

# Beach Restoration

## Daufuskie Island, South Carolina

### Services Rendered

- Shorefront Management Plan
- Recommended Beach Restoration and Groin Structures
- Offshore Borrow Area Design
- Economic Plan
- Permitting
- Construction
- Post Project Monitoring

### Project Summary

ATM assisted Daufuskie Island (SC) developers for more than three years with the protection of their shoreline, infrastructure, and undeveloped property. Daufuskie Island is positioned between the Georgia/South Carolina border to the south and Hilton Head Island to the north. On the shorefront, a maritime forest grows out to the upper sand platform and historically high erosion maintains the edges of the forest on the active beach. Short- and long-term erosion rates exceed 9 ft/yr in certain reaches.

ATM developed an early shorefront management plan with alternatives for shoreline stabilization identified and ranked in a decision matrix for the developers. Structural modifications to a 7,000 linear feet wooden seawall were considered in addition to soft shoreline restoration and coastal structure fields. The final recommendation included a 3.5 mile beach restoration project with terminal groin structures. ATM proceeded with beach fill planning for the entire sandy shoreline (approximately 18,000 ft). A comprehensive economic study identified the cost appropriation and benefits for the island, recommending cost sharing distribution by benefit, protection level and innovative combinations.

Preliminary design including offshore borrow source study and permitting were completed, followed by completion of the final design. An offshore borrow site was designed to provide the minimum fill requirements and future renourishment quantities. ATM negotiated the construction project with Great Lakes Dredge and Dock. Sand conveyance began with a construction schedule of approximately 45 days. The project involved placing over 1.4 million cubic yards of sand along the 18,000 ft of Daufuskie's Atlantic shoreline. ATM provided full-time site representation for the owner as well as detailed monitoring of the project post-fill.

