Notice of Solicitation of Qualifications
Professional Engineering Services

CITY OF SWARTZ CREEK, MICHIGAN

The City of Swartz Creek (pop. 5,758), in compliance with the qualified bidding selection process and the Brooks Act, is accepting sealed statements of qualifications from qualified firms to perform general engineering, surveying, design, construction management, mapping, and landscape architecture services for the community. The City's selection of a qualified professional engineering firm will be for a period of three (3) years.

Specifications are available online at www.cityofswartzcreek.org or may be picked up at the City Hall, 8083 Civic Drive, Swartz Creek Michigan, during normal business hours, said hours being 8:00 A.M. to 6:00 P.M., Monday; 8:00 A.M. to 4:30 P.M., Tuesday through Thursday; 8:00 A.M. to 12:00 P.M., Friday, legal holidays excepted. **Proposals shall be accepted at City Hall till Friday, October 25th, 2019 at 11:00 a.m., opening and tabulation to follow.**

The City of Swartz Creek has the right to accept or reject any and all proposals. The City of Swartz Creek is an Equal Opportunity Employer.

PUBLISH : SUNDAY, SEPTEMBER 29, 2019
PROOF REQUIRED
www.bidnet.com

PUBLISH : SUNDAY, SEPTEMBER 29, 2019
PROOF REQUIRED
The Flint Journal

Please bill the: City of Swartz Creek
8083 Civic Dr.
Swartz Creek MI 48473

ADDENDUM
NOTICE OF REQUEST FOR QUALIFICATIONS
Professional Engineering Services
City of Swartz Creek, Genesee County Michigan

TIME EXTENSION FOR BID OPENING

Statements of qualification along with any additional information the firm wishes to submit will be accepted until **11:00 a.m., Friday, November 8th, 2019, at the Swartz Creek City Office, 8083 Civic Drive, Swartz Creek, MI 48473** (810-635-4464). At the aforementioned due date, time and location, proposals will be opened and tabulated as to their reception only. Awards shall be made after review as set forth within. Firms applying for consideration shall prepare and submit a sealed single copy of the proposal to:

CITY OF SWARTZ CREEK
C/O CONNIE OLGER, CITY CLERK

8083 Civic Drive
Swartz Creek, Michigan 48473

Submission of a proposal will be construed as conclusive presumption that the applicant is thoroughly familiar with the proposal and specifications, and that the applicant understands and agrees to abide by each and all of the stipulations and requirements contained therein. Proposals can be delivered in person or sent via mail or similar courier, as addressed above. The outside of the entire package shall be sealed and clearly marked "**PROFESSIONAL ENGINEERING SERVICES PROPOSAL**"

Proposals will not be accepted after the time designated for the opening of the proposals ***(Friday, November 8, 2019 @ 11:00 A.M.)*.** The applicant shall assume full responsibility for delivery of proposals prior to the appointed hour for opening same, and shall assume the risk of late delivery or non-delivery regardless of the manner the applicant employs for the transmission thereof. The City of Swartz Creek shall accept proposals only during normal business hours, said hours being 8:00 A.M. to 6:00 P.M., Monday; 8:00 A.M. to 4:30 P.M., Tuesday through Thursday; 8:00 A.M. to 12:00 P.M., Friday, legal holidays excepted.

All questions regarding this solicitation are to be sent via email to City Clerk Connie Olger, at: ceskew@cityofswartzcreek.org

See the original NOTICE OF REQUEST FOR QUALIFICATIONS for details.

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NOTICE OF REQUEST FOR QUALIFICATIONS
Professional Engineering Services
City of Swartz Creek, Genesee County Michigan

GENERAL STATEMENT

The **City of Swartz Creek,** in compliance with the qualified bidding selection process and the Brooks Act, is accepting ***sealed*** statements of qualifications from qualified firms to perform general engineering, surveying, construction management, mapping, and landscape architecture services for the Swartz Creek Community. This solicitation will result in the prequalification of up to four firms. The prequalified firm(s) will be selected by the city to perform work on a project by project basis. Services of companies that are prequalified, as a result of this solicitation, may or may not be utilized by the city. *Each firm submitting their qualifications must acknowledge that being short-listed does not necessarily mean that the city will use their services.* The city's prequalification of professional engineering firms will be for a period of three (3) years from the date of successful award.

DESCRIPTION OF THE COMMUNITY

The City of Swartz Creek (population ~5,758) is a municipal corporate suburb of the City of Flint, located in Genesee County, Michigan. Swartz Creek is a 'home rule' city with a council-manager form of government. The city is about five (5) square miles and is currently experiencing relatively stable housing and commercial growth. The community is a full services government operating within a stable financial, political, and professional context. The City is in various stages of planning and implementation of funded sewer, water, and street infrastructure improvements as part of a holistic asset management plan and six year capital improvement plan. The city is also engaged in ongoing trail-way, streetscape, drainage, and recreational improvements.

SUBMISSION OF PROPOSALS

All firms desiring to be considered and who are registered to practice in the State of Michigan, are invited to submit proposals in accordance with the terms as set forth within. Each firm submitting a proposal shall make themselves familiar with all conditions as described within. The City of Swartz Creek shall consider all applicants fully informed, unless the City is specifically notified in writing of all factors that would affect their proposal. All proposals shall be submitted in full detail, and all entries legibly made. An authorized corporate officer from the submitting firm must sign the proposal. Statements of qualification along with any additional information the firm wishes to submit will be accepted until **11:00 a.m., Friday, October 25th, 2019, at the Swartz Creek City Office, 8083 Civic Drive, Swartz Creek, MI 48473** (810-635-4464). At the aforementioned due date, time and location, proposals will be opened and tabulated as to their reception only. Awards shall be made after review as set forth within. Firms applying for consideration shall prepare and submit a sealed single copy of the proposal to:

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All questions regarding this solicitation are to be sent via email to City Clerk Connie Olger, at: ceskew@cityofswartzcreek.org

RIGHT TO REJECT

The City of Swartz Creek reserves the right to reject any or all proposals, or any part of the same, to waive any irregularities or informalities, and to make the award in part or entirety as may appear to the City of Swartz Creek to be in the best interest of the City.

DISQUALIFICATION OF APPLICANT

Although not intended to be an exhaustive list of causes for disqualification, any one or more of the following events, among others, may be considered sufficient for the disqualification of an applicant and the rejection of the applicant's proposal:

1. Evidence of collusion among applicants.
2. Lack of competency, incomplete submittals.
3. Misrepresentation.
4. Fraud or fraudulent statements.
5. Not in good standing with any Federal, State or County government entities; included on the Debarment and Suspension List

GENERAL SCOPE OF REQUIRED SERVICES

The City desires to prequalify up to four (4) professional engineering firms to provide general services for the following, typical local, state, and federally funded projects. The prequalified firm(s) will be selected by the city to perform work on a project by project basis.

1) Design engineering services to include, but not necessarily limited to, projects such as: street construction both new and re-construction; bridges; sidewalks; parks and park facilities, such as restrooms, trails and parking lots; storm water lines, structures and drainage studies; water and sanitary sewer mains, structures and facilities.

2) Construction engineering including construction staking and inspection/observation.

3) Property surveys, legal description services, and GIS mapping.

4) Review of development site plans to determine appropriate street construction design quality, utility/storm water design, detention capacity, traffic flow, and compliance issues regarding community policy and ordinance requirements.

5) Project experience with respect to CDBG projects.

6) Provide continuing assistance with respect to state and federal grant opportunities; provide general assistance to city administrative and elected officials.

7) Provide rational and creative leadership to staff and officials concerning all areas relating to the office of engineer.

8) Provide construction site management and inspection services as needed.

9) Provide traffic engineering and signal services.

The City maintains standards for design and engineering specifications on file. Water, sewer, and storm projects are also subject to Genesee County Drain Commission Water and Waste Services Division review per ordinance. Design standards, asset management plans, and the current Capital Improvement Program are available on the city's website: www.cityofswartzcreek.org.

In the next three years, the city expects to perform approximately $10,500,000 in public construction projects, as follows: $6,000,000 in water main construction, $2,500,000 of street rehabilitation/reconstruction, $1,000,000 of trail construction, and $1,000,000 in miscellaneous engineering related construction projects.

When the selected consultant is requested to perform engineering services on a project, the City will present the scope and desired schedule to the consultant. The consultant will present the City with a proposal including project staff-hours and costs. If the proposal is reasonable based on the scope and cost of the project, a contract will be prepared and

either executed, or submitted to the Michigan Department of Transportation (MDOT) for approval, then executed. If a proposal is deemed unreasonable by the City or MDOT, the City will attempt to negotiate a fair price with the preferred consultant. If a price cannot be agreed upon by the City and the preferred consultant, the City will request a proposal from one of the remaining consultants obtained through this solicitation.

Contracts for work shall be MDOT standard or by local agreement. A Third Party Agreement shall be required. Payment for services shall be by municipal check or via the MDOT reimbursement system.

SUBMISSION CRITERIA

The statement of qualifications shall, at a minimum, include the following information:

1. A letter of transmittal containing the following information:

   a) A brief discussion outlining the firm's understanding of the requested services.

   b) The name, title, address, telephone and fax number of the person authorized to represent submitting firm.

2. Firm's profile, including:

   a) Organization, size, Michigan office location(s).

   b) The office location where work associated with this proposal will be performed, including the number of professional staff by classification regularly assigned to the designated office.

   c) Identify the person directly responsible for managing and supervising projects and relationships with City staff and elected officials. Submit resumes (two pages maximum per person) of all professionals likely to be assigned to community projects.

   d) Submit a list of municipal clients, including at least three of which are similar in character to the City of Swartz Creek for whom you have performed general engineering services for at least two years. Submit the name and telephone number of the local contact person.

   e) Submit a proposed contract for the services discussed in this proposal.

   f) Submit a communication plan addressing how the firm/project manager will communicate with the City.

   g) Provide any other information considered important, not discussed in the RFQ, limited to one (1) page, which may help the city better understand the firm.

   h) R.F.Q.'s must be sealed. The outside of the entire package shall be

clearly marked "PROFESSIONAL ENGINEERING SERVICES PROPOSAL".

3. The submitting firm is required to be prequalified (at a minimum "provisional" status) with the Michigan Department of Transportation (MDOT), by the proposal opening date ***(Friday October 25, 2019 @ 11:00 A.M.)*****,** in ALL of the following categories:

    - Bituminous Pavement Inspection
    - Construction Staking
    - Bridge Construction Engineering
    - Density Inspection &Testing
    - Portland Cement Concrete Inspection & Testing
    - Road Construction Engineering
    - Municipal Utilities
    - Roads & Streets
    - Traffic Signal Design

    The classifications listed above are considered "Primary Prequalification Classifications", in that; the submitting consultant MUST be prequalified in all of the categories listed above. Sub-consultant prequalification's ARE NOT considered "Primary Prequalification Classifications" and will not be accepted as a method to fulfill prequalification requirements listed.

SUBMISSION EVALUATION

The City will review the proposals independent of rate schedules. Do not submit any rates or similar quotes with proposals.

After review of the submitted qualification statement packages, the top rated firms will be requested to interview. The interview will focus on the criteria referenced herein as well as the consultant's projected workload, experience with MDOT audits, equal employment practices and disadvantaged business enterprise participation.

After evaluation and ranking of proposals, negotiations will be commenced by the City Manager with each prequalified firm to establish a general rate schedule. Subsequent negotiations may be commenced with the next most qualified firms if an agreement on rates is not reached with any of the most qualified firms.

Selection is expected prior to January 1, 2020.

Evaluations are based on the following criteria:

1. Ability to provide the service required
2. Qualifications of personnel assigned
3. Quality of the communication plan
4. Location of the office that will serve the City
5. Compatibility of submission with respect to the RFQ requirements
6. Reference analysis from other communities

7. Past experience of the firm with the referenced community

Evaluations will be scored using the following relative weights:

Criteria		Number of points
1.	Understanding of Service:	20
2.	Qualifications of Team:	30
3.	Past Performance:	20
4.	Quality Assurance/Quality Control:	20
5.	Local Presence:	10
	Maximum	100 points

The City of Swartz Creek is an Equal Opportunity Employer

BID TABULATON SHEET

Opened by: Connie Olger
Witness: Adam Zettel
Bidding for:

Date: 11/8/19
Time: 11:00 am
Opened at: City Council Chamber

Name and address of bidder	Bid Amount	Remarks
Spicer Group		digital + hard copy
Johnson + Anderson		hard copy
Rowe Prof Eng		hard copy
OHM		hard copy

October 25, 2019

City of Swartz Creek
Attn: Connie Olger, City Clerk
8083 Civic Drive
Swartz Creek, MI 48473

RE: Proposal to Provide Professional Engineering Services

Dear Connie,

Enclosed within this proposal are Spicer Group's qualifications to provide general civil engineering and professional consulting services to the City of Swartz Creek. We know our experience, expertise, and values match well with the City's professional service needs, and we are prepared to begin providing these services immediately upon request. We feel our ability to provide all services outlined in this proposal combined with us working with communities similar to yours on a routine basis makes us the top applicant to provide as-needed engineering services.

We will be available to assist you at any time—24 hours a day, seven days a week. We have assisted municipal clients all over Michigan, and we work closely with these communities every day and understand their functions and expectations. We also understand that each community possesses unique qualities, and we strive to preserve those qualities while enhancing infrastructure components at the same time.

Please note we don't charge for mileage, copies, phone calls, and general visits. We only bill our clients for the project-specific engineering and associated tasks we complete. We welcome our clients to call us at any time with any general questions, and we don't believe in billing for those efforts.

Please feel free to contact me at any time regarding our proposal or our qualifications. We look forward to the opportunity to work with the City of Swartz Creek as I only live a few miles away. Thank you for considering us.

