## Abstract

The study was about the determination of the optimum percentage of Class-F fly ash as a soil stabilizer for Sodium Chloride – contaminated soil. Atterberg limits, unconfined compressive strength, maximum dry density – optimum moisture content, and California bearing ratio were the engineering properties which the research aimed to observe. But, the basis for the optimum percentage mainly depended on its effect on the unconfined compressive strength and moisture density relation which most relate to foundations for residential buildings.

Sodium Chloride content was determined through the Bureau of Soils and Water Management. The soil sample from Barangay Talaba II Bacoor City, Cavite contained the highest amount of Sodium Chloride among the three chosen locations. As for the Class-F fly ash, the United Pulp and Paper Co., Inc. provided the fly ash used in the study. In addition, ARS Testing and Inspection took charge in testing the treated and untreated soil samples for their engineering properties.

All percentage increments exhibited difference in the soil's engineering properties. There has been a change in the classification of soil from gray sandy lean clay to sandy elastic silt. Moisture density relation and unconfined compressive strength showed similar behavior wherein there was an improvement in the properties when 4% of fly ash was added, and a decrease in value for 8% and 12%. For the California bearing ratio, the values presented a direct relationship with the percentage of fly ash and the

strength of the soil. Focusing on the moisture density relation and unconfined compressive strength, 4% deemed to be the optimum percentage, since percentages higher than this value showed weakening in the soil's engineering properties.