

STRAIGHT LINES

Summer 2021



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Rendering of the Jerome Township Fire Station

Cover: New Jerome Township Fire Station

PROMOTIONS

AT SPICER GROUP >>>



Jennifer M. Garza, P.E., named as a new Senior Associate
Spicer Group is proud to announce the recent promotion of Jennifer M. Garza, P.E., as a new Senior Associate. Jennifer joined Spicer's Municipal Group in October of 2007 as a Project Engineer and is now a Project Manager. She graduated from Michigan State University in 2002 with a bachelor's degree in Biosystems Engineering. In 2007, she became a professional licensed engineer in the state of Michigan and in 2019 she became an Associate at Spicer Group. Jennifer is a member of the Michigan Water Environment Association and the Water Environment Federation.



Brian O. House, P.E., named as a new Senior Associate
Spicer Group is proud to announce the recent promotion of Brian O. House, P.E., as a new Senior Associate. Brian joined Spicer's Municipal Group in October of 2013 as a Project Manager and Associate. He earned a Bachelor of Science degree from Michigan Technological University in Environmental Engineering. Brian is a member of the American Society of Civil Engineering, the Water Environment Federation, the South Central Michigan Water Association, the Michigan Water Environment Association, and the American Water Works Association.



Warren T. Miller, P.E., named as a new Associate
Spicer Group is proud to announce the recent promotion of Warren T. Miller, P.E., as a new Associate. Warren joined Spicer's Water Resources Group in our Saginaw office in January of 2014 as a Design Engineer. He became a Project Engineer in 2017, and a Project Manager in 2020. Warren graduated from Michigan Technological University in 2013 with his bachelor's degree in Environmental Engineering. In 2020, he became a licensed Professional Engineer in the state of Michigan.



Jeremy R. Dancer, P.S., named as a new Associate
Spicer Group is proud to announce the recent promotion of Jeremy R. Dancer, P.S., as a new Associate. Jeremy joined Spicer's Survey Group in our Saginaw office in November of 2014 as a Survey Technician. He then became a Staff Surveyor in 2017, and a Project Surveyor in 2020. Jeremy graduated from Ferris State University in 2012 with his bachelor's degree in Land Surveying and became a licensed Professional Surveyor in the state of Michigan 2016.



John W. Bradley, E.I.T., named as a new Associate
Spicer Group is proud to announce the recent promotion of John W. Bradley, E.I.T., as a new Associate. John joined Spicer's Municipal Group in our St. Johns office in June of 2014 as a Project Engineer. He became a Project Manager in 2018. John graduated from Michigan Technological University in 1999 with his bachelor's degree in Civil Engineer.

