

STRAIGHT LINES

Spring 2021



TABLE OF CONTENTS

03

New Hires at
Spicer Group

04

Spicer Group Aids
Communities in
Receiving Grant Funds

08

Spicer Group's
Hydraulic Survey
Services Provide
Information for Local,
State, and Federal
Agency Projects

12

Improvements on
the White Cloud
Sherman Utility
Authority Collection
and Treatment System
Make Progress

14

Warren Township
Goes Virtual

NEW HIRES AT SPICER GROUP

Brian Boals, P.E.: Brian was recently hired as a Senior Project Manager and Senior Associate in our Saginaw office. He earned his bachelor's degree in Environmental Engineering from Michigan Technological University and his master's degree in Civil Engineering Hydraulics from the University of Michigan.

Zachery Cole, E.I.T.: Zach was recently hired as a Design Engineer in our Saginaw Water Resources Group. He earned his bachelor's degree in Civil Engineering with a concentration in Water Resources from Michigan Technological University.

Steven Hasbrouck: Steven recently joined our Saginaw Municipal Group as a Construction Services Technician. He comes to Spicer Group with a variety of surveying, construction, and operating experience and previously worked for the Livingston County Drain Commissioner before retiring in December of 2020.

Travis Haverkamp: Travis recently joined our Saginaw Municipal Group as a Design Engineer after interning with us for five years. He graduated from Michigan Technological University with a bachelor's degree in Civil Engineering.

Lindsey Jones: Lindsey was recently hired as our Corporate Services Manager. He earned his bachelor's degree in Sports Management with a minor in Business Administration from Central Michigan University and comes to Spicer Group with more than five years of experience as a professional recruiter, working with civil and construction engineers.

Kathleen Trella: Kathy was recently hired as a Project Assistant in our Dundee Water Resources Group. She earned her associate degree in Business Administration from Cleary University and has experience working with municipal assessing, building and zoning, civil engineering, and architecture firms.

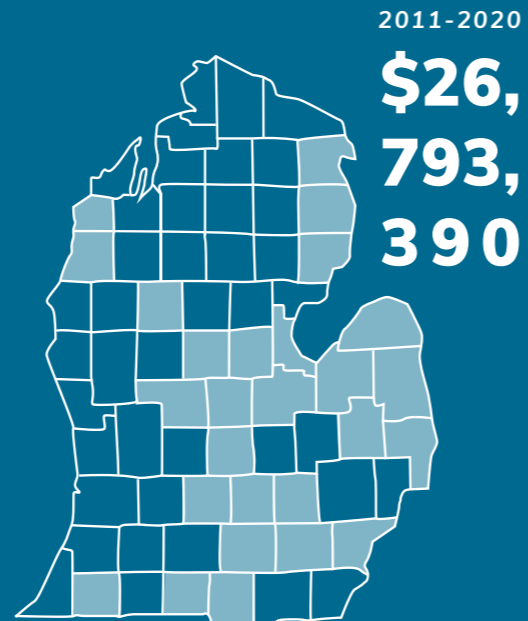
David Wehner, P.E.: David recently joined our Dundee Municipal Group as a Project Manager. He earned his bachelor's degree in Civil Engineering with an emphasis in Construction Management from Michigan Technological University and came to Spicer Group with 40 years of construction and project management experience.



SPICER GROUP AIDS COMMUNITIES IN RECEIVING GRANT FUNDS

PARKS AND RECREATION PROJECTS ACROSS THE STATE TO BENEFIT

In 2020, Spicer Group professionals assisted 11 communities across Michigan with successfully writing grant applications that garnered more than \$4.3 million in funds to help make recreation projects a reality. The grants were funded through two different Michigan Department of Natural Resources (MDNR) grant programs: the Michigan Natural Resources Trust Fund (MNRTF), and the Land and Water Conservation Fund (LWCF) program. One was also funded through the Michigan Department of Transportation's Transportation Alternatives Program. Since 2011, Spicer Group has written over 100 successful MDNR grant applications. The following communities have received their funding notices from the state agencies and have begun the next steps towards project completion.

