

Abstract

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Mega-Container Sand Fillings as an Environmental Sustainable Solution for Alexandria Coastal Protection

Egyptian Mediterranean beaches had been suffered by several environmental impacts due to the inappropriate design of the conventional shore protection structures. Conventional breakwaters are high in cost and need a long executing duration in addition to their environmental impact and there visual problems. The main objective of this paper is to introduce an alternative shore protection and stabilization method (Geo-container Sand filling Artificial submerged reef) which provides friendly environmentally coastal solution with less executing cost and duration. Providing a comparative analysis study for executing cost and duration between the Conventional breakwaters and the Geo-containers sand filling submerged reef through a Case of Study for El-Mandarah Shore, Alexandria City, Egypt. The main conclusions of this study are as follows: • Geo-containers Artificial Submerged Reef provides a friendly environmental coastal solution and it often remains more aesthetically than other conventional structures. • The (Geo-containers Artificial Submerged Reef) is 49.4 % of the Conventional Breakwater Cost.