

# FWEA Manasota Chapter

Vol 22 – May 2015

## Message from the Steering Committee

*By Manasota Chapter Vice Chair  
Michael Knowles, PE, Greeley and Hansen*

Spring has sprung, and the Manasota Chapter continues to flourish. Thanks to its members, leaders, and sponsors.

The March 12<sup>th</sup> Manasota Luncheon was a success! Thanks go out to Mark Hammond, *SWFWMD Resource Management Division Director*, for the excellent presentation on Senate Bill 536 and how it impacts the reuse system. Thanks to everyone who came out to participate.

On a lovely spring evening on April 23<sup>rd</sup>, Steering Committee members gathered in the breezeway of the Polo Grill for a brief meeting and appreciation social. It was a wonderful way for the committee to converse and share stories of the past year's events, activities and accomplishments, and gear-up for the upcoming fiscal year's activities.

In other extremely exciting news, the Manasota Chapter would like to congratulate Chair Lindsay Marten who was named the *2015 FWEA Young Professional (YP) of the Year!* The award is truly a testament of Lindsay's hard work and dedication. As YP of the Year, Lindsay will represent the State at the Water Environment Federation (WEF) YP Summit in San Diego in 2016. Congratulations, Lindsay! We are very proud of you and your accomplishment.

*Lindsay Marten at the FWRC Awards Luncheon accepting the 2015 Young Professional of the Year Award.*



The Manasota Chapter had great member representation at the Florida Water Resources Conference (FWRC) held May 3<sup>rd</sup> - 6<sup>th</sup> at the Caribe Royale Resort in Orlando. Among the attendees were Danielle Bertini, Jeff Goodwin, Kyle Kellogg, Mike Knowles, Lindsay Marten, Samantha Nehme, Chuck Hlavlach, and Julie Karleskint. While at the Conference, Samantha and Julie judged the Student Design Competition that was spearheaded by Danielle. Congratulations to the Student Design Competition winners: University of South

*Danielle Bertini, Lindsay Marten, Kyle Kellogg, and Samantha Nehme represent the Manasota Chapter at the Students and Young Professionals social at FWRC.*



Continued from page 1

Florida - Wastewater and Florida Gulf Coast University - Environmental! Fantastic job!

Thanks to the generous support from our sponsors in the 2014-2015 fiscal year, the Manasota Chapter is again able to contribute funds to the Booker High School STEM Program. On May 19<sup>th</sup>, Lindsay Marten, Kyle Kellogg, and Samantha Nehme will present \$500 to the STEM Program.

We are all looking forward to the upcoming luncheon on Tuesday, June 9<sup>th</sup>, 2015 at the Sarasota County Operations Center (BOB Building). Glenn Richter, Senior Project Manager for the Sarasota County Public Works Department, and Guy Le Patourel, Regional Business Leader for Stantec Consulting, will present *Building Resiliency by Relocation of Siesta Key AWWTP*. June 3<sup>rd</sup> is the last day to pre-register! Reserve your seat today by going to [www.fwea.org](http://www.fwea.org) or by contacting Linda Maudlin [lmaudlin@greeley-hansen.com](mailto:lmaudlin@greeley-hansen.com).

Open your calendars and save the dates for the upcoming events: **July 16<sup>th</sup>** - FWEA and AWWA will host a joint summer social at the new Mandeville Beer Garden in downtown Sarasota from 5:30-7:30 p.m.; **October 16<sup>th</sup>** - FWEA Manasota Chapter will host its first ever Clay Sport Shooting Event at Sarasota Trap, Skeet & Clays. Additional details for both events will be coming soon.

