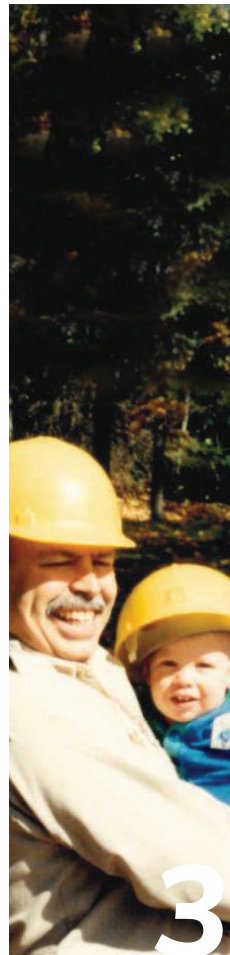


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Fall 2020



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SPICER GROUP'S RUSS BEAUBIEN RETIRING, AGAIN



Longtime Spicer Group Engineer Russ Beaubien, P.E., C.F.M., is about to enter into retirement, again. After 21 years of providing various engineering services for clients across Michigan, Beaubien decided it was time to spend more time enjoying his other passions. Ironically, most of his work-related friends and clients are probably unaware that he had another major career prior to joining Spicer Group.

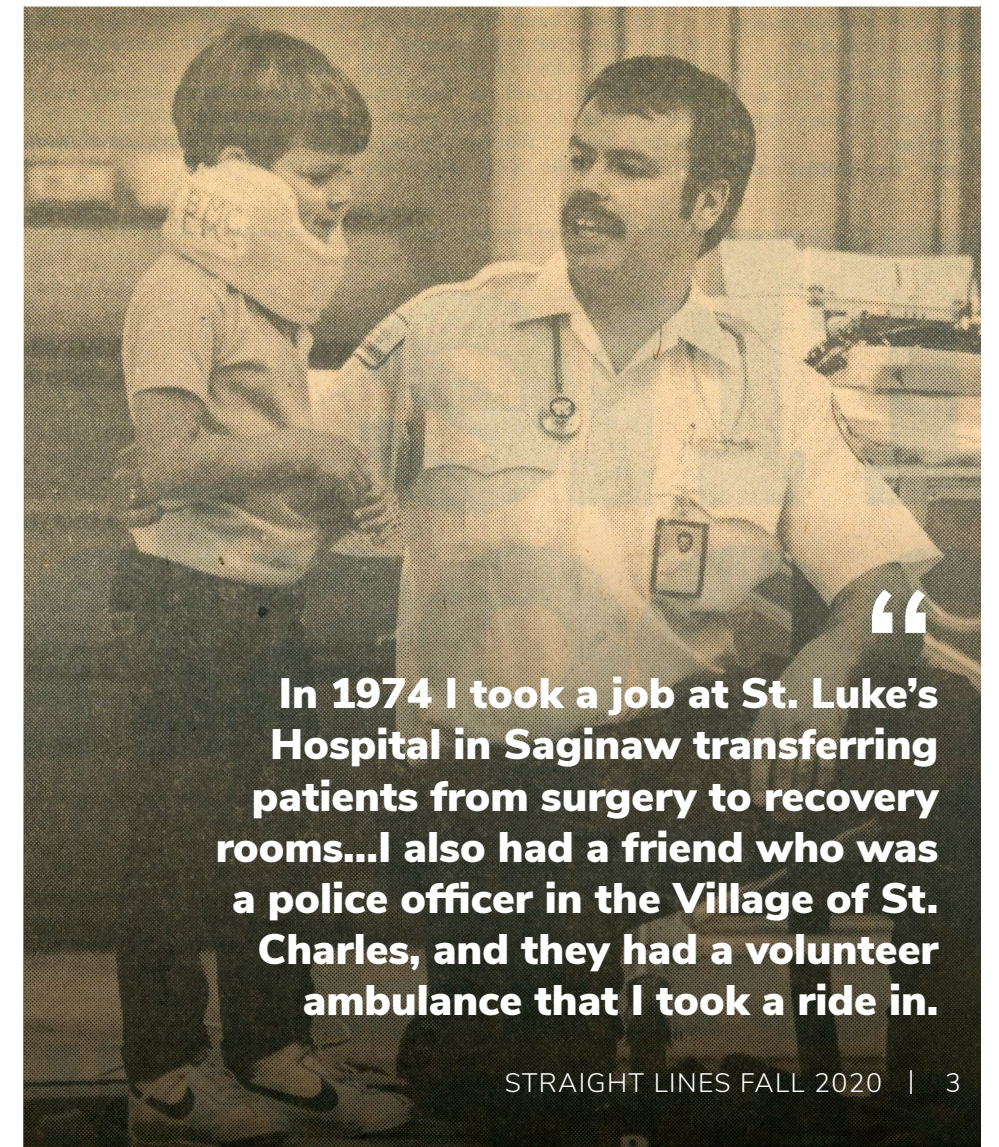
"Growing up in Tawas, I was always spending lots of time in the woods and on the water," Beaubien said. "After graduating from high school, I attended Delta College to become a Conservation Officer."

