

Prudent Employees Dig Deep to Help Three Charities in Central New York During Holiday Season

by David Compton

Three Prudent Engineering employees – Charmaine Thayaparan, Beverly Strachan and David Compton – each created giant-sized themed raffle baskets to support three Central New York charities: Toys for Tots of CNY; Children’s Miracle Network; and Vera House, respectively.

Tickets for the raffle baskets were sold at the Prudent East Syracuse headquarters office and during the company’s holiday party on December 2nd at the Marriott Syracuse Downtown Hotel (Hotel Syracuse).

“We wanted to support charities that have an impact on people living in Central New York. We selected Toys for Tots, Children’s Miracle Network and Vera House. The money we raised will stay right here at home,” said CI Services Manager Beverly Strachan.

Raffle ticket sales for the three baskets were brisk during the week-long fundraising program. Prudent Engineering matched the ticket sales bringing the one-week campaign total to \$1,800.

“Some years we have a giving tree or a similar program to raise money for those in need at this time of year,” said Philip Thayaparan, Prudent’s principal. “I am pleased to see so many



Hydrography Manager Terry Mckiven presents raffle basket to Lucilia McAfee of Prudent’s Civil Engineering Department.



Raffle basket table at Prudent holiday party

participating in this program. Thank you to all Prudent employees who supported these charities by buying raffle tickets.” ●

LiDAR: A Valuable and Important Tool for Prudent’s Survey Department

by Michael Ventura

As Prudent’s Survey Department has become more knowledgeable, confident, and assured in the use of LiDAR as a survey tool, more opportunities have presented themselves. Since the summer of 2017 Prudent has worked on several projects where LiDAR was the perfect tool and technology. Several examples where it was used include:

- City of Rochester/Rundel Library (Terrace

- Structural Repairs – Subconsultant to Labella)
- Monroe County/Riverside Convention Center (Terrace Structural Repairs – Subconsultant to Stantec)
- City of Rochester/Public Safety Building (Generator Expansion Project/Subconsultant to Stantec)

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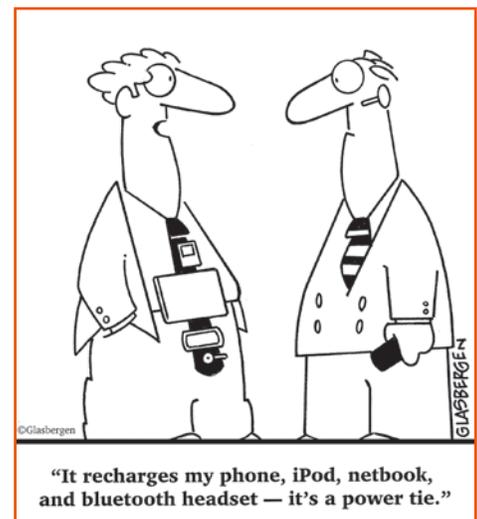
Prudent’s Pennsylvania Offices Report Growth for 2017

by Laureen Sendel-Grant

State-owned bridges in Pennsylvania number among the largest quantity and oldest in the country. Prioritizing the repair and replacement of bridges is the job of PennDot. The Rapid Bridge Replacement (RBR) Project, an \$889M investment in 558 bridges, is the key component to this effort.

Prudent increased its number of inspectors on staff in 2017. This was due to Andrea Playso and Terry Mckiven recruiting additional inspectors to work the P3 project across Pennsylvania. We’re on track in 2018 to increase our inspectors to about 25 due to P3 and an increase in additional work in Districts 5 and 6.

New projects in District 8 in south central Pennsylvania have also greatly increased Prudent’s staff of inspectors. We started with a P3 project and county bridge project and had to hire two more inspectors to fulfill those obligations. We anticipate picking up more work, and inspectors, in the near future. ●



New Opportunity in Florida

by David Compton

Prudent Engineering recently completed a project in Florida working as a subconsultant to Conn Environmental and project owner, Florida Department of Transportation (FDOT). Prudent's role in the project was to collect underwater sound data resulting from driving test piles for the new Pensacola Bay Bridge and its impact on Gulf sturgeon and sea turtles.

