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98th PES Annual Awards Banquet

The Providence Engineering Society will hold its Annual Banquet on Thursday, February 16, 2017 at the Providence Biltmore Hotel. The banquet continues to be the flagship social event for the Society, its affiliated organizations, friends and honorees. The highlight of the evening will be the recognition of excellence for some of the finest professionals in the field of engineering and the award of scholarships to deserving students pursuing careers in engineering or related technical fields. This years award recipients are:

Freeman Award – Kambiz Karbassi, PE
PES Humanitarian Award - Len Bradley, PE
PES Frederick A. Burnham College Scholarship Awards
- Julie Penn
- Jack Felag
Ronald C. Jalbert Scholarship Award
- Collin Putnam

The guest speaker for the evening will be the Director of the Rhode Island Department of Transportation (RIDOT), Mr. Peter Alviti, Jr. Mr. Alviti joined RIDOT in 2015 with a mandate from Governor Gina Raimondo to plan, fund, and implement a strategic framework for rebuilding Rhode Island's infrastructure and to reorganize RIDOT to provide more cost effective project delivery.

Under his leadership, RIDOT has made bold steps forward. The department finished the 2016 Federal Fiscal Year with \$174 million worth of projects started and is on a trajectory to have \$1 billion total out for bid by the end of fiscal 2017.

Mr. Alviti serves as chairman of the Rhode Island Public Rail Corporation and is a board member of the Rhode Island Public Transit Authority, the State Planning Council, the State Traffic Commission, and the Rhode Island Turnpike and Bridge Authority and the Northeast Corridor Commission.

The cocktail hour, which begins at 5:30 p.m., offers an excellent opportunity to meet friends and colleagues, both old and new alike. Hot hors d'oeuvres will be served. Dinner will be served promptly at 7:00 p.m. Dinner choices include: grilled NY sirloin steak, chicken breast Francaise or Roasted Atlantic Salmon.

Tickets are available at \$65 per person for members and corporate sponsors of the Society and \$75 per person for non-members. Contact Chris Cronin at (401) 333-2382 or by e-mail at ccronin@beta-inc.com for reservations. ■

Editor's Note:

Letters, story ideas, and material are welcomed and encouraged. If you have an opinion, press release, or story that you feel is worth sharing, forward it to Steve Richtarik via fax at (401) 333-9225; mail to: BETA Group, Inc., 6 Blackstone Valley Place, Lincoln, RI 02865; or Email via srichtarik@beta-inc.com.



Peter J. Alviti, Jr., PE

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The Providence Engineering Society is the oldest professional engineering society in the United States. To become a member, or to find out more about the Society, please visit our website at www.provengsociety.com or e-mail Chris Cronin at: ccronin@beta-inc.com to obtain an application.

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ASCE - American Society of Civil Engineers - (www.asce.org)

ASHRAE - (www.ashrae.org)

RI ITE - RI Chapter of the Institute of Transportation Engineers (www.ri-ite.org)

RISPE - Rhode Island Society of Professional Engineers - (www.nspe.org)

RISPLS - Rhode Island Society of Professional Land Surveyors - (www.rispls.org)

SAME - Society of American Military Engineers (www.same.org)

WTS - Women's Transportation Seminar -Rhode Island (www.wtsinternational.org)

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RICE BECOMES ACEC-RI

By John Shevlin, P.E.

After 25 years, the Rhode Island Consulting Engineers (RICE) organization has begun transitioning into the American Council of Civil Engineering Companies – Rhode Island (ACEC-RI). The switch to ACEC-RI had been discussed for several years by the RICE board and its membership. As ACEC-RI, we are now backed by the most powerful national organization in our industry. This will allow us to better serve our member organizations in addressing matters that pertain to our businesses!

Who was RICE?