Sincerely,

Darrick Huff, P.E.

Spicer Group, Inc.
Principal in Charge
230 S. Washington Ave.
Saginaw, MI 48607
Office: 989-754-4717
Cell: 734-787-0339
E: darrickh@spicergroup.com

PROPOSAL TO PROVIDE GENERAL CIVIL ENGINEERING AND PROFESSIONAL CONSULTING SERVICES TO THE CITY OF SWARTZ CREEK

Prepared By:

Spicer group

October 25, 2019

TABLE OF CONTENTS

Authorized Signature:

FIRM PROFILE

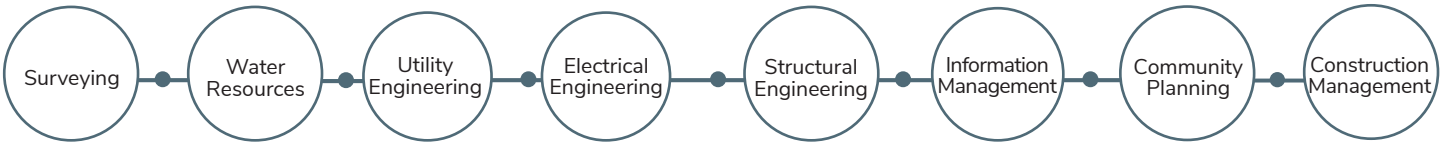
WHO ARE WE?

Spicer Group is incorporated and licensed to operate in the State of Michigan, and we have 12 principal owners. We have over 200 employees who are spread out across six offices in Michigan including Saginaw, St. Johns, Manistee, East Lansing, Byron Center, and Dundee.

Saginaw Office
230 S. Washington Ave.
Saginaw, MI 48607
989-754-4717
F: 989-754-4440
darrickh@spicergroup.com

75 Years of On-Call Municipal Consulting Services

Spicer Group, Inc. is a Michigan-based firm that has been providing architecture, engineering, surveying, construction engineering, grant writing, and community planning solutions for clients across the state for the past 75 years. We have fully-staffed and modernly-equipped surveying, water resources, utility engineering, electrical engineering, structural engineering, information management, community planning and construction management departments. The following is a brief overview of our professional capabilities to demonstrate that we are qualified to address all of the City of Swartz Creek's consulting needs. Spicer Group is committed to providing high-quality solutions that will be tailored to the unique needs of the City of Swartz Creek. It is our understanding the City may require assistance with these items at any time, and we are prepared to respond in an efficient manner. We dedicate the time and expertise of our proposed team members, and we guarantee they will provide you with the quality assistance you expect if they are called upon.



FIRM PROFILE

Spicer Group is Qualified to Provide Services In:

DRINKING WATER

We have assisted many communities with the planning, design and construction of their water distribution systems. For many of those same clients, we continue to assist them with preparing for future growth by identifying necessary improvements and expansions to allow for increased capacity. We have engineers who focus primarily on water distribution and treatment and who are well experienced with all regulating agencies. Our engineers contribute cost-saving design techniques by planning for the future and identifying what is adequate now, and what might be required 10 years in the future to sustain growth – whether expected or unexpected.

Whether you are thinking about constructing an entirely new water distribution or treatment system, or simply updating and expanding an old one, Spicer has the expertise to do so. We are well-versed at identifying helpful funding sources as well as helping you acquire those funds. We work with many clients including villages, townships, cities and even private water providers. Our engineers have the experience and expertise to provide solutions from the water source to the tap – and everything in between.

WASTEWATER

A core strength of Spicer is our long history of assisting clients with their sanitary collection and treatment needs. Our clients respect us for our knowledge of sanitary systems and the issues that are associated with them including ever-changing regulations, community growth and development, systems expansion and aging equipment. Spicer has designed the original sanitary collection and treatment systems for dozens of communities throughout Michigan.

We have also designed countless sanitary sewer extensions, pump stations and wastewater treatment facility expansions. Our well-qualified staff also provides consultation to clients regarding their current and future wastewater treatment and collection needs. We are trusted for our ability to evaluate the current status of a system and recommending actions that need to be addressed immediately, in the near future, or in the long term to accompany each client's unique needs.

WATER RESOURCES

Spicer Group is respected throughout Michigan for providing solutions to storm water issues. We are highly regarded by drain commissioners and municipalities for our experienced staff and extensive knowledge of Michigan's Drain Code. We work closely with several municipalities in addressing their storm water concerns including permitting, NPDES Phase II and collection concerns. In addition to designing solutions for storm water systems, Spicer Group has successfully assisted municipal, county, educational institutions, and other clients navigate through the regulatory requirements of the National Pollutant Discharge Elimination System Phase II storm water regulations. Spicer Group has aided these same clients in attaining compliance through the implementation of the required public education plans, public participation plans, illicit discharge elimination plans, watershed management plans and storm water pollution prevention initiatives.

FIRM PROFILE

TRANSPORTATION ENGINEERING

Another core strength regarding civil engineering solutions is Spicer Group's strong team of roadway, bridge and pavement design professionals. We are uniquely qualified because our team is made up of specialized MDOT-prequalified engineers and designers that are not only experienced in performing detailed designs for sidewalks, paths, roads, highways, and bridges, but also in identifying effective solutions for traffic and safety issues. Working with our clients, we can determine the current and future transportation, traffic and utility needs in order to provide solutions best suited for the City of Swartz Creek.

DESIGN, BID & CONSTRUCTION MANAGEMENT SERVICES

At Spicer Group, we assist clients daily with fulfilling design, bidding and management tasks on various new sanitary sewer, municipal water, road/street, and other capital improvement construction projects. During construction, we attend preconstruction and progress meetings, prepare and distribute minutes, answer contractor, subcontractor and supplier questions, respond to requests for information, and prepare progress reports for the client and their associated stakeholders. We review shop drawings, review progress payments, process change orders, prepare bulletins as necessary, and coordinate all aspects of the project on behalf of the client.

Typically, Spicer Group also provides bid assistance on the projects we design. We will prepare the advertisement, make reproductions for bidders, suppliers and subcontractors, hold a pre-bid meeting and issue minutes, prepare and issue addenda as necessary, open bids with our clients, prepare a bid tabulation, review contractor's qualifications, and make a recommendation. Additionally, we have 15 experienced state-prequalified survey crews who are experienced in all types of construction projects. They are very mobile and prepared to collect, record and deliver data that is quality, on time and very accurate. Our survey professionals have extensive experience with providing quality as-built surveys, and they are highly respected by our clients for their ability to develop extremely accurate records of final design plans.

PUBLIC IMPROVEMENT INSPECTIONS

Spicer Group has 18 mobile state-prequalified and state-certified construction inspectors/material testers on staff who are experienced in all types of construction projects. We operate 14 concrete testing kits, 14 nuclear density gauges with complete compaction testing kits, and two paint inspection kits. Each team member is cross trained in both inspection and material testing. Each Spicer Group vehicle is equipped with complete density and concrete testing kits, and our technicians are experienced in E-Construction and ProjectWise. We have a Safety Program that meets and exceeds state standards.

FIRM PROFILE

We routinely assist clients with fulfilling all administration tasks on construction, and our construction inspectors are very experienced with using FieldManager and keep track of the plan changes made in the field during construction. The inspectors' field plan data are used to develop as-constructed plans.

Spicer Group's team is qualified to handle all full construction inspection/testing projects as required. Each of our construction service technicians is highly capable of handling a variety of projects. We accomplish this by providing each team member with the proper training, tools, and resources. All project inspectors have extensive field experience and have been trained in concrete and asphalt paving, concrete field testing, aggregate testing, density testing and storm water inspection. We hold ongoing training throughout the year on specialized items including documentation, pavement construction, sanitary sewer, storm sewer, water main and soils and aggregate testing. Construction Service Technicians are trained to look ahead for utility conflicts, omitted pay items, design issues, and omissions.

SURVEYING

Spicer Group's professional surveyors and geospatial professionals are experts at measuring the world we live in, whether from land, sea, or sky. Our team can work on the smallest of infrastructure projects to the largest of mapping projects. From traditional boundary surveys, ALTA/ACSM Land Title Surveys, to mega-freeway reconstruction projects, our crews have our clients covered. We pride ourselves on leveraging the latest in traditional surveying and remote sensing technology to complete projects as efficiently, accurately, and safely as possible. From robotic total stations and GPS, 3D laser scanners, mobile and aerial LiDAR systems and single and multi-beam sonar, our team of experts deploy the right technology for a given project. With 15 field crews and a large group of support professionals, our team can mobilize anywhere in the state to support any project. Currently, our team consists of 9 licensed professional surveyors holding licensure across the U.S.

We also offer Mobile Mapping and hydrographic surveying services. For Asset Management purposes, Mobile Mapping should be a definite consideration as the most cost-effective solution for gathering important spatial data for all manholes and other above-ground assets. Accurate spatial information is the critical foundation to an accurate GIS. Spicer is driving municipal streets and roads all over the country right now and we are gathering pinpoint-accurate data for public and private assets including precise GPS position, rim elevation, casting type, height of assets, distance from the roadway, pavement conditions and other municipal assets of interest.

This information is then incorporated into our clients' GIS systems and is saving them hundreds of hours of time had they sent field personnel out to physically collect this same data one asset at a time. An additional benefit for our clients is that while we are driving through their area, the Pegasus Mobile Mapping System is also collecting 3-D imagery of above-ground assets. Think of this as "Street-View" for engineers. The data can be continually used to create baseline survey drawings to support many downstream projects like road rehabilitation projects, sewer and water projects, and other public infrastructure projects.

FIRM PROFILE

DEVELOPMENT REVIEW

Spicer Group serves as the general engineer for several municipalities in Michigan. As part of this role, we review plans for new developments, subdivisions, roads, and public utility extensions. These plans are reviewed to ensure they meet all necessary municipal requirements of water, sanitary sewer, storm sewer and zoning ordinances. Spicer Group provides reviews to verify compliance with local municipal construction standards. We verify that plans comply with fire department requirements, that a Michigan Department of Environment, Great Lakes, and Energy (EGLE) permit is issued, and that if easements are necessary, they are prepared, recorded, and submitted to the municipality for inclusion in their files.

For many communities, Spicer Group provides the on-site inspection and construction administration of their owned utilities. We verify that the utilities constructed are in accordance with the municipality's approved plans and standards and that as-built drawings are completed and returned to the municipality. A brief list of clients we do these services for include:

- Tyrone Township
- Watertown Township
- Monitor Charter Township
- Hampton Charter Township
- Saginaw Charter Township
- Thomas Township
- City of Manistee
- Marion Township
- Howell Township
- Putnam Township

PARKS AND RECREATION

Getting outside and being active are key ingredients to living healthy lives. At Spicer Group, we consider ourselves very lucky to have the ability to design projects that contribute to a more active society. Our contribution to recreation design is a collaborative effort from professionals throughout our company—including our architects, civil engineers, landscape architects, structural engineers and transportation professionals. Fishing piers, non-motorized paths, pedestrian bridges, wildlife viewing platforms, playgrounds, and parks—these are the man-made features that help society forget about the normal worries of life and keep people of all ages and abilities active. These amenities provide access to nature and promote a healthy soul. The sounds of children playing, birds chirping, and waves crashing are some of the most appealing senses available—and our professionals are experts at providing fun, safe and universal accessibility.

FIRM PROFILE

GEOGRAPHIC INFORMATION SYSTEMS

Spicer is an ESRI Silver Tier Partner. Our GIS service area is rooted firmly in a strong foundation of ArcGIS dating back to the days of ArcView 3.2 and ArcInfo Workstation 7 over 23 years ago. GIS is at the heart of the way we operate our engineering, surveying and planning business. We have over 20 GIS data creation professionals who provide data layers and projects to not only our clients but also to approximately 50 Spicer employees who are GIS data users on a regular basis. We have delivered many types of GIS products over the years, including ArcReader, ArcGIS Explorer, ArcPad and even dating back to Map Objects solutions. We have worked for many counties and communities across Michigan. We are capable in other GIS platforms as well, including Autodesk and PostGIS platforms, and we have leveraged heavily the Google Maps API to deliver web and mobile-friendly content.

LANDSCAPE ARCHITECTURE

Spicer Group is proud to offer in-house landscape architectural services. Our state-licensed landscape architects play an integral role in the firm's multidisciplinary approach to our planning and design projects. They have the unique ability to identify with communities to understand what their ultimate visions are and in return, implement them into fun, safe, and enjoyable places to visit. Throughout the planning and design process, projects are married with the client's programmatic needs to ensure our designs carefully integrate existing site conditions, circulation needs, drainage, above and below ground infrastructure, and landscaping to form functional, attractive, and environmentally friendly design solutions. Regular projects our landscape architects provide design solutions for includes municipal parks, trails, playgrounds, streetscapes, and landscape restoration following utility projects. In addition, our landscape architects' passion for linking local parks with the communities has helped Spicer win awards based on accessibility and innovative design.

STRUCTURAL ENGINEERING

Nearly every infrastructure component in our world has some type of structural design component woven into it. Without structural design, pipes would break, bridges would fail, and buildings would collapse. Spicer Group is proud to have an in-house department of structurally-focused experts. Our Structural team is a unique group of professional engineers and designers who are depended on significantly throughout the company and by our clients. They work daily with many other groups and provide important structural advice and design solutions to everything from pump stations to bridges to seawalls. They calculate whether walls can be moved, if buildings can be demolished and how shipping docks can accommodate 1,000-foot-long ships. They design skeletal support systems for waterfront piers and concert stadiums and engineer 100-foot exhaust stacks for industrial clients. They truly are a structured group of individuals and having them in-house adds value to our projects and minimizes our clients' costs by eliminating the need to sub this service out.