The bridge spans Pensacola Bay between the cities of Pensacola and Gulf Breeze, Florida. The \$398.5 million Pensacola Bay Bridge replacement project will construct a new U.S. 98 (State Road 30) bridge across Pensacola Bay. U.S. 98 is an important east-west transportation corridor and a primary hurricane evacuation route for the Florida Panhandle Gulf Coast. The project is scheduled to be completed in 2019.

Construction crews began driving test piles for the new Pensacola Bay Bridge in early summer 2017. The hydroacoustic data will be used to determine the amplitude and spatial extent of underwater noise produced during impact pile driving and to evaluate potential noise impacts to Gulf sturgeon and sea turtles located in Pensacola Bay.

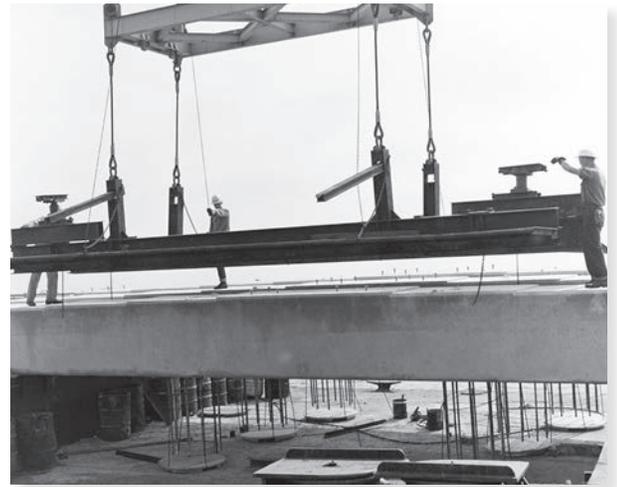
Because of Prudent's experience on the New York State Thruway Authority's (NYSTA) Tappan Zee Bridge replacement project, the firm was

selected to perform a similar scope of work on the Pensacola Bay Bridge project. On the Tappan Zee project, Prudent was an integral part of the Underwater Noise Plan preparation, field monitoring and data collection, and in preparation of the final Hydroacoustic Field Data Report.

Prudent's data collection for FDOT was conducted using two independent systems: one system was placed in the near field, while the second system was at a more distant location in the far field up to 1,100 feet away from the test pile. Each system consisted of a Reson high-sensitivity, low-frequency miniature hydrophone. The hydrophone was connected to a Larson Davis Class 1 Integrating Sound Level Meter (SLM)/Analyzer.

Just prior to deployment of each hydrophone, a weighted tape measure was used to determine the depth of the water. Both systems were calibrated with a GRAS Pistonphone Calibrator and the sound recordings from both systems were subsequently analyzed using a Larson Davis SLM following completion of monitoring.

The results from the monitoring will provide



1960 Construction of Pensacola Bay Bridge, Pensacola, FL.
(Courtesy of State Archives of Florida)

site-specific information to validate the noise levels evaluated by the U.S. Fish and Wildlife (USFWS) in its Biological Opinion (BO) for the project. The data will be used in the development of the sound attenuation measures employed during production pile driving and will form the aquatic population monitoring plan.

Large cranes mounted on barges are lifting the concrete test piles into position where they are driven into the bay bottom using a 20,000-pound diesel-powered hammer.

The new bridge will consist of two parallel structures, each with three 12-foot travel lanes, two 10-foot shoulders, and a 10-foot multi-use path for pedestrians, joggers, and bicyclists. •

Trip to Society of American Military Engineers (SAME) Small Business Conference 2017

by David Compton

Not since my ROTC days at Syracuse University in the early 1970s have I seen so much shiny brass. However, I have to say, I was impressed. Not only were there many uniforms, but these men and women were bright, motivated, and excited in their work.

This particular conference in Pittsburgh focused on small business and what opportunities were available to them from the U.S. Army Corps of Engineers, Navy, Air Force and other military commands. Over 2,500 participants, including 12 federal agencies, mingled, learned and shared experiences. Some of the military were just back from war zones, and here they were as guest speakers on a variety of topics. There were many workshops, one-on-ones, and close to 1,000 exhibitors, such that I came away from the conference

excited by the new opportunities for Prudent.

