



Greater Pine Island Civic Association



PROTECTING THE SAFETY, HEALTH, WELFARE AND QUALITY OF LIFE OF THE GREATER PINE ISLAND COMMUNITY

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South Florida Water Management District
2301 McGregor Boulevard
Fort Myers, FL 33901

December 9, 2007

Reference: Willow Lake Restoration Plan

Sir:

On December 9, 2007, the Greater Pine Island Board of Directors by unanimous vote adopted the below comments as regards the restoration plan submitted by the landowner for Willow Lake.

The restoration plan as proposed has some good attributes. In fact, it appears to do a good job of restoring historic water flows. However, it is fundamentally flawed in that it proposes to replace a 6 to 7 acre swamp (plus some 2 acres of surrounding wetlands) with a farm pond of 1.45 acres (plus 1.52 acres of upland buffer). A farm pond is not a satisfactory substitute for a swamp.

Willow Lake swamp consisted of some six to seven acres of very old and rugged swampland. Much of the bottom was pock marked with islands and stump areas too numerous to count. The islands during the dry season were generally above water, but rafted with debris that indicated that some of them were under water during the wet season. The water level was controlled by a spillway to the mangroves to the west, and the contours of the swamp and islands need to be re-established relative to the spillway so as to provide not more than 3 or 4 feet of water depth during the rainy season.

The portion of the swamp that was under deeper water the entire year was generally covered with a dense willow thicket. Planting *Salix caroliniana* as a replacement is reasonable, but there was no buttonwood in the swamp and that is not a suitable substitute. It is unlikely there was any cordgrass in the swamp either.

The islands in the swamp were covered with oaks frequented with bromeliads. Under the oaks were a wide variety of ferns and mosses. It is unlikely that the oaks were laurel oaks, given the towering live oaks located in the nearby (also recently destroyed) uplands. To restore the islands correctly, it will be necessary to replant live oaks, swamp ferns, royal ferns, and leather ferns (the latter a protected species well established in this swamp), plus whatever mosses suitable for swamps that can be obtained. A sampling of bromeliads should be provided after the oaks become established.

It must be recognized that it is impossible to actually recreate an entire freshwater swamp ecosystem that was constructed by mother nature over thousands of years. To compensate for the loss in quality, the acreage of the swamp should be increased by a factor of at least five; the restored swamp area should consist of at least 30 acres. That acreage could be greatly reduced if ways can be found to more accurately reproduce a freshwater swamp, and experts should be consulted for that purpose (there are

several in this area).

The swamp was surrounded by a wetland area of some two acres. Consequently, the proposal to establish a 1.52-acre buffer area needs to be increased to two acres. The proposed vegetation is suitable except that the oaks should be live oaks instead of laurel oaks. Buffer areas are not particularly difficult to recreate, and no acreage increase factor should be necessary.

The same buffering comments also apply to the proposed buffer around the borrow pit created to obtain fill, except the proposed 25 foot buffer needs to be increased to 50 feet to comply with Lee County Land Use Plan requirements for protection of wetlands on Pine Island.

The restoration plan shows a drainage ditch to the east connecting to Stringfellow Road. Before the destruction of the area, the location where the proposed restoration plan shows a drainage ditch was the easternmost portion of the swamp and consisted largely of a large swale that should be restored. The swale was very wide and hydric (but generally free of open water and had little vegetation except on its higher slopes). It was connected to Stringfellow Road by a short drainage easement held by Lee Department of Transportation.

Some provision also must be made for an initial irrigation system and for otherwise assuring a minimum survival rate of the plantings. Another review to agree on numbers and sizes of plants should be conducted after the above issues are properly addressed.

The dirt used to fill the swamp was obtained from a borrow pit created on the edge of the mangroves. Before any planting is conducted, that soil needs to be tested for salinity to ensure it is compatible with the proposed plantings.

Once the proper habitat has been established, breed stocks of finfish, crawfish, frogs, snails, etc. should be reintroduced.

Thank you for allowing us to comment. We appreciate the hard work of you and your staff on this matter.



Cathy Hendrickson
President

Copies by email to:
ACOE
DEP
Lee County Commissioners and Staff