FIRM PROFILE

ARCHITECTURAL SERVICES

The Architectural Department at Spicer Group is dedicated to conceiving creative solutions tailored to our clients' needs. The quality of life that our projects bring to our clients is important and a reflection of us; we strive to provide well-designed and creative spaces. Architecture surrounds us where we live, work and play. It is our mission to emerge our clients' visions into quality places. At Spicer, we are a combination of artists and tacticians; imagining, molding and creating unique environments for each project we design and every client we work with.

ELECTRICAL AND MECHANICAL ENGINEERING

Spicer Group's licensed electrical engineers offer a diverse set of skills that we use in many different applications. Our electrical engineers play essential roles in everything from the automation of dam control structures to the controls of a wastewater treatment plant to street lighting. Our licensed engineers work with many of our clients including municipal, industrial and private entities. In fact, they are also experts at identifying cost-reducing options for lighting, heating and cooling. This ability has helped our clients optimize their energy use for many different situations – street lighting, industrial machinery use, building energy use and infrastructure energy output to name a few. Our electrical engineers work closely with our civil engineers to identify optimal design features for important components of wastewater and drinking water systems such as pump stations, treatment plant processes and emergency back-up power sources. We also provide designs that are customized to the client's specific needs, and they are always available for immediate assistance if needed.

GRANT WRITING

Since 2000, we have helped our clients acquire close to $114 million in grant/loan funding for their projects. $96 million of that total was for infrastructure projects including improvements to drinking water distribution and treatment systems, wastewater collection and treatment systems, and roadways. The remaining $16 million was for recreation-based projects including trails, spray parks, kayak launches and improved boat docking. In fact, in 2017 and 2018, we wrote 24 successful recreation grant applications on behalf of our clients seeking funds for recreation projects. A total of $4,311,400 was secured for our clients and will support efforts to enhance recreation resources in their communities.

$113,424,588

Municipal Infrastructure & Recreation Grant/Loans

2000-2019

- Michigan Natural Resources Trust Fund
- Michigan Land and Water Conservation Fund
- MDOT Transportation Enhancement
- MDNR Passport Grants
- Michigan State Waterways Program
- Michigan Coastal Management Program
- Great Lakes Fisheries Trust
- Michigan Area of Concern Grant
- Drinking Water Revolving Fund
- Michigan Water Pollution Control Revolving Fund
- MEDC Downtown Infrastructure Grant
- Michigan Inland Fisheries
- MDOT Local Bridge Program
- EPA Section 319 Funds
- FEMA Hazard Mitigation Program Funds
- USDA Rural Development Funds
- Safe Routes to School

PROJECT TEAM

Spicer Group has over 200 professional employees on staff and based upon our understanding of your project, the Principal in Charge of each individual project for the City of Swartz Creek will put together the best team that can provide outstanding services for each unique project.

Darrick W. Huff, P.E. - *Principal in Charge*

- Responsible for overseeing Spicer Group's Municipal Utilities Department which includes all staff working on water distribution/treatment, sanitary collection/treatment, and electrical engineering projects
- Has extensive experience with coordinating and overseeing small and large municipal infrastructure projects associated with drinking water distribution/treatment and wastewater collection/treatment projects
- Extensive experience with HVAC design, security systems, power distribution evaluations and emergency generator sizing
- 23 years of experience
- Bachelor of Science in Electrical Engineering, Michigan Technological University, 1996

Jennifer M. Garza, P.E. - *Project Manager*

- Specializes in the design, preparation of construction plans, specifications, and cost estimates associated with wastewater collection systems, pump stations, lagoon systems, and wastewater treatment plants
- Has extensive experience with the design, preparation of construction plans, specifications, and cost estimates associated with drinking water distribution and treatment projects
- Has additional expertise related to site plan reviews, permitting, preparing engineering specifications, wellhead protection and environmental remediation system reporting
- 17 years of experience
- Bachelor of Science in Biosystems Engineering, Michigan State University, 2002

Steve Rutkowski, P.E. - *Project Manager*

- Responsible for managing a significant number of municipal-related projects for several of Spicer Group's clients
- Has been heavily involved with many of our municipal clients and their projects associated with the EGLE's S.A.W. Program including the development of asset management programs for their infrastructure
- Bachelor of Science in Civil Engineering, Michigan Technological University, 2012
- Master's in Civil Engineering, Norwich University, 2014
- 7 years of experience

Michael G. Niederquell, P.E. - *Transportation Project Engineer*

- Specializes in the design, preparation of construction plans, specifications and cost estimates associated with streets, sidewalks and paths
- Extensive experience with all types of pavement processes and applications including main roadways, secondary routes, parking lots and streetscapes
- 22 years of experience
- Bachelor of Science in Civil Engineering, Michigan State University, 1998

PROJECT TEAM

Joe D. Wright, PLA - *Landscape Architect/Planner*

- Has a Bachelor's degree in Landscape Architecture from Michigan State University
- Has extensive experience with providing planning, park planning, zoning, trail design, and site plan review for communities
- Has managed the development of dozens of community master plans and recreation master plans
- 24 years of experience

Roger P. Mahoney, P.S. - *Survey Services Manager*

- Extensive experience on providing various types of survey services including construction staking on pavement, sanitary sewer, water main, pump station and various structure construction
- Routinely conducts topographic surveys for water main, sanitary sewer and open channel drain projects
- Very successful in attaining easements, preparation of easements and legal descriptions
- Bachelor of Science in Surveying, Ferris State University, 1991
- 30 years of experience

David A. Boersma, AIA - *Project Architect*

- Licensed Architect in Michigan, Wisconsin and Pennsylvania
- Focus is on municipal facilities, parks, education, hospitality, healthcare, hospice, senior care, single family residential and multi-family residential
- NCARB certificated and a State of Michigan Code Official
- Master's and Bachelor's of Architecture, Lawrence Technological University, 2000
- 27 years of experience

Mark D. Norton, P.E. - *Project Manager*

- Licensed Engineer in Michigan since 2001
- Focus is on municipal water main, sanitary sewer, and roadway projects
- Bachelor's of Science in Civil Engineering, Michigan State University, 2001
- 23 years of experience

Nick B. Czerwinski, P.E. - Project Manager

- Has 16 years of experience related to storm water management and drainage design tasks
- Experience includes working with open channel ditches, streams and enclosed sewer drainage systems
- Uses hydraulic computer modeling regularly including HEC-RAS, CulvertMaster, FlowMaster, Hy8, and HECHMS.
- Bachelor's degree in Civil Engineering from Michigan Technological University, 2006

PROJECT TEAM

Rick E. Born - *Construction Manager/Administrator*

- Responsible for coordinating all material testing, construction administration, and inspection staff at Spicer Group
- Primary responsibilities include managing staff, proof checking test reports to ensure compliance with project specifications, distributing test reports to the owner and general contractor, and oversight of test procedures and test results
- Has experience in construction inspection and testing of pavement, storm sewer, sanitary sewer, and water main construction on MDOT and municipal projects.
- 25 years of experience

Brian Poultney - *Design*

- Has provided design for civil engineering projects that include drains, water main, sanitary sewer extensions, and pavement improvements
- Licensed Storm Water Operator
- MDOT certified for State Highway Safety Features and Appurtenances
- 23 years of experience

Darrick W. Huff, P.E.

Principal

Mr. Huff has significant experience with performing systems evaluations for municipal water infrastructures and the complex network of components that function together to make the systems work. This includes evaluation and analyses of electrical and control systems, instrumentation, sequence of operations, power distribution, and emergency generator sizing. His experience extends to HVAC design, security systems, elevator control, and lighting designs. As noted below, Mr Huff has worked on several projects directly related to municipal water distribution systems including water treatment plants and both raw and finished-water piping networks.

Davis Road Water Main – *Project Manager*
Saginaw County, MI
Responsible for overseeing the study, design and construction administration for the installation of 10,000 feet of new 48-inch raw water main that is responsible for providing water to the City's water treatment plant. The project also included the installation of 12,000 feet of water main that is key to providing potable water to users throughout Saginaw County. This project increased reliability of both the raw and finished water transmission mains of the system and improved the operational flexibility of the raw water supply in the region. Also oversaw the securing of required easements for the new water mains.

Washington Discharge Line Emergency Assistance – *Project Manager*
City of Saginaw, MI
Responsible for overseeing the design and construction of emergency repairs needed at a key 36-inch cast-iron finished-water line that conveys pumped water from the City's treatment plant to the residential distribution system. The line was 88 years old and was suffering leaks at hard-to-reach location where a steel bend was put in place.

Gratiot Road Pumping Station Improvements – *Project Manager*
Thomas Township, MI
Responsible for overseeing the design and construction for the City of Saginaw's Gratiot Road Pumping Station. This project focused on upgrading the Gratiot Road Pumping Station from 3 million gallons per day (mgd) capacity to 9 mgd capacity. This was accomplished via the installation of three new 125hp booster pumps capable of 3,125 gallons per minute and three new 200hp re-pumps capable of 3,125 gallons per minute that are equipped with variable frequency drives that can automatically adjust to changing flow conditions. To provide redundancy and increase the reliability of this key water system asset, a second electrical service and two new stand-by generators were added.

Water Treatment Plant Drawing Update – *Project Manager*
City of Saginaw, MI
Responsible for coordinating all efforts relating to the collection, organization and digitizing of all drawings and plans of the City's water treatment plant's site, infrastructure, mechanical, piping, and electrical network.

Years of Experience:

23 Years

Education:

Bachelor of Science in Electrical Engineering, Michigan Technological University, Houghton, MI, 1996, specifying in power and machinery

Registration:

Professional Engineer, State of Michigan, 2000, License #46786

Professional Experience:

Spicer Group, Inc., Saginaw, MI, since 1996

Holland Board of Public Works, Holland, MI, Electrical Engineer Intern, 1993–1995

Professional Affiliations:

IEEE/ Power Engineering Society

AWWA/American Water Works Association

Other Affiliations:

School Board – Durand Area Schools

Durand Area Chamber of Commerce

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darrickh@spicergroup.com

Darrick W. Huff, P.E. (continued)

Water Treatment Plant High Service Pump Base Repairs – *Project Manager*
City of Saginaw, MI
Responsible for overseeing the evaluation and design of improvements to deteriorating concrete bases of two key finished-water pumps inside the City's water treatment plant.

Water Treatment Plant High Service Pump Flow Study – *Project Manager*
City of Saginaw, MI
Responsible for overseeing the study that looked at various options for adjusting flows out of the City's water treatment plant by moderating pump speeds to reduce volume from 25 million gallons a day to 16 million gallons a day.

Hemlock Semiconductor Water System Improvements – *Project Engineer*
Saginaw County, MI
Responsible for assisting with various engineering tasks for Thomas Township's improvements and expansions to its drinking water distribution infrastructure to accommodate over $1 billion in planned expansions at Hemlock Semiconductor Corporation.

Sub-Project A: Gratiot Road Water Main Bore

- Involved the installation of a new 8,800-foot section of pipe parallel to an existing 20-inch transmission main along Gratiot Road.
- Approximately 2,700 feet was installed under the Tittabawassee River by horizontally directional drilling a 24-inch HDPE pipe.

Sub-Project B: Gratiot Road Water Main Extension

- 25,000 feet of 20-inch water main was installed along Gratiot Road heading west to a new 1.5 million-gallon water tank using the jack-and-bore and horizontal directional drilling process.
- 1,000 feet of that section was installed beneath the Swan Creek using the horizontal directional drilling process
- New 1.5 million gallon water tank
- Included 83 easements

Sub-Project C: Water Transmission Main Improvements

- Included the installation of over 1,700 feet of 20-inch water main along Gratiot Road from Thomas Township's meter pit to the existing transmission main along River Road.
- The project also included the installation of over 1,400 feet of 20-inch water main and new sidewalks along Miller Road from Gratiot Road to the Township's existing transmission main along Shields Drive.
- This project eliminated bottlenecks within the system and increased its capacity and reliability.

Jennifer M. Garza, P.E.

Project Manager

Ms. Garza is a registered professional engineer in Spicer's Municipal Services Group. She has 17 years of experience providing design, bidding, and construction administration services for pump stations and force mains, gravity and low pressure sanitary sewer collection systems, wastewater treatment systems, drinking water distribution and treatment systems, and performing hydraulic modeling, permitting assistance, and assistance with numerous applications for USDA Rural Development and State Revolving Loan funding.

RELATED EXPERIENCE

Flushing Wastewater Treatment Plant Improvements – *Project Manager/Engineer*
City of Flushing, MI Ongoing
Responsible for the capacity study, USDA RD financial application, design, permitting, and construction administration for blower and blower piping replacement, grit removal system repairs, installing a 1 MG sludge storage tank, replacing sludge digester cover and heat exchange system. $3.25M estimated project cost.

Mayville Wastewater System Improvements – *Project Manager/Engineer*
Village of Mayville, MI Ongoing
Responsible for the USDA RD financial application, design, permitting, and construction administration for approximately 1,500 feet of sewer replacement in three (3) areas, approximately 300 feet of CIPP sewer lining, replacement of two drypit pump stations with submersible style stations, and improvements to the existing 2-cell wastewater lagoon system including adding a third cell. $7.2M estimated project cost.

Southfield Pump Station Improvements – *Project Manager/Engineer*
Bridgeport Charter Township, MI Ongoing
Responsible for the study, design, permitting, and construction administration for a new duplex sanitary pump station to replace an existing underground metal drywell pump station that is almost 60 years old. A new dedicated HDPE forcemain will be installed from the new site to a new discharge location. The existing pump station and its dual forcemains will be abandoned. $650,000 estimated project cost.

