



ACETube® Solution for Barrier Island's Inlet Restoration Engineering

Location : Tainan, Taiwan

Application : Coastal Protection

Problem :

The barrier islands in Tainan coastal have seriously eroded and decrease the elevation, gradually loss of natural flood detention function. The ecology and fishery resources of the lagoon face threats and coastal areas occurrence of flooding. The barrier islands shift to the land make the lagoon serious siltation; the elevation decreasing of the barrier islands make new tidal inlets whenever the typhoon pass. The tidal current velocities changes due to the tidal movement, not only make the barrier island sand loss, but also expand the width of tidal inlet. This project is barrier island's inlet restoration engineering in Wang-Yeh Port, Beimen, Tainan, and the construct change the traditional beach nourishment construction method to applying the ACETube®.



Solution :

Low strength and less weight caused damage after the typhoon attack. In present, we suggest that using ACETube® which circumference of 8.6m and 50m in length, not only the weight is 200 times to the original sandbag, but also is an efficient construction method. With the 400 horsepower dredge boat, 10 inch HDPE sediment transport pipes and link ACETube® with 8 inch hose. A 50m long ACETube® installation can be completed within two hours under the sediment transport efficient is about 150m³/hr. After the installation of the ACETube®, the bamboo piles in both side of ACETubes® then backfill the sand, the total duration about one month. As a result, the backfill area has reached the total filling volume of 9500m³ of sand source which from the lagoon.

Results to corroborate the ACETube® not only is applicable to solving the lagoon siltation and tidal inlet closed but also offers speedy and friendly solution to deal with environmental and reinforcement barrier island without effecting the livelihood of fishermen and Oyster farmers'.