After a year of post-high school studies, Beaubien decided college just wasn't for him yet. He spent four years driving a pop truck for a family friend's business making deliveries across Iosco, Arenac, Ogemaw, Alcona, and Oscoda Counties. He also worked as a gas pump attendant and mechanic at his father's garage, Fletcher's Texaco in Tawas City, during and after high school and college.

"In 1974 I took a job at St. Luke's Hospital in Saginaw transferring patients from surgery to recovery rooms," Beaubien said. "I also had a friend who was a police officer in the Village of St. Charles, and they had a volunteer ambulance that I took a ride in."

That ride hooked Beaubien on the paramedic career and over the next two years he continued expanding his knowledge in that arena. Soon after, he took an EMT class at Delta College and passed with the highest grade in the class. He was invited to be an assistant instructor at Delta and taught advanced first-aid and advanced rescue.

In 1976, he helped orchestrate and implement Delta College's first paramedic program. He graduated from that same program in 1978 and became a full-time paramedic at Bay Med where he was soon promoted to Department Supervisor.



"In 1974 I took a job at St. Luke's Hospital in Saginaw transferring patients from surgery to recovery rooms...I also had a friend who was a police officer in the Village of St. Charles, and they had a volunteer ambulance that I took a ride in."



Russ Beaubien, center, directing a vehicular rescue training exercise for Bay City Fire Department.

Beaubien was responsible for coordinating all paramedic and rescue activities throughout the Bay County Region and worked closely with local fire departments and law enforcement agencies. He says his job was very stressful and demanded that he be very procedural in commanding activities during paramedic and rescue activities.

"I was often the first person on the scene of incidents, and I had to quickly assess the situation to ensure the proper agencies were notified, and I had to give a clear understanding of what they needed to expect when arriving so they could be best prepared to assist," Beaubien explained.

He said he's a stress and excitement junkie and he is proud to have assisted in many incidents that saved peoples' lives. Unfortunately, he witnessed events that still haunt him, but he explained as a first responder you have to put those events behind you and keep moving forward to successfully make the next rescue or apply first aid when needed. One of his most memorable rescues was a crash on Christmas Eve at the Beaver Road overpass over I-75.

"It was a terrible snowy night and a couple lost control of their car on the overpass and it slid sideways into the guardrail," Beaubien said. "The guardrail somehow broke and came all the way through the car trapping the couple in their seats while they were dangerously close to the edge."

He said he did everything possible to keep the couple warm and calm while he helped the rescue team cut the car from the guardrail and carefully remove the hunk of metal from the front seat while trying to minimize further injury.

"The couple were injured pretty bad, but we finally got them out and to the hospital where they fully recovered. I think that was quite a Christmas gift to them and their family," Beaubien said.

While working at Bay Med he also pursued and received his bachelor's degree in Communication from Saginaw Valley State University. The adrenaline rush of rescuing people ran through his heart until the spring of 1992 when he retired at the age of 41. He said when he started at Bay Med they had three ambulances and around 3,000 calls a year. When he retired, they had six ambulances and around 13,000 calls a year.

"Every year my wife and I would take two vacations, and I wanted to pursue a new opportunity and wanted to pursue a new degree at a school that was near water, snow, or mountains, or a combination of those," Beaubien said. "We went out west to various schools and then one weekend we ended up in Houghton in the Upper Peninsula for a Guts Frisbee Tournament." (Do an internet search on the sport. It's pretty amazing.)

Russ Beaubien with his in-laws after earning his degree from Michigan Technological University.



He said Houghton had the water, the hills, and the vast winter sports he and his wife enjoyed doing, and in May 1992 he applied and was accepted to Michigan Technological University. He received his bachelor's degree in Environmental Engineering by 1997, and at the same time helped bring 911 to Houghton County.

