

# DREDGED MATERIAL & MARSH CREATION

T. Baker Smith, LLC (TBS) has decades of experience providing professional engineering, surveying, and environmental solutions for the beneficial use of dredged material and marsh creation projects throughout coastal Louisiana. From maintenance dredging for drainage and access canals to mitigation and marsh creation projects, our project teams bring creativity and enthusiasm to these efforts with integrated project plans designed to expedite regulatory coordination and develop and restore ecosystems.



## MARSH CREATION SERVICE OFFERINGS

### + Planning

- Site Feasibility & Cost Analysis
- Master Plan Development
- Public Outreach Programs
- Land Right coordination
- Project Management Plans
- Project Schedules

### + Engineering

- Civil Design
- Structural Design
- Geotechnical coordination
- Coastal modeling
- Hydraulic modeling
- Construction Plans & Specs
- Adaptive Management & Monitoring Plan
- Value Engineering
- Cost Estimating

### + Construction Management

- Bid Packages
- Bid Evaluations
- Construction Stakeout
- Project Representation
- Construction Progress updates
- Request for Information
- Record Drawing Documentation

### + Environmental

- Federal, State, and Local Agency Permitting
- Due Diligence and Regulatory Compliance
- Environmental Monitoring and Inspection
- Protected Species Consultation
- Wetland Delineations
- Mitigation Planning and Monitoring

### + Surveying

- Control Monumentation
- Civil/Topographic
- Bathymetric/Hydrographic mapping
- Geophysical/Hazard Investigations
- Boundary/Alta
- Right of Way Mapping
- GIS Mapping



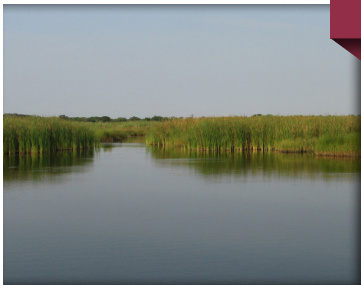
## East Island Marsh Creation Project (TV-21)

The East Marsh Island Marsh Creation Project (TV-21) was designed to re-create brackish marsh habitat in the open areas of interior marsh, primarily caused by hurricane damage. The original project consisted of material hydraulically dredged from East Cote Blanche Bay to be placed on Marsh Island into contained and uncontained areas. Containment dikes were constructed around the perimeter of Fill Area 1 and Fill Area 2 encompassing 183 acres and 178 acres, respectively. TBS was then tasked to provide permitting, engineering, and construction oversight of the one-year post-construction maintenance event to maintain the overall objectives of the marsh creation project. TBS designed a shoreline protection feature consisting of concrete mats to preserve and protect the shoreline from eroding and fragmenting a significant portion of the island. TBS also engineered the excavating of earthen plugs and embankments to promote hydraulic exchange between emergent marshes and wetlands. Another feature installed during construction were timber mats driven vertically to repair a containment dike breach. TBS engineered the removal of the mats for the maintenance event.



## Port Arthur LNG Liquefaction and Export Facility

Port Arthur LNG, LLC, an affiliate of Semptra Global, required environmental consulting services and professional regulatory services to construct and operate an LNG liquefaction and export facility. TBS assisted with regulatory compliance services and conducted the wetland delineation study required for the construction of the site. TBS is currently meeting and coordinating with regulatory agencies in the permit application process. TBS is also assisting in mitigation planning and coordinating the beneficial use of 2.5 million cubic yards of dredged material.



## Reach F Marsh Mitigation

Terrebonne Levee and Conservation District required engineering and consulting services to construct 110 acres of marsh platform in Sweetwater Pond between Four Point Bayou and LA Highway 57 in Dulac, Louisiana. TBS conducted extensive surveys, provided engineering design, and provided final construction specifications to help the client create a healthy, emergent marsh and shallow-water habitat. TBS biologists evaluated vegetative communities, collected elevation data at sample plots, and correlated elevation to species composition and health. Biologists used this data to recommend target marsh elevations and vegetative species likely to colonize and protect the marsh soil. The marsh creation project will employ approximately 1,650,000 cubic yards of material dredged from the nearby Houma Navigation Canal.



## Barrier Island Expansion and Marsh Creation

The goal for the Whiskey Island Back Barrier Marsh Creation Project (TE-50) was to increase the island's width, elevation, and structural integrity in an effort to protect human populations, oil and gas infrastructures, and wetland habitats in Louisiana. Although the initial restoration involved only the back barrier marsh, a dune feature was added so that the final project encompasses 316 acres of back barrier intertidal marsh. The project also includes three 1-acre tidal ponds to allow hydraulic exchange and circulation within the back barrier marsh; 5,800 feet of tidal creeks; and a 13,000-foot dune feature with sand fencing along the length of the island. Over 2,500,000 cubic yards of dredged material were used as fill for marsh and dune areas, which were planted with vegetation such as smooth cord grass. In addition, the dune is designed to reduce the frequency of over-wash and breaches, allowing back barrier marsh vegetation to establish and spread.

### LOCATIONS

Lafayette, Louisiana.....	337.735.2800
Baton Rouge, Louisiana.....	225.744.2100
Thibodaux, Louisiana.....	985.446.7970
Covington, Louisiana.....	985.302.0730
Metairie, Louisiana.....	504.323.3460
Houston, Texas.....	281.240.0113
Corpus Christi, Texas.....	361.334.5719
Galveston, Texas.....	409.220.1669

### CORPORATE HEADQUARTERS

412 South Van Avenue  
P. O. Box 2266 (70361)  
Houma, Louisiana 70363  
Tel: 985.868.1050



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more information