Programs and training sessions I attended were:

- Hydropower Business Opportunities
- Simplify your Proposal Process to Increase Wins
- Dredging Business Opportunities
- Vertical Construction
- Strategic Teaming & Partnering for Small Business

One element of the conference that really interested me was the Mentor-Protégé program. Although this program is managed by the Small Business Administration (SBA), it was evident that many of the smaller firms in attendance at the S.A.M.E. conference were involved in a Mentor-Protégé program of some type and were thriving

because of it. The rules and regulations for this program are too numerous to cover here, but suffice it to say, this is a program Prudent will investigate further.

Another interesting part of the conference was the many successful networking opportunities. Whether it was breakfast, lunch, cocktail party, or a one-on-one with a representative of the military, everyone was sharing leads and guidance. We've all been to conferences with networking opportunities, but this one was better, different. I came away with two new business relationships that I think will work to the long-term benefit of Prudent. This conference was well worth attending.

And guess where we're going next year – New Orleans! •

Highway Tidbits

- In his 2018 State of the State speech, Governor Cuomo announced a variety of proposals and initiatives, one of which delayed until 2019 the decision on which option would be selected to replace the aging section of I-81 through downtown Syracuse. Citing a variety of reasons including further study of the replacement options, including a tunnel, the Governor said that not all parties affected by the project had been heard. The following is from the text of his speech.

Building 21st Century Infrastructure:

Move I-81 Forward with Expanded Environmental Impact Statement:

Governor Cuomo has been a strong advocate for revitalizing the I-81 viaduct and has pushed to carefully explore every option and alternative for this aging artery.

In 2017, the Governor directed the New York State Department of Transportation to initiate an independent study of tunnel and depressed highway alternatives for the I-81 corridor, which concluded that while a tunnel is the most expensive option, it is technically feasible and could be studied in the Environmental Impact Statement (EIS). Governor Cuomo is now directing DOT to add the tunnel alternative to the current EIS for further review and consideration, which will ensure public and advisory agencies can provide comments on all three feasible alternatives—the viaduct replacement, community grid, and tunnel alternative—and the detailed engineering, social, economic and environmental studies performed for each.

- Prior to the State of the State speech Governor announced that two bridges have reopened following extensive rehabilitation projects on Interstate 81 in Onondaga County. The two projects cost a total of \$20.9 million and were funded by a combination of federal and state funds. All travel lanes on the bridges are now open, and the work will be completed in full in early 2018. “I-81 is a vital roadway and economic engine in Central New York, that thousands of residents and businesses depend on,” Governor Cuomo said. “Rehabilitating these bridges is one more way we’re strengthening and modernizing the state’s transportation infrastructure, enhancing mobility and laying the groundwork for future growth across New York.”



I-81 Through Syracuse: Prudent participated in the study phase of this multi-billion dollar project.

I-81 over Route 11 in Salina: The work includes an \$11.5 million rehabilitation of mainline I-81 northbound and southbound, plus the southbound collector road bridges over Route 11 in Salina. The project repaired and smoothed the driving surfaces and replaced bridge joints. Additional work will repair bridge concrete and repair and paint steel beams.

I-81 over the Oneida Lake Outlet in Brewerton: The \$9.4 million project on the northbound and southbound I-81 bridges over the Oneida Lake Outlet in Brewerton was a major rehabilitation that smoothed the driving surface and reduced the thickness of the bridge decks, lightening their loads and extending their service lives. Concrete barriers replaced the original steel railing for enhanced driver safety. New and innovative devices

installed will monitor the bridge conditions to allow for automatic notification to State personnel if conditions change.

- Construction Inspection staff from Prudent continues work on the New York State Thruway. “We are working at Exit 43 on the Thruway,” said Beverly Strachan, CI Services Manager. “This is our first assignment under a term contract we received last fall. It involves a bridge replacement over the Thruway plus pavement work.”
- “We’re working on new trail projects all over the state,” said Survey Manager Brad Pcolinsky.” In Ulster County, Region 8, we’re working on a team with Parsons, GPI, and Foit-Albert; in Central New York, we’re working on a trail project with GPI; and in the Rochester area, another trail project with C&S Companies. We’re setting control, providing Topographic Survey and Mapping, plus a lot more. All under tight deadlines.”
- Prudent’s Hydrography Department was looking forward this winter to prep equipment, train new staff, and make schedules for the 2018 season. “We thought there would be ample time to train our staff on new equipment and software in January,” said Hydrography Department Manager Terry Mckiven. “We were just as busy in January as we were last July!” The department just completed HydroWeek 2018, a full week of training and equipment maintenance. •

Designations to End 2017 and Start 2018!