Living in Houghton, his wife was busy as a nurse at the hospital and they had a son and a daughter. He needed to find a job and applied at Spicer Group. He said he had a good interview but didn't get the job.

"I figured I better make myself more marketable as a 40-something-year-old engineer so I pursued my master's in water resources engineering, which I received in 14 months," Beaubien said. "Soon after, I met former Spicer Group president Dale Deibel at a fall recruiting session in 1999 and applied again at Spicer Group and was hired on as a design engineer in January 2000."

He immediately began work on one of Spicer Group's biggest projects at the time—Carrier Creek in Eaton County. He transitioned into an essential team member for the company, providing NPDES Phase II assistance and became the municipal engineer for Saginaw Charter Township, which required him to do storm water reviews to ensure new construction developments adhered to all local ordinances. Additionally, he handled a significant amount of storm water calculations for Spicer Group's site development, and he was also a key member in creating the Saginaw Area Storm Water Authority (SASWA).

"One of my more memorable projects was the Saginaw River Dredge Disposal Site," Beaubien said. "The project took a lot of work and required a significant amount of coordination with several parties. It was satisfying being part of a project that I think helped secure a major part of the local economy by allowing ships to navigate the river safely."

Beaubien said he was fortunate to work on many successful projects and got to meet a lot of great friends and clients over the years while assisting them with their storm water engineering needs.

"It's been great working for a company that has your back," Beaubien said. "Guys like Shawn Middleton and Ron Hansen helped me a lot with engineering judgment and talked me through a lot of problems that arose with various projects. And both former company presidents Dale Deibel and Don Scherzer always had open-door policies and were always willing to talk about project successes and issues."



It's been great working for a company that has your back.

One thing Beaubien has found unique is the amount of knowledge he has learned from upcoming engineers and how he has adopted their problem-solving skills. Beaubien has also been a big part of Spicer Group's student recruiting over his tenure here and has recruited some very talented staff members.

"I loved to do the recruiting for Spicer up at Michigan Tech," Beaubien said. "I met a lot of great people and could spend time visiting with the professors. There are a lot of young engineers here at Spicer Group who I first met up at Tech and got hired in here over the years. I will miss going up there, but we have a good team going up there now."

Beaubien says he's going to miss going out into the field, working side-by-side with clients, and the office interaction with his teammates. But it is time for him to start doing more outdoor recreation and spending time on the water and in the woods.

"It's time for the younger engineers to take over," Beaubien said.

Thank you Russ for all of your dedicated efforts and contributing to Spicer Group's success. Your positive attitude and strong work ethic will be missed.



UNIVERSAL PUMP STATION RECEIVES MAJOR UPGRADES

Equipment and technology upgrades at the station were aimed at increasing efficiency while reinforcing the reliability of this critical piece of storm water management infrastructure in Saginaw County

CITY OF ZILWAUKEE – Originally constructed in 1968 to help reduce flooding along the Universal Drain, the Universal Pump Station has done an excellent job of minimizing flood damage to the surrounding communities of Saginaw Charter Township, Carrollton Township, and the City of Zilwaukee.

The station was constructed at the downstream end of the Universal Drain where it outlets into the Saginaw River. The drain provides drainage to 4,148 acres of heavily populated land with a relatively flat topography that tends to make the drain very flashy during heavy storm water runoff events.

“The original station was constructed with three axial-flow pumps with 150hp motors and rated for 30,000 gallons per minute each,” Spicer Group Project Manager Nick Czerwinski, P.E. said. “Later upgrades included the addition of two more pumps, a self-cleaning trash rack to replace the bar screen, reconfiguration of pumps, outlets, and the addition of a gravity outlet that could pass water during periods of low water in the Saginaw River.”

In an effort to upgrade the station’s reliability, Saginaw County Public Works Commissioner Brian Wendling hired Spicer Group to complete an engineering study that took a close look at the station’s components including the power source, pumps, trash rack, controls/slucice gate, monitoring capabilities, site lighting and safety, and general facility conditions. Spicer Group identified many areas that were in need of replacement, upgrades, and improvements.

“We wanted to take a good look at this station since it’s such a key asset in the county’s storm water management infrastructure,” Wendling said. “Any type of failure at the station could pose a serious flood risk to local residents and businesses during times of heavy runoff.”