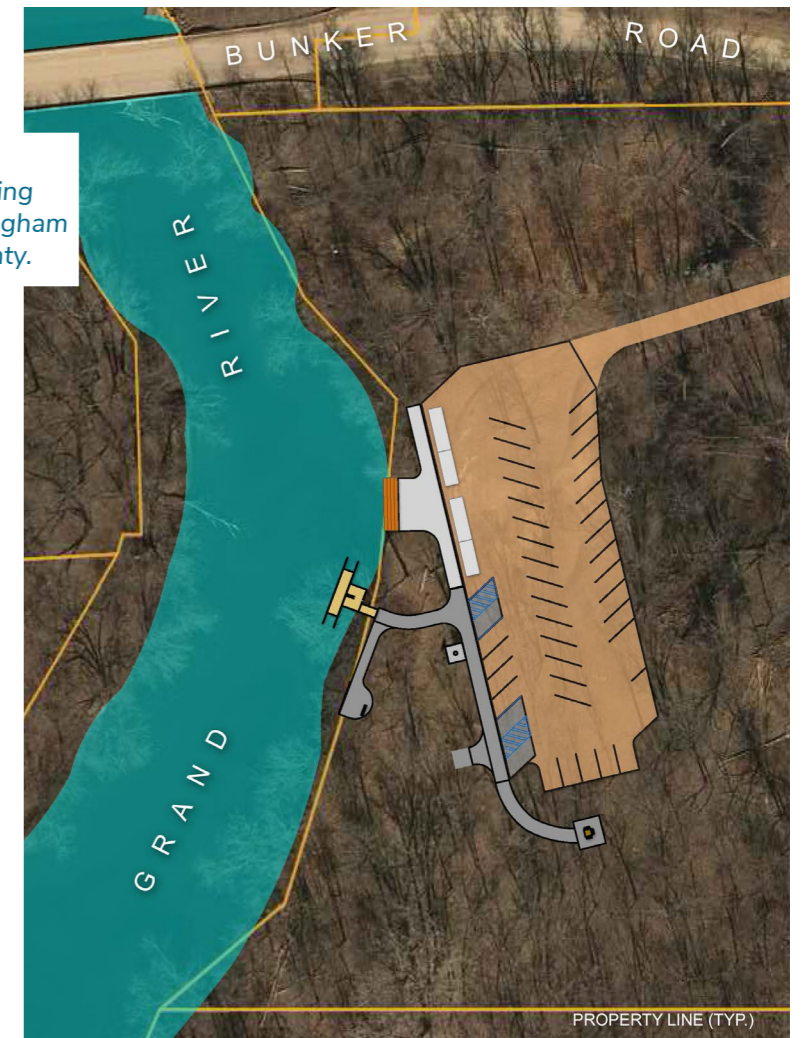


Concept plan for Bunker Road Landing Improvements in Ingham County/Eaton County.

Bunker Road Landing Improvements – Ingham County/Eaton County

\$50,000 | MNRTF

The Bunker Road Canoe Landing is a park site located along the Grand River in Eaton County, but is operated by the Ingham County Parks Department. This project will renovate the landing's existing wooden canoe launch, which was constructed over 35 years ago. The renovation will widen the stepped access launch, making it easier to traverse. This project will also expand the parking lot and add paved walkways to the park for improved accessibility.



Williams Township Park Improvements – Williams Township

\$50,000 | LWCF

An existing playground area at Williams Township park is over 20 years old and not fully accessible. This project will include the removal and replacement of playground equipment that will include universally accessible swings and a gaga ball pit, which is a new recreation opportunity for school-age children. Accessible walks will be added to the playground area, and a gate at the ball pit will be installed to allow access for wheelchair users. A rain garden and bench will also be added to the playground area.

Lighthouse Park Improvements – Huron County

\$144,800 | MNRTF

Lighthouse Park in Port Hope is a very popular shoreline park in Huron County. This project will construct a new universally accessible canoe/kayak launch that will be part of the Tip of the Thumb Heritage Water Trail. It will also replace playground equipment that was previously removed. A new fish cleaning station will be installed to replace the old and outdated one. The existing woodland path in the park will be made universally accessible and extended to connect to other paths in the park, and benches will be added. Accessible parking spaces will also be added to the parking lot with this project.

Larkin Township Park Property Acquisition – Larkin Township

\$967,300 | MNRTF

Larkin Township Park is an existing community park located along Jefferson Road behind the Township's Fire Hall in Midland County. This grant will assist the Township in acquiring two additional parcels of land adjacent to the existing park site, adding to the park's overall acreage. One parcel, located to the west of the park, is 72.4 acres of wooded land and open field. The other parcels, located to the east, is 80 acres of wooded land. The Township plans to develop the western parcel for parking, a playground, pavilion, and athletic fields. Plans for the eastern parcel include walking paths and interpretive signage.

