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A PROJECT REPORT ON

**ENHANCEMENT OF SOIL SUB-GRADE USING LDPE AS
REINFORCNMENT**

Under the Guidance of

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ABSTRACT

Soil stabilization can be done in many ways. But the stabilization using waste plastic fibers is an economic method since the stabilizer used here is waste plastic materials, which are easily available.

This project discusses tests like CBR test, shear strength test with soil sample and their results are compared with unreinforced soil. CBR test results indicate that with a small increase in fiber content CBR values can be increased and thus improve the properties of soft clays. Randomly distributed polymer fibers in soil could increase the shear parameters and the load carrying capacity is effectively improved.

This report presents the various tests conducted on fiber reinforced soil with varying fiber content and different aspect ratio and their results are analyzed such that it can be used in the fields. Therefore, it is of utmost importance considering the design and construction methodology to maintain and improve the performance of such pavements. In this paper, plastic such as shopping bags is used to as a reinforcement to perform the CBR studies while mixing with soil for improving engineering performance of sub grade soil. Plastic strips obtained from waste plastic were mixed randomly with the soil. A series of California Bearing Ratio (CBR) tests were carried out on randomly reinforced soil by varying percentage of plastic strips with different lengths and proportions. Results of CBR tests demonstrated that inclusion of waste plastic strips in soil with appropriate amounts improved strength and deformation behavior of sub grade soils substantially. The proposed technique can be used to advantage in embankment/road construction, industrial yards etc.