Almont Wastewater Treatment Plant Improvements – *Project Manager/Engineer*
Village of Almont, MI 2018
Responsible for design and construction administration for equipment replacement in the existing oxidation ditches and 30-diameter clarifiers, several valve replacements throughout the plant, and concrete tank coating. $541,000 construction cost.

Water System Extension – *Project Manager/Engineer*
Oscoda Charter Township, MI 2018
Responsible for funding assistance, design, permitting, and construction administration of water system extensions within the Township. Prepared the USDA Rural Development application for a federal ECWAG grant, for installing 3,400 feet of new water main for connecting homes with private wells in the PFC contamination plume area.
$315,000 construction cost.

Years of Experience:

17 Years

Registration:

Professional Engineer
State of Michigan
License #54067

Education:

Bachelor of Science in Biosystems Engineering, Michigan State University, East Lansing, MI, 2002

Professional Experience:

Spicer Group, Inc., Saginaw, MI, since 2007

Tetra Tech, Inc.
Richmond, MI, 2002-2007

Tetra Tech, Inc.
Lansing, MI 2001-2002

Professional Affiliations:

MWEA

WEF

Certified Storm Water Operator

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jenniferg@spicergroup.com

Jennifer M. Garza, P.E. (continued)

Project Manager

Wastewater Asset Management Plans – *Project Manager*
Multiple Clients, MI Ongoing
Responsible for managing and preparing Wastewater Asset Management Plans as part of the MDEQ S.A.W. program, including asset inventory, condition assessment, risk analysis, pump station inspections, GIS mapping, SSA modeling, capital improvements plan, and rate study. Clients include Monitor Charter Township, Oscoda Charter Township, Village of Ashley, Sidney Township, and Bridgeport Charter Township.

Pump Station #3 Replacement – *Project Manager/Engineer*
Midland Cogeneration Venture, MI 2017
Responsible for managing the design and construction administration of replacing the existing pump station with a new duplex submersible pump station and directionally drilling new HDPE forcemain under the Bullock Creek and connection to an existing pipe bridge. $630,000 construction cost.

Pump Station #25 Improvements – *Project Manager/Engineer*
Oscoda Charter Township, MI 2016
Responsible for the design, permitting, and construction administration for improvements to the existing pump station for lining both wet wells and providing bypass pumping capabilities by installing a new upstream manhole and combining both forcemain and gravity flows prior to entering the pump station. $246,000 construction cost

Lake Tyrone Sanitary System Improvements – *Project Manager/Engineer*
Livingston County, MI 2016
Responsible for planning, design, permitting, and construction administration of the project, assisting with preparing the State Revolving Fund application and project plan, and with an S2 grant application and a USDA Rural Development pre-application. The project consisted of installing 12,000 feet of HDPE low pressure collection main to upsize portions of the existing, re-routing the system to a new triplex submersible pump station, and installing 14,800 feet of HDPE force main to connect to the County's regional pump station. The existing community drain field treatment system was abandoned in place.
$2.1M total project cost.

Oscoda Township Wastewater Treatment Improvements – *Project Manager/Engineer*
Oscoda Township, MI 2016
Responsible for design, permitting, and construction administration and SRF/Bond funding management of wastewater treatment system improvements including slope restoration and rip rap installation, lagoon sludge removal, installing a partial mix fine bubble aeration system, new blowers with variable frequency drives, an effluent flow meter, a chemical feed mixing structure, and distribution piping modifications in the exiting rapid infiltration basins. $2.3M total project cost.

Steve R. Rutkowski, P.E.

Associate/Project Manager

Mr. Rutkowski has focused his 7 years at Spicer Group on municipal water main, sanitary sewer and street projects. He has extensive experience working on hydraulic computer models for water distribution systems of communities in the Thumb and Saginaw Bay Regions. He also has experience with rural communities working on infrastructure asset management plans (inventory, condition assessment, criticality, level of service, rate analysis, capital improvement plans, and grant assistance). He takes projects from the initial conceptual stages through the study and report phase, funding application phase, preliminary and final design phases and into the construction administration and project closeout phases. He provides on-the-spot advice regarding engineering design, which has proven to be a valuable trait when immediate solutions are needed on the job site—eliminating extra costs and work hours.

RELATED EXPERIENCE

Water System Reliability Study & General Plan – *Project Manager*
Village of Capac, 2019
Responsible for updating the Village's Part 12-Reliability Study and Part 16-General Plan. Includes preparing water use projections, demand allocation, hydraulic computer model update and calibration, hydraulic modeling, hydrant flow testing, fire flow simulations, pressure simulations, capital improvement plan, and report writing.

Water System Reliability Study & General Plan – *Project Manager*
Village of Akron, 2018-2019
Responsible for developing a model of the entire water distribution system, including the distribution network, supply sources and storage facilities of the Village water system. Used historical data to simulate various future scenario in the model and collected field fire flow and pressures measurements to calibrate the model to match actual data and develop a water system improvement plan. Collected all drawings of the Village's water system, scan index, and used to develop a detailed base map before writing a water reliability study and general plan in accordance with the Michigan Safe Drinking Water Act of 1976 outlining means, methods, results, conclusions and recommendations.

Water System Reliability Study & General Plan – *Project Manager*
Blumfield-Reese Water Authority, 2017 - 2018
Responsible for updating the Village's Part 12-Reliability Study and Part 16-General Plan. Included preparing water use projections, demand allocation, hydraulic computer model update and calibration, hydraulic modeling, hydrant flow testing, fire flow simulations, pressure simulations, and report writing. Their system includes Demark Township in addition to Blumfield Township and the Village of Reese.

Hydraulic Computer Modeling – *Project Manager/Project Engineer*
Saginaw Metro Water System, 2012 – present
Assist in the development, calibration, update, and file storage for a 10,000-plus pipe hydraulic network of the water distribution system that serves the greater Saginaw County area. This proprietary computer model includes the City of Saginaw and over 20 wholesale water customers and eight separate pressure zones. This model has been in development since 1996 and continues to be updated today. Includes: City of Saginaw, Saginaw Charter Township, Thomas Township, James-Swan Creek-St. Charles Water

Years of Experience:

7 years Spicer Group

Certifications:

Professional Engineer, State of Michigan, 2016, License #63665

Education:

Bachelor of Science in Civil Engineering, Michigan Technological University, 2012

Masters in Civil Engineering, Norwich University, 2014

Specialized Training:

Water Distribution Modeling and Water Quality Analysis

PSMJ Project Manager Bootcamp

AutoDesk Storm and Sanitary Analysis, 2015

NASSCO- National Assoc. of Sewer Service Companies – PACP/MACP/LACP

Professional Experience:

Spicer Group, Inc., Saginaw, MI,
Project Manager, Since 2017
Project Engineer, 2016
Design Engineer, 2012-2016

Professional Organizations:

ASCE Member

AWWA Member

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Steve R. Rutkowski, P.E. (continued)

Project Manager

Supply, Spaulding Township, Albee Township, Bridgeport Charter Township, Birch Run Township, Village of Birch Run, City of Frankenmuth, Frankenmuth Township, Buena Vista Charter Township, Blumfield-Reese Water Authority, City of Zilwaukee, Zilwaukee Township, Carrollton Township, Kochville Township, Tittabawassee Township, Frankenlust Township, various other smaller wholesale water customers.

Junction Road Transmission Main & Dehmel Road Water Main Replacement – *Project Manager*
City of Frankenmuth, 2016 – Present
Responsible for project management, design, permitting, bidding, construction inspection and administration of 13,500 linear feet of 20-inch transmission water main replacement and 2000 linear feet of 12-inch water main replacement. Utilized both traditional and trenchless design to install utility in an area with several drainage crossing per Michigan DEQ requirements. Communicated daily with inspectors and made frequent trips to the site to ensure constructions specifications and permits were being followed, assisting in resolving any onsite conflicts. Project Cost - $3,200,000.

Water Distribution System Water Main Replacement – *Project Manager/Engineer*
Sebewaing Light & Water, 2014 - Present
Responsible for project management, design, permitting, bidding, construction inspection and administration of 13,860 linear feet of 12-inch through 8-inch water main replacement, and a meter pit. Utilized both traditional and trenchless design to install utility in an area with overcrowded public right of ways per usage demands and Michigan DEQ requirements. Worked with a local contractor to provide the best project for the village and visited the site frequently to ensure constructions specifications, and permits were being followed, and assist in resolving any onsite conflicts.

Water Asset Management Plan – *Project Manager*
Saginaw Charter Township, 2018
Responsible for collecting Township records to create a water main inventory with street, size, type, and year installed. We also developed a condition assessment rating system, criticality, level of service documentation, and capital improvement plan for the Township. Also, responsible for compiling all of the information into a detailed report, along with coordinating directly with the client.

Waste Water and Storm Water Asset Management Plan – *Project Manager/Engineer*
Village of Sebewaing, 2015 - 2017
Responsible for collecting and using city drawings, field notes and revisions to create a master sanitary sewer and storm sewer inventory with street, size, type, and the year installed. This project also developed a GIS utility base map with survey and inventory data collected and a conditional assessment rating system for the storm and sanitary sewer structures in the field. Also responsible for reviewing sewer main defects coding and video inspection completed by the third-party contractor, along with coordinating directly with the client. Lastly, we developed a system criticality, level of service documentation, and capital improvement plan compiled in a detailed report.

Water System Hydraulic Modeling:

- Village of Capac
- Blumfield-Reese Water Authority
- Village of Akron
- Village of Clifford
- Tittabawassee Township
- Village of Sebewaing
- Kochville Township
- Village of Unionville
- Village of Cass City
- Village of Ashley
- Village of North Branch
- Village of Elkton
- Village of Mayville
- Saginaw Charter Township

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Michael G. Niederquell, P.E.

Project Manager

Mr. Niederquell is involved in the preparation of construction plans, specifications, and cost estimates for state, municipal and county roadways. Design experience includes reconstruction and resurfacing road projects, storm sewer design, utility conflict resolution, maintaining traffic, right-of-way acquisition, traffic signal, and guardrail improvements. He also designs freeway and non-freeway signing plans.

RELATED EXPERIENCE

E Middle Street and S Mullett Street Reconstruction – *Project Manager/Engineer*
City of Williamston, MI 2019
Responsible for plans and specifications for 0.31 mile HMA reconstruction, curb and gutter, storm sewer, water main, sanitary sewer replacement, pavement markings, permanent signing, construction staging for pedestrians and vehicles, and construction cost estimate. Project also included topographic survey, geotechnical investigation, and coordination with local government agencies. This project was completed through MDOT's Local Agency Programs.

Montgomery Drain – *Project Engineer*
City of Lansing, MI 2017-19
Responsible for traffic control for storm sewer, detention basin, water quality, and siphon elimination of a large Chapter 20 petitioned drain project in the highly-urbanized area of Lansing adjacent to MSU. Traffic control plans consisted of staged construction on Michigan Avenue. Staged construction included constructing cross overs to maintain traffic on the opposite bound and staged traffic signal plan sheets. Lane restriction plan sheets for Saginaw Road, Grand River Avenue, Sellers Street, Homer Street, and Howard Street were developed using MDOT standards. Guardrail was designed on Howard Street due to storm sewer replacement.

Swan Valley Schools Safe Routes to School – *Project Engineer*
Thomas Township, MI 2018
Responsible for plans and specifications for 0.9 miles of new HMA path, concrete sidewalk, sidewalk ramp replacement, and construction cost estimate. Project also included topographic survey, and coordination with local government agencies, and utilities. This project was completed through MDOT's Local Agency Programs.

Garfield Road Reconstruction – *Project Manager/Engineer*
City of Auburn, Williams Township, MI 2018
Responsible for plans and specifications for 0.43 mile HMA reconstruction, curb and gutter, storm sewer replacement, pavement markings, permanent signing, construction staging, and construction cost estimate. Project also included topographic survey, geotechnical investigation, and coordination with local government agencies. This project was completed through MDOT's Local Agency Programs.

12th Street Reconstruction – *Project Manager/Engineer*
City of Manistee, MI 2018
Responsible for plans and specifications for 0.45 mile HMA reconstruction, curb and gutter, storm sewer replacement, pavement markings, permanent signing, construction staging, and

Experience:

22 years

Registration:
Professional Engineer
State of Michigan, 2003
License #: 6201049825

Education:

Bachelor of Science in Civil Engineering, Michigan State University, East Lansing, MI 1998

Master of Science in Civil Engineering, Michigan State University, East Lansing, MI 1999

Certifications:

Storm Water Operator
- Construction Sites
Lic # C-17175

Soil Erosion & Sediment Control – Comprehensive
Cert.# SC/C 01295

First Aid and CPR
Certified, 2019

Professional Experience:

Spicer Group, Inc.
Wade Trim, Inc.

construction cost estimate. Project also included topographic survey, geotechnical investigation, and coordination with local government agencies. This project was completed through MDOT's Local Agency Programs.

Ambrose Road and Bishop Road Reconstruction – *Project Manager/Engineer*
Spaulding Township, MI 2018
Responsible for plans and specifications for HMA reconstruction, geotextile stabilization, and construction cost estimate. Project also included topographic survey, geotechnical investigation, and coordination with local government agencies. This project was completed through MDOT's Local Agency Programs.

Waldo Avenue Reconstruction – *Project Manager/Engineer*
City of Midland, MI 2018
Responsible for plans and specifications for 2.5 miles of HMA rehabilitation (HMA cold milling and resurfacing), pavement markings, permanent signing, maintaining traffic, and construction cost estimate. Traffic signal modernization at Saginaw Road to box span configuration, traffic signal installation at Salzburg Road, and traffic signal mast arm replacement at Bay City Road. New right turn lanes were added on Bay City Road to Waldo Avenue and on Saginaw Road to Waldo Avenue. Project also included topographic survey, coordination with utilities and local government agencies.

