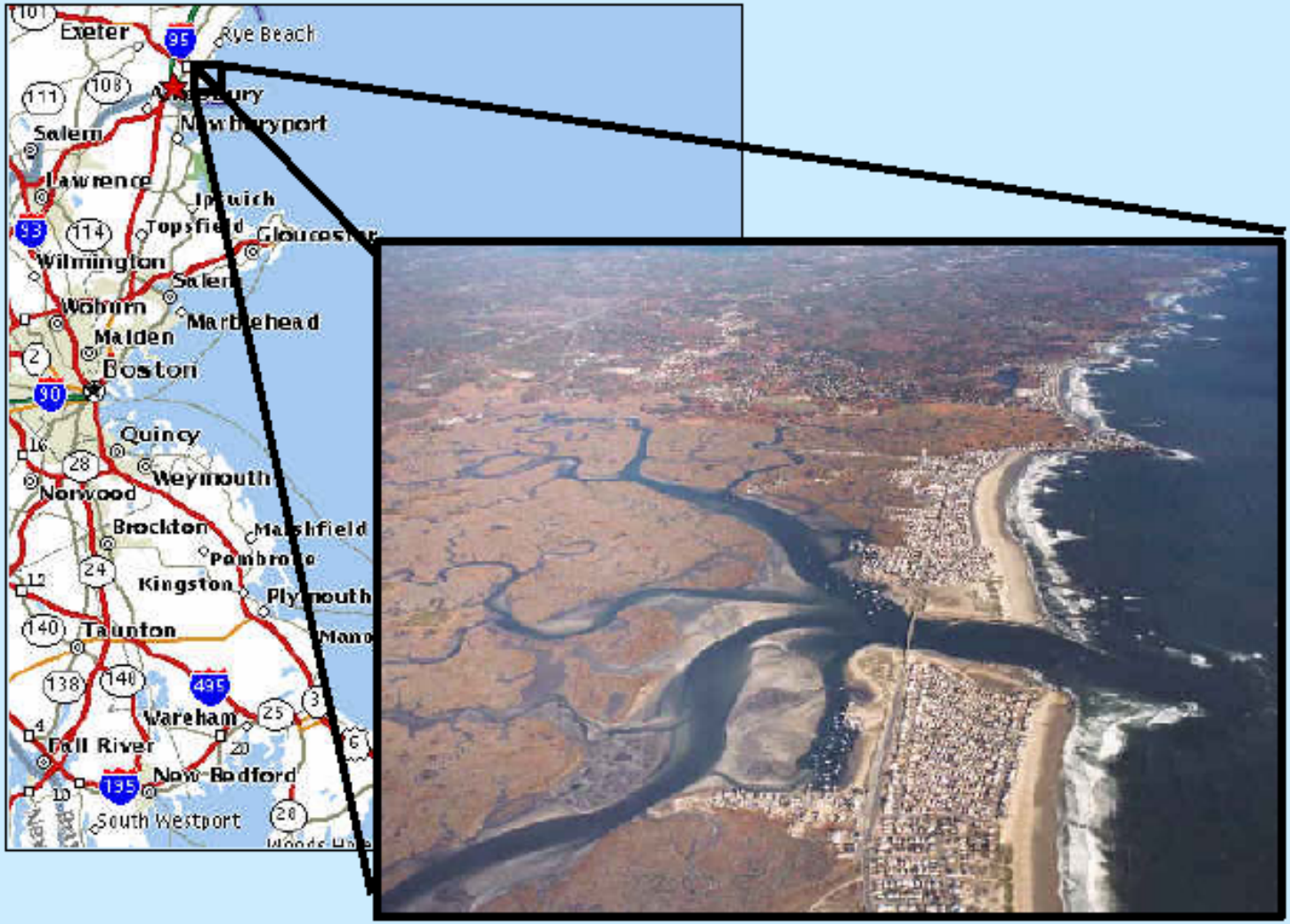
Seabrook, New Hampshire

SECTION 227



Seabrook, New Hampshire

SECTION 227

- **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

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Seabrook, New Hampshire

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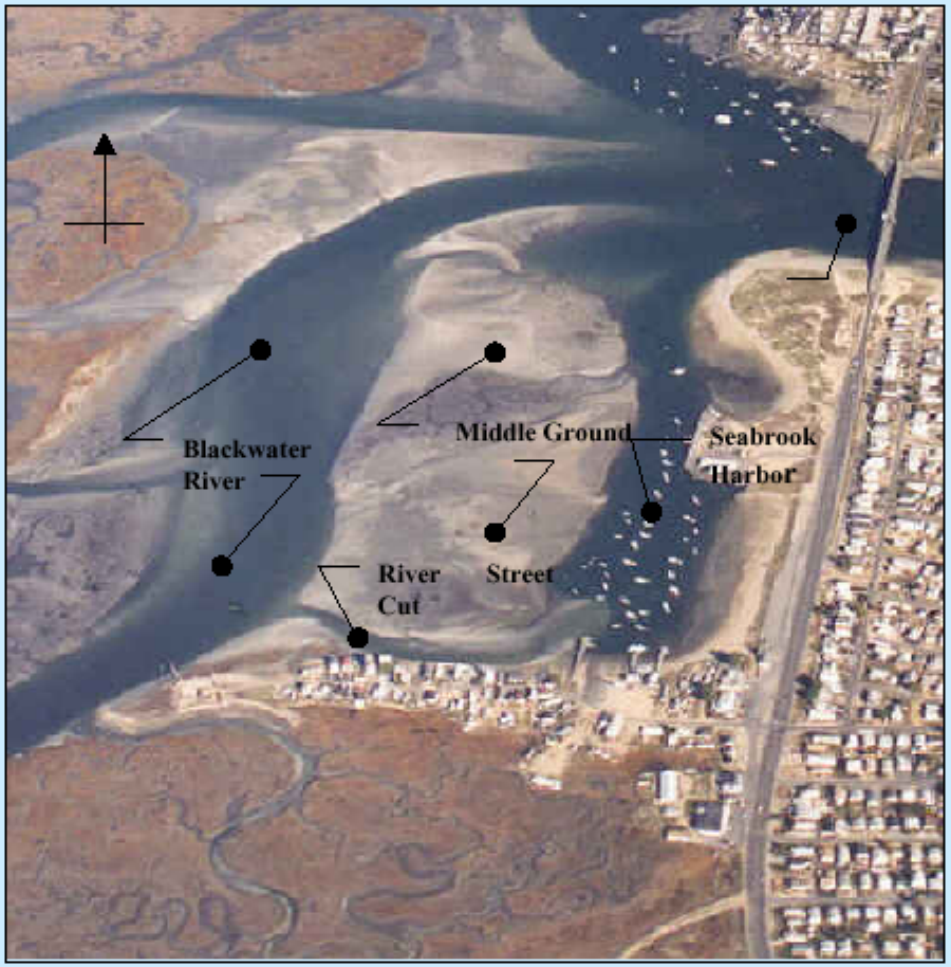
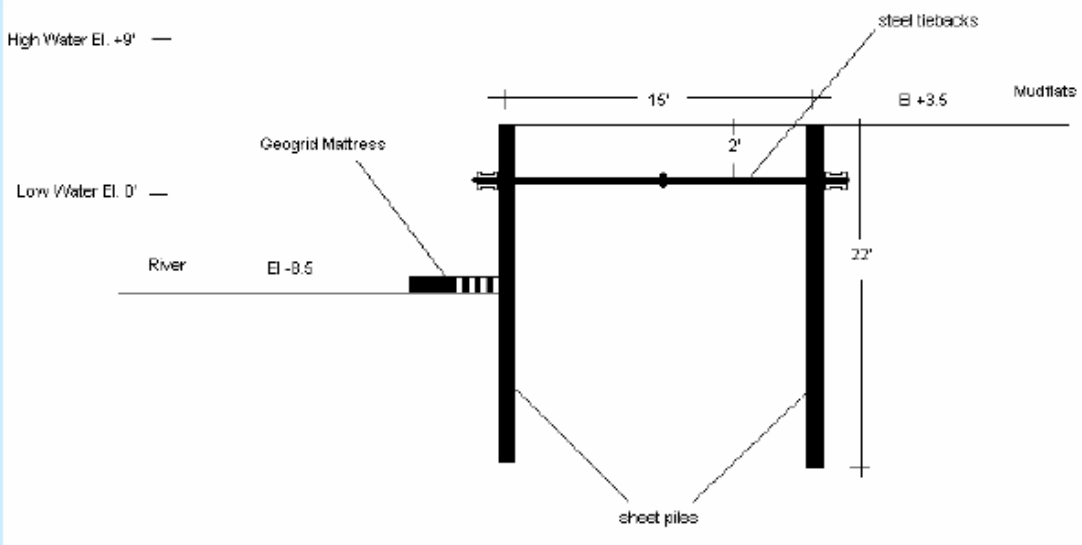
- Objectives:
  - Replace lost intertidal sands
  - Reduce sand migration into the Harbor
  - Prevent shoreline erosion
- Solutions:
  - Install two cofferdams (bulkheads) across the eroded channel
  - Dredge sand from the shoaled areas of the River to encourage flow
  - Use the dredged sand to fill between the cofferdams to restore the sand flats