All improvements identified in the study were deemed necessary and Spicer Group put together a design that significantly upgraded the station to a state that allows Wendling and his crews to manage the County’s storm water infrastructure more efficiently.



Exterior of pump station featuring complete building refurbishment and enhanced safety features.



Any type of failure at the station could pose a serious flood risk to local residents and businesses during times of heavy runoff.

“The Saginaw County Public Works Commissioner is responsible for maintaining all county drains in Saginaw County, which is a complex task considering the high number of drains, relatively flat topography of surrounding lands, and the fact that Saginaw County lies along the downstream end of one of Michigan’s largest watersheds,” Czerwinski said. “This role is also further complicated by the current high levels of the Great Lakes and connecting waterways such as the Saginaw River.”

Czerwinski explained that flows from the Universal Drain first enter a massive mechanized self-cleaning trash rack complete with large steel sheet pile and concrete wing walls and a debris collection area. The team incorporated new radar water-level sensors both upstream and downstream of the trash rack to measure the headloss through the rack. If it is above the threshold in the control system, indicating the trash rack is full of debris, the control system automatically signals the trash rack to cycle and remove the debris, therefore allowing storm water to flow to the pumps.

Prior to this upgrade to the pump station, operators had to physically be on-site and keep an eye on the build-up of debris and water levels and then turn on the trash rack to cycle the debris out. Prior to that, they had to manually remove the debris from the original bar screen that was once in place.



New Duperon® self-cleaning trash rack being installed.

New trash rack.



“The new trash rack is fully automated, and all equipment can be viewed from a mobile device or computer at any time, including water levels, number of cycles of the trash rack, and the amount of debris piling up in the receptacle area,” Czerwinski said.

After flowing through the trash rack, storm water either passes through a sluice gate and then discharges to the Saginaw River, or it is diverted to the Universal Pump Station wet well. The deciding factor of which way the storm water is directed is determined by a radar sensor at the pump station discharge into the Saginaw River and a radar sensor at the sluice gate. If water levels at the Saginaw River are higher than the level at the sluice gate, that signals the gate to automatically close, which then

diverts flows to the pump station wet well. If water levels at the Saginaw River are lower or equal to the level at the sluice gate, then it remains open, and flows exit to the Saginaw River via gravity.

This process is now fully automated and allows Mr. Wendling to monitor this operation from a mobile device or computer. Originally, crews had to physically monitor the levels and manually open or close the gate despite the weather or time of day.

If flows are diverted to the pump station, three new 200-hp and two 100-hp pumps—all 36” diameter axial flow pumps—have the combined capacity to pump 121,600 gallons per minute through the building and out into the Saginaw River. These pumps were optimized with VFDs to minimize start/stop cycles and significantly increase the efficiency and lifespan of the equipment.

“Unlike the old pumps that simply turned on at full speed or off despite what the flows were, the new pumps power up one-by-one and vary their speed based on the rate of flow,” Czerwinski said. “Like the trash rack and sluice gate, all mechanicals in the pump station including the pumps, water levels, and flows can be monitored on a mobile device or computer.”

Czerwinski said that when tasked with developing solutions for the Universal Pump Station, Spicer Group could have easily incorporated a baseline design that would have maintained the original rate of efficiency of the old pump station and equipment, but instead enhanced that effort by proposing to include the advanced technologies of SCADA-based automation and digital monitoring capabilities.

“We also made sure Brian could remotely monitor the fuel levels of the new generators that were installed, therefore depending on the amount of expected time power may be out, he can schedule fuel trucks in advance to keep the generators running,” Czerwinski said. “The generators are a duplex generator system that can power the entire station with both generators running and provide a redundant backup power system to guarantee at least three pumps can run at all times.”

Additional unique features that were incorporated into the design included security camera systems that can be used to visually observe conditions at the site and a weather station that was integrated into the control system. The weather station can help monitor how levels in the pump station react during rain events, which can then be used to help predict measures needed in reacting to a storm larger than the pump station is designed for, or during a rain event during scheduled maintenance or repairs in the future.

“I am excited to have this project complete. The design allows me to now monitor the pump station and all key assets and equipment remotely, assign crews when necessary, and focus on county-wide issues when we are impacted by large runoff and storm events,” Wendling said. “The pump station and trash rack performed flawlessly during the major flood event our region experienced in May 2020 when we were hit with several inches of rain and several dams broke upstream. I was able to keep a close eye on other flood-prone areas of the County while remotely monitoring the Universal Pump Station.”