RICE was originally founded in 1991 by four leaders in the Rhode Island engineering community, **Gordon Archibald, Ralph Cataldo, Larry Riggs** and **Robert Rohan**. The organization was formed to represent independent consulting engineering firms who were engaged in providing professional services to Federal, State and municipal agencies. RICE's missions included:

- Promoting the art and science of engineering;
- Advancing the interests and improving the business conditions of Consulting Engineers;
- Enhancing the responsiveness of governmental agencies with whom such Consulting Engineers deal;
- Acting as a medium for the expression of the views on matters affecting those engaged in business as Consulting Engineers; and
- Accomplishing fair and intelligent legislation relating to the profession of engineering and the business of Consulting Engineering;

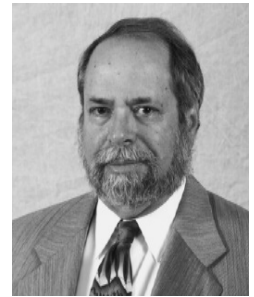
For over seventeen years, RICE annually awarded merit scholarships to students pursuing undergraduate degrees in engineering. This was part of RICE's effort to promote engineering and encourage the best young people to enter the profession. Consistent with this facet of its mission, RICE conducted outreach efforts including participation by member firms in the Engineering Career Day held at the University of

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Larry's Corner

By L. Robert Smith, PE, F.ASCE, F.NSPE
Past President, Providence Engineering Society

Getting Work and Making it Pay!



My old company was and still is the oldest engineering and surveying firm still in Rhode Island. It was started as a full time business in 1894 and all the company records were kept from that time onward. We also had saved survey and engineering records from a number of old time firms that had gone out of business along the way. Some of their records actually dated back to the Civil War. As a result, when someone called looking to have a house lot surveyed in Providence, Pawtucket, Barrington, East Providence, and certain other communities, there was a pretty good chance that we had either surveyed the lot in question, or the one next to it.

Back in the good old days, we could actually make money surveying house lots, good money! However, it had to be handled diplomatically as we priced to the value of the job. If someone wanted a lot surveyed then it was worth \$1,200. If we could do it in an hour, it was still worth the same amount.

We spent a lot of time cataloging and filing our plans and field books and two large rooms in the office were filled with that archived material. That wasn't being done to allow me to cut prices and pass it on to the clients. The diplomacy came in when the surveyors went to the site. They were under orders to NOT complete a job in less than five hours. If they could go out there and get it done in say an hour, they were told not to finish the job, but leave and go to their next assignment. They were to return and finish the job at the end of the day or the next morning. That was because if they finished a job in an hour, the odds of getting paid the quoted price were not particularly good. You couldn't explain to a homeowner that making a profit on their job made up for the lot surveys that took three days to do. I had a number of people who complained that they should be charged less because we did it so quickly, but I never had anyone say they should be charged more because it took longer than we thought it would.

Another thing about doing house lots was that home owners didn't tell you to go ahead if they didn't have the money to pay you. If a crew surveyed ten house lots in a two week period, by the end of a month, nine or ten would be paid in full. In contract, if we sent a crew to do work for a developer for two weeks it could take forever to get paid.

Another benefit of doing small jobs was that they sometimes led to bigger jobs. One time we conducted a survey for an English gentleman who bought a very nice waterfront property. His deed referenced an old plat that was laid out by our firm and to his surprise he found that company was still in business. We did the work he requested and didn't hear from him again until about five years later. He called and told me that he and his brother-in-law were looking to buy some property and felt they needed an engineering firm to do the design. He asked, "Larry, old chap, is that the kind of thing that might be of interest to you?" It certainly was. That little one day survey led to a project that went on for months and months. This was not a unique experience as it happened on a number of occasions.

Having old records also had some other real benefits. I remember doing updates of commercial property surveys and finding that we had updated some of them eight times or more. The gentleman from whom I bought the firm, used to update a survey for \$200. He would have someone go by the property and see if anything changed

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"Making it Pay" (continued from page 3)

and check the records at the City or Town Hall. If nothing changed, he would re-stamp the original and add the new date. He would grin and say, "we just made \$200 for an hour's work." I had a different approach. If a survey from scratch would cost \$3,000 then I felt to update it had to be worth \$2,000. After I bought the firm, I started pricing updates by this philosophy. Initially, I received a lot of pushback and was constantly told that they were used to paying a couple of hundred bucks so how could I justify what I was asking? I would explain the two record rooms and all the time we put into filing and cataloging. I wasn't doing that so I could spend one hour updating their survey for a couple of hundred bucks.