Smiths Crossing Historic Bridge – Midland County

\$1,912,302 | MDOT TAP

This project will restore the Smiths Crossing Historic Bridge over the Tittabawassee River in Midland. The 302-foot-long bridge was originally built in 1907 by the Joliet Bridge and Iron Company and is one of a few surviving multi-span through-truss highway bridges left in Michigan. The bridge is currently closed to all users. This project's restoration efforts will restore the existing elements of the bridge as close as possible to their original pieces. Once it is restored, it will become a part of the Great Lakes Bay Trail system and Iron Belle Trail route. The project will also include the construction of paved trail connections.

Recreation Property Acquisition – Jackson County

\$162,900 | MNRTF

With this grant, Jackson County will acquire nearly 48 acres of land at the confluence of the Grand River and Portage River in Blackman Township. This property will provide recreational opportunities on the rivers such as canoeing or kayaking, as well as land for the Lakelands Trail linkages in Jackson County. This new parcel of land is located just north of the Blackman Township Trail Connector, which is currently under development.

Hay Creek Trail Bridge – Hamburg Township

\$50,000 | MNRTF

The Mike Levine Lakelands Trail is a 6-mile non-motorized trail and linear state park. It is part of a larger regional Great Lake-To-Lake Trail, which is 33 miles long and extends between Hamburg and Stockbridge Townships. This project will replace the existing wood decking on the trail bridge that extends across the Hay Creek, near Chambers Road in Hamburg Township.

Recreation Property Acquisition – Village of Sebewaing

\$130,600 | MNRTF

The Village of Sebewaing does not own any park property along the Sebewaing River that is close to the downtown area and allows residents and visitors direct access to the river. The acquisition of this 1.845-acre parcel of land will allow park visitors to directly access the water for fishing, canoeing, and kayaking. The Village of Sebewaing plans to develop shore fishing, a canoe/kayak launch, and a small pavilion on the site in the future for recreation use opportunities.

Community Center Park Tennis Courts – Ypsilanti Township

\$176,200 | LWCF

This project will develop improvements to Ypsilanti Township's 32-acre Community Center Park. This park features a playground, picnic tables and shelter, a gazebo, ball fields with bleachers and dugouts, and a six-acre wooded area. The six existing tennis courts in the park are more than 20 years old and have deteriorating pavement due to age. With this project, those tennis courts will be removed and replaced with both tennis and pickleball courts, including the playing surfaces, tennis nets, and fencing. This project will also include the construction of paved accessible parking, paved pathways, and benches. A rain garden will also be created near the tennis courts to collect rainwater from the site. Waste and recycling receptacles will also be added.

