Outlook

"Your project. Our passion."

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JOHNSON ENGINEERING

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U.S. SUGAR CONTINUES TO REFINE SUGAR DISTRIBUTION

Construction is currently underway at the SCFE's Childs Siding loading facility to improve the efficiency of transporting harvested sugarcane from the fields to the refinery.

The production of food staples and how they actually make it onto our tables is one of the most important and most overlooked aspects of our daily lives. Similarly, freight and rail transportation is not commonly contemplated here in Florida, often dismissed as an application used only in heavy industrial areas and big cities up north. Did you know that U.S. Sugar Corporation (USSC) and their short line railroad subsidiary, South Central Florida Express (SCFE) railroad, have been utilizing delivery by rail to help produce the sugar we consume in an efficient and environmentally friendly way for years, right here in our own backyard? The Childs Siding loading facility in Highlands County is SCFE's most recent example of a modern application of a traditional mode of transportation aimed at improving our everyday lives.

The SCFE's Childs Siding loading facility in Lake Placid will get a new loading ramp, like that above, to easily load freshly harvested sugarcane into waiting rail cars to haul it to U.S. Sugar's mill in Clewiston.

Named after Lake Childs, the original name of the what we now know as Lake Placid, the Childs Siding is an existing railroad siding on SCFE's track in Highlands County. Improvements were recently initiated to reconstruct a 4,000 ft. long railroad siding and construct a new loading ramp with a mechanical "elevator" and truck ramp. The purpose of this facility is to load sugarcane as it is harvested from nearby cane fields into waiting rail cars so that it may be hauled in mass quantities down to U.S.

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In This Issue:

PEOPLE & PROJECTS: *ON THE MOVE*

John Glenn, P.E. transportation project engineer, has successfully earned his Professional Engineering License from the Florida Board of Professional Engineers.

Jordanne Brady successfully completed the Landscape Design Process training at Rain Bird Academy and intends to take the exam to become a certified irrigation designer in 2018.

Alfredo Perez, P.E. water resources project engineer, has successfully earned his Professional Engineering License from the Florida Board of Professional Engineers.

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Sugar's mill in Clewiston. Given the sheer volume of cane moved in just a single season, transport by rail is by far the most efficient means of delivery.

In addition to the added operational efficiency, rail transport is one of the most environmentally responsible methods of delivery. A single train from this facility can carry as much as sixty tractor-trailers. That is sixty less tractor-trailer round trips traveling on U.S. 27 between Lake Placid and Clewiston for every train. The net result in any given year is hundreds to thousands fewer truck trips, less wear and tear on our roads, and considerably less fossil fuel consumption. The Florida Department of Transportation (FDOT) realized this regional benefit and provided grant funding to assist in the project. As an added environmental benefit, the project also utilized steel ties in lieu of the traditional timber ties. In addition to conserving timber resources, steel ties last up to five times as long as timber ties in this climate and are 100% recyclable at the end of their useful life.

Earthwork was a challenge given the existing terrain. Over 30,000 CY of soil was moved in a matter of weeks.

Of course, many things worth doing are not easy. The site design was no exception and presented considerable challenges. A problem not typically faced in south Florida, the design team had to come up with 4,000 ft. of flat ground for the track bed so that waiting train cars don't roll away. With 15 ft. of natural grade differential (Highlands County is named as such for good reason) across the project limits, tremendous planning and considerable earthwork was needed in developing the site grading and rail geometry.

Together the SCFE and Johnson Engineering design team came up with a layout that utilized existing right-of-way to the maximum extent with minimal adjacent property impacts. The project resulted in zero impacts to a nearby wetland habitat and no impacts to any protected animal species were incurred. In fact, the overall improvements also included a cascading series of dry retention treatment ponds to provide full water quality treatment for rainfall runoff for an area within an impaired watershed that previously received no treatment.

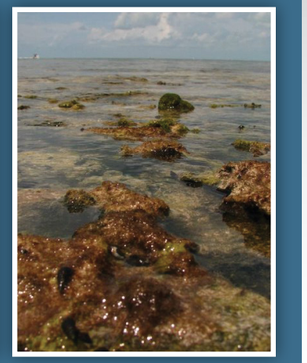
The prime contractor, R.W. Summers, recently finished construction of the site and rail improvements, moving over 30,000 CY of soil and constructing nearly a mile of new rail in only a couple months. As SCFE staff adds the finishing touches this facility will very soon be up and running. The Childs Siding project is a great example how farmers, engineers, and contractors can work together, applying a traditional method in a not-so-traditional fashion, to overcome challenges and not just maintain the comfortable lifestyles we take for granted but improve upon the environment we hand over to our children.