We always let other surveyors use our records. We would rather they did a survey that agreed with what we had done rather than have them come up with a different answer. However, if we gave a price to update a survey, we would remove those records and not let anyone use them. One time we had three different surveyors come in and we told them they could not use our records because we had given a price on the project and they were not going to use our records to beat our price. They were told to price the survey starting from scratch. After two weeks, the lawyer who was looking for the update called us back and said all the other surveyors had given him a higher price than we had given. I told him that was the proof that he was getting a real deal by accepting our price. I wanted to ask him what he had charged his client for the time he had spent calling other companies to obtain prices, but I let that one go.

Now that I am semi-retired I do some consulting and forensic work that covers a lot of accident cases. For some situations such as falls on winding staircases, which I look at 3 or 4 times per year, I have created a report template. Falls in these cases are usually caused by one of two things and I have a template for both. I typically go out to determine the cause, take measurements, get names, dates, the types of injuries, etc. and fill out the template. I charge not based on the time spent, but on the value of the work. I did two cases for the same lawyer a couple of years apart. I charged the same price both times. He called after receiving the bill for the second case and mentioned that the letter report was almost identical to the one I had done for him previously. He thought I should discount his bill. I asked if he was going to charge his client a reduced fee because he had handled a similar case a short while back. He started to explain to me why it was different but after listening to himself try to explain it, he finally said, "Okay. I'll pay the bill you sent. I guess the report has an intrinsic value." He got that one right. ■

Toys-for Tots Event

PES together with the Young Member group of the ASCE hosted an event to support the US Marines Corps. Reserve's Toys for Tots Foundation. On December 8, 2016 approximately



50 members, friends and associates gathered at the Malted Barley in Providence. Attendees generously gifted numerous toys for the cause and their display of good will was awarded with a complimentary beverage happily supplied by the hosts. The event was light hearted and filled with good conversation

and humor. This annual event is a great way to kick off the holiday season and remind us how fortunate we are to be able to support this worthy cause. Thank you to all that were able to attend. Please know that your gifts and generosity made a child's Christmas a little brighter this year. We look forward to seeing you next year.

FIRST Tech Challenge

PES is proud to announce that it is once again able to support the Rhode Island FIRST Tech Challenge (FTC) robotics competition via financial awards and by volunteering as judges at the qualifying and state championship matches for the 2016/17 season. Four \$500 financial awards were issued to Pilgrim High School, Scituate High School, Slater Middle School and the College Crusade of Rhode Island to offset some of the costs for equipment and other operational expenses. These four teams have effectively demonstrated their desire to compete and we believe have captured the spirit of the program. With program costs on the order of \$5,000, we are pleased to provide our financial support and enable the teams to experience this great program.

FIRST defines their competition as one that "combines the excitement of sport with the rigors of science and technology." The events are attended by hundreds of fellow students, parents and local dignitaries and are always filled with enthusiasm. Skills such as consensus building, problem solving, public speaking, team work, and others are highlighted throughout each day of competition.

Over the last five years, PES board members have been strong supporters of FTC, filling various roles from judging to security. Over this short time period the number of teams entering the competition has grown from 28 to nearly 40, which hopefully is an indication that students are being drawn to the fields of science and technology.

For more information about this year's game, which is named Velocity Vortex, please visit the FIRST website at www.firstinspires.org. The first qualifying match was held on December 3rd. The final two qualifying matches will be held on January 14 and January 21 with the State Championship tournament scheduled for February 4, 2017. ■

Corporate Spotlight



STEERE ENGINEERING INCORPORATED

is a full service civil engineering firm founded in 2010. In just six years, the firm has grown from one bridge engineer to 18 full-time engineers, one 3D CAD technician and three support staff. Our rapid growth is due to repeat customers who find the quality of our work and our responsiveness to be exceptional. Although we are still a small firm, we have big project experience and we have experience with innovative designs and construction techniques. This experience is comparable with many of the bigger firms.

