

Boxel Project

Suriname, South America

- **Installation:** PURLoc 4.3
- **Linear Feet:** 270
- **Sheet Lengths:** 18'
- **Soil Description:** Sand/Clay
- **Existing Wall:** None
- **Contractor:** Albert Marine/ HiSix
New Jersey/Paramaribo
- **Design Engineer:** Design Build by Client
Paramaribo, Suriname
- **Installation Method:** Volvo Track Excavator

- **Project Details:**

The seawall was designed to protect the property from the Suriname River for a large Residential house to be built. The land was continually eroding into the river and needed protection. The property will be used in the winter months by a Dutch Family and will also include a private dock.



Grand Isle, NY

- Installation: PURLoc
 - Lineal Feet 126 LF
 - Sheet Length 14 foot
 - Soil Type Sand/ Clay
 - Existing Wall Corroded Steel
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- Residential job that had an existing steel wall that was corroded and failing. PURLoc was installed in front of the existing wall



Leonsberg Damwand, Suriname, S.A.

- **Installation:** PURLoc 4.3
- **Linear Feet:** 270
- **Sheet Lengths:** 18'
- **Soil Description:** Sand/Clay
- **Existing Wall:** None
- **Contractor:** US Mooring
Equilibrium n.v.
- **Design Engineer:** Firm Engineering
- **Installation Method:** HPSI 65 Vibro
- **Project Details:**
 - The seawall was designed to protect the road from slipping into the canal and stop all erosion. The wall is in a cantilever design so that a tie back system was not needed.



Red Sail Marina

Grand Cayman, Caribbean

- **Installation:** PURLoc 4.3
- **Linear Feet:** 165
- **Sheet Lengths:** 18'
- **Soil Description:** Sand
- **Existing Wall:** Timber Wall
- **Contractor:** Mac Iron Construction
Cayman Islands, Caribbean
- **Design Engineer:** Design Build by Client
- **Installation Method:** Impact Hammer
- **Project Details:**

The seawall was designed to protect the Marina after the existing timber wall deteriorated.



Shelter Island Long Island, NY

- **Installation:** PURLoc 4.3
- **Linear Feet:** 65
- **Sheet Lengths:** 6'-24'
- **Soil Description:** Sand/Clay
- **Existing Wall:** None
- **Contractor:** Costello Marine
Greenport, NY
- **Design Engineer:** Design Build by Client
- **Installation Method:** Water Jet



- **Project Details:**
The wall is being used as a breakwater for a boat landing.

Caspian Sea Baku, Azerbaijan

- **Installation:** Polaris SL 1580
- **Linear Feet:** 4000 + Feet
- **Sheet Lengths:** 42"
- **Soil Description:** Sand/Clay
- **Existing Wall:** None
- **Contractor:** Hydro-Tech
Kiev, Ukraine
- **Design Engineer:** Design Build by Client
Baku, Azerbaijan
- **Installation Method:** Vibro Hammer

- **Project Details:**

The seawall was designed for a new high end residential development. The land is being reclaimed through the use of the seawall. The area will consist of Large residential homes with private docks for large yachts. The system is all composite sheetpile, wales and cap.



Forbes Park

Boston, Massachusetts

- **Installation:** Polaris SL 1580
- **Linear Feet:** 1000+
- **Sheet Lengths:** 16-22'
- **Soil Description:** Sand/Clay
- **Existing Wall:** None
- **Contractor:** Sea & Shore Contracting
Braintree, MA
- **Design Engineer:** Sea & Shore Contracting
Braintree, MA
- **Installation Method:** HPSI Vibratory Hammer
Model 40E
- **Project Details:**

The design for this project had the Endurance Polaris sheet pile acting as both a structural bulkhead and a cut-off wall. The former warehouse area is being redeveloped into condominiums but because of the previous industrial use environmental remediation is being performed. Polaris was chosen because of its strength as a bulkheading material and its chemical resistance.



Hurricane Dennis Restoration

Santa Rosa Beach, FL

- **Installation:** Polaris SL 1580
- **Linear Feet:** 8000+
- **Sheet Lengths:** 30-36'
- **Soil Description:** Sand/Compressed Organic Peat
- **Existing Wall:** None
- **Contractor:** Southeastern Aquatic Services
Defuniak Springs, FL
- **Design Engineer:** JAD Engineering
Destin, FL
- **Installation Method:** Vibratory Hammer
800 lbs
- **Project Details:**

The designs were centered on foundation stabilization and dune restoration of several properties. Because of the possible exposed span of 15+ ft., the environmental requirements for construction and the need to drive through the rock hard peat layer the Polaris sheet pile was chosen.



