ABSTRACT
This paper presents a precious field practice of the soil improvement on the reclaimed land located at the western coast of middle Taiwan. Two kinds of techniques, Stone columns (SC) and Dynamic compaction (DC), were adopted for the soil liquefaction analysis.

INTRODUCTION
In the past decade since 1995 Hyogoken-Nanbu Earthquake in Japan and 1999 Chi-Chi Earthquake in Taiwan, the soil liquefaction became a very hot issue among the field of seismic design of the buildings or facilities. Many soil liquefaction-induced damages were found at many sites located near the seafront, such as sand boils, lateral spreading, structure tilts, dike collapse etc. in the above big earthquakes. In consequence, a more strict regulation on soil liquefaction was emphasized in the revision of design codes. During the progress production, three main concerns were found that influenced the performance. It includes (1) Maintenance of rigs, (2) Existence of clayey soils in the reclaimed layer and (3) High groundwater table, which were highlighted and addressed in the paper for reference. The authors also propose a new concept, named Isolation and Pre-dewatering, to increase performance of DC method.

KEY WORDS: Reclaimed land; Dynamic Compaction (DC); Stone Columns (SC); Isolation and Pre-dewatering

This paper provides a past practical experience using SC and DC to reduce the liquefaction potential of soils on the reclaimed land. And a new concept for DC to obtain deeper improved depths will be introduced and highlighted for reference.

SITE DESCRIPTION
Plot Plan of Soil Improvement

Soil Properties and Groundwater
A typical soil profile at the site is shown in Fig.2 which was formed by two boreholes and three holes of CPT as shown in Fig.1. The reclaimed layer is composed of dense grey silty fine to medium sand (SM4) with fine content in the range of 10 to 35%. The groundwater table slightly fluctuated with the tide in and out. It was measured at site ranged from GL-2.55m to GL-3.78m. The groundwater table at GL-2.5m was adopted for the soil liquefaction analysis.