Salzburg Road Rehabilitation – *Project Manager/Engineer*
Monitor Township, MI 2018
Responsible for plans and specifications for a 1.0 mile of rehabilitation (HMA crushing and shaping), drainage replacement, permanent signing, pavement markings, and construction cost estimate. Project also included topographic survey, geotechnical investigation, and coordination with local government agencies. This project was completed through MDOT's Local Agency Programs.

State Park Drive Rehabilitation – *Project Manager/Engineer*
Monitor Township, MI 2018
Responsible for plans and specifications for a 3.2 mile of rehabilitation (HMA crushing and shaping), drainage replacement, permanent signing, pavement markings, and construction cost estimate. Project also included topographic survey, and coordination with local government agencies. This project was completed through MDOT's Local Agency Programs.

Tittabawassee Road at Michigan Road Reconstruction – *Project Manager/Engineer*
Carrollton/Kochville Township, MI 2018
Responsible for plans and specifications for intersection HMA reconstruction, curb & gutter, sidewalk ramps, drainage structure evaluation, pavement markings, and construction cost estimate. Project also included topographic survey, and coordination with local government agencies.

Joe D. Wright, PLA

Landscape Architect / Planner

Mr. Wright has received a Bachelor of Landscape Architecture degree from Michigan State University. His experience and education have focused on park planning and design, non-motorized trail design, grant writing and administration, and streetscape design. Mr. Wright's responsibilities include site planning and design, public interaction, technical writing, grant writing, project management, project and site inspections, and permit acquisition.

RELATED EXPERIENCE

Municipal and Site Development Projects

Filer Township Magoon Park – *Lead Civil Designer/Landscape Architect*
Filer Township, MI 2019
Responsible for design and construction administration for a new parking lot and ADA accessible sidewalks for a 40-50 space parking lot in Magoon Park in Filer Township.

Ingham County Fairgrounds – *Project Manager/Landscape Architect*
Ingham County, MI 2018-2019
Responsible for project management, design, and construction administration for building and site improvements for four horse barns on the fairground property. Improvements include mechanical and HVAC upgrades, electrical service design, commercial gutter and downspout system, ADA access to all four buildings, and storm sewer design.

Tabernacle Church – *Project Manager/Landscape Architect*
Manistee, MI 2019
Responsible for design of a 120 space permeable grass paver parking lot for the Tabernacle Church in Manistee, MI.

Imlay City Gateway – *Landscape Architect*
Imlay City, MI 2018
Responsible for the design of a decorative landscaped median at the entrance to the City on M-53. The project included designing a 430' long by 11' wide median with decorative brick paving, landscape plantings, traffic control plans, and a lighted gateway sign.

Burchfield Park Improvements – *Project Manager/Landscape Architect*
Ingham County, MI – 2018
Lead architect and project manager for the design and layout of an open air pavilion, a pre-cast vault toilet building, a universally accessible sidewalk, and parking lot improvements.

Jaycee Park Improvements – *Project Manager/Landscape Architect*
Grand Ledge, MI – 2018
Lead architect and project manager for the design and construction administration for a 350' trail connector, a pre-fabricated canoe and kayak launch, and parking lot improvements.

Years of Experience:

24 years

Education:

Bachelor of Landscape Architecture, Michigan State University, East Lansing, MI, 1995

Certification:

Registered Landscape Architect, State of Michigan, Since 2005, #01508

Certified Playground Safety Inspector, NRPA, Since 2014

Professional Experience:

Spicer Group, Inc., Saginaw, MI, since 2017

City of Lansing, Landscape Architect, 2013-2017

LAS, Inc., Principal, 2010-2013

C2AE, Inc., Project Manager, 2000-2010

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joe.wright@spicergroup.com

Safe Routes to Schools Sidewalk Project – Project Manager/Landscape Architect
Village of Ashley, MI – 2018
Served the role of Project Manager for a Safe Routes to Schools sidewalk project totaling over 34,000 square feet of new sidewalk, curb removal and replacement, and utility adjustments.

Fenton Streetscape – *Project Manager/Landscape Architect*
City of Fenton, MI 2011-2012
Responsible for the design and construction administration of the multiple award winning City of Fenton streetscape. Significant upgrades were made to a very old roadway known as Leroy Street. Project improvements ranged from wider ADA compliant walkways to decorative brickwork, street lighting, and overall beautification. Upgrades were made to utility systems to improve water quality and create more efficient sewer and storm drainage systems. This project brought this section of roadway up to present traffic control and ADA compliance standards, and improved pedestrian walkability in the area and provided safe access to parks and businesses in an attractive downtown environment.

Durand Streetscape, Phase I – *Landscape Architect*
City of Durand, MI 2005
Responsible for assisting with the preparation of a master plan for the Downtown Development Authority, including traffic patterns, parking, beautification, and downtown development. Also assisted with preparing construction documents keeping in line with the unique and uncommon part of the Durand railroads 'diamond' shape. Worked with this theme when designing the streetscape, as well as the proposed downtown park, Diamond District Park.

Durand Streetscape, Phase II – *Project Manager/Landscape Architect*
City of Durand, MI 2007
Responsible for assisting with the design and construction administration for implementing the Phase I Main Street project. The street work included milling/resurfacing and storm sewer improvements. The streetscape included new concrete sidewalk with diamond shape brick paver accents, diamond shape brick paver crosswalks, trees with railroad theme grates/guards, decorative fencing, site furnishings, streetlights, and an irrigation system. A new 12-inch water main, including a bore/jack under the railroad tracks, was also installed.

Michigan and Grand Avenue Streetscape – *Landscape Architect*
City of Lansing, MI: 2004 - 2008
Responsible for the design of an extensive streetscape and road rehabilitation project in downtown Lansing on Michigan Ave. from Capitol Ave. to Larch St. In keeping with the "Capitol Loop" theme along Michigan Avenue, Washington Avenue, as well as Ottawa and Allegan Streets, the primary improvements included decorative brick paving, concrete sidewalk, curbed planter islands with trees and shrubs, and decorative benches. Attention was also given to plantings so that the aesthetics and intensity of the plantings along Grand Avenue reflected that of Michigan Avenue.

Roger P. Mahoney, P.S.

Associate/Project Surveyor

Roger is the Survey Service Group Area in the Saginaw Office. His responsibilities include field crew coordination and scheduling, office set-up and field work for remonumentation; boundary surveys; platting subdivisions and preparation of condominium drawings and recording of those developments; preparation of easements and legal descriptions; section corner recovery and survey retracement; project set up and review of ALTA/NSPS Land Title Surveys; alignment and right-of-way establishment for MDOT design surveys; topographic surveys for water main, sanitary sewer, storm sewer, open channel drain, and roadway projects; construction staking; Global Positioning System (GPS) operation and coordination.

EXPERIENCE AND QUALIFICATIONS

County Remonumentation – *Project Surveyor*
Saginaw, Bay, Clinton, Ingham, Huron, Tuscola and Sanilac Counties, MI
Contract Surveyors for the State Remonumentation Program. Set up of project, historical research, Preparation of Land Corner Recordation Certificates, Peer Group presentation and recording. County Representative for Remonumentation program for Saginaw County and have served as a Peer Group Member in five additional counties.

ALTA/NSPS Land Title Surveys – *Project Surveyor*
Various Locations throughout Michigan
Performed ALTA/ACSM Surveys for Commercial and Institutional Clients. Completed design mapping projects for site improvements and expansions. Clients include: Home Depot, Wal-Mart, Lowes, Kmart, Central Michigan University, St. Mary's Hospital, Henry Ford Health Systems, Saginaw Valley State University, St. Johns Public Schools, Saginaw Township Schools and Owosso Public Schools. Responsible for proposal, project setup and review.

Subdivision and Condominium Plats –*Project Surveyor*
Various Locations, MI
Sample projects include:

- Wellman Builders, Pleasantview Estates V and VII Subdivisions.
- Finlay Properties, Brookwood Park Subdivision.
- Keylo Construction, Eagle Rock Condominiums Phase I and Phase II.
- Mercy Hospital Ambulatory Care Condominium.
- St. Charles Industrial Park Subdivision

In charge of preparation of drawing and exhibits, review and recording with the State of Michigan.

K-Love Air-1 Tower Orientation – *Project Surveyor*
Delta College, Bay County, MI 2017
Certification for broadcast tower orientation and antenna placement on the campus Delta College. Utilized Drone technology along with conventional means tied into GPS ground control to determine the orientation of the tower and antenna direction. After the field work was complete, a certification of the results was submitted.

Years of Experience:

30 Years

Registration:

Professional Surveyor, State of Michigan, 1995 License # 41105

Professional Surveyor, State of Indiana, 2007 License # 20700106

Education:

Bachelor of Science in Surveying, Ferris State University, Big Rapids, MI, 1991

Professional Experience:

Spicer Group, Inc., Saginaw, MI, since 1990

Ayres Associates, Midland, MI, Summer Surveying Employee, 1988 - 1989

Professional Affiliations:

Michigan Society of Professional Surveyors

Friends of the Saginaw Valley Rail Trail

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Roger P. Mahoney, P.S. (continued)

Westwood Homes ALTA/NSPS – *Project Surveyor*
Bay City, MI 2017
ALTA/NSPS Land Title Survey on a multiple unit mobile home park where a combination of technologies were used to capture the necessary data. Conventional surveying techniques, drone technology and mobile lidar data were used for different facets of the project produce a detail ALTA/NSPS Land Title Survey per the requirements of the buyer, lender and title company.

US-10 Leaton Road to County Line Road – *Project Surveyor*
Isabella County, MI 2016
Full road design survey of 6 miles of U-10, from ROW to ROW including two bridge structures.Project manager in charge of right of way and alignment establishment, review of all MDOT right of way documents within the project limits and section corner information.

Village of Sebewaing 2015 Water Main Improvements – *Project Surveyor*
Village of Sebewaing, MI 2015
Responsible for coordinating survey tasks for the design of 6,260 feet of 12-inch and 8-inch water main with appurtenances in various location throughout the Village of Sebewaing. This project was finished on time and under budget. This project required heavy coordination with the village, MDOT and the MDEQ.

Clay National Guard Center – *Project Surveyor*
Dobbins Air Force Base, Marietta GA 2014 -2015
Spicer Group is the lead field survey and GIS development team member on the team that was selected to complete a full subsurface utility inventory for all subsurface utilities on 46 Georgia Army National Guard sites throughout the state of Georgia. SUE quality level B services are being employed to locate utilities using subsurface geophysical equipment and map out all utility connectivity using RTK GPS. All data is being acquired and organized according to the SDSFIE 2.6 data standards for consistent data operability among all DoD installations.

Plant Street, Main Street (M-83), and Jefferson Street Water Main, Road and Sanitary Sewer Improvements – *Project Surveyor*
City of Frankenmuth, MI 2014
Responsible for coordinating survey tasks for the design of 1,260 feet of 18-inch sanitary sewer, 1,242 feet of 15-inch sanitary sewer, and 131 feet of 12-inch sanitary sewer with appurtenances and 823 feet of 8-inch water main with appurtenances. This project required heavy coordination with the MDOT, MDEQ and the City of Frankenmuth.

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David S. Boersma, AIA, NCARB

Project Architect

Mr. Boersma is a licensed architect in Michigan as well as 7 other states. In his 27 years of experience, he has served as a project manager and project architect on a wide variety of projects. He has great expertise in multiple project types including municipal, public safety, parks and education. He has proven success in project leadership, business development, AIA contract preparation, team building, project development, code interpretation, problem solving, construction administration, capital needs assessments as well as client and trade relations. He is NCARB certificated and a State of Michigan Code Official as well as a registered architect in the States of Wisconsin, Illinois, Connecticut, New York, Pennsylvania, Georgia, Florida and North Carolina. In addition, Mr. Boersma is on the state list of historical architects. Mr. Boersma is involved with his community and dedicates his time volunteering as a Scout Leader, President of the Clarkston Rotary, an Architect for Habitat for Humanity of Oakland County and a Planning Commissioner for Independence Township.

RELATED EXPERIENCE

Jerome Township Fire Station No. 1– Architect / Project Manager
Sanford, MI 2017 – Current
Serving as the project manager and architect for construction of a new 12,000 square foot volunteer fire department for Jerome Township. The building will have 4 80' apparatus bays with turnout lockers, dispatch room, EMS storage, SCBA room, decontamination, training room, locker rooms as well as offices and file storage. The project also includes the construction of a new engineered septic system, site paving and planning for future apparatus bay expansion. The project is scheduled to begin construction summer of 2018.

Almont Police Station and Township Hall – Architect / Project Manager
Almont, MI 2017 – Current
Spicer is working in conjunction with Superior Construction Company in a design build relationship to design a new police station for the Village and Township of Almont. The police department will be moving out of the current hall into a standalone building. When the transition has been completed, renovation to the village/township office will begin creating a large public meeting space and offices for all the administrative staff. The project is scheduled to begin construction summer of 2018.

Saginaw County Jail – Project Manager
Saginaw, MI 2017 – Current
Spicer is working in conjunction with GGA Architects in Missouri to complete the project design. Currently serving as the project manager for the Structural, Mechanical, Plumbing, Electrical and Civil engineering for the new Saginaw County Jail Facility. Coordinating our team and the GGA team efforts to maintain project schedule as well as advise the team of Michigan Code requirements. The new jail will have 515 inmate beds and be 4 levels. The project is being funded through a bond issue and will begin construction summer of 2018.