Construction Inspection

- NYSTA: Term Agreement for Construction Inspection Support Services in the Syracuse Division as Prime Consultant. The first assignment involves bridge and culvert work at Interchange 43 (Manchester).
- Town of Brutus: Will be responsible for construction inspection services on the Town’s Trolley Connection Trail as a subconsultant to Piascik Engineering. Prudent will also provide oversight and guidance for meeting the NYSDOT’s grant and project development requirements.
- NYSTA: Term Agreement for Construction Inspection Support Services in the Albany Division as a subconsultant to AECOM.

Design

- NYSDOT: As a subconsultant to Labella, Prudent provides traffic calming services on the Binghamton Connector Greenway project.
- Prudent Engineering LLP has been named as the subconsultant on two different term agreements for culvert rehabilitation and/or replacement.

In NYSDOT Regions 1, 2 and 7, Prudent is a subconsultant to CHA Consulting, Inc. In Regions 3 and 9, Prudent is a subconsultant to Bergmann Associates, Architects, Engineers, Landscape Architects & Surveyors, D.P.C.

Survey

- As a subconsultant to Parsons, for NYSDOT EST project ... work on a new trail project in Ulster and Dutchess counties providing eight miles of topographic survey as part of the Empire State Trail system.
- Providing survey/mapping, and bathymetry to the Village of Nyack on the Municipal Park project ... as subconsultant to Blueshore Engineering.
- The Eastman Trail: A trail through the Eastman Business Park representing a significant east/west connection between the City’s Genesee Riverway Trail at Kings Landing and the State’s (planned) Route 390 Trail in the Town of Greece ... as subconsultant to C&S Engineers.
- Providing limits on tree clearing on 26 miles of NYS Canal from Fairport to Medina.

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KUDOS!

Congratulations to Riley Jones for receiving his FAA license to pilot Unmanned Aerial Systems (drones). Riley passed the FAA Airman Knowledge exam late last year and, following a background check, will receive a permanent license. The exam consists of 60 multiple choice questions covering areas such as weather forecasts and patterns; airspace classifications; and basic airport operations. With this license, he can operate a UAS commercially and in a majority of airspaces. Congrats to Riley!

LiDAR *continued from page 1*

Static, or terrestrial, LiDAR has many applications across many different industries. In the transportation engineering field LiDAR is used to map roads, highways and bridges; we use it to map subterranean structures such as tunnels and long disused subway stations.

In other industries, the technology is used to map crime or accident scenes, and for traffic enforcement. We have seen examples of its use to map material quantities removed from mines, or to map the movement of the earth as a result of earthquakes or volcanic eruptions.

As a MBE/DBE, Prudent offers Prime consultants yet another opportunity to be included on a team where LiDAR may be the best choice to acquire field data. Prudent Survey Department personnel are fully trained on the use of LiDAR both in the field and office.

With what we call 'conventional' survey, our field crews collect data at specific locations that then are combined to produce a map of the street, landscape, signage, etc. We might take 6,000 'traditional' shots over a half mile of road and use those shots or data to create a map and digital surface of the project site.

With LiDAR, we are acquiring millions of points of data in the same half mile of road. We place targets throughout the field to register the scans from control point to control point. This seamless point cloud data can be combined with black and white or color images to benefit architects and engineers.

LiDAR provides a solid assemblage of highly accurate elevation measurements over an area of study. While static LiDAR cannot generally penetrate through foliage or trees in a woodland environment, the point coverage is accurate enough to allow for generous ground measurement through small holes in the canopy in most woodland surroundings. •

For those of you who are new to LiDAR, I recommend the following:

National Oceanic and Atmospheric Administration (NOAA) Coastal Services Center. 2012. "LiDAR 101: An Introduction to LiDAR Technology, Data, and Applications." Revised. Charleston, SC: NOAA Coastal Services Center. <https://coast.noaa.gov/data/digitalcoast/pdf/lidar-101.pdf>



With control and benchmarks set, LiDAR will begin scanning site and pipe areas at Baldwinsville-Seneca Knolls Wastewater Treatment Plant.