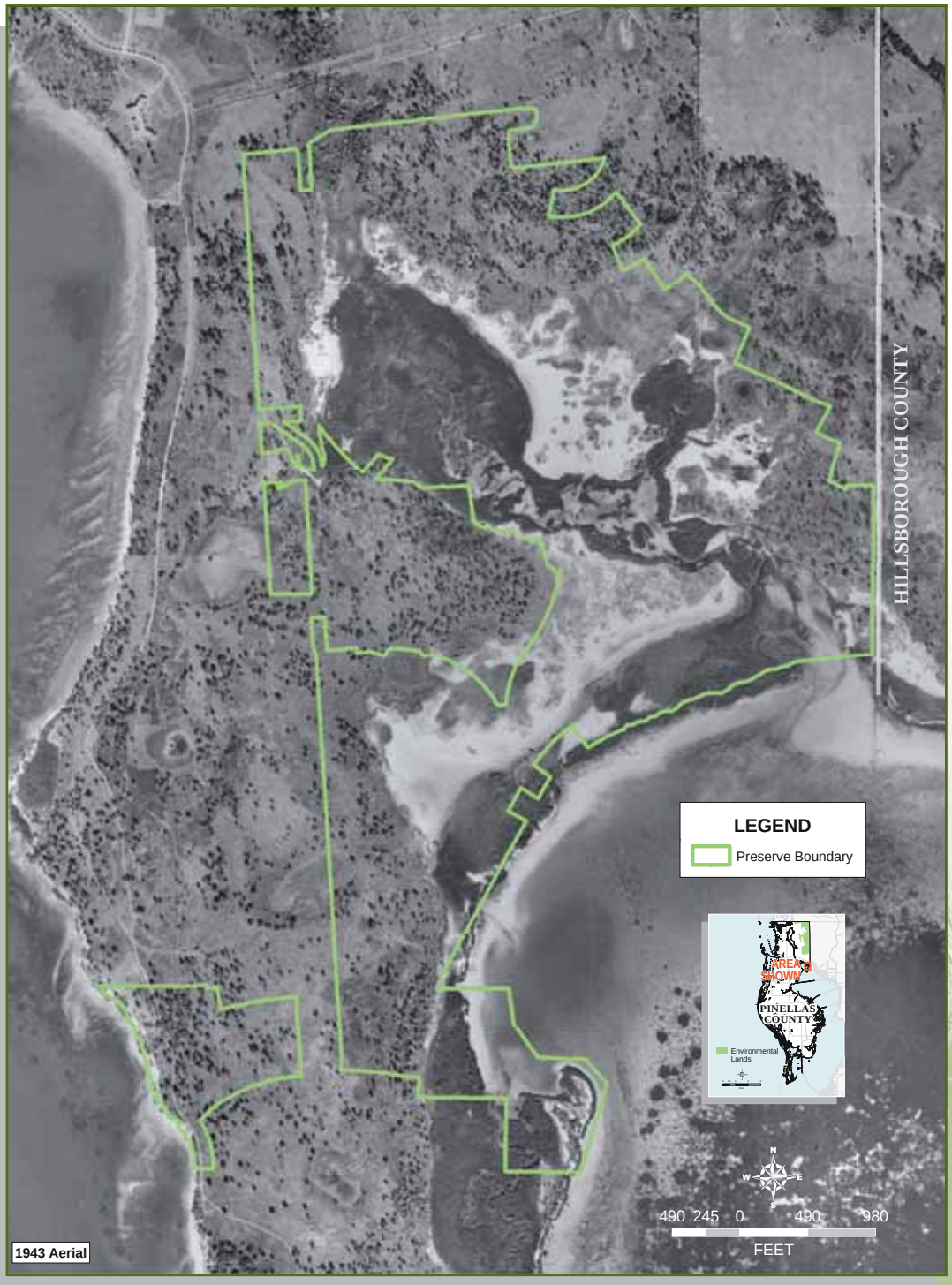
Mobbly Bayou Preserve:
Ecological Restoration Project