UPPER STRAITS

Lake Level Control Structure

Recent improvements increase safety and enhance lifespan of the structure

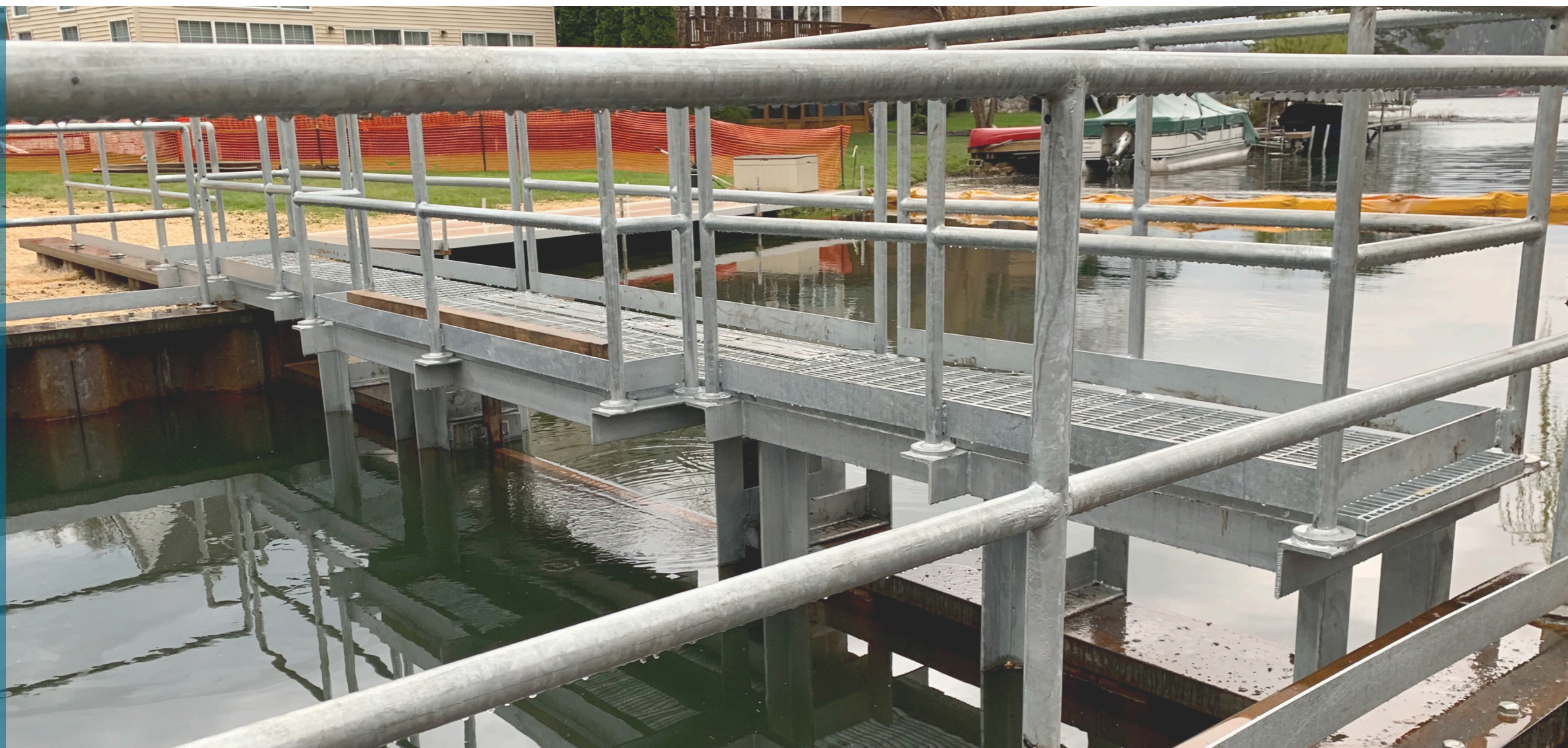
UPPER STRAITS LAKE is one of more than 350 lakes that are found in Oakland County, Michigan. It stretches between West Bloomfield Township and Orchard Lake Village and is surrounded by residences, roadways, businesses, and a nature sanctuary.

Upper Straits, along with her sister lakes, Middle and Lower Straits, are small, deep “kettle” lakes that are not fed by a river, but by rainwater and area storm water runoff.

In the 1960’s, the community petitioned the Oakland County Water Resources Commissioner to have a legal lake level established for Upper Straits Lake. The Oakland County Circuit Court set the lake

level at 930.80 feet above mean sea level. A dam was then constructed on the west end of the lake between the Middle and Upper Straits lakes, near Green Lake Road to control the lake level of Upper Straits Lake.

This structure consisted of two L-shaped steel sheet pile retaining wall abutments with an adjustable weir. It used wooden stop logs and a steel cap for water retainment, and technicians from the Commissioner’s office removed or replaced the wooden stop logs to ensure the lake level stayed as close to the legal lake level as possible.



“

WE PRESENTED MULTIPLE OPTIONS AND OAKLAND COUNTY CHOSE TO REPLACE THE DAM BY INSTALLING A SHEET PILE STRUCTURE SIMILAR TO THE ORIGINAL DAM WITH SOME ADDITIONS.

”

In 2007, Spicer Group was hired by the Oakland County Water Resources Commissioner's office to conduct an inspection on the dam infrastructure. Spicer's team recommended several alternatives for dam rehabilitation or replacement. It wasn't for another decade, however, that the project would be given the green light.

"In 2017, we conducted an in-depth tri-annual dam inspection," Oakland County Water Resources Commissioner Project Engineer Jason Say said. "During inspections, we look at the integrity of the entire dam as a whole to make sure everything is working properly. This time, we found the dam in poor to failing conditions."

