

A Study of Sustainable Pavement Sub-base using Indigenous Materials

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Abstract: *This study explores the feasibility of developing a sustainable pavement sub-base using indigenous materials. Traditional pavement sub-base construction relies heavily on non-renewable resources and often contributes to environmental degradation. By utilizing locally available materials, this research aims to promote sustainable practices and reduce the environmental footprint of pavement construction. The study investigates the mechanical properties and durability of pavement sub-bases constructed with indigenous materials, such as locally sourced aggregates, recycled materials, and natural binders. Laboratory tests, including compaction, strength, and moisture susceptibility evaluations, are conducted to assess the performance of the sustainable sub-base. Furthermore, economic and environmental analyses are conducted to evaluate the cost-effectiveness and sustainability benefits of using indigenous materials. The findings of this study provide valuable insights into the potential of sustainable pavement sub-bases, enabling transportation agencies and engineers to make informed decisions that prioritize environmental preservation while ensuring long-lasting and resilient infrastructure.*

Keywords: sustainable pavement

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