Lake Lansing Park South Improvements – Ingham County

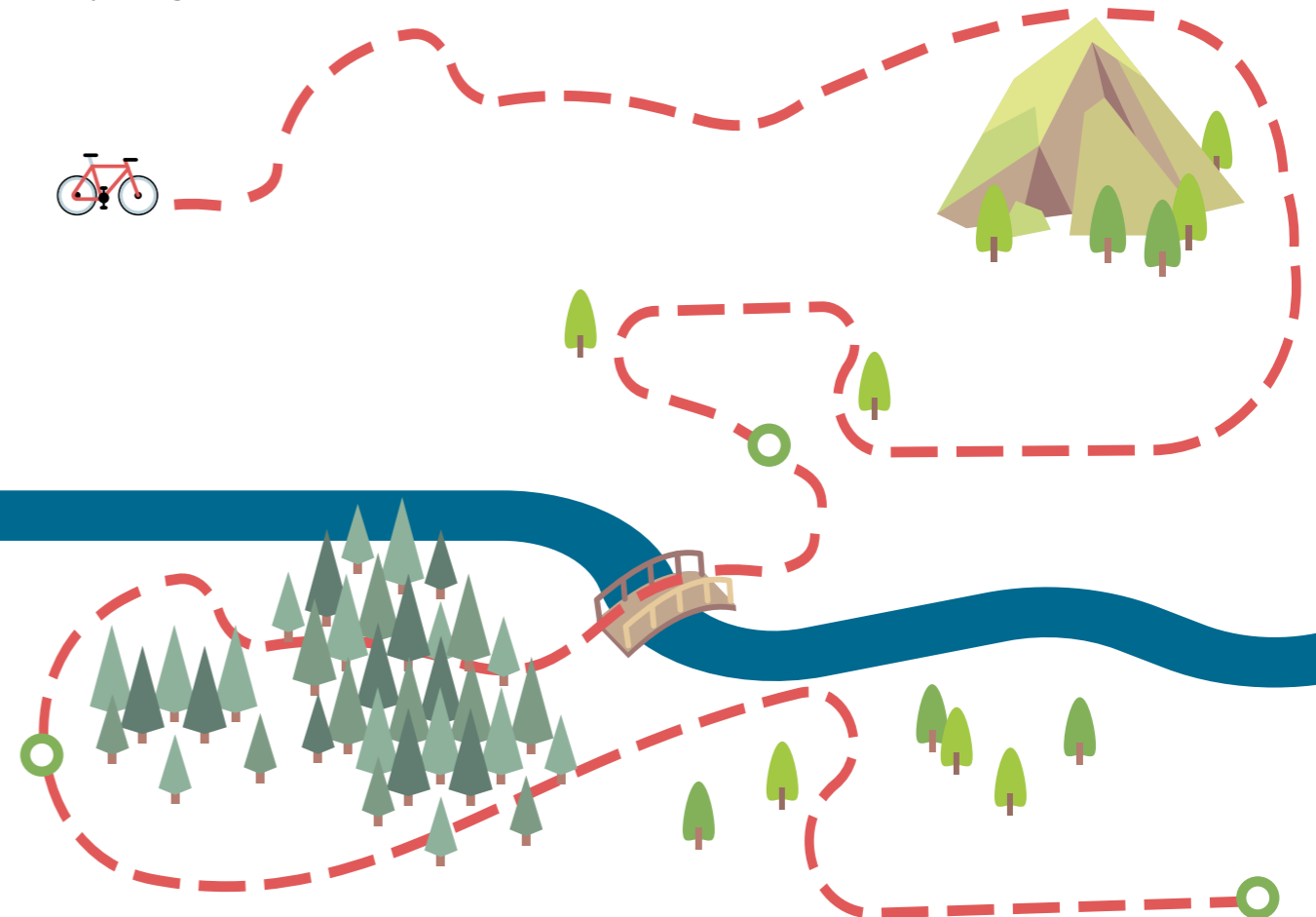
\$300,000 | MNRTF

Lake Lansing Park South offers visitors direct access to Lake Lansing in Haslett. This project will develop a new accessible canoe/kayak launch to replace the existing launch, which is only sand and grass. The project will also pave the existing gravel parking lot with two additional ADA parking spaces at the park. The project includes the construction of additional walkways to connect features for accessibility and a rain garden with native plantings as a natural way to drain the parking area and filter runoff.

Wickes Park – City of Saginaw

\$300,000 | MNRTF

This project includes the development of the Saginaw Riverwalk – Iron Belle Trail (IBT) through Wickes Park in the City of Saginaw. The existing Riverwalk ends at the north end of the 92-acre greenspace of Wickes Park located along Wickes Park Drive near the Center Street Bridge and next to the Saginaw River. The park drive in Wickes Park will be converted to accommodate the proposed trail extension. The trail will include lighting along the entire proposed pathway. The existing parking lots will also serve as IBT trailhead parking.



Looking south down US-31 as survey crews begin to map with a Leica total station.



SPICER GROUP'S HYDRAULIC SURVEY SERVICES PROVIDE INFORMATION FOR LOCAL, STATE, AND FEDERAL AGENCY PROJECTS

In April, while the snow was still flying in the wind and spring was barely making itself known, Spicer Group surveyors in brightly colored jackets took cross section measurements along a waterway course running through a culvert beneath US-31 in Ferrysburg, MI.

The waterway meanders north to south through surrounding properties, also running beneath a nearby set of railroad tracks, before emptying into a portion of Smith Bayou and ultimately, the Grand River.

"Surveys like this one have been routine for Spicer Group for years," Jeremy Dancer, P.S., a Project Surveyor for Spicer Group said. "We collect cross-section measurements that are attached to GPS coordinates along a pre-determined length of the waterway reaching up its banks."



