

Protection of Pier Foundation of Zhongsha Bridge at Zhuoshui River

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Abstract

Zhongsha Bridge located at Zhuoshui River is part of Sun Yat-sen Freeway, the traffic artery in Taiwan. Over the years its pier foundations were exposed because of continuous erosion and deposition. The farmland on the river bank adjacent to the bridge was also in great danger due to the floods in typhoon seasons. With a view to solving the problems, geotextile tubes ACETube® were used to build a multilayer structure to fortify the pier foundations and enhance the embankments with geotextile mattresses ACEFormer™ covering the surface of the geotextile tubes to prevent them from external damages. The construction method with geosynthetics reduced concrete and made good use of in-situ sand and soils which proved to be eco-friendly and cost-effective.

Keywords: erosion, pier foundation, embankment, geotextile tube, geotextile mattress

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