Norfolk Naval Base V-121

Norfolk, VA

- **Installation:** Polaris SL 1580
- **Linear Feet:** 4600
- **Sheet Lengths:** 26'
- **Soil Description:** Loose Sands
- **Existing Wall:** Steel Sheet Pile
- **Contractor:** Virginia Marine Structures
Virginia Beach, VA
- **Design Engineer:** NAVFAC - US Navy
Norfolk, VA
- **Installation Method:** Vibratory Hammer
- **Project Details:**

The project was to repair the failed steel bulkhead. Northstar engineers were asked to value engineer the project from the suggested steel sheet pile. The Endurance Polaris CE sheet pile provided the strength needed to retain the flowable concrete backfill, with some sections being 17 ft. tall, and still have a material cost saving.



Quonset Airport Commission

Quonset, RI

- **Installation:** Polaris SL 1580
- **Linear Feet:** 1929
- **Sheet Lengths:** 20-26'
- **Soil Description:** Sand/Gravel
- **Existing Wall:** Steel Sheet Pile
- **Contractor:** Specialty Driving Services
North Kingston, RI
- **Design Engineer:** Laszlo & Associates
Providence, RI
- **Installation Method:** Vibratory Hammer
- **Project Details:**

Endurance Polaris sheets were used to reface a failed steel bulkhead. After driving the sheets a lean concrete was used as a backfill material. Concrete interaction with the Endurance resin system is not a concern because of the durability of the resin in an alkaline environment.



Lake Skaneateles

Skaneateles, NY

- **Installation:** Polaris SL 1580
- **Linear Feet:** 200
- **Sheet Lengths:** 8-12'
- **Soil Description:** Sand/Rock
- **Existing Wall:** Wooden Bulkhead
- **Contractor:** F.J. Estlinbaum Lumber
Marcellus, NY
- **Design Engineer:** Northstar Vinyl Products
Assisted in design
- **Installation Method:** Vibratory Hammer
- **Project Details:**

The project consisted of the refacing of a timber bulkhead with bedrock approximately 3 ft. below the sand lane. Endurance Polaris piling was chosen because of the harsh climate changes and possibility of considerable ice loading.



GULF 
SYNTHETICS

FDOT HWY 98

Okaloosa County, FL

- **Installation:** Polaris SL 1580
- **Linear Feet:** 12,863 Feet
- **Sheet Lengths:** 18'
- **Soil Description:** Sand/Broken Asphalt
- **Existing Wall:** None
- **Contractor:** Archer Western
Pensacola, FL
- **Design Engineer:** **FDOT/Northstar**
Assisted in Design
- **Installation Method:** Vibratory Hammer
Steel Mandrel
- **Project Details:**

The 2004 and 2005 Hurricane seasons took their toll on a 2 mile stretch of Hwy 98 between Ft. Walton Beach and Destin, FL. The roadway was being undermined and was in dire need of having a permanent repair. The best solution was to install a sheetpile cut-off wall along the side of the roadway. The design incorporated gabion baskets and a concrete cap. The Polyurethane part was critical in the design due to the high PH in Concrete.



45th Street Shopping Center Ocean City, MD

- **Installation:** Polaris SL 1580
- **Linear Feet:** 350 Feet
- **Sheet Lengths:** 16'
- **Soil Description:** Sand
- **Existing Wall:** Wood
- **Contractor:** Case Marine
Annapolis, MD
- **Design Engineer:** Coast Watch
- **Installation Method:** Plate Compactor
- **Project Details:**

The existing shopping center is the first phase of new Condominiums and retail shopping. The design called for having a wall that could withstand the load of a full ladder fire truck. The wall was right next to the fire lane. The design also used the Manta Ray mechanical anchors for the tie-back. The Polaris was a VE to the original SG 950 series



West Bank Marina Patchougue, NY

- **Installation:** Polaris SL 1580
- **Linear Feet:** 420 Feet
- **Sheet Lengths:** 16'
- **Soil Description:** Sand/Debris
- **Existing Wall:** Wood
- **Contractor:** Marina Owner

- **Design Engineer:** Owner

- **Installation Method:** Vibro Hammer

- **Project Details:**

The existing wood wall was completely eaten through by the marine borers. The marina was looking for a material that would not require any face piles because of their short life in the marine environment. The exposed wall is 8' tall with a single tie back.