SURVEYS LIKE THIS ONE HAVE BEEN ROUTINE FOR SPICER GROUP FOR YEARS...WE COLLECT CROSS-SECTION MEASUREMENTS THAT ARE ATTACHED TO GPS COORDINATES ALONG A PRE-DETERMINED LENGTH OF THE WATERWAY REACHING UP IT'S BANKS.

This survey was collected for the Michigan Department of Transportation (MDOT), Dancer said, to provide measurements to help determine the correct size of culvert necessary for replacing the existing one beneath US-31. The data measurements the team collected included the location of the waterway, the depth of the water, how wide the watercourse was, and the location of structures upstream and downstream.

"The main thing we are doing is picking up how much water can be held upstream of the crossing so the amount of water coming through that crossing can be determined," Dancer said. "This shows MDOT what is happening with the water as it passes through the waterway and how it is affected by different elevation changes in the land."

Spicer Group CAD technicians then drafted the data out within the team's CAD software before delivering it to MDOT.

For this project, Jacob Moyer, a hydraulic design engineer with MDOT, will use the data to develop a hydraulic model of the waterway flowing through the US-31 culvert in HEC-RAS, a US Army Corps of Engineers program.

"We use the survey cross sections and all the structure data that Spicer Group provided to put together a hydraulic model of the existing and proposed conditions. The proposed conditions will include a new properly sized culvert replacement following guidance in the MDOT Drainage Manual for the US-31 crossing," Moyer said.



Upstream water pooling along the project waterway.

Spicer Group's Survey Crew Chief Jared Johnson begins mapping the edge of US-31.



WE USE THE SURVEY CROSS SECTIONS AND ALL THE STRUCTURE DATA THAT SPICER GROUP PROVIDED TO PUT TOGETHER A HYDRAULIC MODEL OF THE EXISTING AND PROPOSED CONDITIONS. THE PROPOSED CONDITIONS WILL INCLUDE A NEW PROPERLY SIZED CULVERT REPLACEMENT FOLLOWING GUIDANCE IN THE MDOT DRAINAGE MANUAL FOR THE US-31 CROSSING.

Determining the correct size of culvert needed is crucial, as a structure that is too small could block the flow from upstream and cause flooding issues. As funding is available, MDOT replaces culverts throughout the state to maintain roadway safety and integrity.

“A properly sized culvert passes the flow of water efficiently and reduces the risk of flooding upstream. We want to show an improvement with the proposed conditions over the existing conditions with the modeling, while making sure not to increase water velocities within the culvert or stream over a range of flood discharges,” Moyer said. “An efficient culvert will be big enough to pass the water without excessive water velocity to reduce the risk of downstream erosion or scour as well as reducing the risk of any flooding upstream of our project.”

“The information provided by Spicer Group for replacement culvert projects like this one is an integral piece of that puzzle,” he said.

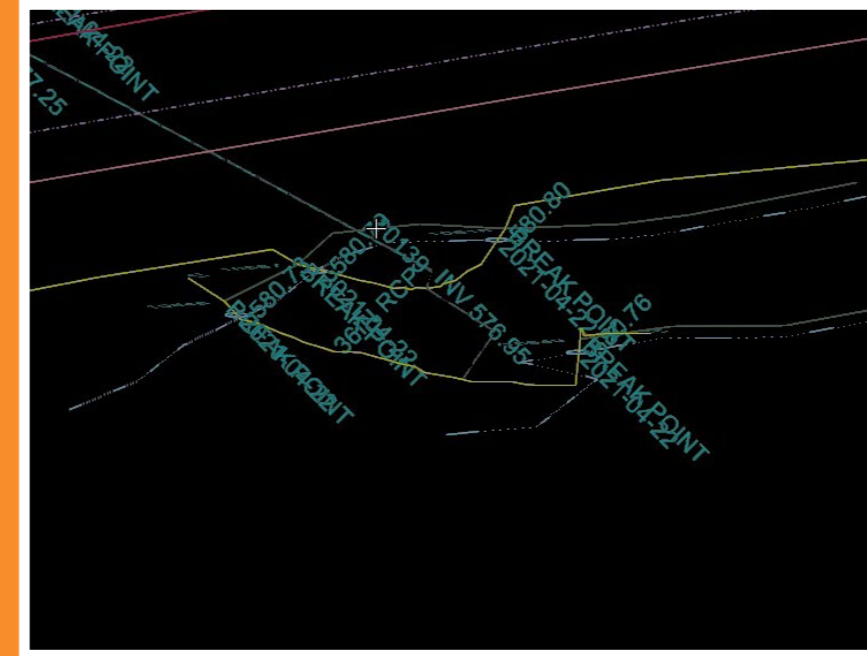
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THE INFORMATION PROVIDED BY SPICER GROUP FOR REPLACEMENT CULVERT PROJECTS LIKE THIS ONE IS AN INTEGRAL PIECE OF THAT PUZZLE.



