Seabrook, New Hampshire

- **Sponsor:** New Hampshire
  (Pease Development Authority, Division of Ports and Harbors)
- **Design:** New England District
- **Construction:** Reed & Reed, Inc., Maine
- **Composite Sheeting:** CMI, Inc.
- **Geogrid Marine Mattresses:** Tritton
- **Instrumentation:** Geokon, Inc.
Seabrook, New Hampshire
Seabrook, New Hampshire

• Objectives:
  – Replace lost intertidal sands
  – Reduce sand migration into the Harbor
  – Prevent shoreline erosion

• Solutions:
  – Install two cofferdams (bulkheads) across the eroded channel
  – Dredge sand from the shoaled areas of the River to encourage flow
  – Use the dredged sand to fill between the cofferdams to restore the sand flats
Seabrook, New Hampshire

- Design
  - Synthetic sheeting: Corrosion, Cost
  - Galvanized steel tiebacks and wale: Reliability
  - Double Rows of sheets: No cantilever
  - Single Wale: No diving (winter)
  - Scour protection: Protect toe
  - Drainage: Reduce loads
Seabrook, New Hampshire

Design Parameters

- 50-year low tide
- 50% drainage in fill
- 12’ depth to mudline
- 2 tons horizontal Load per linear foot
- Tiebacks 6’ spacing
- 200 psf surcharge
Seabrook, New Hampshire

Other Components

- **Wale:** 2X 10” galvanized steel Channels on the outside

- **Tiebacks:** 18’ long, 2.25” galvanized steel tiebacks with turnbuckle, Oversized to allow for corrosion

- **Drains:** 2 x 2” dia holes with wire mesh/geotextile backing, located under water to prevent freezing
Construction

– October 2004 – April 2005
  (within the November- March dredging window)

– hydraulic dredge

– two barges, three cranes, clam shell, dozer, supply boats

– hydraulic vibratory hammer

– sheetpiling was initially coated with a polyurethane resin; delivery and QC problems resulted in switch to different manufacturer and polyester resin

– geogrid marine mattresses
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October 2004  April 2005
Current Project Status

- Post-construction monitoring with UNH & CCOM
- TABS and ADCIRC models
- Documentation
  - NAE overspent – no documentation to date
  - ERDC has started O&M report, lessons learned, and DDR
  - monitoring report