New main control panel featuring Kennedy KISM SCADA system and new security system.



The riverbank was stabilized on the discharge side of the pump station to minimize erosion.



“
The pump station and trash rack performed flawlessly during the major flood event our region experienced in May 2020 when we were hit with several inches of rain and several dams broke upstream. I was able to keep a close eye on other flood-prone areas of the County while remotely monitoring the Universal Pump Station.”



PLAY CITY IN BAY CITY

New playground with accessible features and equipment built in city park



BAY CITY – Situated near the Saginaw River, the deep blue and bright green colors of the new nature-themed “Play City” playground in Bay City’s Veterans Memorial Park make the circle-shaped destination a site that is hard to miss.

“This was the perfect spot for it,” Bay City Manager Dana Muscott said. “It is right in the middle of our City. When you drive over the Veterans Memorial bridge now, it is one of the first things you see.”

This newly finished playground is nestled between Liberty Harbor Marina and an existing pavilion at the park, surrounded by large trees, a picnic area, and nearby parking lot. The area is the home of a former playground that was torn down in 2015 due to safety concerns.

Since then, the City has been working with a volunteer committee and the Bay City Parks Division to acquire grant funding and develop a space for a new playground that would provide a place for children of all abilities to have fun.

“When the volunteer group first began this project, they recognized an accessible playground was something that Bay City did not have,” Muscott said. “They ran with it and for five years they never gave up on having this type of playground in our City.”

The playground committee and the City investigated other locations for the playground, such as Bigelow Park, but costly infrastructure needs prevented the project from moving forward.

Tim Botzau, the Parks and Environmental Affairs Manager for Bay City, said after construction bids came in over budget twice, the committee began searching for new project location possibilities.

“We looked at how we could get the best product, at the best cost, and in the best place,” Botzau said. “Veteran’s Memorial Park is our biggest park and had the infrastructure bones to make this project happen.”

Former playground at Veterans Memorial Park in Bay City.



Spicer Group was hired by the City of Bay City to assist with project management, permitting, survey, and design. To keep the cost of the project manageable, the Spicer Group team developed a system that would allow playground development contractors to submit bid packages for the playground committee to choose from.

“We designed the drainage, pump station to be built, and electrical work,” Spicer Group Project Manager Don Scherzer said. “We set the budget and asked the contractors to show us their good stuff. We wanted to see what the project could include for that amount of money.”



3-D Renderings of the park provided by Sinclair Recreation, LLC, during the park planning process.



The playground structure has ramping, so all the playground events are accessible...The zipline has two different types of seats where one is geared more towards those with disabilities, just like the swings that were installed. It has ground-level components and elevated components that make it universally accessible, not just handicap accessible.



Ramping on the playground structure allows all the playground events to be accessible.

Ultimately, the committee chose the design submitted by Sinclair Recreation, LLC, a playground equipment contractor based in Holland.

Construction on the playground began in June and was substantially finished by the end of September.

The nature and waterways theme for the playground came from Sinclair, Spicer Group Project Manager Tanya Moore said. To incorporate it into the design, the safety surfacing resembles a river that meanders through the site, the large play structure resembles a ship with a small boat next to it, and there are nature prints, such as fish, leaves, and duck feet, throughout the site.

The universal accessibility for the playground equipment that was important to the playground committee was incorporated into nearly every structure that was built.

“The playground structure has ramping, so all the playground events are accessible,” Moore said. “The zipline has two different types of seats where one is geared more towards those with disabilities, just like the swings that were installed. It has ground-level components and elevated components that make it universally accessible, not just handicap accessible.”

The playground was made possible by not only funds from the City of Bay City, but also more than \$350,000 in grants from the Bay Area Community Foundation and the Nickless Foundation.

After more than five years of work, Muscott said the wait on this project has been worth it.

“Spicer Group was our savior. This was a project that has been real rocky through the years,” Muscott said. “When we decided to go with Spicer, it was so smooth.”

“Now, I see families down there with kids that have probably never had the opportunity to go on playground equipment before because it wasn’t accessible. The smiles and the laughter that you hear from those children is something that I will never forget.”

Different types of swings were installed to offer those with different abilities the chance to play.



Now, I see families down there with kids that have probably never had the opportunity to go on playground equipment before because it wasn’t accessible. The smiles and the laughter that you hear from those children is something that I will never forget.



