

Population Growth Calls for New WWTP

Location: Jacksonville, Fla.
Owner: Jacksonville Electric Authority
Designer: DAVCO, an Evoqua brand
Contractor: DAVCO, an Evoqua brand
Manufacturer: DAVCO, an Evoqua brand
Cost: \$2.5 million
Size: 600,000 gpd



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St. Johns County, Fla., is the fastest growing county in the U.S., according to the county government. Its recent exponential growth called for new housing developments, which put a strain on the existing wastewater treatment plant (WWTP). The ultimate goal for the Jacksonville Electric Authority (JEA)—the owner and operator of the area’s WWTP and one of the largest water and wastewater utilities in the U.S—is to expand the Blacks Ford Water Reclamation Facility (WRF) from 3 million gal per day (mgd) to 6 mgd. JEA installed a WWTP to meet the additional treatment requirements until construction is completed.

“Due to the time constraints of needing to get additional treatment

capacity online as soon as possible, the decision was made to purchase reconditioned equipment,” said Ryan Popko, project manager for JEA. “The amount of time to build a new plant, including engineering and manufacturing, far exceed the delivery time on the purchase of a reconditioned plant. ... Another benefit of purchasing a used plant is that the cost was approximately 50% that of a new plant.”

JEA selected Evoqua Water Technologies’ DAVCO five-stage steel field-erected biological WWTP and a Gravisand traveling bridge filter to meet tertiary filtration requirements. The WWTP has a capacity of 600,000 gal per day. According to Popko, the project also included plant design, permitting,



project management, foundations, steel tankage, blowers, controls, field erection, field painting and commissioning labor.

During construction, JEA and Evoqua managed several challenges. To avoid area traffic and the heat, the concrete pour for the field-erected treatment plant began at 2 a.m. In addition, the crews had to contend with many rain delays. Despite these challenges, the schedule and budget were met for the project. In fact, the schedule was shortened due to the DAVCO products utilized, and was



completed in 109 fair weather days. This quick installation allowed housing developers to move residents into their

new homes as they were built.

“The primary reason this project was successful and completed in a short time frame was because of the management and coordination to get all the parties involved on the same page,” Popko said. “Coordination between Evoqua and JEA’s internal departments, including engineering, operations and procurement, was seamless.”

This part of the overall project cost approximately \$2.5 million. After the WRF expansion is complete, the DAVCO equipment will be repurposed in other JEA facilities. 🌱