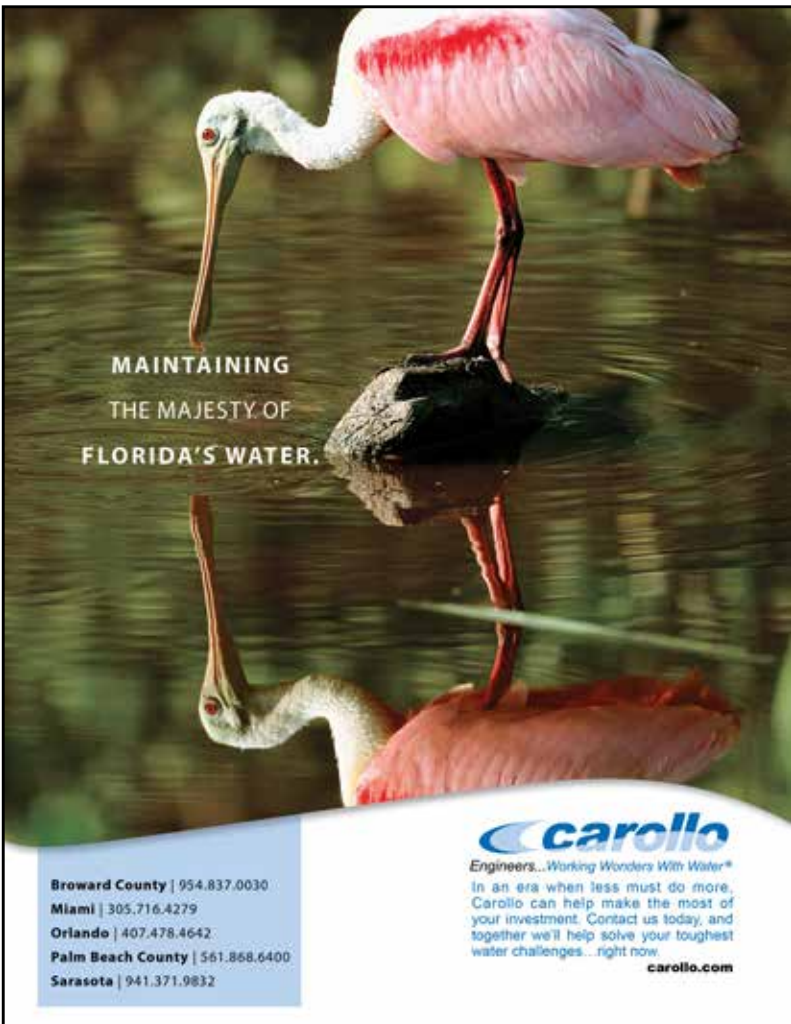


**GREELEY AND HANSEN**  
Celebrating 100 YEARS: Quality · Vision · Future


designing better urban environments worldwide

[greeley-hansen.com](http://greeley-hansen.com)    

water wastewater solid waste infrastructure



MAINTAINING  
THE MAJESTY OF  
FLORIDA'S WATER.



**carollo**  
Engineers...Working Wonders With Water®  
In an era when less must do more, Carollo can help make the most of your investment. Contact us today, and together we'll help solve your toughest water challenges...right now.  
[carollo.com](http://carollo.com)

**Broward County** | 954.837.0030  
**Miami** | 305.716.4279  
**Orlando** | 407.478.4642  
**Palm Beach County** | 561.868.6400  
**Sarasota** | 941.371.9832



**Shaping the Future**

Consulting Engineering Services

- Water Supply
- Wastewater
- Reclaimed Water
- Water Resources

380 Park Place Blvd, Suite 300  
Clearwater, FL 33759  
727.531.3505

22 Sarasota Center Blvd.  
Sarasota, FL 34240  
941.377.9084



**evoqua**  
WATER TECHNOLOGIES

For Full-Service Liquid-Phase and Vapor-Phase Odor and Corrosion Control Contact:

**Vaughan Harshman, P.E.**  
Technical Sales Representative  
Tel: (941) 928-0453  
Email: [james.v.harshman@evoqua.com](mailto:james.v.harshman@evoqua.com)

[www.evoqua.com](http://www.evoqua.com)



# Calendar of Upcoming Events

## MAY

- 3-6** Florida Water Resources Conference, Lake Buena Vista
- 3** FWEA Board of Directors Meeting, Lake Buena Vista
- 6** FWEA Utility Council Annual Meeting, Lake Buena Vista
- 13** FES Myakka Chapter Luncheon, Sarasota
- 16** ASCE Suncoast Golf Tournament, Bradenton
- 17-23** National Public Works Week
- 19** FWEA Manasota STEM Donation at Booker High School, Sarasota
- 20** FSAWWA Region IV and X Water Loss Control Workshop, Seffner
- 21** ASCE Suncoast Luncheon, Sarasota
- 28** FWEA West Coast Chapter Luncheon, Tampa

## JUNE

- 9** FWEA Manasota Chapter Luncheon, Sarasota
- 26** FES Myakka Awards Banquet, Bradenton

## May

SUN	MON	TUE	WED	THU	FRI	SAT
					1	2
3	4	5	6	7	8	9
10	11	12	13	14	15	16
17	18	19	20	21	22	23
24	25	26	27	28	29	30
31						

## June

SUN	MON	TUE	WED	THU	FRI	SAT
	1	2	3	4	5	6
7	8	9	10	11	12	13
14	15	16	17	18	19	20
21	22	23	24	25	26	27
28	29	30				



Save the Date!!