Seabrook, New Hampshire

SECTION 227

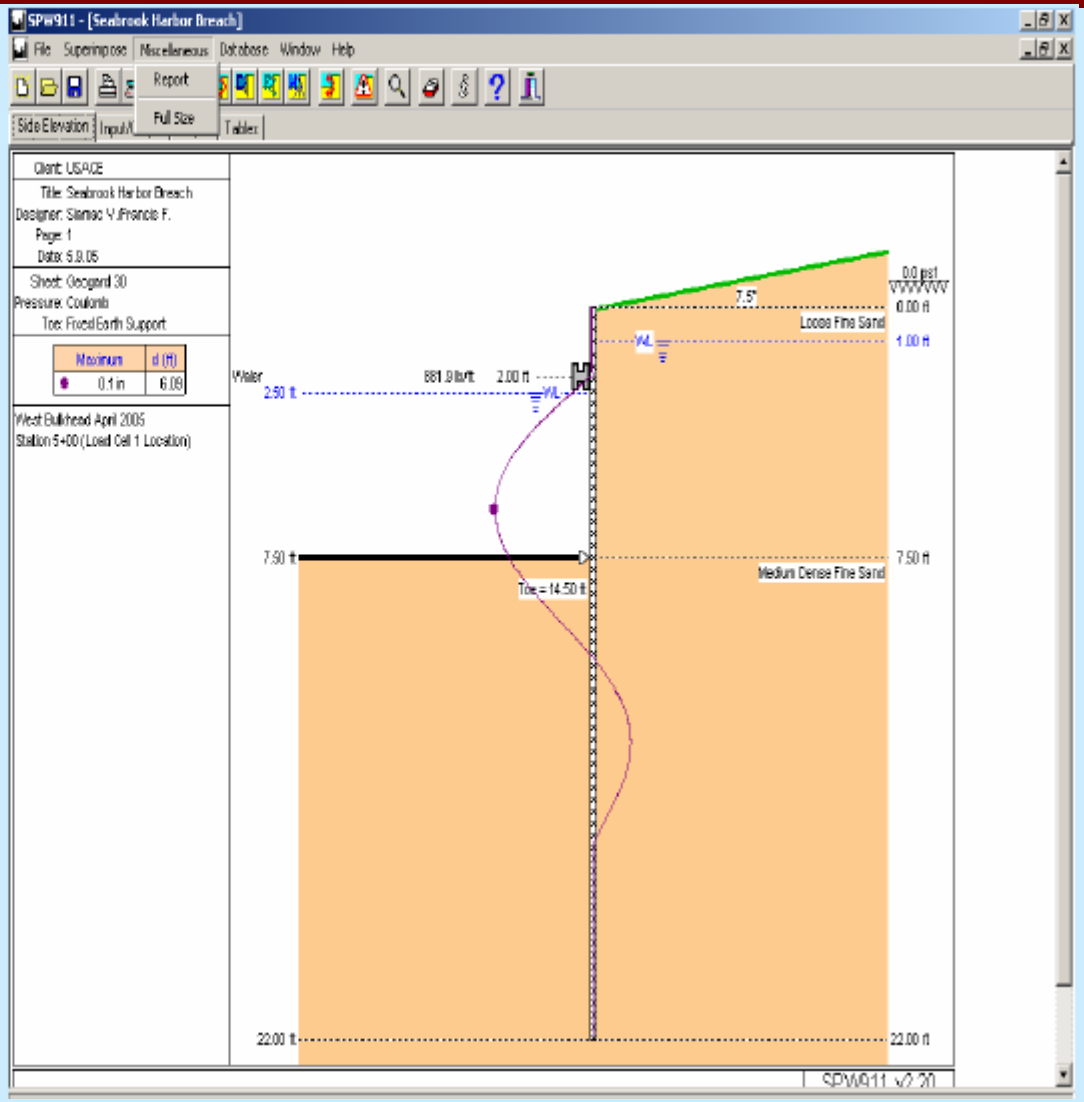
- Design
  - Synthetic sheeting: Corrosion, Cost
  - Galvanized steel tiebacks and wale: Reliability
  - Double Rows of sheets: No cantilever
  - Single Wale: No diving (winter)
  - Scour protection: Protect toe
  - Drainage: Reduce loads



