APPLIED COASTAL

RESEARCH AND ENGINEERING, INC.

766 Falmouth Road, Suite A-1
Mashpee, MA 02649
http://www.appliedcoastal.com

Project: Warren's Cove Revetment Reconstruction and Re-curved Seawall Cap Addition

Contact: Town of Plymouth
Engineering Department
11 Lincoln Street
Plymouth, MA 02360
Mr. Saeed Kashi, (508) 830-4082

The project included the design and environmental permitting to reconstruct approximately 720 linear feet of the revetment primarily fronting Bert's Cove Restaurant and the Pilgrim Sands Motel. The existing stone revetment fronted a vertical concrete seawall. The proposed revetment work consisted of dismantling the existing structure, placement of filter fabric and/or geo-grid material, and reconstruction of the structure with appropriately sized stone. The revetment was constructed to the same overall dimensions (height and slope) as the existing structure. In addition, a concrete re-curved cap with a height of 2 to 4 feet was constructed on top of the existing seawall. This cap extends approximately 775 feet from a location approximately 75 feet north of Bert's Cove Restaurant and the south end of the Pilgrims Sand property.

This project provides improvements to storm damage protection to the properties landward of the seawall. Over the past three decades, northeast storm events have continued to cause significant damage to coastal infrastructure in Warren's Cove. Specifically, the low lying landform at the south end of Plymouth Beach (including the Town beach parking lot, Bert's Cove Restaurant, and Pilgrim Sands Motel) have experienced wave overtopping during severe storm events. Most recently, the two northeast storms of April 1997 caused moderate damage to the Motel, requiring claims to the National Flood Insurance Program for the repairs. For the Pilgrim Sands Motel alone, FEMA has paid more than $660,000 in flood damage claims since 1987. Although the seawall and revetment have remained intact, the repairs performed following the 1991 northeaster ("the Halloween Storm") did not return the structure to it's "as-built" condition. By 1997, portions of the revetment had settled, allowing wave action to destabilize the revetment. The revetment was completed in the winter of 2001-2002.