**FWEA 1<sup>st</sup> Sporting Clay Shoot**

Friday October 16, 2015



Stay Tuned for More Information!



# Summer Social

Come and Join us for FWEA Manasota Chapter and  
FSAWWA Region X Joint Summer Social!!

July 16th, 5:30 PM - 7:30 PM

**Mandeville Beer Garden**

428 N. Lemon Avenue, Sarasota, FL 34236

RSVP to Mike Nixon: [mnixon@mckimcreed.com](mailto:mnixon@mckimcreed.com)

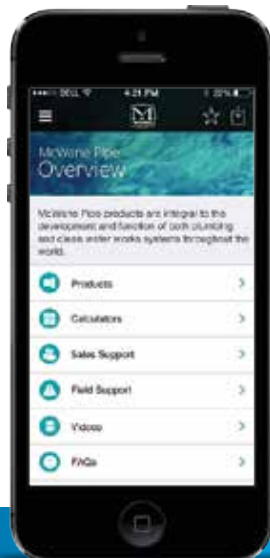
Member are free, Non-members are \$10.



Try the latest **McWane Pocket Engineer™**. We have taken our innovative application to the next level.

Version 2.0

- ▶ Peruse the entire family of McWane waterworks companies
- ▶ Access product information, submittal data, installation guides and more
- ▶ Calculate volume, tonnage, thrust restraint, energy savings and more
- ▶ Search and view sales support listings
- ▶ Submit photos and information for field support
- ▶ Watch informational videos



Go to the [App Store](#) or [Google Play](#) to download the FREE app today, or access it online at [pe.mcwane.com](http://pe.mcwane.com).



For Generations

## ***RENEW YOUR SPONSORSHIP!***

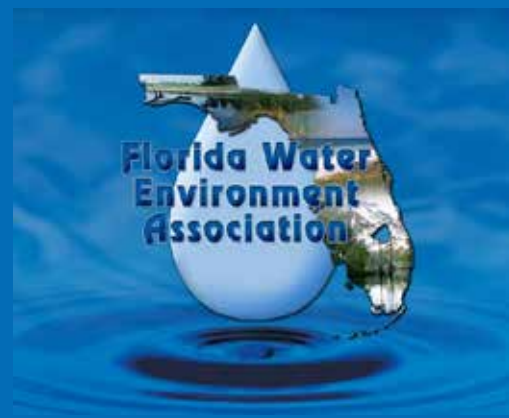
Maintain your company advertisement in the Manasota newsletter and continue to show your support of our organization.

*Contact*

*Mike Jankowski at 941-708-7450 (ex 7663)*

*OR*

*Laura Baumberger at 941-371-9832*



# Consultant Corner: Backyard BNR

## Florida Onsite Sewage Nitrogen Reduction Strategies Study

By Damann L. Anderson, P.E. and Josefin E. Hirst, P.E. - Hazen and Sawyer

Approximately 25 percent of the U.S., and 30 percent of Florida's population relies on onsite wastewater systems (OWS) for wastewater treatment. Nutrient loading from many sources including OWS has received increased attention from water quality regulators and the public in many watersheds. Nitrogen in particular is an important nutrient of concern for water quality, and nitrate-nitrogen represents perhaps the most common groundwater pollutant from OWS. The environmental effects of excess nitrogen on groundwater and surface water can ultimately lead to the degradation of water quality, since excess nitrogen loading can lead to algal blooms and oxygen depletion in surface waters, which can be harmful to natural aquatic life. The protection of watersheds and surface water bodies from excess nitrogen loading has led to increasing regulatory actions requiring nitrogen reduction from OWS in areas such as the Florida Keys, Chesapeake Bay, and Cape Cod, to name a few. In Florida, the degradation of water quality in the many freshwater springs and nitrogen limited estuarine surface water bodies has led to legislation requiring protection of these areas, including requirements for nitrogen reducing OWS. The Florida Department of Health (FDOH) initiated the Florida Onsite Sewage Nitrogen Reduction Strategies (FOSNRS) Project to research, develop, construct and test different onsite wastewater treatment systems to address nitrogen reduction from OWS. As part of the FOSNRS project, passive nitrogen reduction systems (PNRS) were developed and pilot-tested, and are now being evaluated at homes in Florida. The goal of these systems is to reduce nitrogen inputs to watersheds where OWS have been identified as a significant source of nitrogen.