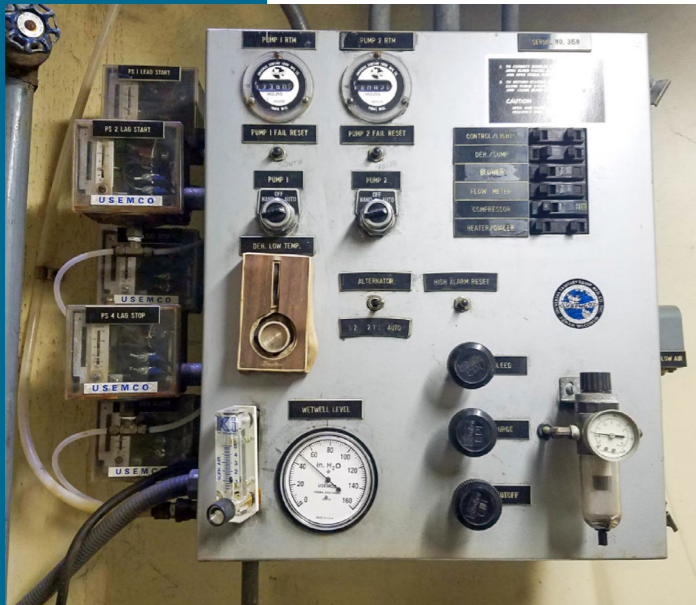
Top down overall view of the completed hydraulic mapping.

Zoomed in view of data in Microstation CAD software.



3D rotated view of the data after it is brought into Microstation CAD software.

Previous pump station control panel.



Updated pump station controls.

IMPROVEMENTS ON THE WHITE CLOUD SHERMAN UTILITY AUTHORITY COLLECTION AND TREATMENT SYSTEM MAKE PROGRESS

NEWAYGO COUNTY – Improvements to the White Cloud Sherman Utilities Authority (WCSUA) are continuing full-steam ahead thanks to a \$5.1 million low-interest loan from the United States Department of Agriculture Rural Development program for Michigan.

Originally constructed in the late 1970's, WCSUA's system provides wastewater collection and treatment to over 1,000 customers in the City of White Cloud and Sherman Township, including residents living along the White River and on Lake White Cloud, Robinson Lake, Crystal Lake, and Long Lake.

The entire system consists of 22.4 miles of gravity sewer, 417 sanitary sewer manholes, 15 sewage pump stations, and 5.8 miles of sanitary force main. The treatment facility has three aerated lagoons, two storage lagoons, an irrigation pump station, and 80 acres of farmland, housing six spray irrigators for land application of the treated water.

Prior to beginning this project, most of the system's components were working beyond their expected service life and in danger of failing. Knowing their system was aging, WCSUA hired Spicer Group to conduct a preliminary inspection of their collection and treatment system to determine the status and level of repairs needed. After identifying key areas in need of improvements, Spicer Group worked with WCSUA to develop a plan to not only fix the aging system, but fund the project as well.

"The sewer collection system and treatment facilities have been well maintained, but there had been no major equipment replacements or upgrades since the original construction," Spicer Group project manager Brian House, P.E. said. "WCSUA was one of several projects in Michigan to receive funding from USDA-RD to help implement improvements of aging rural water and wastewater infrastructure."

The design for this project was completed in the Summer of 2019. The project was bid in the Spring of 2020 and construction began in the Fall of 2020. Improvement efforts focused on replacing equipment in all 15 pump stations as well as making them safer to maintain. Currently, six pump stations have been converted from wet-pit/dry-pit type pump stations to submersible stations. The submersible stations eliminate the need for operators to enter potentially hazardous underground confined spaces to perform repairs and maintenance. In addition, three existing submersible pump stations have been rehabilitated with new pumps, controls, valves, and improved site conditions. Each pump station is also being equipped with a back-up generator to ensure function in the event of any power failure.