For more information, contact Ryan Bell, P.E., PTOE at 239.461.3310 or rbell@johnsoneng.com. ■

OYSTER MAPPING IN THE ST. LUCIE ESTUARY

Johnson Engineering was selected by the South Florida Water Management District (SFWMD) to conduct an oyster habitat mapping project in the St. Lucie Estuary. The mapping, slated to begin in early 2018, will be conducted as part of the RECOVER program under the Comprehensive Everglades Restoration Plan (CERP). The RECOVER (REestoration, COordination & VERification) program comprises a multi-agency team that provides scientific and technical evaluations and assessments for improving CERP's ability to meet its goals and purposes.

The Northern Estuaries Module of RECOVER includes estuaries on both the gulf and east coasts of Florida. The four east coast estuaries include the St. Lucie Estuary, the South Indian River Lagoon, the Loxahatchee River Estuary, and Lake Worth Lagoon. Water and sediment quality are being affected in these systems from urbanization of the coast. Sea level rise is also a factor affecting the ecology of the estuaries.



Conceptual ecological models have been developed for the various estuaries, from which hypothesis clusters have been derived. These clusters have identified sets of indicators that can be used to evaluate restoration progress. One such cluster is oyster health and abundance. Water quality has been identified as a primary factor for the Northern Estuaries. The oyster monitoring component of RECOVER aims to understand changes in flow and salinity and how each affects the estuaries over time. Oyster living density varies considerably along salinity gradients. Therefore, by periodically mapping the area of oyster coverage in the estuaries, and estimating living density, we can better understand how watershed changes impact oyster populations over time, and provide a means by which restoration success can be evaluated.

This project will be part of resource mapping in the estuaries to track landscape changes in benthos and assess the effectiveness of CERP restoration projects. Johnson Engineering has teamed up with experts in the field for this intricate project. Smart-Sciences, Inc., Florida Oceanographic Society, and Land & Sea Surveying will each play a pivotal role in making this project a reality.

For more information, contact Jessica Ward at jward@johnsoneng.com. ■

COMMITMENT TO EDUCATION

At this year's Florida Gulf Coast University President's Scholarship luncheon, one of our development design team members, Lenroy Cammock, was recognized as the 2017-18 recipient of the Johnson Engineering Endowed Scholarship.

In 2005, we established the Johnson Engineering Scholarship Endowed Fund, which benefits FGCU students who are majoring in civil or environmental engineering in their pursuit of higher education.

Our long-standing history with the University started in August of 1997 with the first ground-breaking. Many FGCU students have interned at our firm during their summer breaks and most were hired as full-time employees once they graduated. Today, 10% of our employees are FGCU alumni and interns who bring fresh ideas and experiences to the company. ■

Johnson Engineering's Dana Hume and Lenroy Cammock at the FGCU President's Scholarship luncheon.

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SUSTAINABLE FORESTRY INITIATIVE PEFC

CITY OF FORT MYERS CRA RECEIVES STATEWIDE EXCELLENCE AWARD

At the 2017 Florida Redevelopment Annual Conference, the City of Fort Myers Community Redevelopment Agency (CRA) was recognized for excellence when it won the Capital Projects & Beautification award. The award recognized the innovative design for their Cleveland Avenue Offsite Stormwater Credits Program.

The Fort Myers CRA has been working on revitalizing approximately 3.5 miles of Cleveland Avenue from downtown Fort Myers southward. Working together with Johnson Engineering, they had had the insight to make the service area for the City's credits bigger than just the Cleveland redevelopment area. They collaborated with the City's coinciding golf course stormwater retrofit project, building additional water treatment and storage within the course. The result was a stormwater mitigation bank that not only provides a nutrient-removal system to help improve water quality in the Caloosahatchee River, it also services as an incentive for developers to use these offsite credits, in lieu of building their own onsite treatment systems.

This is one of the earlier municipal offsite credit bank ever permitted by South Florida Water Management District. Due to its success, the City and the CRA can now work together to expand the program in the future to help revitalize other areas throughout the City.

For more information, contact Andy Tilton, P.E. at 239.334.0046 or atilton@johnsoneng.com. ■