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SOIL INDEX AND CONSOLIDATION PROPERTIES OF ALLUVIAL DEPOSITS – NEW EMPIRICAL CORRELATIONS.

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ABSTRACT

In the selection and design of foundation system, it is important to determine the types and properties of soil. In a detail investigation, the conventional approach is to perform subsurface investigation to obtain a number of soil samples and tested them in the laboratory to obtain soil properties including consolidation parameters. The basic index properties of soil are water content, consistency limits, dry density, void ratio etc. A laboratory consolidation test takes a considerable amount of time, labour and computation. In many cases reliability is poor due to sampling disturbances. Determination of soil index properties is relatively inexpensive and simple. They do not require much time or any sophisticated testing system. It is very useful to develop empirical correlations for estimating the consolidation properties. In this paper statistical analysis of soil index and consolidation properties are carried out for alluvial deposit of south Gujarat region. New correlations are developed for soil compressibility with reasonable value of correlation coefficient, for alluvial deposits of South Gujarat region.

Key words: Soil properties, Consolidation, Alluvial deposits, Soil correlations, Compression index.

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