Crews are also upgrading and replacing equipment at the wastewater treatment plant. Equipment, controls, and building updates are underway at the plant's pump house. Aerators at the sewage lagoons were also replaced with this project.

A new, web-based, supervisory control and data acquisition (SCADA) system is being installed to monitor the wastewater treatment plant and each of the pump stations. The SCADA system allows WCSUA staff to operate and maintain the sewer assets more economically and efficiently.

"The service WCSUA provides not only protects the environment for their customers, but also all the residents of the City of White Cloud, Sherman Township, as well as the waters of the State of Michigan," House said. "When everything is finished, they will have a wastewater collection and treatment system that is up to date and everything will run smoother and more efficiently."



THE SERVICE WCSUA PROVIDES NOT ONLY PROTECTS THE ENVIRONMENT FOR THEIR CUSTOMERS, BUT ALSO ALL THE RESIDENTS OF THE CITY OF WHITE CLOUD, SHERMAN TOWNSHIP, AS WELL AS THE WATERS OF THE STATE OF MICHIGAN.



Former pump station wet well.



Revitalized pump station wet well.

WARREN TOWNSHIP GOES VIRTUAL

ADAPTING THE PUBLIC MEETING PROCESS TO COVID-19 RESTRICTIONS

WARREN TOWNSHIP – When the COVID-19 pandemic hit Michigan, everything changed almost overnight – including how local governments conduct their everyday business.

Municipality leaders enact policies and ordinances that affect everyone’s daily lives, typically making these decisions during in-person meetings that allow the public a chance to give feedback to elected or appointed officials. Because of safety concerns caused by the pandemic, all in-person meetings were canceled. Local government had to find another way to meet and conduct necessary business while still ensuring their meetings were open to the public.

This change affected counties, cities, villages, and townships across the state – including Warren Township, a community of about 2,000 residents in Midland County.

“We were getting information from the Michigan Township Association, the Governor, our Township lawyer, everyone, recommending what we should be doing in lieu of in-person meetings and we wanted to follow those guidelines,” Denny Allen, the Supervisor for Warren Township, said. “We reached out to Spicer Group for assistance.”



During the pandemic, all in-person meetings typically held at the Warren Township hall (shown) were canceled.



Throughout 2019 and 2020, Spicer Group assisted Warren Township with updating its zoning ordinances. The Township was in the process of finalizing the date of the public hearing on those zoning ordinance amendments when in-person public meetings were put on hold because of the pandemic.

“The Township had been working on this process for a year,” Spicer Group Planner Jeni Stewart, AICP, said. “They didn’t know when the shut down was going to be done, and they wanted to be able to finish the public hearing portion of the process.” Stewart began working with the Township on the process of holding a virtual meeting using the video conferencing software Zoom. This would allow the Township’s Planning Commission members and Board of Trustees to conduct business legally and safely without meeting in person. Each member would dial into the virtual meeting from their own home or office.

Spicer Group had the software and technology readily available to assist Warren Township with their meeting needs. In August of 2020, Stewart assisted Allen and the Township in conducting the Township’s very first virtual public meeting.

“We had the technology and licenses to host larger meetings on Zoom,” Stewart said. “We can host or co-host the meetings for our clients, allow the public to use virtual waiting rooms, control who can speak, who is muted, and record the meetings for minutes as well.”

Prior to the meeting, Stewart met with commission members individually to help prepare for the virtual meetings and get comfortable with the technology and the process.

Allen said that while there was a learning curve, the process was smooth because of the coordination and assistance provided by Spicer Group. Warren Township was able to hold their public hearing virtually on the zoning ordinance amendments on August 11th, 2020.