Our staff, including eleven Professional Engineers, have performed projects from simple to complex bridge design, inspections and ratings; building design and structural evaluations; building inspections; construction support services, construction inspection services; 3D CAD modeling; and roadway, drainage and traffic design. This experience encompasses projects from the conceptual design phase to in-progress construction projects that require workable solutions to challenging construction obstacles.



Steere is passionate about providing the best solutions for our clients whether it is through innovative or unique structure types and accelerated construction techniques, or through the use of conventional methods that allow for the maximum cost efficiency.

As a woman-owned firm, Steere Engineering is certified by Rhode Island, Massachusetts and Connecticut as a WBE and DBE.



ACEC-RI (cont'd from Page 3)

Rhode Island (URI), as well as involvement in URI's Summer Engineering Academy and the URI Capstone (Senior) Projects. RICE worked in conjunction with the Rhode Island Department of Transportation, the Federal Highway Administration, the URI Transportation Center, and the URI College of Engineering to provide resources and support for these initiatives.

Why become ACEC?

As much as RICE had accomplished, there had been interest from member firms to get involved with ACEC. ACEC's roots date back to 1909 when a small group of engineers in private practice established the American Institute of Consulting Engineers; the forerunner of ACEC. Today ACEC is a large federation of 52 state and regional councils representing the great breadth of America's engineering industry. ACEC member firms employ hundreds of thousands of engineers, architects, land surveyors, scientists, and other specialists, responsible for more than \$200 billion of private and public works annually.

The reasons to become part of ACEC were plentiful. First and foremost, ACEC has been the voice of America's engineering industry representing more than 5,000 firms engaged in a wide range of engineering works that propel the nation's economy and enhance and safeguard America's quality of life. ACEC's mission is to contribute to America's prosperity and welfare by advancing the business interests of its member firms. This was a core value of RICE and with the national backing of a powerful organization such as ACEC, it was felt that these goals would be more attainable.

What does the backing of ACEC mean to its member companies and employees?

Member firms supported the transition to ACEC as they saw the additional benefits that could be expected including:

- Advocacy- ACEC has and will continue to spearhead important initiatives that affect all of its members businesses.
- Business Education and Best Practices- ACEC provides a wide range of educational opportunities and business resources that benefit our employees and our companies.
- Communications – ACEC uses a wide range of communications means to educate and recognize its members.
- \$1M PAC – ACEC has a \$1M non-profit, non-partisan PAC that was established in 1975. The PAC accepts voluntary contributions from eligible ACEC members and uses these funds to support candidates for elective offices whose positions and decisions have the greatest positive impact on ACEC members.
- Minuteman Fund- This \$2 million war chest has been compiled to win legal and legislative challenges of national importance. This fund has also been used to support many recent infrastructure funding victories throughout the country.

The RICE membership agreed to submit an application to ACEC requesting admission as a Member Organization. On August 22, 2016, the application to become the 52nd Member Organization of ACEC (the last State in the country) was approved. We were formally accepted into ACEC at their National Conference on October 19, 2016 in Colorado Springs. ACEC-RI will build off the successes of RICE with the backing of ACEC, the voice of America's engineering industry.

Much work has already been completed to transform our organization. Among these accomplishments was the hiring of Marcel A. Valois as Executive Director. Marcel has many years of experience on the State and local level. Through his leadership, ACEC-RI has taken a more aggressive approach to meet the goals that were established by RICE. The organization has also been restructured to allow for more involvement from our member firms to define committees and their responsibilities. Although much has been accomplished, there is much more work to be performed to ensure the success of the ACEC-RI organization, our businesses and our employees. ■

"The Capstone Project"

By: Christopher Duhamel

The Capstone senior civil engineering course at the University of Rhode Island is an important bridge that introduces students to the professional engineering design process. The Capstone class is run by Department Chair Mayrai Gindy, PhD, professor Leon Thiem, PhD and instructors John Steere and Chris Duhamel. The Class of 2017 has 48 students tasked with designing the 123,000 sf Longplex Sports Complex. This is a real project that has been professionally designed and is currently under construction on a 15-acre parcel in Tiverton, RI. Besides what is typically expected for civil, site, transportation and environmental design, the class is also incorporating the sustainable design elements of solar panels and a green roof.



