

AN EXPERIMENTAL STUDY ON STABILIZATION TECHNIQUE IN WATERLOGGED AREAS

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Waterlogging occurs when the soil in a particular region is completely saturated with water. Waterlogging can cause soil displacement, reduce the strength of soil and restrict their air supply that normally flows through the pores of the soil. In the present study, experimental investigations were done on the basic properties of soil. Tests were carried out on the behavior of stone column surrounding weak soil. The diameter of stone column is maintained as 60mm for all the tests and as filler material, 20 mm downsize coarse aggregate and sand which is passing through 2.36mm is sieve was used. Loading was done in entire area loading. Also, the stone column was encased with geotextile to prevent lateral squeezing. Length to diameter ratio ($L/D = 2$) was kept constant throughout the experiment. The effect of a group of 3 stone columns, encased with geotextiles were studied using larger mold by spacing to diameter ratio, taking $S/D=2$. Stone column in groups loaded over the entire area, undergoes less bulging than for a single stone column. The encasement increased the strength and stiffness of the stone column. Thus, enabling quicker and economical installation. So, sand column method is better technique in waterlogged area because it is economical as well as filters more water.