



Volusia County Advanced Wastewater Treatment for the Protection of Blue Springs Water Quality and Supply



Volusia County Water Resources and Utilities division is pleased to partner with the Florida Department of Environmental Protection (DEP) and the St. Johns River Water Management District (SJRWMD) for the construction of advanced wastewater treatment and increased reuse capacity at the Southwest Regional Water Reclamation Facility, in DeBary, FL. The three agencies will contribute a combined \$12.7 million for facility upgrades in order to help to reduce nutrient levels in Volusia Blue Spring.

Background

Volusia Blue Spring, the largest first-magnitude spring on the St. Johns River, discharges an average of 102 million gallons of water each day. The springshed covers an area of 130 square miles and encompasses portions of five cities (Deland, Orange City, DeBary, Deltona, and Lake Helen) and unincorporated Volusia County.

U.S. Environmental Protection Agency (EPA) verified Blue Spring was impaired for nutrients, meaning that increased nutrient concentrations were causing an imbalance in natural populations of aquatic plants and animals. In July 2014, the DEP adopted new water quality standards for Blue Spring. The new standards referred to as total maximum daily load (TMDL) have been established to improve and protect overall water quality.

Project Description

The advanced wastewater treatment and reuse project calls for both treatment process and technology upgrades at the Southwest Regional Water Reclamation Facility enabling additional removal of nitrogen and phosphorus from effluent water used for reclaimed supply and recharge. In addition, the treatment capacity will be increased from 1.7 million gallons per day to 2.7 MGD.

The County will upgrade to a 5-stage nutrient removal process compatible with the existing treatment processes at the facility and proven to be highly reliable and energy efficient.

Earlier this year, the County decommissioned its Four Towns wastewater facility and redirected the wastewater flow to the newer and more efficient Southwest Regional Water Reclamation facility for treatment. This strategy was determined more efficient and cost effective rather than investing in advanced treatment at two separate facilities.

Note: See full report of Volusia County Water Quality Plan at www.volusia.org/waterqualityplan.

Environmental Benefits

This project is considered “cornerstone” for an improved water quality strategy for Blue Spring as it provides the dual benefit of reducing pollution while also increasing alternative (reclaimed) water supply.

The consolidation of wastewater flow to one treatment facility has immediately produced an additional 220,000 gpd of alternative water supply (reclaimed) which helps reduce reliance of potable water for irrigation purposes within the springshed.

Upon completion of the project, the improved level of wastewater treatment is expected to result in the reduction of 27,000 pounds per year of total nitrogen and 14,000 pounds per year of total phosphorus in the Blue Spring springshed.

Increased treatment capacity of 1.0 MGD accommodates added flow from the Four Towns facility as well as increased flow from the future conversion of existing septic tanks located in critically sensitive areas of the basin.

Project Timeline

Construction is expected to commence in Spring 2016 and take approximately 18 months to complete.

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