1943 Aerial View



For more information, visit ww.pinellascounty.org/environment

Pinellas County Environmental Management

Mobbly Bayou Preserve:
Ecological Restoration Project

2008 Aerial View

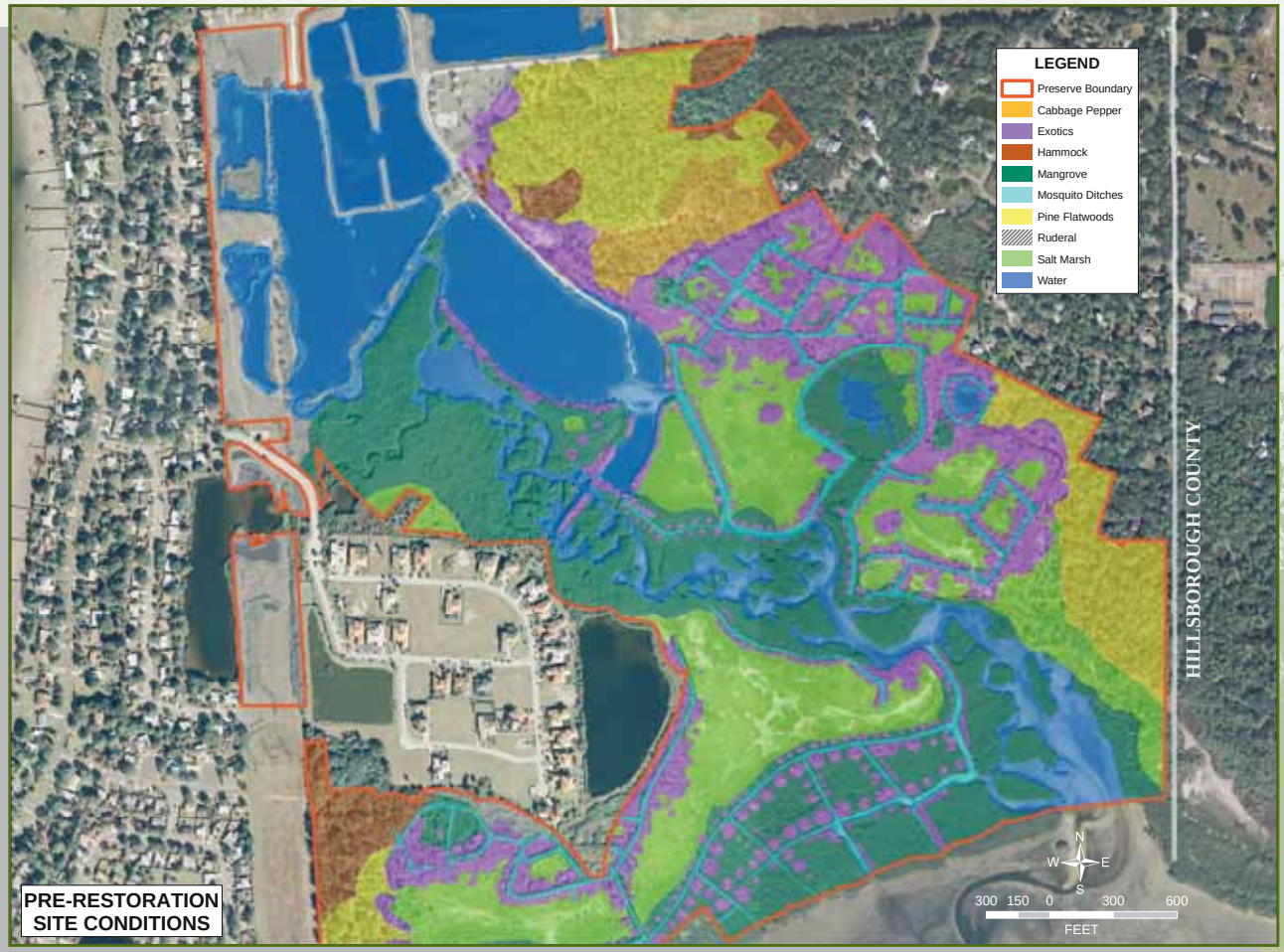
For more information, visit ww.pinellascounty.org/environment

