In the present study, the effects of layer depth on optimum compaction conditions as one of the most important parameters effecting construction of earth fills are investigated.

Therefore, one dimensional consolidation tests and constant volume swell tests were conducted on compacted soil specimens taken from different layers of standard proctor mold.

Shear strength of the specimens were also determined by pocket penetrometer. The test series were carried out on the specimens prepared at optimum water content, dry and wet side of optimum water content. The results of the experimental work were evaluated and compared.