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

SECTION 227

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

Seabrook, New Hampshire

SECTION 227

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

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

– geogrid marine mattresses

Seabrook, New Hampshire

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Seabrook, New Hampshire

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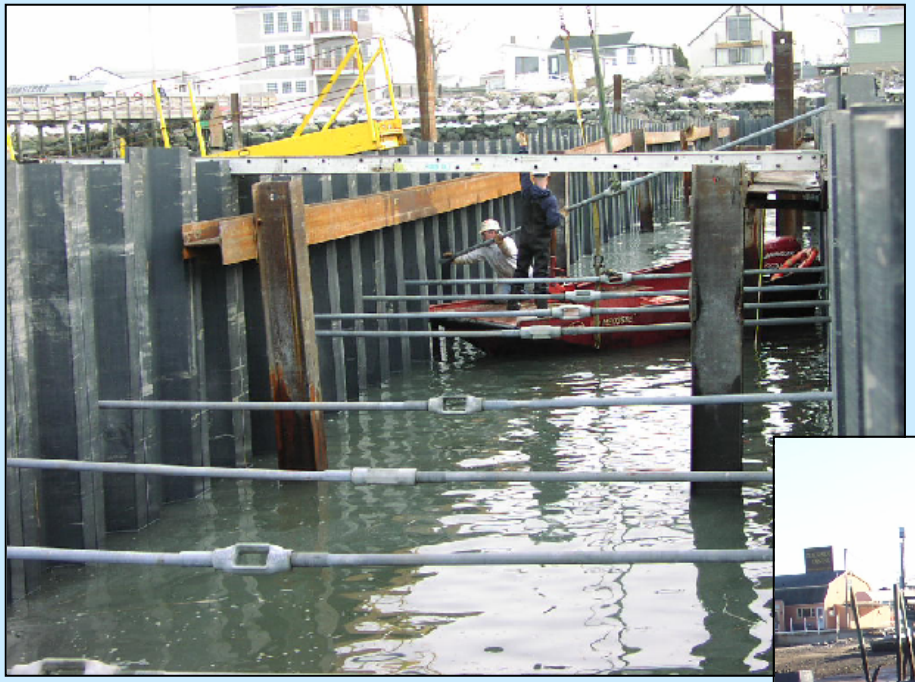