Michigan's regulatory agency on dams – the Department of Environment, Great Lakes, and Energy (EGLE) – then informed the Commissioner's office and the community that with a failure rating, a plan was necessary to remove, repair, or replace the then 53-year-old lake level structure.

"The original structure itself was old and failing," Spicer Group Project Manager, Kelsea Sutton, said. "We presented multiple options and Oakland County chose to replace the dam by installing a sheet pile structure similar to the original dam with some additions."

Sutton said the original dam was partially removed before the remaining sheet pile was driven deep into the lake bed. Since the original structure had shifted from its location over the years, a new structure was driven more than 40 feet into the lakebed slightly upstream, and stop logs were again used to allow the water elevation to be fluctuated depending on the conditions.

The new dam also included a maintenance catwalk that allows safer access to the structure, per the request of the Commissioner's office.

"Prior to this project, our lake level technicians would be using waders to conduct inspections or perform maintenance," Say said. "We wanted to keep it at a better standard and higher safety precautions."



After



Before

Construction on the project began in 2019, and Trojan Development Company, Inc. was the contractor.

"The contractor had a tight spot to work in and not a lot of wiggle room," Sutton Said. "Green Lake Road is well traveled and runs right along the dam site. There is a pedestrian bridge in the area as well that couldn't be moved, so we additionally had to work around that."

With a substantial amount of communication and coordination with stakeholders, construction on the project was finished by the fall of 2020.

Say said the community and the Commissioner's office was very satisfied with how the new lake level structure in Upper Straits was installed.

"We were very happy with the outcome of the project, and it is a beautiful dam," he said. "It feels good and is a big relief because this was a project that took time. Now finished, it didn't just improve the structure itself, but improved the surrounding areas as well."

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Sutton said the new lake level structure now allows the technicians easier and safer access through a catwalk across the top of the dam, along with other benefits. The new sheet piles are drilled down deeper, and the design allows the structure a longer lifespan than the original dam.

Spicer Group also assisted the Commissioner's office with survey, permitting, gaining access easements, coordinating with West Bloomfield Township for the preparation of a wetland restoration plan meeting the requirements of the Township's wetland ordinance, coordinating with the Oakland County Road Commission for the project's utilization of Green Lake Road, and updating the county's assessment district for the Upper Straits Lake district.

ELKTON WATER TOWER

BEING PAINTED WITH A
S M I L E



A valued landmark in the Village of Elkton - “a town with a smile”- is in the process of getting a face lift. Spicer Group was hired to work on a water storage tank for the Village of Elkton, a small town that sits in the upper part of the thumb region of Michigan. The water tank is located just off North Main Street in the Village's downtown.

This isn't the first time Spicer Group has worked with the Village of Elkton on their water tank. In 1973, past Spicer Group engineers Charles Sessner and Jim Martin helped design the original water tank for the Village. Besides overcoating the tank in 1992, there have not been any renovations completed to the tank.

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An inspection completed by Nelson Tank Engineering & Consulting identified improvements that were needed including a full re-painting of the structure.

Spicer Group was hired by the Village to provide designs and construction administration assistance for the project, which included working with the Village to update controls and implementing several repairs. George Kountoupes Painting out of Lincoln Park is responsible for all painting tasks. Helm Electric completed all electrical control improvements in 2020.

The 100,000-gallon tank is being repainted with its famous smiley face design that the Village and its visitors have grown to love. The new paint is expected to last another 50 years and gives the tank a fresh new look.

“I've been here 31 years and the people at this point are not concerned about how the water tank works, but more about its smiley face,” Department of Public Works Superintendent Lonnie Schulz said.

The town has never had any discussion about changing the painting to anything else, especially because of its residential significance.

In order to paint the tank, it had to first be sand blasted and therefore shrouded, due to the nearby buildings and houses. Shrouding is a lengthy process involving the attachment of vertical cables at the top of the tank and then draping a curtain-style fabric over it so it is completely covered to avoid any material from getting out during the sand blasting and painting.

Along with the repainting, the cell antenna that sits on top of the tank was removed and reinstalled to a new handrail that is being constructed around the hatch of the water tower. The cell antenna will be attached directly to the rail for added stability and security instead of being tied directly to the hatch.