East Port Yacht Club

Annapolis, MD

- **Installation:** Polaris SL 1580
- **Linear Feet:** 800 Feet
- **Sheet Lengths:** 16' - 22"
- **Soil Description:** Silty Clay
- **Existing Wall:** Wood
- **Contractor:** John H Norris
Annapolis, MD
- **Design Engineer:** Jack Feick & Assoc.
- **Installation Method:** Plate Compactor
- **Project Details:**

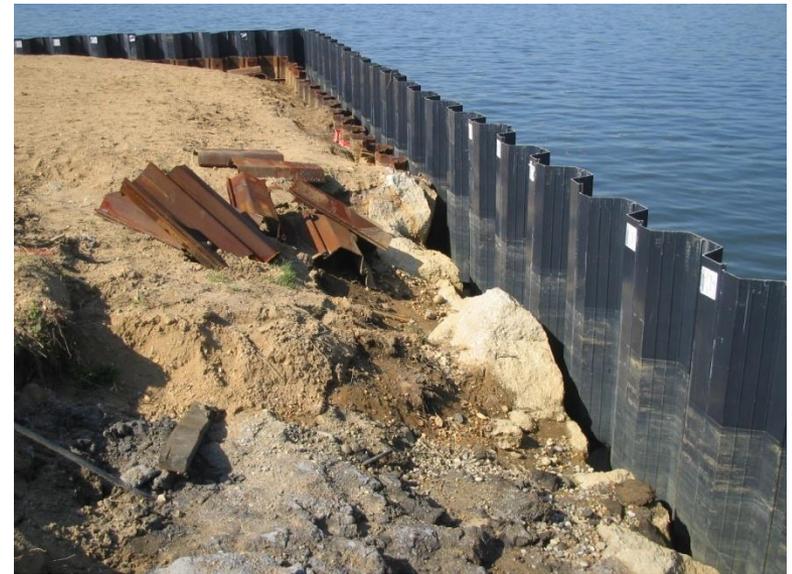
East Port Yacht Club is a very high profile club located in Annapolis, MD. The project was originally permitted with wood and a mechanical tie back. The marina next door would not permit anchors to go under the property so a product that could be cantilevered was necessary. The Polaris fit the model and was incorporated into the new design.



GULF 
SYNTHETICS

Town of Oyster Bay Long Island, NY

- **Installation:** Polaris SL 1580
- **Linear Feet:** 650
- **Sheet Lengths:** 22'
- **Soil Description:** Firm Sand/Rock
- **Existing Wall:** Steel
- **Contractor:** Amma Construction
Long Island, NY
- **Design Engineer:** Northstar VE
Assisted in Design
- **Installation Method:** Vibratory Hammer
- **Project Details:**
Replacement of a rusted steel wall for a future park renovation.



G&T Dockbuilders

Long Island, NY

- **Installation:** Polaris SL 1580
- **Linear Feet:** 350'
- **Sheet Lengths:** 20'
- **Soil Description:** Sand
- **Contractor:** G&T Dock builders
Long Island, NY
- **Installation Method:** Jet
- **Project Details:**

A local Dock builder chooses to install Polaris composite for his personal marina property in Oceanside. The wall height varies from 12 - 14'.



GULF 
SYNTHETICS

Wickford Shipyard

New Kingstown, RI

- **Installation:** Polaris SL 1580
- **Linear Feet:** 1000'+
- **Sheet Lengths:** 24'
- **Soil Description:** Sandy light rock
- **Contractor:** Self-install by Wickford Shipyard
- **Installation Method:** Plate compactor
- **Project Details:**

A local commercial marina chooses to install Polaris composite as part of a new expansion for his marina property in New Kingstown. The wall height varies from 8 - 12' exposed height.



Shore Drive Restoration

Keyport, New Jersey

- **Installation:** Polaris SL 1580
- **Linear Feet:** 1500+
- **Sheet Lengths:** 33'
- **Soil Description:** Sand/Clay
- **Existing Wall:** Wood
- **Contractor:** Bird Construction
Bayville, NJ
- **Design Engineer:** Birdsall Engineering
Eatontown, NJ
- **Installation Method:** HPSI Vibratory Hammer
Model 40E
- **Project Details:**

The design for this project had the Endurance Polaris sheet pile acting as a structural bulkhead. As part of the Shore Drive Renovation project the bulkhead will allow the roadway to be raised 2-4'. In addition, a new pedestrian walkway will be constructed above the new bulkhead. The project also includes construction of new docks and piers as well. Polaris CE was chosen over steel because of its long-term life expectancy.