Pinellas County Environmental Management

Mobbly Bayou Preserve:

Ecological Restoration Project

PRE-RESTORATION



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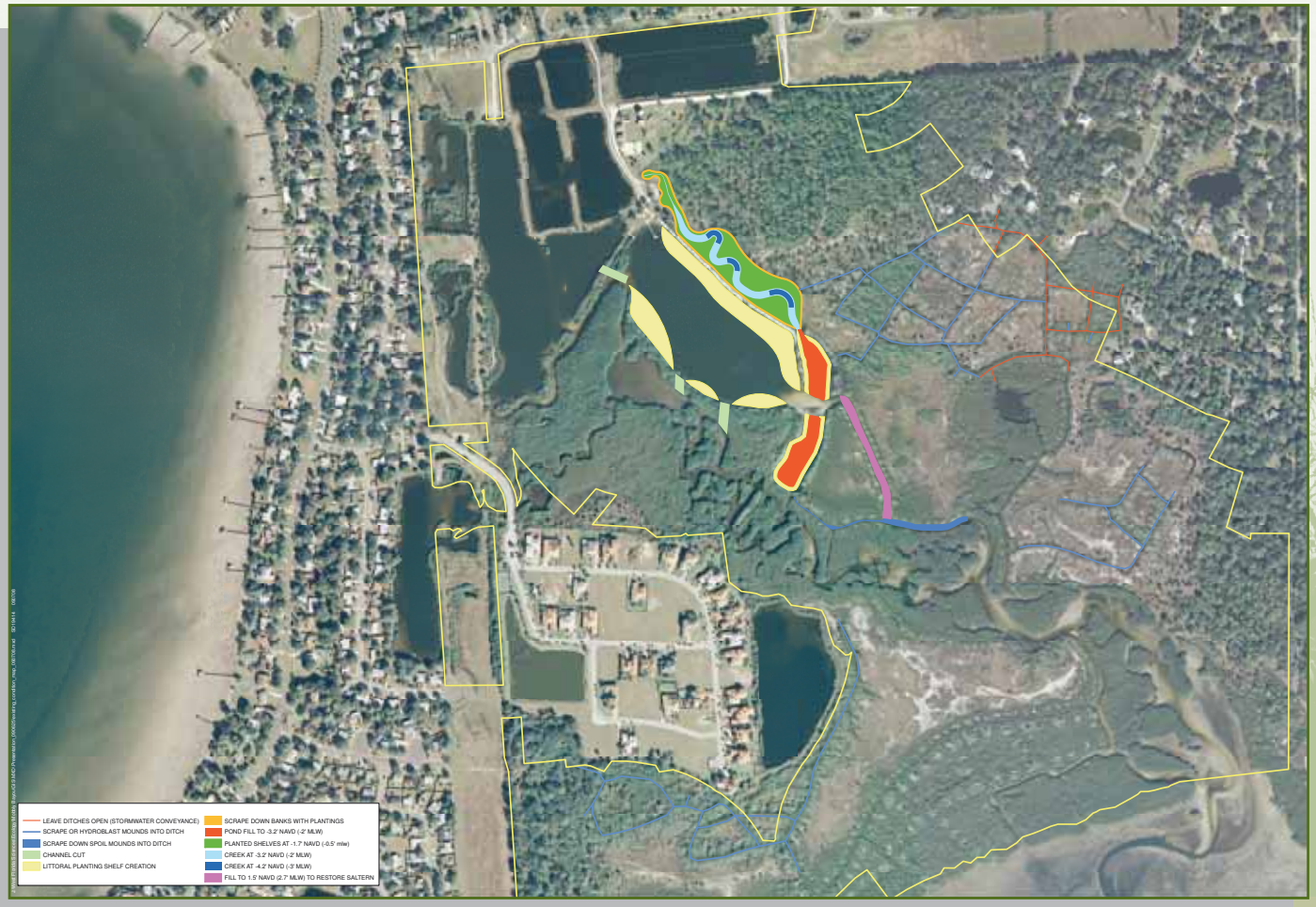
Pinellas County
ENVIRONMENTAL MANAGEMENT