Years of Experience:

27 years

Registration:

Registered Architect, State of Michigan #1301056188

Code Official State of Michigan #005656

Registered Architect WI. IL, PA, CT, NY, GA, FL, NC

Education:

Masters of Architecture, Lawrence Technological University, Southfield, MI, 2000

Bachelors of Science in Architecture, Lawrence Technological University, Southfield, MI, 1993

Professional Experience:

Spicer Group, Inc., Saginaw, MI, Since 2009

THA Architects Engineers, Flint, MI, 2008-2009

D'Anna & Associates, Rochester Hills, MI, 1996–1993-2008

Professional Affiliations:

American Institute of Architects

National Council of Architectural Registration Boards

National Eagle ScoutAssociation

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David S. Boersma, AIA, NCARB (continued)

Dearborn 911 Dispatch Center and EOC– Architect / Project Manager
City of Dearborn, MI 2016 – 2017
Served as the project manager and architect for the renovations to a former office building to create a new 911 dispatch call center. The project included renovations to a 6,000 square foot space that included, 911 call center, crisis / multipurpose room with a kitchen, break room, dispatcher relaxation space, new offices, completely new interior and exterior finishes, throughout along with new HVAC, plumbing, communications and electrical. Particular care was taken in the design of lighting and climate control to lessen symptoms of fatigue of staff.

Finn Road Park Improvements – Architect / Project Manager
Hampton Township, MI 2015 - ongoing
Architect for Finn Road Park Improvements. Improvements included a 300' boardwalk allowing observation of coastal marsh land wildlife, a 20' observation tower to observe migratory birds, a 1,800' crushed stone ADA path along Saginaw Bay, multiple path surface improvements, boat launch improvements and new skid pier at the lagoon launch site. This project was funded through MNRTF Grants that were written and administered by Spicer Group.

Akron Township Hall – Architect / Project Manager
Akron Township, Unionville, MI 2014 - 2015
Served as the project manager and architect for the renovations to a former restaurant building to create a new township hall. The project included a 1200 square foot addition, ADA restrooms, a new multipurpose room with a kitchen, new offices, voting storage, records room, completely new interior and exterior finishes, throughout along with new HVAC, plumbing, electrical and site improvements.

Paul Hubscher Memorial Park – *Architect / Project Manager*
Gratiot County Parks and Recreation, Sumner, MI 2013 - 2014
Serving as the project manager and architect for construction of a new barrier free bath house and restroom building. The project also includes the construction of a new engineered septic system and upgrades the parks existing well.

New St. Louis Municipal Offices – *Architect / Project Manager*
City of St. Louis, St. Louis, MI 2012 - 2015
Serving as the project manager and architect for the renovation of a former retail building to create new municipal offices and police station for the city of St. Louis. The project included structural evaluation of the existing structure, space planning, and will include roof reconstruction, window and door replacement, new casework, new ceilings, new interior and exterior lighting, new telecommunication equipment, new mechanical and electrical systems, offices, file storage systems, police specific spaces, lobby, community rooms, restrooms as well as completely new interior finishes throughout.

Mark D. Norton, P.E.

Project Manager/Civil Engineer

Mr. Norton has performed design for a variety of water main transmission and distribution projects. He has focused his 23 years of experience on municipal water main, sanitary sewer and roadway projects. He takes projects from the initial conceptual stages through the study and report phase, funding application phase, preliminary and final design phases and into the construction administration and project closeout phases.

RELATED EXPERIENCE

Davis Road Water System Improvements – *Project Manager/Engineer*
City of Saginaw, Saginaw County, MI 2016 -2018
Responsible for overseeing all design and construction tasks related to the replacement of existing 48" raw and 36" finished water transmission main. The project consisted of installing 10,800 feet of 48" PCCP for the raw water line and 5,600 feet of 24" and 5,230 feet of 36" D.I.P. and making connections to the existing transmission mains. Also included a new pump at, and connections to the City's existing Kochville pumping station and reservoir to provide additional operational flexibility. Project Cost - $16,500,000.

Gaertner Court Water Main Replacement – *Project Manager*
Monitor Township, Bay County, MI 2015
Responsible for overseeing all design and construction tasks related to the replacement of an existing water main. The project included extending the main to create a loop and reconnect 17 existing water services.

Akron Township Municipal Water System – *Project Engineer*
Tuscola County, MI 2013-2015
Responsible for overseeing all design and construction tasks related to improvements and additions to the Township's water system which included 5 miles of water main, and serving approximately 125 customers.

Wisner Township Municipal Water System – *Project Engineer*
Tuscola County, MI 2011-2014
Responsible for overseeing all design and construction tasks related to improvements and additions to the Township's water system which included 25 miles of water transmission and distribution main, a booster pump station, and serving approximately 375 customers.

Hope Township Municipal Water System – *Project Manager/Engineer*
Midland County, MI 2011-2014
Responsible for overseeing all design and construction tasks related to improvements and additions to the Township's water system which included 39 miles of water main, a booster station, and serving 875 customers.

Years of Experience:

23 Years

Education:

Bachelor of Science in Civil Engineering, Michigan State University, East Lansing, MI, 1995

Registration:

Professional Engineer, State of Michigan, 2001, License #48128

Professional Experience:

Spicer Group, Inc., Saginaw, MI, Since 2014

Civil Engineering Consultants Inc., Auburn, MI, Vice President, 2004–2014

Wade Trim Inc., Bay City, MI, Project Manager, 1995–2004

Professional Affiliations:

Licensed Storm Water Operator

Other Affiliations:

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Salzburg Road Water Main – *Project Manager/Engineer*
Williams Township, Bay County, MI 2012
Responsible for overseeing all design and construction tasks related to installing 1.75 miles of a new 12" transmission main outside of the Road R.O.W. to accommodate the widening of Salzburg Road.

M-13 Water Main Extension and
I-75 Water Main Crossing – *Project Manager/Engineer*
Pinconning Township, Bay County, MI 2010-2011
Responsible for overseeing all design and construction tasks related to improvements and additions to the Township's water system which included 3.5 miles of water main and serving 68 customers.

Edenville Township Municipal Water System – *Project Manager/Engineer*
Midland County, MI 2009-2012
Responsible for overseeing all design and construction tasks related to improvements and additions to the Township's water system which included 26 miles of water main, a 300,000-gallon water tank, and serving approximately 900 customers.

Lee Township Municipal Water System – *Project Manager/Engineer*
Midland County, MI 2007-2009
Responsible for overseeing all design and construction tasks related to constructing a new Township water system which included 62 miles of water main, a 300,000-gallon water tank, and serving approximately 1,450 customers. This system receives treated water from Midland County Water District No. 1.

Merritt Township Reese Road Water Main – *Project Manager/Engineer*
Bay County, MI 2007
Responsible for overseeing all design and construction tasks related to extending water mains to serve new customers along Munger, Merkle, and Reese Roads. These extensions consisted of 8.6 miles of water main.

Frankenlust Township Water System Improvements – *Project Manager/Engineer*
Bay County, MI 2006
Responsible for overseeing all design and construction tasks related to extending water mains to serve new customers along Fraser Road, Weiss, and Seven Mile Road. These extensions consisted of 1.3 miles of water main.

Beaver Township Water System Improvements – *Project Manager/Engineer*
Bay County, MI 2006
Responsible for overseeing all design and construction tasks related to extending water mains to serve new customers along Beaver Road, Townline 14, Parish Road, Garfield Road, and Eight Mile Road. These extensions consisted of 5.75 miles of water main.

Nicholas D. Czerwinski, P.E.

Engineer

During the past 16 years, Mr. Czerwinski has gained experience with the management, coordination, design, modeling, construction, and inspection for water distribution, sanitary sewer and storm water management systems, including open and closed storm drainage systems. These designs require the use of hydrologic and/or hydraulic computer modeling with EPA SWMM, AutoDesk Storm and Sanitary Analysis (SSA), NRCS TR-20, NRCS TR-55, MDEQ SCS-92, EPA NET, WaterCAD, HEC-RAS, CulvertMaster, FlowMaster, and HEC-HMS. Mr. Czerwinski's experiences and responsibilities include: project management, engineering design, survey coordination, computer modeling, engineering calculations, construction inspection, dam inspections, drainage studies, cost estimates, site plan review, site inspections, and coordination with regulatory agencies and utility companies.

EXPERIENCE AND QUALIFICATIONS

Hemlock Tile Drain – *Project Manager*
Saginaw County, MI Ongoing
Responsible for design of a newly consolidated county drain to serve the Hemlock area. The project included enclosed drainage infrastructure and the design of a 4-acre-foot detention basin. The design included hydrology calculations, unsteady state SWMM modeling, utility coordination, and drainage district establishment.

Indian Creek Intercounty Drain – *Project Manager*
Lapeer County/Tuscola County/Sanilac County, MI, Ongoing
Responsible for designing improvements for intercounty drain project. The design included hydrologic and hydraulic calculations, box culvert design, and channel maintenance design.

Fulton Street Drain – *Project Manager*
Tuscola County, MI 2016
Responsible for establishment and design a new county drain that including both open and enclosed drainage infrastructure. Including hydrology and hydraulic calculations, permitting, utility coordination, drainage district establishment, and construction administration.

North Branch of Mill Creek Intercounty Drain Study – *Project Manager*
Lapeer County, Sanilac County, St. Clare County, MI 2016
Responsible for conducting a highly detailed study on an open channel drain that included an existing dam and impoundment area. Project include unsteady state SWMM modeling, HEC-RAS modeling, data analysis, hydrology calculations, flood mapping, and dam design.

Chippewa River Weir Repairs – *Project Manager*
Isabella County, MI 2015
Responsible for designing the reconstruction project for failed weirs in the river where the previous weirs had been washed away. Design included hydraulic calculations, weir construction design, riprap sizing/design, permitting, and construction administration.

Experience:

16 years

Registration:

Professional Engineer
State of Michigan
58360

Education:

Bachelor of Science
Civil Engineering
Michigan Technological University
Houghton, MI 2006

Certifications:

MDEQ Storm Water Operator – Construction Sites

Professional Experience:

Spicer Group, Inc.,
Saginaw, MI

Saginaw County Public Works
Saginaw County, MI

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nickc@spicergroup.com

Nicholas D. Czerwinski, P.E.

Engineer

Chippewa River Bank Stabilization – *Project Manager*
Isabella County, MI 2015
Responsible for designing bank stabilization measures on the river where it paralleled a major road and public safety concerns were present due to large amounts of erosion. Design included hydraulic calculations, bank stabilization design, riprap sizing/design, permitting, and construction administration.

Ostrander Drain – *Project Manager*
Saginaw County, MI 2015
Responsible for designing open channel banks stabilization improvements to county drain project including stabilization of the drains outlet into the Tittabawassee River which had severe bank erosion and stability concerns. The project included the hydrologic and hydraulic calculations, bank stabilization design utilizing natural stream design features, two-stage channel design, riprap sizing/design, culvert design, permitting, and construction administration.

Freeland Tile Drain – *Project Manager*
Saginaw County, MI 2015
Responsible for designing improvements for an enclosed county drain project including traditional open cut installation, trenchless rehabilitation of portions of the existing sewer, and relocation of the drains outlet. The design included hydrologic and hydraulic calculations, storm sewer design, and trenchless rehabilitation design.

Gilkey Creek Flood Control and Detention Basin – *Project Engineer*
City of Burton, MI 2014
Responsible for assisting with the study, design and construction of a 120-acre-foot stormwater detention basin to alleviate downstream flooding in the City of Burton. The detention basin includes three chambers that work together to hold back flows from large storm events. Water control structures were designed to direct detention flows appropriately depending on the size of the storm and amount of runoff generated within the watershed.

Swiss Gardens Drain Improvements – *Project Engineer*
Monroe County, MI 2010
Assisted with the design of drain improvements to the 3-mile-long tiled drain and 6.1-acre-foot detention in the Swiss Gardens Drain in southeastern Monroe County. Project involved a preliminary study, permitting, easement acquisition, engineering design, plan preparation, assessment roll preparation and construction administration. Also assisted with permitting with FEMA, the City of Toledo, City of Toledo residents and the need to acquire easements from a local golf course and landowners in both Bedford Township and Toledo.

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Rick E. Born

Construction Manager

Mr. Born is a construction manager with over 25 years of providing Construction Management, Inspection, Material testing, and Office Technician duties for MDOT and Local Agency Projects. Mr. Born is very familiar with the documentation requirements for complete full construction engineering projects and has performed project management and office technician duties on numerous MDOT Local Agency projects. He understands what must be accomplished both in the field and the office to allow a project to be completed on time and within budget. He has worked outside as an inspector and material testing technician and inside performing the role of office technician for MDOT Local Agency Projects and Full Construction Engineering Projects using Field Manager. He has an excellent rapport with contractors and project managers and a strong commitment to quality.

Years of Experience:

25 Years

Education:

Associate in Applied Science in Construction Engineering Technology, Ferris State University, Big Rapids, MI, 1990

Professional Experience:

Spicer Group, Inc., Saginaw, MI, since 1997

RC and Associates, Saginaw, MI, Inspector/Materials Tester, 1995 - 1997

Saginaw Bay Resource Conservation and Development Area, Inc., Bay City, MI, Civil Engineering Technician, 1993 - 1995

RELATED EXPERIENCE

12th Street – *Construction Admin.*
City of Manistee, MI 2019
Responsible for overseeing full time construction and testing services on 12th Street from Maple Street to US-31, work included, 0.45 miles of hot mix asphalt reconstruction including pavement removal, concrete curb, gutter, sidewalks, sewer, drainage, signing and pavement markings.

South Mullett Street – *Construction Admin.*
City of Williamston, MI 2019
Responsible for overseeing full time construction and testing services on South Mullett Street from East Grand River Ave to Taylor Street, work included, 0.21 miles of hot mix asphalt reconstruction, concrete curb, gutter and sidewalk, drainage, water main, sanitary sewer, signing and pavement markings.

