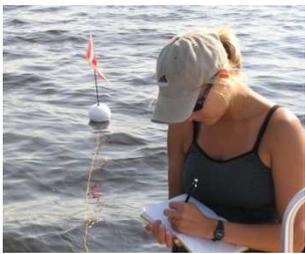


# MARINE & COASTAL *Services*



Birkitt Environmental Services, Inc. (Birkitt) has provided services for coastal and marine projects throughout Florida. Birkitt staff are experienced with integrating solid scientific assessment, specialized permitting knowledge, and an in-depth understanding of marine construction processes to ensure practicable and realistic permit conditions. Services have included assistance on complex marine and nearshore construction for natural gas pipelines crossing sensitive marine habitats, design of shoreline protection for rivers, marina and navigation channel siting, environmental impact assessments and permitting. Birkitt has served as Project Manager or Permitting Coordinator for large, complex, multi-disciplinary projects involving land and marine surveying, environmental assessments (coastal and deepwater), engineering, geotechnical, and archeological services working closely with project engineers and client teams to provide expedited permitting. Birkitt can also provide LEED accredited professionals to assist with green marina consulting services.

### ***Key Marine and Coastal Services Include:***

- State regulatory and proprietary permitting and approval processes
- Sovereign submerged lands easements, leases, consent to use, and exemptions
- Governor and Cabinet approvals
- Sections 404 (CWA) and Section 10 (River and Harbors Act) federal permitting
- NEPA compliance, EA, EIS documents and Essential Fish Habitat (EFH)
- Protected species, Endangered Species Act (ESA) consultation
- Water quality plans and variances for construction
- Public relations support for sensitive projects
- Oversight of hydrographic studies and engineering design
- Coordination with Federal Energy Regulatory Commission and Minerals Management Service
- Certified Marine Mammal and Sea Turtle FWC Observation

### **Green Marina Consulting Services include:**

- Site selection for impact minimization
- Water conservation practices and technologies
- Energy conservation recommendations
- Sustainable materials and resource usage

### **Marine and Coastal Experience includes:**

- Seagrass, benthic habitat, and coral reef/hard bottom assessments and mitigation
- Permitting for shoreline protection, docks and marine construction activities
- Marina siting, design, permitting, and estuarine mitigation services
- Essential Fish Habitat (EFH) assessment
- Marine mammal and fisheries surveys
- Manatee and sea turtle impact studies and protection plans
- Marine construction monitoring plans
- Water quality assessments and monitoring

*people and nature*

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# MARINE & COASTAL *Project Experience*

## ***Port Tampa Bay (PTB) Oyster Mitigation***

Birkitt is providing permitting and mitigation support to PTB for the relocation of oyster mitigation from a previously implemented oyster restoration effort near Berth 150 located in McKay Bay. Mitigation will involve construction of an 0.08 acre artificial oyster bar along the eastern tidal shelf of the Berths 151 and 152 Development mitigation site. This will replace a previously constructed oyster bar that was required as compensatory mitigation to offset impacts associated with dredging and construction activities associated with Berth 150. An ERP modification has been submitted. Additionally, Birkitt coordinated with Tampa Bay Watch and the Tampa Bay Estuary Program regarding the selection of the site and the design of the proposed oyster reef.

## ***Harborview Marina***

Birkitt provided a technical and permitting feasibility assessment and is providing permitting, environmental support, and marina design services for a proposed marina along the shoreline of the Peace River in Charlotte County, Florida. The proposed project included both a 25-30 acre private marina basin and a public boat ramp. Environmental consulting services included environmental permitting, threatened and endangered species evaluations, marine benthic community surveys, and biotic communities' assessments which were conducted to aid in the marina design. Extensive agency coordination with the Southwest Florida Water Management District and the U.S. Army Corps of Engineers was initiated.

## ***Tractebel Calypso Pipeline***

Birkitt provided services to obtain environmental permits (state, federal, and local), and assisted in the preparation of FERC Resource Reports, and environmental project management support for 95 miles of natural gas pipeline for the Tractebel Calypso Pipeline System. The proposed pipeline was proposed to begin at a LNG facility in the Bahamas and cross the Atlantic, making landfall at Port Everglades in Southeast Florida. The project involved issues associated with nearshore coastal waters, potential impacts to coral reefs and seagrasses, water quality impacts, and with traversing John U. Lloyd Beach State Park. State and Broward County permits were obtained and Governor and Cabinet approval for use of sovereign submerged lands was received.

## ***Private Marina & Resort – Taylor County***

Birkitt provided project management, environmental consulting services, and permitting services, including the oversight of engineering design and modeling and assessment of wetlands, seagrasses, threatened and endangered species, and biotic communities for a 650 acre marina and resort development project. The seagrass assessment involved an analysis of near shore areas including, aerial photographic interpretation, and detailed seagrass surveys; potential seagrass mitigation strategies were developed. The Environmental Resource Permit (ERP) and the Section 404/10 permit applications for the marina and associated development were submitted. The project has since been revised to a LEED certified 1,291 acre mixed use, town center and resort development community which will include a waterfront golf course.

## ***Gulfstream Natural Gas Pipeline***

Birkitt obtained all environmental permits and proprietary approvals (state, federal, and local) for the Florida portion of a 753-mile natural gas pipeline for Gulfstream Natural Gas System, utilizing the "team permitting" approach. The pipeline crossed the Gulf of Mexico, entering Florida at Tampa Bay and extending across the state. The project involved issues associated with hard bottom and seagrass impacts in nearshore coastal waters of Manatee and Hillsborough Counties. The use of habitat replacement modules as mitigation for land bottom impacts were negotiated and a water quality variance was obtained.

## ***Chula Vista Mobile Home Park Boat Basin Dredging and Dock Construction Project***

Birkitt provided permitting and mitigation support to Bloomfield-St. Petersburg Properties for approval to dredge and construct docks in a boat basin located along the Little Manatee River. Exemptions for dredging and dock construction were utilized and SWFWMD approval was received. Assistance was provided to obtain appropriate Tampa Port Authority and Hillsborough County Environmental Protection Commission (EPC) permits. Mitigation design for proposed impacts to the estuarine habitat from the dredging activities included a 5 foot wide mitigation littoral zone planted with red mangroves and black needlerush. Birkitt conducted the mitigation monitoring of the mitigation area.