BEFORE



AFTER

While the Village of Elkton does have wells, the water tank provides a reserve for the community for various emergencies such as a fire, a power outage and a water shut-off. The tank provides stable water pressure in the water system.

Another added benefit that the Village receives from having the water tank is better ISO ratings, which affects homeowner's insurance of community members. The better the rating then the lower the insurance cost, which is why maintaining the water tower over the years has become increasingly important.

"Although the project is ongoing, and Spicer Group is continuing to work hard to provide expert services for the Village of Elkton, the feedback has been very positive," Schulz said. "Spicer Group is the only company that has worked with us and we are a small community, but they are diligent and look out for us."

“ SHROUDING IS A LENGTHY PROCESS INVOLVING THE ATTACHMENT OF VERTICAL CABLES AT THE TOP OF THE TANK AND THEN DRAPING A CURTAIN-STYLE FABRIC OVER IT, SO IT IS COMPLETELY COVERED TO AVOID ANY MATERIAL FROM GETTING OUT DURING THE SAND BLASATING AND PAINTING. ”




BEFORE



AFTER

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NEW DECKING FOR NORMAN STREET BRIDGE

A key bridge connecting two parts of the City of Saginaw has been repaired and now provides safe travel for motorists.

NORMAN STREET, in the northeastern portion of the City, runs east and west between Farwell Drive and Outer Drive north of I-675. It is the only local bridge in the City that crosses over a roadway instead of a waterway.



Newly Painted Beams and Steel Corrugated Decking



Before Construction



WE HAD SOME QUESTIONS THAT WERE RESPONDED TO IMMEDIATELY, WHICH IS VERY IMPORTANT DURING CONSTRUCTION. IT IS VERY CRITICAL WE GET A TIMELY RESPONSE. THEY WERE EXCELLENT TO WORK WITH.



THE BRIDGE WAS CONSTRUCTED in 1971 to cross over Veteran’s Memorial Parkway and connect two residential areas of the City.

“This is the only locally-owned bridge in Saginaw that goes over another road, not over a waterway,” Louis Taylor, P.E., the project engineer and manager for the City of Saginaw, said. “It is a key crossing for public safety and connects the two sides of Veterans Memorial Parkway.”

Per state and federal transportation regulations, bridges are inspected every two years for structural deficiencies and damage. Spicer Group has performed bridge inspections for the City of Saginaw for more than a decade and found that age, weather, and motorists had taken their toll on the Norman Street Bridge.

“The bridge was getting to be in such poor condition, that we were looking at it every year, and then once every six months,” Dan Zeddies, P.E., Spicer Group’s Project Manager said. “The bridge was starting to get in really bad condition.”

During this time, the City applied to the Michigan Department of Transportation for local agency funding to help pay for a project to repair the bridge’s deficiencies and replace the deteriorated decking.

A few months before that funding was approved, the bridge was closed in June of 2019 due to the safety concerns.

“The reason it had to be closed was there was deterioration of the bridge deck and beam ends,” Travis Hare, P.E., the assistant project manager for the City of Saginaw said. “You could see Veterans Memorial Parkway through the decking of the bridge. It was not safe for people to travel over.”



Norman St. Bridge Deck Before the Replacement



New Concrete Deck, Approaches and Guardrail

The City hired Spicer Group to design a project that would demolish the existing deck of the bridge, perform any necessary repairs needed, and reconstruct the new decking, rather than replace the entire bridge structure.

“Structurally, the bridge is sound,” Taylor said. “There is nothing structurally wrong with the abutments, the piles, or the footings. It is not settling, it is not leaning, it is not sinking. The problem was with the deck, which sees all the wear and tear with weather, expansion, contraction, and constant flexing with the loads on it. It is going to wear first and take the abuse. We wanted to replace the tires, and not the whole car.”

After nearly a year of the bridge being closed to traffic, construction started in May of 2020. Concrete and asphalt were demolished from the bridge’s steel structure, which was then sandblasted, repaired, and repainted. Expansion joints on the bridge were replaced, minor heat

straightening and beam-end repairs were done, along with minor patching on the bridge’s diaphragms.