Gasper Road – *Construction Admin.*
Saginaw County Road Commission, MI 2018
Responsible for overseeing full time construction and testing services on Gasper from Gary Road north to Fergus Road, work included, 2.48 miles of hot mix asphalt base crushing, shaping and resurfacing, guardrail and permanent signing.

South Main Street – *Construction Admin.*
Village of Capac, MI 2018
Responsible for overseeing full time construction and testing services on South Main Street from the Capac South Village Limits to south of Meier Street, work included 0.64 miles of hot mix asphalt cold milling and resurfacing, concrete curb and gutter, drainage, permanent signing and pavement markings.

Oliver Street – *Construction Admin.*
City of Owosso, MI 2017
Responsible for overseeing full time construction and testing services on Oliver Street work included 0.41 miles of hot mix asphalt reconstruction, intersection improvement, concrete curb, gutter and ADA ramps, watermain, storm sewer, signing and pavement markings.

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rickb@spicergroup.com

Nichols Road – *Construction Admin.*
Saginaw County Road Commission, MI 2017
Responsible for overseeing full time construction and testing services on Nichols Road from Willard Road north to Birch Run Road, work included 2.07 miles of hot mix asphalt base crushing, shaping and resurfacing, tree removal, replace culverts, aggregate shoulder, permanent signing and pavement markings.

Bay City TSC As-Needed Inspection and Testing Services – *Office Technician*
Saginaw, Bay, Midland Counties, 2000-2019
Responsible for office technician duties related to the inspection and testing services provided by Spicer for MDOT in the Bay Region. Services were provided for nearly $50 million per year in construction work including HMA pavement, concrete pavement, pavement markings, sanitary sewer installation, concrete testing, density testing and aggregate testing.

Lansing TSC As-Needed Inspection and Testing Services – *Office Technician*
Lansing, MI Area 2008-2019
Responsible for office technician duties related to the inspection and testing services provided by Spicer for MDOT in the University Region. Services were provided for nearly $32 million per year in construction work including HMA pavement, concrete pavement, pavement markings, sanitary sewer installation, concrete testing, density testing and aggregate testing.

Hemmeter Road Reconstruction – *Construction Admin.*
Saginaw County Road Commission, MI 2016
Responsible for overseeing full time construction and testing services on Hemmeter Road from Brockway Road to State Street (M-58) which included 0.74 miles of HMA paving, curb and gutter, storm sewer, concrete sidewalks, ADA ramps, and traffic control.

Freeland Road Reconstruction – *Construction Admin.*
Tittabawassee Township, MI 2015
Responsible for overseeing full time construction and testing services on Freeland Road from Midland Road (M-47) to Lake State Railroad which included 0.52 miles of HMA paving, curb and gutter, storm sewer, concrete sidewalks, ADA ramps, and traffic control.

Shattuck Road Reconstruction – *Construction Admin.*
Saginaw Township, MI 2013
Responsible for overseeing full time construction and testing services on Shattuck Road from Lake State Railroad to Hermansau which included 1.2 miles of HMA paving, cold milling, concrete sidewalks, ADA ramps, and traffic control.

Brockway Road Reconstruction – *Construction Admin.*
Saginaw Township, MI 2013
Responsible for overseeing full time inspection and testing services for 1.1 miles of HMA paving, crushing and shaping, drainage improvements, concrete sidewalks, ADA ramps, and traffic control.

Brian K. Poultney

Designer/Project Manager

During the past 28 years, Mr. Poultney has provided design for civil engineering projects including drains, water main, sanitary sewer extensions and pavement improvements. The majority of his experience is in providing design for water main and sanitary sewer extensions and replacements. He has experience with AASHTO, MDOT, AWWA, ASTM and OSHA codes, standards and procedures. He regularly coordinates and receives necessary permits for projects involving MDOT and MDEQ.

RELATED EXPERIENCE

Saginaw Charter Township Municipal Water System – *Designer*
Saginaw Charter Township, Ongoing
Responsible for assisting with the design and construction tasks related to improvements and additions to the Township's water system, which includes 259 miles of water main, 14,490 customers and a 750,000-gallon water storage tank.

Thomas Township Municipal Water System – *Designer*
Thomas Township, Ongoing
Responsible for assisting with the design and construction tasks related to improvements and additions to the Township's water system, which includes 106 miles of water main, a 300,000-gallon water tank and 4,627 customers. Also serves as the project manager for all municipal infrastructure projects to support expansions at Hemlock Semiconductor Corporation (HSC) totaling approximately $15 million in construction since 2007.

Bridgeport Charter Township Municipal Water System – *Designer*
Bridgeport Charter Township, Ongoing
Responsible for assisting with the design and construction tasks related to improvements and additions to the Township's water system, which includes 119 miles of water main and 4,125 water customers.

Swan Creek Township Municipal Water System – *Designer*
Swan Creek Township, Ongoing
Responsible for assisting with the design and construction tasks related to improvements and additions to the Township's water system, which includes 33 miles of water main and approximately 800 customers.

Village of Sebewaing 2015 Water Main Improvements – *Principal in Charge*
Village of Sebewaing, MI 2015
Responsible for overseeing the design of 6,260 feet of 12-inch and 8-inch water main with appurtenances in various location throughout the Village of Sebewaing. This project was finished on time and under budget. This project required heavy coordination with the village, MDOT and the MDEQ.

Years of Experience:

28 years

Education:

Bay Arenac Skill Center, Drafting, 1987 - 1988

Delta College, University Center, MI, selected Architectural Courses

Professional Experience:

Spicer Group, Inc., Saginaw, MI, since 1991

Professional Affiliations:

Northeast Michigan Water Works Association, since 1995

Licensed Storm Water Operator

MDOT Certified for State Highway Safety Features and Appurtenances

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Brianp@spicergroup.com

Brian K. Poultney (continued)

Designer/Project Manager

Plant Street, Main Street (M-83), and Jefferson Street Water Main, Road and Sanitary Sewer Improvements – *Design team member*
City of Frankenmuth, MI 2014
Design Team member assisting with the design of 1,260 feet of 18-inch sanitary sewer, 1,242 feet of 15-inch sanitary sewer, and 131 feet of 12-inch sanitary sewer with appurtenances and 823 feet of 8-inch water main with appurtenances. This project required heavy coordination with the MDOT, MDEQ and the City of Frankenmuth.

Hemmeter Road Water Main improvements – *Designer*
Saginaw Charter Township, MI 2014
Responsible for the design of ½ mile of 12-inch water main that was installed in an open cut operation in heavy residential area. This project was finished on time and under budget.

Brockway Road and Water Main Improvements – *Designer*
Saginaw Charter Township, MI 2013
Responsible for assisting with the design of one mile of 12-inch water main using the horizontal directional drilling process. The project also included one mile of crushing and shaping the existing bituminous surface, widening the road to include a left turn lane, minor drainage improvements, and adding curb and gutter.

Gratiot Road (M-46) Water Transmission Main – *Designer*
Thomas Township, 2010 - 2012
Responsible for assisting with the design of six miles of 20-inch water transmission main. This project was completed on time and under budget along a very busy and congested business district area of M-46 through downtown Shields.

Great Lakes Tech Park – *Designer*
Saginaw County EDC, 2011-2012
Responsible for assisting with the design of 2,600 feet of roadway, 5,600 feet of sanitary sewer, ranging in sizes 8-inch to 18-inch, 2,500 feet of force main, new lift station and 3,000 feet of new enclosed county drain.

Brockway Road Improvements Water Main Replacement – *Designer*
City of Saginaw, MI 2011
Responsible for assisting with the design of a half-mile of 12-inch PVC water main replacement. The project also included the design of one mile of roadway improvements including crushing and shaping the existing HMA Roadway, widening the road by six feet on both sides, storm drainage improvements and the addition of a left-turn-lane at the Center Road intersection.

Saginaw Office
230 South Washington Avenue
Saginaw, Michigan 48605-1689
www.spicergroup.com

Phone: (989) 754-4717
Toll Free: (800) 833-0062
Fax: (989) 754-4440
Brianp@spicergroup.com

MUNICIPAL CLIENTS/REFERENCES

CITY OF FRANKENMUTH

Randy Breautigam
DPW Superintendent
City of Frankenmuth
(989) 872-2911

The City of Frankenmuth is a very popular tourist destination with many unique attractions. For over 50 years, Spicer Group has assisted Frankenmuth with all types of civil engineering assistance including the improvements of roads, replacing and extending water main and sanitary sewer services, and improved wastewater treatment efforts. Additionally, Spicer Group has been highly involved with the design of new recreation facilities and improvements to existing ones including the new and very popular ADA-accessible canoe launch along the Cass River.

Junction Road Water Main
The City of Frankenmuth and Frankenmuth Township rely on one key water main that runs along Junction Road for a daily supply of fresh drinking water. That 20-inch ductile-iron water main was originally installed in the 1970s. Ductile-iron typically has a 100-year lifespan, but several breaks within the main caused operators to take a closer look at the water main. An investigation into the breaks revealed that the pipe's walls were being compromised by surrounding corrosive soils and caused 10 major breaks over 10 years including five in 2016.

A lack of pressure could mean contamination in the water system, and because the pipe was a transmission main for drinking water into the City, every time it had to be shut off to fix a break, the City was depending on their smaller water mains, and their two elevated towers to keep water pressure up. If pressure was to fall below 20 PSI, a boil-water notice would have to be issued for the entire City and Township.

To reduce the risks of reduced water pressure to the City and the Township, Spicer Group was hired to design a solution to the problem which included the installation of 10,000 feet of 20-inch PVC and more than 3,000 feet of 20-inch fusible PVC. The design had to accommodate several culvert crossings and county drain crossings. The project team reduced costs significantly by horizontally directional drilling the fusible PVC sections beneath the culvert and county drain crossings.

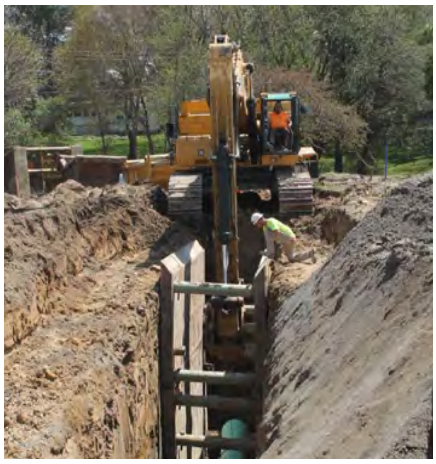
MUNICIPAL CLIENTS/REFERENCES

Water Main Bore – City of Frankenmuth
While construction was taking place in the Cass River near the M-83 bridge in downtown Frankenmuth, concrete rocks broke one of the three water main pipes that crossed the river and fed businesses and homes in the city. The pipe was an 8-inch cast-iron water main that was installed in 1939 and over time, the river bank had eroded enough to almost expose the pipe. Spicer Group was hired by the city to assess the damage and provide solutions for the Frankenmuth Department of Public Works to continue providing exceptional service to its customers.

Spicer's team designed a solution to replace the water main by directionally drilling a new 10-inch high density polyethylene water main beneath the river slightly west of the broken water main. By using a thick rock-head drill with a specialized bore tip, the contractor was able to directionally drill through tough shale and rock beneath the river. That pipe was then tied into two existing water mains - one near the city's waste-water treatment plant, and the other by Zehnder Park to completely replace the broken cast-iron water main.

A new pressure reducing valve vault was also designed and installed as part of this project to help regulate the pressure zone throughout the water system on the north and south sides of the river in the city. This project was part of several the City of Frankenmuth completed with Spicer Group to improve their water system infrastructure.

Main Street Sanitary Sewer Replacement and Roadway Rehabilitation
Past studies and sanitary sewer projects had shown that the original 12-inch sanitary sewer along Jefferson Street in downtown Frankenmuth was at capacity and needed to be replaced for additional development to happen in that service district. Additionally, a planned expansion at the popular Splash Village Water Park in the City sparked the need to replace the sewer. The City hired Spicer Group to provide design, bidding assistance and construction administration.



The sanitary sewer on Main Street (M-83) and Jefferson Street was replaced with 18-inch sanitary sewer and improvements were made to an existing sewer along Plant Street to increase system capacity. Also, curb and gutter, and pavement was replaced on both of these streets.

Frankenmuth WWTP Emergency Power Study
Spicer Group worked with the City of Frankenmuth in examining the electrical distribution and service at the City's wastewater treatment plant (WWTP). Spicer Group examined the electrical distribution system and dual electrical services and provided the client with a report with options to improve their electrical reliability and address the costs of maintaining an emergency service for the electric utility.

MUNICIPAL CLIENTS/REFERENCES

CITY OF MANISTEE

Jeff Mikula
Public Works Director
City of Manistee
(231) 723-7132

The City of Manistee is a very popular tourist destination located along the waterfront. Spicer Group became Manistee's general engineer four years ago, and we have been assisting them with all of their municipal engineering and surveying needs.

Manistee Wastewater System Improvements – Forcemain Bore Under River
The City of Manistee's 6th Avenue pump station conveys all the sewage from the north half of the City's sewer system, under the Manistee River, to the southern collection system, and ultimately to the City's wastewater treatment plant. The force main connected to this station was originally constructed in a hand-dug 100-year-old tunnel beneath the river's bottom. Due to how the force main was constructed beneath the river, there was no way to test the pipe, and the integrity of the main was unknown.

As the Engineer of Record for the City of Manistee, Spicer Group was asked to review and analyze the problem. The final project recommendation included abandoning the original force main in the tunnel and directionally drilling approximately 915 feet of 10-inch C906 fusible PVC under the Manistee River. In order to meet all design and material permitting requirements, the selected drilling route required drilling the new pipe at an 820-foot radius nearly 70 feet beneath the bottom of the river. During drilling, the horizontal and vertical alignment of the drill head was tracked in real time and came within a few inches of its planned exit point.