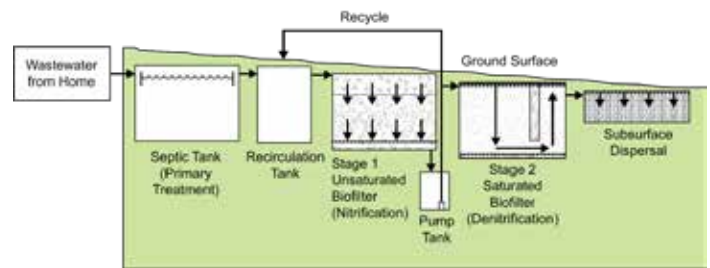


Figure 1: PNRS process flow diagram

A PNRS system installed in Hillsborough County, FL utilized the two-stage passive biofiltration concept. As shown in Figure 1, primary treated wastewater, or septic tank effluent (STE) from the home's existing septic tank is discharged to a two-stage treatment system consisting of a first stage unsaturated porous media recirculating biofilter for ammonification and nitrification, followed in series by a second stage saturated anoxic upflow porous media biofilter for denitrification. Effluent from the Stage 1 biofilter was pumped to the Stage 2 biofilter and also recirculated back to the Stage 1 biofilter at a ratio of approximately 3:1 recirculation flow  $R$  to forward flow  $Q$ . The denitrified treated effluent was discharged into the home's existing drainfield. The PNRS system was monitored over an 18-month period, receiving STE with an average total nitrogen (TN) concentration of 54.7 mg N/L. The overall system treated effluent average TN concentration was 2.5 mg N/L, a reduction in total nitrogen of over 95 percent.

A second PNRS system was developed and constructed to provide high levels of wastewater treatment as well as landscape irrigation at a five-bedroom home in central Florida. The system was monitored over an 18-month period, TN entering the system averaged 50.5 mg N/L. The overall system treated effluent average TN concentration was 1.9 mg N/L, a reduction in TN of over 96 percent. Prior to the PNRS installation, a groundwater monitoring network was established which included over sixty groundwater monitoring wells downgradient of the conventional OWS. Figure 2 demonstrates a site plan of maximum TN concentrations at all locations where groundwater samples were obtained during the four sample events (July 2011 through July 2012) taken prior to the PNRS installation. In addition, illustrated in Figure 2 are two transect cross

**HAZEN AND SAWYER**  
Environmental Engineers & Scientists

**Engineering Excellence**

*Providing Customized Solutions  
to Environmental Challenges*

Hollywood • Coral Gables • Boca Raton • Fort Pierce  
Sarasota • Tampa • Orlando • Jacksonville

[www.hazenandsawyer.com](http://www.hazenandsawyer.com)



## Consultant Corner: Backyard BNR (cont.)

By Damann L. Anderson, P.E. and Josefin E. Hirst, P.E. - Hazen and Sawyer

sections A-A' and B-B'. For comparison, Figure 3 depicts the maximum TN concentration at all locations where groundwater samples were obtained during the sample event conducted 468 days following PNRS start-up (October 23 and 24, 2014) along with similar transect cross sections A-A' and B-B'. As shown, a significant decrease in TN concentration in the groundwater plume downgradient of the PNRS system has occurred since PNRS system installation.

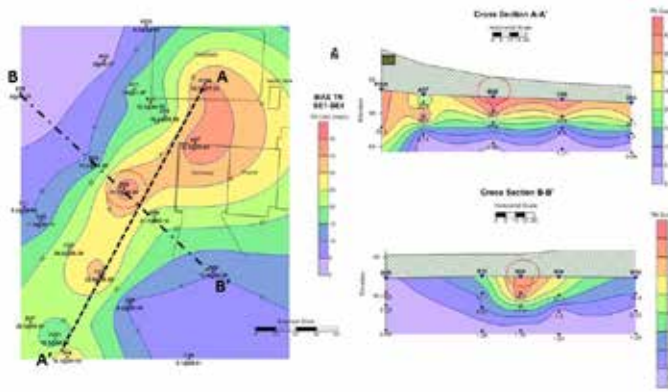


Figure 2: Groundwater monitoring downgradient of the conventional OWS prior to PNRS installation.