Once the structure was repaired, a new bridge decking was constructed, with proper drainage, new side walls, and new barriers. Construction was substantially complete, and the bridge was reopened to travelers in August of 2020. Spicer Group was responsible for survey, maintaining traffic, applications and permitting, construction inspection, and administration on this project as well.

“From a driver’s standpoint, you’re seeing a brand new bridge,” Taylor said. “We’re back to a good bridge that is on a regular schedule for inspections, not an accelerated inspection schedule. We expect another 25 years at least out of the structure.”

Taylor said Spicer Group was supportive and communicated efficiently during the project.

“We had some questions that were responded to immediately, which is very important during construction,” Taylor said. “It is very critical we get a timely response. They were excellent to work with.”

Spicer Group, Inc.
230 S. Washington Ave.
Saginaw, MI 48607-1286
989.754.4717

St. Johns, MI
989.224.2355

Dundee, MI
734.823.3308

East Lansing, MI
517.325.9977

Byron Center, MI
616.458.8580

Detroit, MI
734.529.7120

Manistee, MI
231.794.5620

Atlanta, GA
989.284.8178

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SPICER GROUP NEW HIRES

TOBY BARNES: Toby recently joined our Survey Group as a Staff Surveyor. He earned his bachelor's degree in Geography and Environmental Studies from the University of Colorado. Toby was a combat medic in the U.S. Army, a member of the Colorado National Guard, and worked as a Survey Data Specialist for the Georgia Department of Transportation.

MACKENZIE BETHUNE: Mackenzie recently joined our Water Resources Group as a GIS Specialist. She earned her bachelor's degree in Geography from Saginaw Valley State University and her master's degree in Geography from the University of Cincinnati.

JOSEPH BOWSER: Joseph recently joined our Water Resources Group as a Design Engineer. He has previously interned with Spicer Group for the past five years and earned his bachelor's degree in Civil Engineering from the University of Toledo.

NICOLAS DURUSSEL: Nicholas was recently hired as a Construction Services Technician in our Construction Services Group. He attended Saginaw Valley State University and has more than 20 years of experience in the insurance field.

MITCHELL HUFFMAN: Mitchell was recently hired as a Construction Engineer in our Construction Services Group. He earned his bachelor's degree in Civil Engineering from the University of Toledo.

JESSICA HUFNAGLE: Jessica recently joined our Planning Group as a Community Planner. She earned her bachelor's degree in Urban Planning from the University of Cincinnati.

LAUREN JAHNKE: Lauren recently joined our Marketing Group as a Graphic Designer. She earned her bachelor's degree in Graphic Design from Saginaw Valley State University.

CHRISTIAN KNUTSON: Christian recently joined our Survey Group as a Project Assistant. He has previous experience in Office Administration and was a Cadet in the U.S. Army at the United States Military Academy in West Point, N.Y.

ANDRA MALBURG, E.I.T.: Andra was recently hired as a Design Engineer in our Water Resources Group. She earned her bachelor's degree in Civil Engineering from Lawrence Technological University.

QUINN PHELPS: Quinn was recently hired as a Design Engineer in our Municipal Group. He earned his bachelor's degree in Civil Engineering from Michigan State University.

TAYLOR POPRAWSKI: Taylor recently joined our Municipal Group as a Design Engineer. She earned her bachelor's degree in Environmental Engineering from Michigan Technological University.

BIANCA RAMIREZ: Bianca recently joined our Planning Group as a Project Assistant. She earned her bachelor's degree in Literature from Saginaw Valley State University and her master's degree in English Language and Literature from the University of Michigan. She is now starting her Ph.D. in Literacy, Culture, and Language at Oakland University.

SHAWN SCHMIDT: Shawn was recently hired as a Survey Technician in our Survey Group. He comes to us with previous private sector surveying experience.

ANNE BENTLEY: Anne was recently hired as an Administrative Assistant in our Manistee office. She earned her bachelor's degree in Music Education from Central Michigan University and another bachelor's degree in English Literature from Northern Michigan University.

ASHLEY WILLIAMS: Ashley recently joined our Water Resources Group as a Design Engineer. She earned her associate's degree from Rock Valley College in Illinois, and her bachelor's degree in Construction Engineering from Western Michigan University.