Seabrook, New Hampshire

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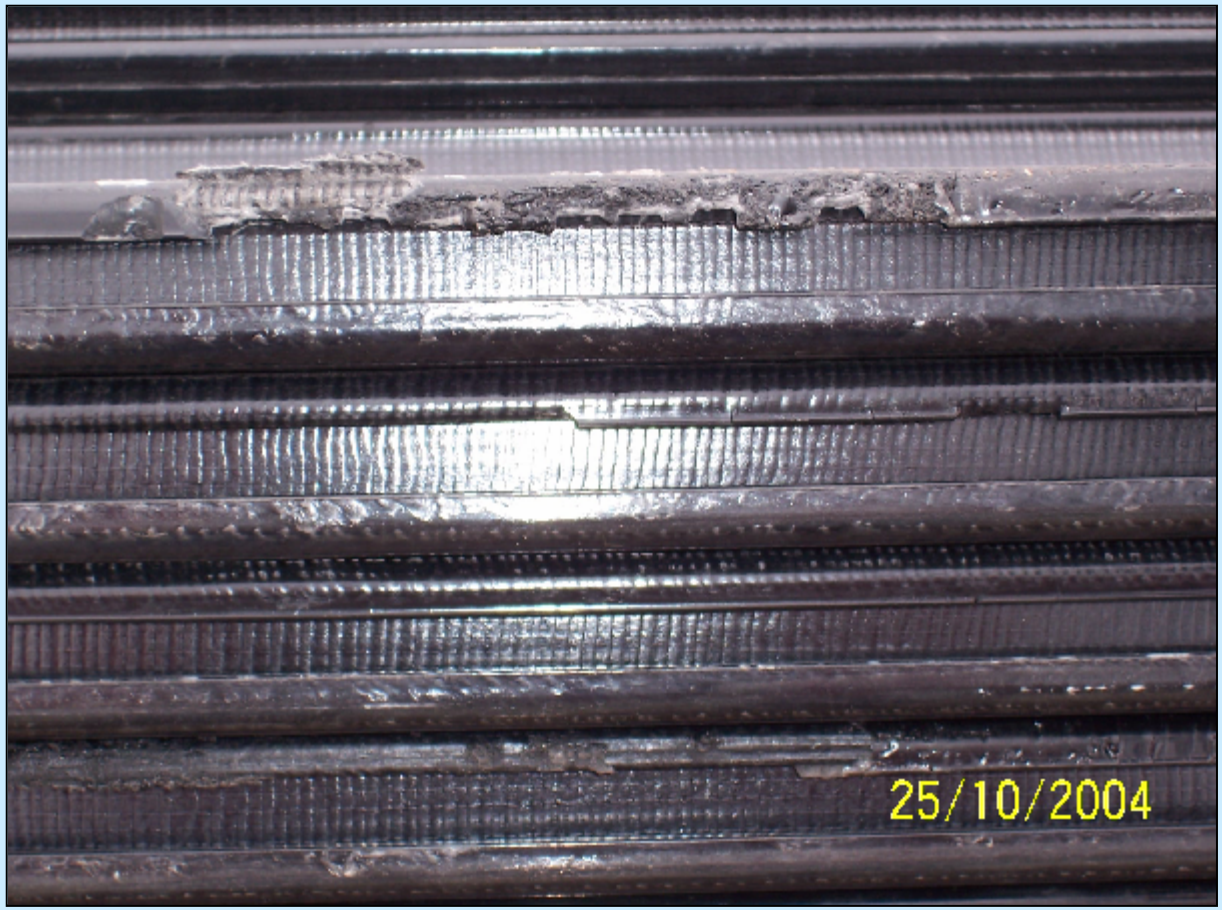

Seabrook, New Hampshire

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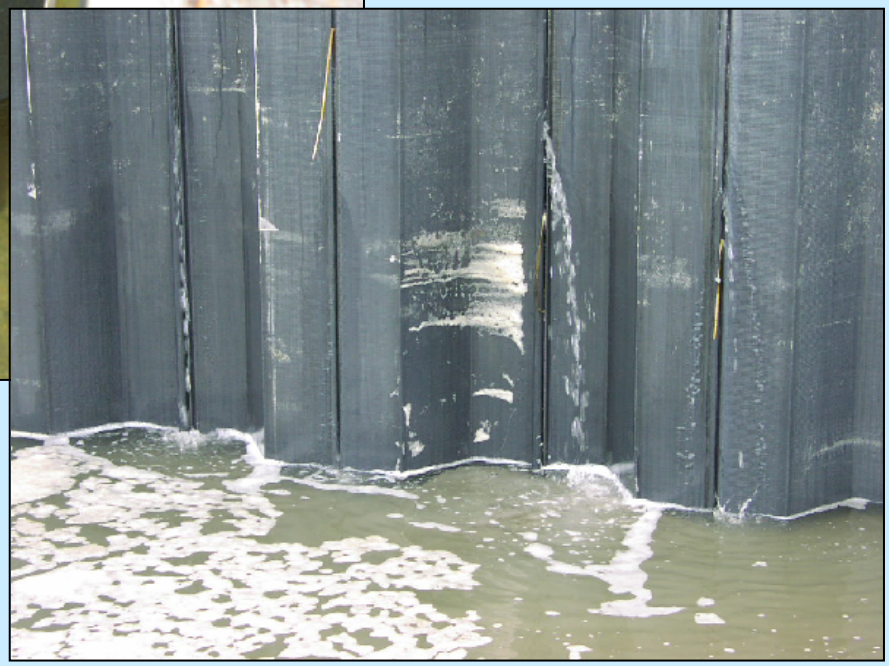