40-YEAR-OLD PUMP STATION REPLACED IN VILLAGE OF AKRON

VILLAGE OF AKRON - The Village's lone pump station is getting a makeover this year by the very same company that designed the wastewater treatment system more than 40 years ago.

Located in Tuscola County, Akron is home to nearly 400 residents and shares its wastewater treatment system with the nearby Village of Fairgrove.

In 1976, Spicer Group was hired by the Village to design the sanitary sewer system that includes more than 75 sections of pipe, manholes, and one pump station, which all feed into a lagoon wastewater treatment facility that is owned and operated by the Akron-Fairgrove Area Authority. Spicer Group then oversaw the construction of the system in 1977 and has been servicing the Village's wastewater needs ever since.

In 2015, the Village received a \$425,000 grant as part of the state's Stormwater, Asset Management and Wastewater (SAW) program initiative. This grant allowed the Village to develop a plan that included an inventory of their assets, an assessment of the condition of those assets, a determination of the level of service needed, a risk assessment, rate analysis, and a capital improvement plan for their wastewater and storm water systems.

Spicer Group assisted the Village in applying for the grant and developing the asset management plan. During the inventory assessment phase, the Village's lone pump station was recognized as a critical asset to the system. If the pump station failed, the Village's entire collection system could back up and cause tremendous health and safety problems for residents.



Original pump station structure in the Village of Akron.



Sam Szaroletta, P.E., inspecting the contractor bolting up a fitting on the new force main.

"This pump station has been going 24 hours a day, seven days a week since it was built. It was just old and tired," Don Scherzer, the Senior Project Manager of this project for Spicer Group said. "The equipment within the pump station had hard-to-find parts and maintenance was becoming increasingly costly and more severe."

The pump station was also a can-type station and required confined-space entry by workers for any maintenance or mechanical work that was necessary. To maintain the level of service to the Village's wastewater customers, replacing and upgrading the pump station was recommended.

More than 40 years after designing the first pump station for the Village, Spicer Group set about designing its replacement.

"We upgraded the station to a submersible station and upgraded all the electrical components and the station's controls," Steve Rutkowski, P.E., the Project Manager for Spicer Group said. "A new wet well was built, and the pump station was installed on top of it, eliminating the confined-space entry needs."

The project also included upgrading the electrical service to the pump station and installing an on-site generator which eliminates the need for a portable generator to be brought to the site by the Village during power outages. These new controls allow for better supervision and maintenance of the entire system.



Interior view of above-ground sanitary sewer pump station.



Marv Hasso, the DPW Supervisor for the Village of Akron, said this will bring the pump station "up to 2020 standards."

"In our systems right now, we only get notified of power failures or high-water alarms," Hasso said. "The new system is more reliable; the power will be automatically backed up and it is much more advanced technologically. You can make adjustments, get warnings, and control everything right from your phone."



The new system is more reliable; the power will be automatically backed up and it is much more advanced technologically. You can make adjustments, get warnings, and control everything right from your phone.

The project also included replacing air release valves along the force main that delivers the wastewater from the pump station to the lagoon treatment system. These were also original to when the system was built and were not working properly.

To pay for this project, Spicer Group assisted the Village with securing a low-interest United States Department of Agriculture Rural Development Loan.

Construction is set to be finished by the end of the year.

"When all is said and done, the Village is going to have a system that will last them another four decades," Scherzer said.

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NEW HIRES

Sawyer Cuthrell: Sawyer was recently hired as a Survey Technician in our Saginaw Survey Group. He earned his bachelor's degree in Geography from Saginaw Valley State University with a certificate in GIS/Remote Sensing.

Paige Kipp: Paige was recently hired as a Project Assistant in our St. Johns Water Resources Group. She earned her bachelor's degree in Applied Arts from Central Michigan University.

Matthew MacDonald: Matthew was recently hired as a Survey Crew Chief in our St. Johns Survey Group. He graduated with his bachelor's degree in Survey Engineering from Ferris State University.

Adam Main: Adam was recently hired as a full-time Survey Technician in our St. Johns Survey Group after interning with Spicer Group this past summer.

Shelby Satkowiak: Shelby was recently hired as a Survey Technician in our St. Johns Survey Group. Shelby interned for Spicer Group for a year and is now a full-time employee.



Construction Engineer, Jeff Lentz, oversees the installation of a pedestrian bridge on the Iosco Exploration Trail.