

# TOWN OF PALM BEACH COASTAL STRUCTURES INVENTORY & ASSESSMENT

Client: Town of Palm Beach, FL



**REACH 5 – Recommended Alternative Restoration with L-Groin**

	Existing Groin & ID (e.g. 50601)
	Existing Rock Rubble Around Groin
	Existing Hardbottom
	Proposed Groin/Extension
	Proposed Concept Design +5' Contour
	Proposed Concept Design ETOF
	Proposed Concept Design MLW

In order to support future efforts by the Town of Palm Beach to update its' *Comprehensive Coastal Management Plan (CCMP)*, Coastal Tech was contracted to perform an assessment of coastal structures within the Town. Coastal structures in the Town significantly affect Town beaches. These structures include groins, and shore parallel works (seawalls, bulkheads, and revetments).

The work by Coastal Tech included:

- a review of the historical aerial photographs in the GIS platform and historical shoreline/volume change data,
- site visits to perform detailed observations of the significant groins,
- a written characterization of the viability and functionality of existing groins,
- an initial conceptual opinion as to the desirability of removal or maintenance of the “significant groins”,
- Coordination with regulatory agencies regarding requirements and posture towards conceptual alternatives, and
- formulation of a draft *Coastal Structures Plan*.

Coastal Tech also developed and calibrated a numerical coupled wave and hydrodynamic model (MIKE21) of the Town’s beaches. We utilized historical profile data to define the offshore regime, performed a desktop analysis to formulate the appropriate model domain, conducted an analytic assessment of sediment transport and morphological behavior of the Lake-Worth Inlet-beach system, and calibrated and validated the model.

For each of the maximum 3 alternative structural configurations identified, Coastal Tech assessed probable costs and permit feasibility and formulated a detailed *Coastal Structures Plan*. This work included a preliminary Opinion of Probable Cost including initial costs, maintenance costs, and annualized costs for a 30 year project life.

## Key Elements

- Review of Historical Data
- Site Visit
- Conceptual Groin Design
- Review of Potential Environmental Impacts
- MIKE21 Modeling
- Preliminary Opinion of Probable Cost
- Coordination with FDEP, USACE, USFW
- *Coastal Structures Plan*
- Presentation of Results to Shore Protection Board

**Date:** 2010-2011

**Fees:** \$193,932.

## Contact:

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*Enhancing Coastal Life.*