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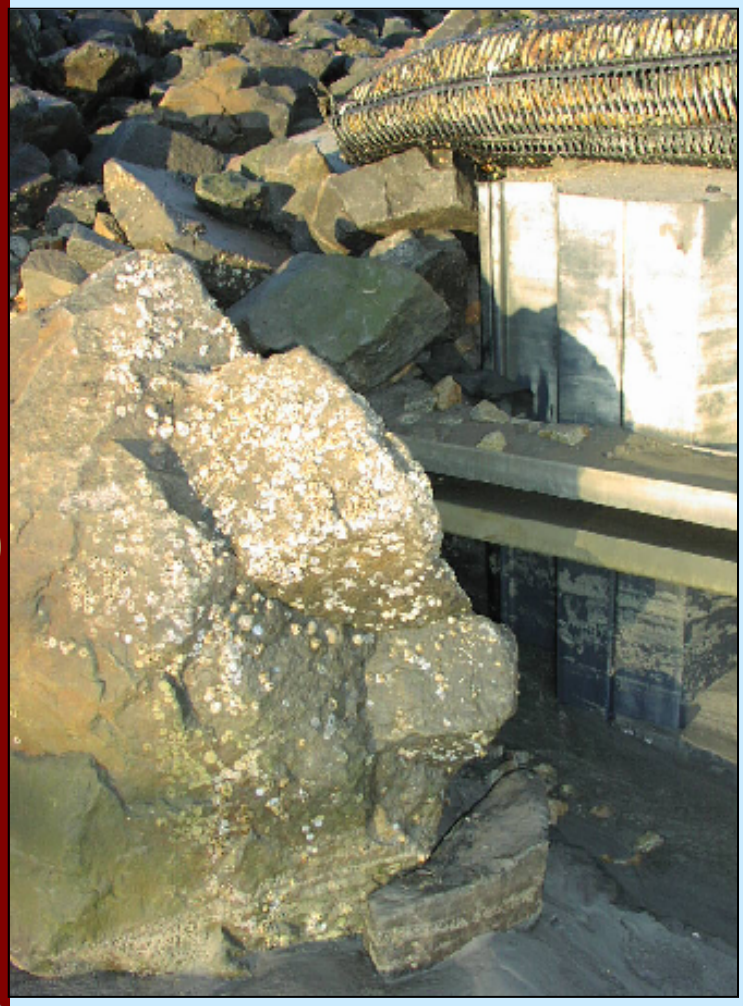

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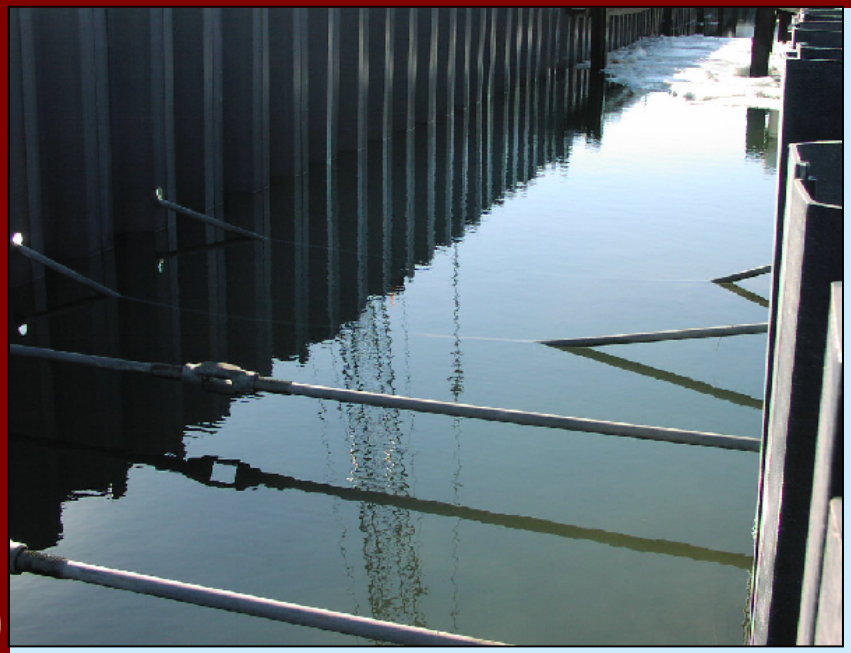

