



## LIVING SHORELINES PROTECT CRITICAL INFRASTRUCTURE WITH CORE & MAIN SOLUTIONS

**CORE & MAIN CASE STUDY:** Geosynthetic solutions from Core & Main help municipalities protect shorelines while creating wildlife habitat. In Pensacola, Florida, using a polypropylene geotextile made for easier contractor installation at reduced cost compared to traditional concrete bulkheads and steel structures, while allowing nature to take hold.

### Protecting Naval Heritage and Critical Infrastructure

The Pensacola, Florida Naval Air Station—home to the Blue Angels and generations of naval aviators—faced a serious threat. At Sherman Inlet, more than 400 feet of shoreline had eroded since 1961. Severe shoreline loss had created vertical cliffs up to ten feet high, putting a runway, fuel facilities, and other military infrastructure at risk. The shoreline also supports tourism and recreation for the community, from boating and fishing to wildlife viewing.

“To fight the erosive forces of nature, for years the solution was hard armor,” explained Rusty P., engineering manager for Core & Main geosynthetics. “The problems with hard armor and vertical bulkheads is they don’t last forever. It doesn’t allow the soil or the embankment to heal itself.”

Escambia County and its engineers needed a better approach. Instead of continuing with concrete bulkheads or steel sheet piling—solutions that deteriorate and fail over time—they turned to living shorelines, a nature-based method designed to halt erosion, restore wetlands, and create habitat.

### The Right Technology for Coastal Protection

The county’s engineering specification called for a geotextile foundation beneath rock breakwaters. When Core & Main reviewed the plans, the team identified an opportunity to improve the original design.

“The original fabric specified was a hybrid—polypropylene yarns in one direction and polyester yarns in another,” Rusty explained. “Polyester absorbs water and gets very heavy, so it sinks. For this job, we chose all polypropylene because it has a lower specific gravity and floats, making it easier for contractors to work with.”

The selected solution was ES770HP High-Performance Polypropylene Geotextile, offering the same strength as the original specification but with superior installation characteristics. Core & Main created custom 30-foot-wide by 300-foot panels by sewing two standard rolls together for efficient coverage across the breakwater footprint.



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The ES770HP fabric serves multiple critical functions: providing foundation stabilization that prevents stones from sinking into soft sandy bottoms, acting as a filtration system that allows water flow while trapping soil particles, and creating a separation barrier that prevents underlying soil from migrating through the rock structure. The engineered design ensures long-term performance under marine conditions.

#### Partnership in Action

JW Marine Enterprises served as the project contractor. For CEO Wayne Eldridge, who has worked in marine construction since 1998, the established relationship with Core & Main was critical to project success.

"I've been dealing with Billy from Core & Main for over 12 years, and he's made my life a lot easier," Wayne said. "I send him the specs and he gives me quantities and material options, and presents it to the engineer for approval."

Core & Main's engineering proposal was accepted by the county. The polypropylene fabric floated during installation, allowing contractors to maneuver and position the large panels from barges before placing limestone rock. For Wayne and his crews, the material performance was immediately apparent.

"For us it was easier to work with. It's like a trampoline material. And a trampoline is very durable. And the rocks won't puncture it, and it creates a good base for these rocks to go on," Wayne explained.

The installation process follows a systematic approach. Contractors first anchor the geotextile at corners using rocks or sandbags, then precisely place limestone according to engineering specifications. The fabric serves multiple functions simultaneously—providing foundation stability while allowing water flow and preventing soil migration.

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**RUSTY P.,**  
Engineer Manager,  
Core & Main



### **Lasting Impact**

The Pensacola Bay Living Shoreline is expected to take six months to complete, but its benefits will endure far longer. The project halts erosion immediately, protects critical military infrastructure, and lays the foundation for a thriving coastal ecosystem. Within months, vegetation will take hold, stabilizing the shoreline and attracting marine life.

"The benefits of living shoreline are just giving nature another foothold. It's better for the birds, better for the sea life, and better for people. It's just a nice natural environment to be in," Rusty said.

Today, where vertical cliffs once threatened a naval runway, living shorelines protect both military operations and marine ecosystems. Core & Main's geosynthetic solutions proved that coastal protection and environmental restoration can succeed together.



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