The NCEES offers a national award for Capstone programs that factors heavily on the experience students receive through mentoring provided by registered professional engineers. The support from the RI professional engineering community strongly exceeds the mentoring standard as engineers from several prominent firms donate their time. The firms and individuals that are mentoring this year include BETA Group (Paul Bannon and Kevin Aguiar), CDR Maguire (Joe Cardello, III), Crossman Engineering (Steve Cabral), DiPrete Engineering (Len Bradley), Gordon R. Archibald (Todd Ravenelle), and GZA (Diane Baxter and Russ Morgan). Support is also being provided by the RIDEM Division of Water Resources (Alicia Richardson) and L. Robert Smith. If you would like to participate in this program, contact Chris Duhamel at DiPrete Engineering.

Block Island Wind Farm - Construction Tour

By: Diane Baxter, GZA GeoEnvironmental, Inc.

On Wednesday, August 17, 2016, about 40 students from the University of Rhode Island Civil & Environmental Engineering Department, Ocean Engineering Department, and friends of the Justin S. Monaghan, P.E., Fund for Geotechnical Engineering were treated to an amazing up close tour of the Block Island Wind Farm under construction. Representatives of GZA and URI faculty were on board to give the tour. The timing couldn't have been more perfect, as this phase of the construction only lasted approximately 3 weeks, and Deep-water Wind was working on the last of the 5 wind turbines on that day. During the construction period, vessels were restricted from getting close to the construction area, but since the cranes were down for the day due to high winds, the URI chartered vessel was allowed to come right up to the construction vessels and circle around. It was quite a site to see the huge Lift Boat the Brave Tern from Norway alongside the "smaller" Lift Boat the L/B Caitlin, which came out of the Gulf of Mexico.

The "smaller" Lift Boat L/B Caitlin is a 137 foot long vessel with three legs that are 235 feet long, which allows the vessel to jack up out of the water in over 200 feet of water and create a stable work platform. The vessel has a 150 ton crane and living quarters for 42 as it generally works 24/7 operations. The L/B Caitlin is the sister vessel to the lift boat that GZA used for 3 weeks in 2015 to conduct the offshore geotechnical investigation.

The Lift Boat Brave Tern is an offshore wind installation jack up vessel out of Norway, and is 433 feet long. It has four legs that are 300 feet long and 15 feet in diameter. It has two 20 ton cranes and can berth 80 persons.

The tour was funded by the Justin S. Monaghan Fund, which is used to enhance the curriculum of URI civil engineering students. Corporate Sponsors



URI Students on the Block Island Wind Farm Construction

of the Fund, including PES, other engineering organizations and firms were invited to participate in the tour with the students. During the tour, the sponsors and students could see that the L/B Caitlin was carrying 2 upright sections of white tower segments. Each tower segment was approximately 100 feet tall. The tower segments were waiting to be lifted by the cranes on the Brave Tern and placed on top of the yellow jacket foundations that were installed in 2015.

Another lift boat out of the Gulf of Mexico, the L/B Paul was waiting at the Port of Providence with the third and final tower segment and a horizontal cage holding the 3 blades. The nacelles were manufactured in France and sailed over to the site directly on the Brave Tern.

The wind farm was expected to be fully connected to Block Island and the grid on the main land of Rhode Island by the end 2016, making the Block Island Wind Farm the first off-shore facility of its type in the United States. Students and professionals alike were in awe of the scale of the project, and one student was quoted as saying "Best Day Ever!" ■



The Norwegian Lift Boat the L/B Brave Tern (center jackup vessel with 4 legs) and the U.S. Lift Boat the L/B Caitlin (jackup vessel on the right with 3 legs) at the foundation for Turbine 5 (yellow jacket structure).

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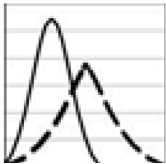


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