

SWEETWATER WETLANDS PROJECT, PART 2: DESIGN, CONSTRUCTION, AND OPERATION

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The Sweetwater Wetlands project provides a cost-effective, comprehensive approach for improving water quality, restoring wetlands, and reducing nutrients and other pollutants from a 2,100-acre urbanized watershed in Gainesville, Florida. The project was completed in 2015 and is located adjacent to the Paynes Prairie Preserve State Park, which is an Outstanding Florida Water. Part 1 of this presentation provided the problem description and development of project criteria. This part addresses the design, construction, operation, and performance of the project.

Sweetwater Branch flows through urban area Gainesville and discharges to Paynes Prairie. Historic flood control activities had rerouted the flow from Sweetwater Branch to Alachua Sink, a 4 acre lake that discharges via sinkhole to the Floridan Aquifer. The hydrology of 1,300 acres of wetlands was disrupted. Urbanization of the Sweetwater Branch watershed resulted in increased nutrient loads from wastewater discharges, stormwater runoff, and septic tanks. In response to water quality concerns in Alachua sink, a Total Maximum Daily Load was established in 2006, which set regulatory requirements for reducing nutrient loads from sources within Sweetwater Branch and other watersheds flowing to Paynes Prairie.

The project was developed through a partnership between the City of Gainesville, Gainesville Regional Utilities, Florida Department of Environmental Protection, and several stakeholders as a comprehensive approach to meet several environmental goals. The project includes sediment and trash removal facilities, 125 acres of enhancement wetlands, and public access facilities. The project accomplishes the following:

- Improved water quality in Alachua Sink;
- Achievement of regulatory requirements for reducing nitrogen and phosphorus from the watershed;
- Hydrologic restoration of 1,300 acres of wetlands in Paynes Prairie;
- Enhanced wildlife habitat;
- Creation of a public park; and
- Interception and removal of trash, sediment, and other pollutants.

This presentation describes the project concept, design and construction, and water quality performance data.

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