While these are preliminary results, they suggest the potential to significantly reduce N input to sensitive watersheds from OWS. Five additional full-scale PNRS are currently under evaluation, and results from these systems will provide key additional data regarding PNRS performance.

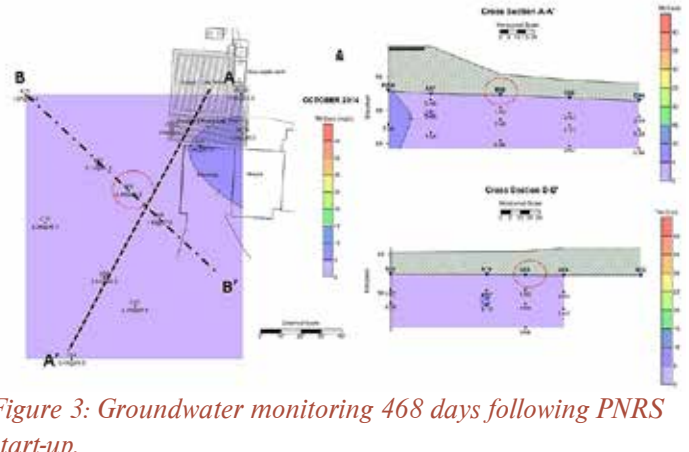


Figure 3: Groundwater monitoring 468 days following PNRS start-up.

# King

ENGINEERING ASSOCIATES, INC.

Civil • Environmental • Transportation • Planning  
Ecological • Landscape Architecture • Surveying

**Serving Florida's water environment since 1977**

Sarasota • Tampa • Miami • Jacksonville • Austin • Dallas

[www.kingengineering.com](http://www.kingengineering.com)

941.358.6500

**WE UNDERSTAND  
UTILITY OPERATIONS**



### The Severn Trent Services Advantage:

Severn Trent Services understands water and wastewater treatment plant operations. From the plant to the home and back again, Severn Trent is responsible for operating, maintaining and managing over 60 facilities in Florida through public-private partnerships. It is this understanding that allows us to provide safe drinking water and compliant wastewater treatment to nearly 1 million Florida residents.

To partner with Severn Trent Services:

T: +1 800 535 6832

[www.severntrentservices.com](http://www.severntrentservices.com)



# McKIM & CREED

ENGINEERS SURVEYORS PLANNERS

[www.mckimcreed.com](http://www.mckimcreed.com)

Clearwater • Daytona Beach • DeLand  
Fort Myers • Palm Coast • Sarasota • Tampa

EOE Minorities/Females/Disability/Veterans

## *FWEA Manasota Chapter Steering Committee Officers*

### **Chair**

Lindsay Marten: 941.225.6178

### **Vice Chair**

Mike Knowles: 941.378.3579

### **Director at Large**

Kristiana Dragash: 941.371.9832

### **Treasurer**

Mike Jankowski: 941.708.7450  
ex 7663

### **Secretary**

Linda Maudlin: 941.378.3579

### **Content/Newsletter**

Laura Baumberger: 941.371.9832

### **Webmaster**

Samantha Nehme: 941.921.4183

### **Young Professionals and Outreach Coordinator**

Kyle Kellogg: 941.225.4823

### **Membership**

Mike Jankowski: 941.708.7450  
ex 7663

### **Communications**

Rachel Cantor: 813.286.2075

### **Special Events Coordinator**

Mike Nixon: 941.379.3404

### **At-Large**

Chuck Hlavach: 941.915.4861

Jeff Goodwin: 941.792.8811

Julie Karleskint 941.378.2862

### **Professionals Society Liaison**

Chris Sharek: 941.915.6003

*If you are interested in joining the Steering Committee, please contact us.  
We are currently looking to fill the Content/Newsletter Chair position  
and seeking additional At-Large Members.*



Our work  
has a lasting  
ripple effect

Design with community in mind

stantec.com

# ATKINS

Engineering  
Construction  
Environmental  
Architecture

## Innovative solutions that protect Florida's waters

Clean water. A basic necessity that we can't live without but often take for granted. From our earliest days, Atkins has partnered with clients to develop and maintain safe and adequate water supplies. Planning today for your peace of mind tomorrow.