Mobbly Bayou Preserve:

Ecological Restoration Project

Site Plan



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Pinellas County Environmental Management

Mobbly Bayou Preserve:
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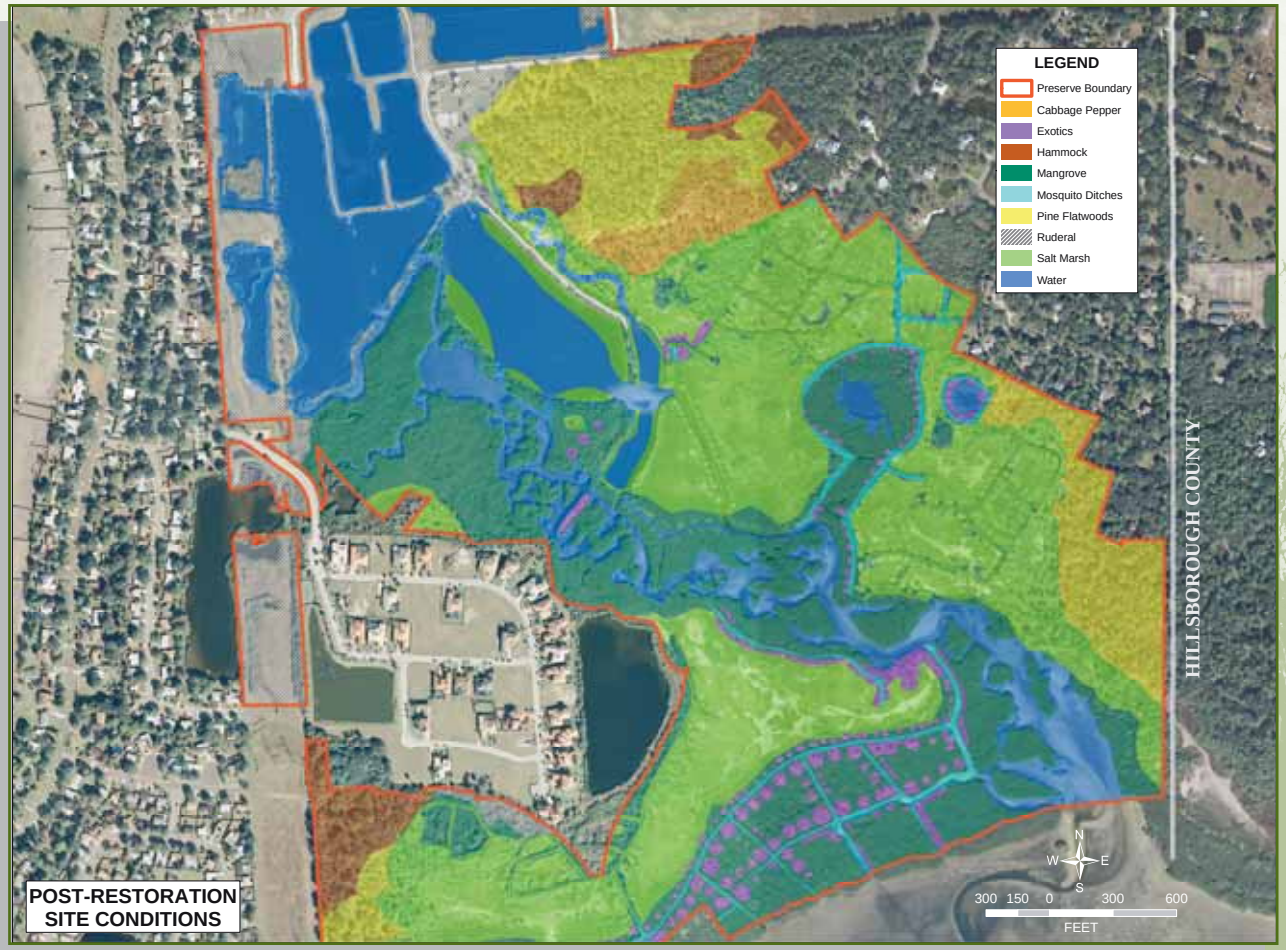
POST-RESTORATION



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Pinellas County
ENVIRONMENTAL MANAGEMENT

Mobbly Bayou Preserve:
Ecological Restoration Project

Similar Successful Projects, PBS&J, Inc.