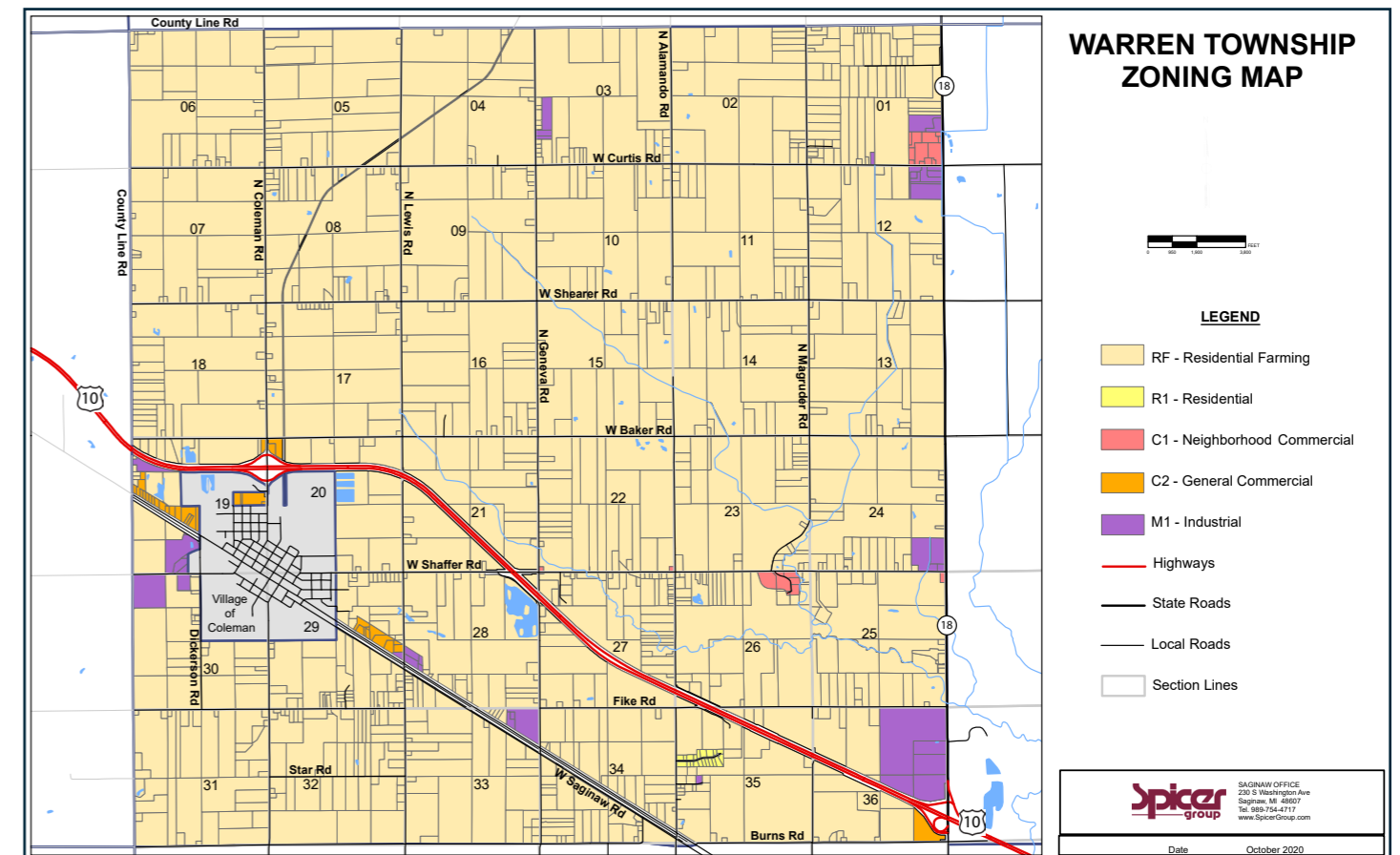
Members of the public were able to dial in with their comments and afterwards, the members of the planning commission officially voted to approve the amendments. All while being miles apart.

Prior to the pandemic, virtual meetings were rarely used by municipalities. Stewart said this is an option for clients to hold their legally required meetings.

“Without being able to meet like this – virtually – things that make the day-to-day life of local government and business happen in communities wouldn’t be possible. Permits, amendments, plans, and ordinances still had to be processed or approved. Virtual meetings allow these tasks to continue to function and move forward in an efficient manner,” she said. “This is another service we can provide for our clients to give them a sense of confidence and security that they can conduct their meetings safely and legally.”

VIRTUAL MEETINGS ALLOW THESE TASKS TO CONTINUE TO FUNCTION AND MOVE FORWARD IN AN EFFICIENT MANNER.

THIS IS ANOTHER SERVICE WE CAN PROVIDE FOR OUR CLIENTS TO GIVE THEM A SENSE OF CONFIDENCE AND SECURITY THAT THEY CAN CONDUCT THEIR MEETINGS SAFELY AND LEGALLY.



Spicer Group assisted Warren Township with holding a virtual public hearing on zoning ordinance amendments in August of 2020.

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