- Alternative disinfection processes
- Aquifer storage and recovery
- Asset management
- Cathodic protection/ corrosion control
- CMOM compliance assistance
- Collection and distribution
- Facilities planning
- Groundwater hydrology
- Hydraulic modeling
- Instrumentation and controls
- Large diameter pipeline design
- Membrane technology
- Operations and maintenance services
- Rate and impact analysis
- Regulatory compliance
- Risk management evaluations

**Plan Design Enable**

www.atkinsglobal.com/northamerica

**800.477.7275**



## ***Building Resiliency by Relocation of the Siesta Key AWWTP***

***by Glenn Richter, P.E., Sarasota County and Guy Le Patourel, P.E., Stantec Consulting***

### ***Abstract***

Sarasota County took over operations of the Siesta Key Advanced Wastewater Treatment Plant (AWWTP) in 2005 and was faced with significant challenges to upgrade the facility to meet current and future surface discharge requirements. These challenges included immediate repairs to address deficiencies identified by Florida Department of Environmental Protection (FDEP) plus the need for additional infrastructure to meet effluent treatment objectives and redundancy requirements. After a comprehensive analysis of alternatives, the County determined the best option was to convert the facility to a Master Pump Station and convey the wastewater to existing water reclamation facilities located on the mainland. A critical concern during this assessment was to avoid continued investment of capital dollars in an aging facility on a barrier island which has inherent exposure to hurricanes and associated potential for negative impacts on the environment. This presentation will cover the activities undertaken by the County and their Design Consultant to implement this major project. Various separate project stages have been needed to complete the short-term upgrades at the plant; prepare the mainland collection system to receive the Siesta Key flow; provide a new Intracoastal forcemain crossing; and construct the Master Pump Station. Following successful implementation of this new infrastructure, it is

anticipated that decommissioning of the treatment plant on the Key can be accomplished by December 31, 2017.

### ***Glenn Richter, P.E.***

Glenn is a Senior Project Manager for the Sarasota County Public Works Department where his responsibilities are to coordinate the engineering aspects for upgrades to water and wastewater infrastructure. Glenn is a life member of the Water Environment Federation, which recognizes his professional achievement and contribution to the preservation and enhancement of the global water environment. He is also an active member of the American Society of Civil Engineers. Glenn has over 50 years of professional experience with the design and construction of water and wastewater facilities.

### ***Guy Le Patourel, PE***

Guy is the Regional Business Leader for Stantec Consulting with responsibility for coordination of specialist services and project delivery across multiple offices within the U.S. East Water Sector. Guy is a professional engineer with over 30 years of expertise in water supply and wastewater treatment. He is licensed as a sustainability professional under both the LEED and Envision rating systems and is pleased to be able to work on sustainable designs in his home town of Sarasota.

### **FWEA MANASOTA CHAPTER LUNCHEON MEETING**

#### **Sarasota County Operations Center (BOB Building) Conference Room 1**

1001 Sarasota Center Blvd., Sarasota, FL 34240  
Registration - 11:30 • Lunch and Program - 12:15

**Menu:** 1) market salad, 2) sliced roast beef with au jus, 3) chicken brochettes, 4) rice pilaf, 5) grilled summer vegetables, 6) cookie platter

***Please register by Wednesday, June 3rd***

***Pre-registered Members: \$15 • Pre-registered Non-members: \$20 • Walk-in: \$25***

You can register online at [www.fwea.org](http://www.fwea.org) or register by phone, fax, or e-mail to Linda Maudlin  
2601 Cattlemen Road, Suite 100, Sarasota, FL 34232

*Ph: 941-378-3579 • Fax: 941-378-9489 • E-mail: [lmaudlin@greeley-hansen.com](mailto:lmaudlin@greeley-hansen.com)*

***The Manasota Chapter is in search of Project Spotlight articles for future newsletter editions. Chapter sponsors are encouraged to submit an article highlighting a local project. Please contact Laura Baumberger at [lbaumberger@carollo.com](mailto:lbaumberger@carollo.com) or 941-371-9832 for more information.***