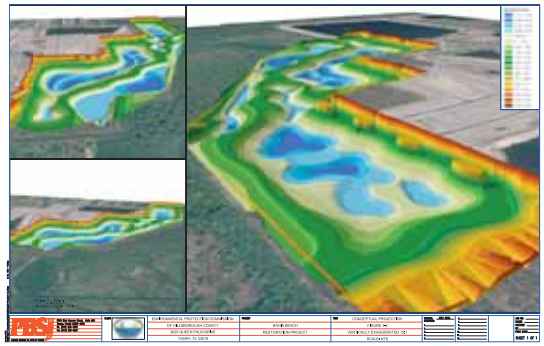
Bahia Beach Restoration
Hillsborough County, Florida

The Bahia Beach Restoration site was acquired by Hillsborough County in 2001 through the County's Environmental Lands Acquisition and Protection Program (ELAPP) for the purpose of implementing habitat restoration. The site is a 148-acre parcel located in southeastern Hillsborough County in Sections 1 and 2 of Township 32 South and Range 18 East, approximately 1.8 miles west of US 41 (Tamiami Trail). It is bounded by the Mira Lago development to the east, Shell Point road to the south, Doyle Campbell Memorial Park to the north, and the Bahia Marina Development to the west. Access to the site is along its southern boundary, from Shell Point Road.

The goal of the Bahia Beach Restoration Project is to create approximately 68 acres of oligohaline and freshwater marsh wetlands and to enhance approximately 80 acres of coastal hydric hammock, mangrove, and salt marsh habitat on the eastern shore of Tampa Bay. SWFWMD's SWIM Program is a cooperating agency in implementing this project. The project will provide compensation for future Florida Department of Transportation (FDOT) wetland impacts.

Historically, the site was a mixture of salt flats, mangrove swamps, coastal hydric hammock, freshwater wetland, and pine flatwoods habitat. Agricultural activities conducted on the site and the developments of adjacent parcels have altered the site to such an extent that restoration of historic habitats is not practicable. The site was a mixture of fallow groves, mangrove swamps, coastal hydric hammock, temperate hardwood hammock, and salt flats prior to the implementation of the restoration.

The project focus is on the creation of wetland and upland habitat within the footprint of the fallow grove. Native habitats on the site will be retained and enhanced. Wetland creation will provide a complement to the site's native habitats. Existing groundwater data, geotechnical investigations, and site-specific data were reviewed and analyzed to develop a conceptual restoration plan.



The major design elements of the restoration plan are the creation of freshwater and oligohaline wetland habitat within the fallow grove habitat. The north/south ditch was designed to be backfilled to provide some hydrologic restoration of historic sheet flow towards the west. The freshwater and oligohaline wetland habitat was designed as a cascading system that discharges overland to the west. A forested wetland system was designed along portions of the western boundary of the site. Upland areas were designed to provide buffers to the wetland creation area from the adjacent Mira Lago development and Shell Point Road. The natural areas west and north of the fallow groves will be enhanced through the treatment of nuisance vegetation. Access to the site will be through an equipment pick-up/drop-off point from Shell Point Road. An unimproved all-terrain-vehicle (ATV) trail will be incorporated along the western boundary of the site to provide maintenance access to the site. Also, fencing will be added to restrict access to the wetland creation area.

PBS&J tasks include surveying, habitat and wildlife assessment, site design, environmental construction, permitting from the Florida Department of Environmental Protection (FDEP) and U.S. Army Corps of Engineers, and special and right-of-way use permits from Hillsborough County for material removal from the site during wetland creation activities, and preparation of construction plans and bid documents.