Seabrook, New Hampshire

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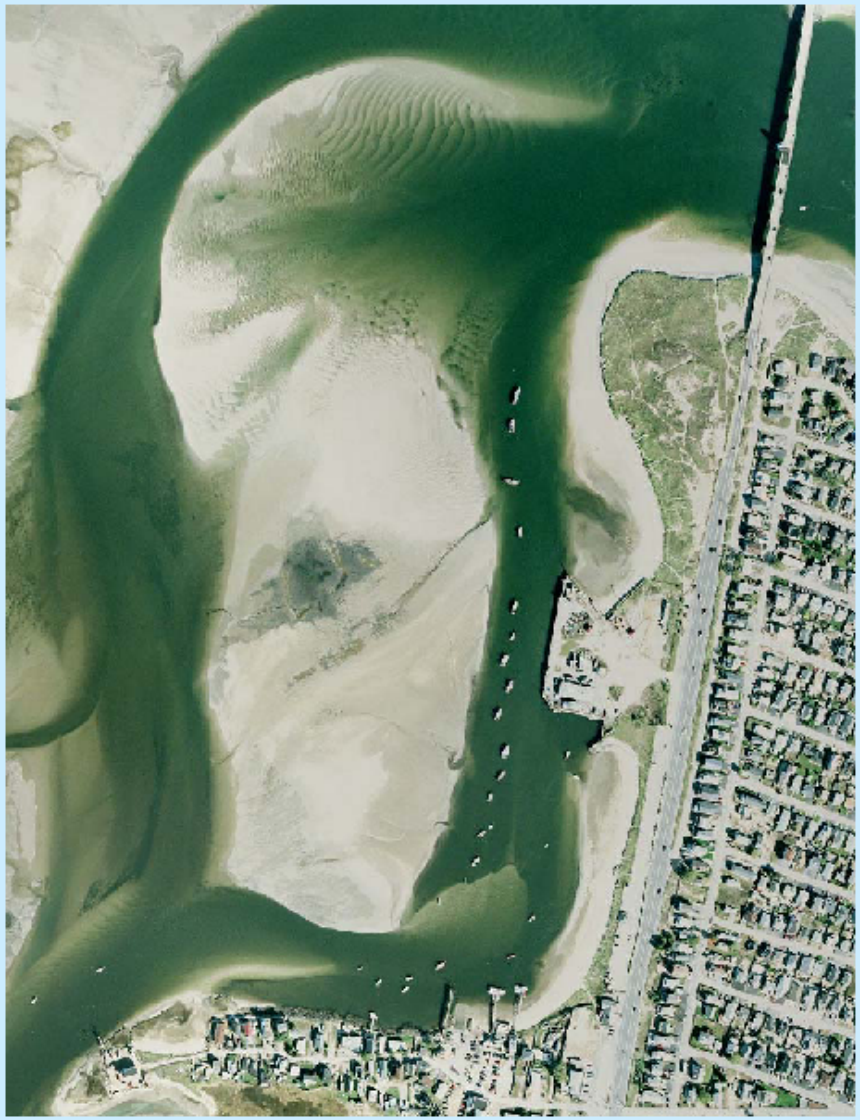

October 2004

April 2005

Seabrook, New Hampshire

SECTION 227

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