Review of: "Effective use of Waste Materials: A Case Study of Utilization of Fly Ash in Flexible Pavement Structures"

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Potential competing interests: No potential competing interests to declare.

The current study describes the “Effective Use of Waste Materials: A Case Study of Utilization in Flexible Pavement Structures.” The article submitted needs to be revised in many sections mentioned herein. Also, kindly be informed to go through the points highlighted below to have a best review paper.

- Introduction section does not discuss the aspects related to pavement materials, and the same has to be updated with available latest research papers.
- Literature survey is not enough, and there should be continuity while drafting a research article, which is missing at many places.
- Authors should validate their submission from the literature.
- Appropriately use the word “marginal material” instead of waste material.
- Background of the process should be clearly defined.
- Fly ash in Portland cement concrete should be discussed in terms of benefits to fresh concrete, workability, water demand, and heat of hydration, strength, and durability aspects.
- Fly ash in stabilized base course should be reported on strength and durability criteria, allowable use of marginal material, and cost benefit ratio.
- Fly ash in structural fill/embankment should be highlighted for behaviour of embankment with fly ash such as grain size distribution, moisture density relationship, shear strength, compressibility, permeability, and capillary and frost susceptibility.
- Literature of fly ash in asphalt needs to be updated with physical requirements of mineral filler in asphalt mixes defined in AASHTO M17. However, the performance of fly ash-based asphalt mixtures such as HMA, WMA, and SMA is missing in the current study.
- Suggested to increase the reference citation to min 100+ articles on review papers.
- As the title suggests, more literature on various utilizations of finer waste material in flexible pavement structures could be included.
- It would be more understanding if the literature survey would have been presented in table form.
- Literature survey on lifecycle cost analysis of flexible pavement as well as rigid pavement after utilization of waste material would be appreciated.
- It would be more encouraging if the survey would have been more focused toward the title, particularly related to flexible pavement structures.