The restoration activities will not return the site to historical predevelopment habitat conditions; adjacent developments and current conditions precluded this level of restoration. Instead, the project will convert fallow agricultural land to a created wetland to enhance existing adjacent mangrove and saltern wetlands that will provide the following, a buffer from nearby development to Tampa Bay; habitat for wetland-dependent wildlife; partial restoration of the historic sheet flow over the site; and creation of native vegetative cover.

With the project's implementation, a near continuous tract of coastal public lands, from Wolf Branch tract to the Bahia Beach Restoration site, will provide a natural buffer between Tampa Bay and adjacent upland developments. These public lands will provide corridors for wildlife migration, creating a mosaic of natural communities for wildlife. In addition, mitigation credits will become available for FDOT for public projects.

Client
Hillsborough County
Environmental Protection Commission
Environmental Restoration Department
3629 Queen Palm Drive
Tampa, Florida 33619

Client Contact
Laura Thorne
Environmental Scientist
813.627.2600, ext. 1081

Start and Completion Dates
December 2008 to July 2010

Total Fees
$150,000

Laborhours
1,591 (approximately)

Key Team Member Roles
L. Moris Cabezas, Ph.D., PE, BCEE, CFM - *Principal-in-Charge*
Ramon Mendieta - *Ecological Sciences Task Manager*
George Wise, PE - *Project Manager*

Sawgrass Lake Restoration
Pinellas County, Florida

The objective of Sawgrass Lake Restoration Project is to assess the contamination, sediments, water quality, and pollutant loadings to Tampa Bay; examine the feasibility of reclamation and remedial action alternatives; prepare a Remedial Action Plan (RAP) and the Sawgrass Lake Improvement Plan (SLIP); and develop and implement remediation and restoration actions. The project area is SWFWMD-owned land that includes a court-ordered easement from the Skyway Gun Club.

The project calls for remediation and reclamation of spent lead shot in the project area and water quality improvements to discharges from Sawgrass Lake to Tampa Bay. The project focuses on the removal of lead contaminated material from the lake and wetlands in the remediation area and the construction of a treatment wetland to reduce the pollutant loading to Sawgrass Lake.

The RAP addresses remediation for contamination in the project area, including dredging lake sediments, excavation of contaminated soils, recovery of lead shot for recycling, fixation of affected soils/sediments, and reuse of treated soil/sediment. An estimated 115,000 cubic yards of material will be excavated from the remediation area landward of the lake. Approximately 242 tons of lead shot can be expected to be found in the first 6 inches of each acre of material excavated, much of which may be recycled to alleviate some of the expense of the remediation.

Dredging the lake to a normal water depth of 6 feet will address the RAP requirements and water quality improvements outlined in the SLIP. Removal of approximately 73 acre-feet (104,000 cubic yards) of unconsolidated lake bottom sediments will reduce the export of pollutants to the water column, increase the permanent pool volume of the lake to 224.7 acre-feet, and increase the wet season residence time from 3.9 to 15.6 days. The lake pollutant removal efficiency for total phosphorus (TP), total nitrogen (TN), and total suspended solids (TSS) will be increased and pollutant load reductions are an estimated 343 kg of TP, 1,940 kg TN, and 91,011 kg TSS.

To date, PBS&J has completed the RAP, SLIP, and preliminary (30 percent) design plans and permitting for the conceptual plan selected by SWFWMD. PBS&J scientists and engineers are presently developing 60 percent design plans and permit applications and 100 percent design plans for submittal to SWFWMD in May 2009. Construction is expected to begin in the fall of 2009.

Client
SWFWMD
7601 US Highway 301 North
Tampa, Florida 33637-6759

Client Contact
Matthew Preston, PE
Surface Water Improvement & Management (SWIM) Program
813.985.7481, ext. 2200

Start and Completion Dates
December 2008 to January 2010

Total Fees
$600,000 (per project)

Laborhours
1,500 (approximately)

Key Team Member Roles
Pam Latham, Ph.D., PWS, CSE - *Project Manager*
George Wise, PE - *Project Engineer*
Melisa Reiter, PWS - *Permitting*
Andrea Martinez-Graves, PE, CFM - *Hydrologic Analysis*

For more information, visit www.pinellascounty.org/environment

Pinellas County Environmental Management