extent of unstable subgrade encountered supports implementation of this approach to achieve consistent and uniform subgrade support.

Alternative

Lime-treated subgrade is also a valid alternative.

Lime treatment is a commonly used method for improving unstable, moisture-sensitive soils; however, its performance is more dependent on proper moisture conditioning, uniform mixing, and construction quality compared to removal and replacement.

Based on available laboratory testing and field observations, lime stabilization is considered a technically acceptable option when:

- Performed in accordance with KDOT Standard Specification 302 – Lime Treated Subgrade
- Application rate of 8% at a minimum depth of 12 inches
- Verified through appropriate quality control testing
- Demonstrated to meet performance requirements through proof rolling

Successful performance of the lime-treated subgrade is contingent upon achieving uniform treatment and meeting specified performance criteria during construction. A KDOT prequalified geotextile will be placed on top of the lime treated soil to provide a uniform base to construct the aggregate subgrade and pavement section.

Notes

- Final selection of the preferred approach remains subject to KDOT and City review and approval.
- PEC did not provide full-time construction observation services for this work. The observations and recommendations herein are based on limited site visits, available testing data, and information provided by others, including the Contractor and Construction Inspector. Subsurface and field conditions may vary from those observed, and verification during construction is required in accordance with the Contract Documents.
- The Contractor remains solely responsible for means, methods, sequencing, and execution of the work, including achieving specified performance requirements.