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EXPERIMENTAL STUDIES ON THE EFFECT OF SUGARCANE BAGASSE ASH-LIME ON THE PHYSICAL AND MECHANICAL PROPERTIES OF MONTMORILLONITIC SOIL

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ABSTRACT

Industrial waste generated is a major contributor of total waste worldwide. The proper mechanism for management of these waste needs to be established, especially in developing countries. The conventional method of disposing these waste in landfills has to be supplanted to recycling and exploring the beneficial effects of these waste and use as a construction material. Sugarcane bagasse ash is an agro industrial residue, posing an environmental concern of due to its disposal in landfills and as an air pollutant. With this aspect, the bulk utilization of Sugarcane bagasse ash of geotechnical applications such as embankments/dykes, foundations, roadways in the form of backfill material, sub-base material along with soil is studied. Soil stabilization aims at improving the properties of soil can be attained by methods of Compaction, soil replacement, addition of Chemicals, soil reinforcement. In this paper, an effort to utilize the sugarcane bagasse ash in addition with lime is made to improve the geotechnical properties of locally available Indian Expansive soil. The experimental studies on addition of various percentages of bagasse ash and lime by dry weight to Expansive soil is conducted and the important geotechnical properties such as Index properties, Compaction, Strength and compressibility behavior are analyzed. On the basis of test results, it can be concluded that Sugarcane bagasse ash with lime can be used for soil stabilization, which embarks the inclusive technology of marching towards sustainability.

KEYWORDS: *Sugarcane Bagasse Ash, Black Cotton Soil, Industrial Waste, Properties of Soil*

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