

Engineering properties of on lime stabilised clayey soil from the Crocker Formation

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This paper presents a study on lime stabilisation of clayey soil from weathered Crocker Formation. In this study 2%, 4%, 6%, and 8% of lime were added into the soil. The result of compaction test show a decrease in dry density and an increase in the optimum moisture content (OMC) with increasing lime content. This is due to the adsorption of water by the soil and development of cementitious mineral. With addition of 2% lime the dry density decreased by about 5% and further additions of 4%, 6% and 8% lime caused the dry density to decrease by 1-3%. The unconfined compression test shows that the compressive strength increases rapidly after 14 days of being cured with lime ranging from 2% to 8%. Samples with 6% and 8% lime however show that the most significant increase in strength is after 45 days and 100 days of curing. The increase of strength is due the development of cementitious mineral and formation of bridge like structures as observed by scanning electron microscope.