Photos provided by Olsen Associates

Tensar Marine Solution Stabilizes Beach in Erosion Prone Gulf of Mexico

CLIENT CHALLENGE

The north end of Longboat Key, FL at Longboat Pass terminates with a sandy vegetated spit called Greer Island. The shoreline at the Pass was unstabilized and has historically experienced wide swings in shoreline position. With the dwindling supply of sand and the associated rising costs of maintaining a sandy shoreline along the spit, the Town of Longboat Key sought a more permanent solution by structurally stabilizing the Gulf of Mexico shoreline at the north end.

TENSAR SOLUTION

The structural stabilization of the north end of Longboat Key included the construction of five low-elevation permeable rock groins and the placement of a large quantity of beach-compatible sand to restore the shoreline position and maintain a primarily sandy shoreline. The permeable nature of the structures is intended to allow sand to flow through and over the structures, at a lower rate, to maintain the spit function of the north end of the island.

The design utilized Tensar BX mattresses and Tensar geocomposite sheets to serve as the foundation of the structure. The flexibility of the mattresses provided additional protection against scour along the edge of the armor stone. The modular nature of the mattresses allowed for off-site assembly and direct-placement in the project area, which is subject to high tidal currents and direct impacts from waves in the Gulf of Mexico.

Longboat Key Beach Nourishment

Longboat Key, Florida

Olsen Associates,
Al Browder, PE
Engineer

Weeks Marine
General Contractor

Kelly Brothers Marine
Sub-Contractor

City of Longboat Key
Owner

Tensar®

www.TensarCorp.com
800-TENSAR-1