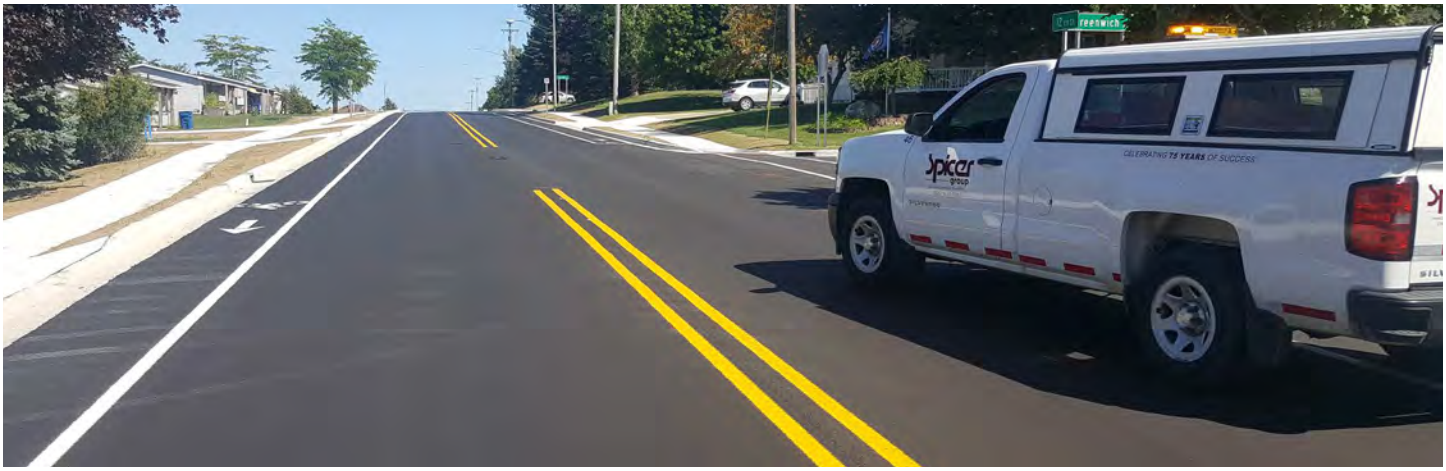
Spicer Group performed a study including flow monitoring, permitting, preliminary design, final design, bidding, construction inspection, testing, and construction administration services for the project. Due to the work being performed within the Manistee shipping channel, close coordination with EGLE, US Army Corps of Engineers, Manistee County, the City of Manistee, and the US Coast Guard was required.

City of Manistee GIS
Spicer Group assisted the City of Manistee with updating their GIS system with significant detail. This project included conducting a survey using Mobile Mapping and LiDAR technology of the City's visible assets. Their underground assets, such as water, sewer, and stormwater pipes were also included. Spicer Group conducted inspections, manhole inspections, record scanning, and pipe televising to gather all of this data. Once all the assets were recorded, this data was loaded into the asset management program the City chose. These programs are used by the City's maintenance crews on a regular basis for system repairs. Evaluations and MACP and PACP ratings of the City's sewer infrastructure were also completed for use in the City's Infrastructure Asset Management Program and development of Capital Improvements. Water leads, corporations, and curb stops were also documented with GIS to meet the State's lead and copper rule requirements.

MUNICIPAL CLIENTS/REFERENCES

City of Manistee 12th Street Improvements
As the City of Manistee's Engineer of Record, Spicer Group was asked to review and evaluate the condition of the pavement structure of 12th Street from US-31 to Maple Street near downtown Mansitee. Spicer's team designed a full pavement reconstruction for this 2,424 feet of road that also included retaining existing and creating new concrete curb and gutter, retaining and creating sidewalks, and creating bicycle lanes between the driving lanes and curb.

Spicer Group also provided design and construction engineering services for the installation of storm sewer between Maple Street and Cyprus street along 12th Street, obtaining easements from property owners, and coordinated all permitting required for this project.



CITY OF OWOSSO

Randy Chesney, P.E., City Engineer
301 West Main • Owosso, MI 48867
(989) 725-0599

John Klopko, Operations Director
(989) 413-5246

Oliver Street Pavement Reconstruction – City of Owosso
Spicer Group provided the design for 0.75 miles of roadway reconstruction including storm sewer, water main, sidewalk, pavement markings, permanent signing, maintaining traffic, and construction cost estimate. Bicycle lanes were incorporated into the project design. The project also included topographic survey, geotechnical investigation, and coordination with local government agencies. This project was completed through MDOT's Local Agency Program. Spicer Group provided construction inspection for the project which was completed Fall 2017.

MUNICIPAL CLIENTS/REFERENCES

North Street

- Spicer Group provided design and construction administration (observation/testing/staking).
- Project included 0.06 mile of full reconstruction and culvert replacement
- The entire roadway was replaced and the one lane bridge was removed and replaced with a 11'x6' concrete box culvert.
- Guardrail was replaced, water main was relocated and lowered, 5' shoulders were installed for future bicycle lanes, maintaining traffic, and pavement markings were installed to complete the safety enhancement for this MDOT Safety Local Agency Project.

Owosso Public Schools

Since 2001, Spicer Group has been working with Owosso Public Schools to provide staff and students with improvements and upgrades to school facilities on a yearly basis. Through this working relationship, significant improvements to the district's high school, middle school, and elementary schools—and their infrastructures—have been implemented and completed. These capital improvements are supported by a millage-financed sinking fund that allows up to $1.5 million in construction costs per year.

Some of the capital improvements to the structures throughout the district include:

- Renovations to office areas
- Renovations to the High School's science laboratory
- Construction of new bus loops
- Parking and sidewalk improvements throughout the school district
- Storm water drainage improvements throughout the district
- Fire alarm replacement
- High School tennis court upgrades
- Electrical upgrades
- HVAC and plumbing improvements
- Stairwell enhancements and locker room renovations at the Middle School
- Media library and administration office renovations at the Elementary School

MUNICIPAL CLIENTS/REFERENCES

CITY OF SAGINAW

Phil Karwat, P.E.
Director of Public Services
City of Saginaw
(989) 759-1413

Spicer Group began operations in 1944 in the City of Saginaw and our main office of operations is still located in the City. We have established a deep-rooted professional relationship with Saginaw and have provided a vast spectrum of services for them. In particular, we have designed many miles of street improvements including curb and gutter, have provided the designs for major improvements to water main and sanitary sewer infrastructure, and also assisted with the design and construction of major waterfront improvements along the Saginaw River.

Davis Road Water Main Replacements - City of Saginaw

To improve the reliability of both the raw and finished water transmission mains along the Davis Road corridor between Pierce and Trautner Roads and to improve the operational flexibility of the raw water supply, 10,800 feet of 48-inch raw water main was constructed, along with over 12,000 feet of potable water main that ranged from 16-inch to 36-inch in diameter. A new variable speed pump was added at the Kochville Pumping Station to improve the operational efficiency in providing the flows at the Water Plant to meet the seasonal demand fluctuation. These parallel mains provide raw water to the Water Treatment Plant and potable water to Carrollton, Kochville, Saginaw, Thomas, Tittabawassee Townships, the City of Zilwaukee, SVSU, Delta College, MBS Airport, and Frankenlust Township in Bay County. This project also included provisions to allow for future improvements to be made without taking the new lines out of service. The new mains have an expected service life of nearly 100 years.

Saginaw Gratiot Road Booster Station Electrical Upgrades

This station is critical to the operation of the City of Saginaw's water distribution system as it is the sole interconnect to customers west of the Tittabawassee River in Thomas, James, and Swan Creek Townships. One of the major reliability components included improvements to the existing electrical power distribution system of the station. Spicer Group's report included a cost comparison between refurbishing the existing second electrical service from Consumers Energy and the installation of a new on-site generator. Based on findings, the City decided to retire the second electrical service and install two on-site back up generators with automatic transfer switches. Also, due to the critical nature of this station, Spicer Group provided the City with an additional option of a portable generator connection point in the event both the electrical service and the independent generators would fail. The power system is composed of a 480 volt, 3 phase, 1200 amp service that powers three 200 hp pumps and three 125 hp pumps. Spicer Group completed cost estimates and prepared design documents for permitting and bidding for all the recommended improvements at the station.

MUNICIPAL CLIENTS/REFERENCES

Genesee Streetscape
Spicer Group served as the prime consultant on the design of a half-mile complete roadway reconstruction and streetscape project along Genesee Street in Downtown Saginaw. Roadway reconstruction included parking improvements, the replacement of 3,300 feet of 12-inch water main and over 2,500 feet of combined sewer ranging in sizes from 24-inch to 60-inch. Streetscape elements included decorative lighting and sidewalks, parking bays, landscaping and decorative signals.

Spicer's landscape architect worked with the design team to incorporate important streetscape elements including decorative lighting and sidewalks, parking bays, landscaping and decorative signals. New trees, perennials and decorative crosswalks were also included into the final construction of the entire stretch of the project area. The project was ranked #5 by Roads & Bridges Magazine for the top 10 projects of 2010.

CITY OF ST. LOUIS

Kurt Giles
300 N. Mill St. • St. Louis, MI 48880
(989) 681-4377

St. Louis City Hall – City of St. Louis

After many years of working in a City Hall with inadequate space and an unusable leaky basement, the City of St. Louis purchased a former IGA Food Store located within their downtown district. Spicer Group worked with the City Administrative and Police staff to create a design for the renovation of the former IGA store into a new home for the City offices, Police Department and a new Community Center.

The project included a complete renovation of the 17,415 square foot building, including the installation of a new community room with warming kitchen, city council chamber, multipurpose training area, municipal offices, police offices, emergency vehicle garage, new sidewalks, new parking lot, and new outside lighting. The newly renovated building sits on a prime location along the Pine River, and has added to the beautification of the downtown.

MUNICIPAL CLIENTS/REFERENCES

City of St. Louis GIS
Spicer Group assisted the City of St. Louis with updating their GIS system. This project included conducting a survey using Mobile Mapping and LiDAR technology of the City's visible assets. Their underground assets, such as sewer, and stormwater pipes were also included. Spicer Group conducted inspections, manhole inspections, record scanning, and pipe televising to gather all of this data. We are also currently beginning to survey the City's water utilities. Once all the assets were recorded, this data was loaded into the asset management program the City chose. The City of St. Louis also included their roads into their asset management program. These programs are used by the City's maintenance crews on a regular basis for system repairs.

October 17, 2019

Adam Zettel, City Manager
City of Swartz Creek
8083 Civic Drive
Swartz Creek, MI 48473

RE: Proposal for Preliminary Design Engineering Services
Sample Road Reconstruction Project
Example Road, Morrish Road to Elms Road
City of Swartz Creek, Genesee County

Dear Mr. Zettel:

We are pleased to submit this proposal to provide design engineering services for the above-referenced project. The project will be funded through the Michigan Department of Transportation (MDOT) using Midland Area Transportation Study (MATS) and Local Funds for construction for 2019. The current programmed construction cost for the project is $735,000. The current breakdown is $250,000 of MATS funding, $450,000 of GCRC, and $35,000 of local funding (City for sidewalk). The project will be subject to MDOT Local Agency Program (LAP) review and contracting requirements. The Genesee County Road Commission (GCRC) anticipates that it will be let for bids by MDOT on January 4, 2020.

Understanding of Project

The project is located on Example Road, from Morrish Road to Elms Road, and is approximately 0.44 mile in length. This road is an Urban Major Collector.

We anticipate the road reconstruction will consist of asphalt pavement, aggregate base, and sand subbase. The GCRC desires for this roadway section to be widened to a three-lane cross section. Curb and gutter will be installed on both sides. The sidewalk on Example Road may be replaced if desired by the City. Sidewalk on this project will be designed to ADA requirements.

It is anticipated that the majority of the existing culverts and storm sewer will be replaced.

All the design work for this project will be completed in accordance with MDOT, City of Swartz Creek, Genesee County and AASHTO design criteria. This work will be completed under the direct supervision of a Professional Engineer licensed in the State of Michigan.

Spicer Group's Project Manager has performed numerous projects of similar nature to this project for the municipalities in Genesee County. As such, we understand the nature and scope of this project and can proceed with the preliminary engineering.

Scope of Professional Services

Our proposed Scope of Design Engineering Services is as follows:

A. Perform a topographic survey of the area to gather the information necessary to design the project.

B. Prepare and submit Grade Inspection (GI) Package to the GCRC, MDOT, and affected utility companies, and request GI Meeting to be scheduled with MDOT. The GI Package will consist of the following:

   1. Construction plans (11" x 17") consisting of the following anticipated sheets, based on the English Unit System:

      - Title Sheet (1)
      - Legend Sheet (1)
      - Alignment Sheet (1)
      - General Notes and Quantities Sheet (1)
      - Drainage, Vicinity, and Soil Erosion Sheet (1)
      - Typical Cross Sections Sheets (2)
      - Miscellaneous Details Sheet (1)
      - Separate Removal & Construction Plan Sheets at a scale of 1”=40’ (10)
      - Profile Sheets at a scale of 1”=40’ (5)
      - Maintaining Traffic and Signing Sheet (1)
      - Detail Grade Sheets (2)
      - Permanent Pavement Marking and Signing Sheets (3)

   2. Engineer’s Preliminary Estimate of Construction Cost.

   3. Special Provisions for pay items not covered by the MDOT 2012 Standard Specifications for Construction.

   4. Utility Coordination Clause.

   5. HMA Application Estimate.

   6. Maintaining Traffic Special Provision and typical details.

C. Prepare and submit Project Programming Application (Program Application for Local Agency Road Projects) to the BCRC for review and approval and forwarding final application to MDOT. This also includes requesting information and clearances from various historical and environmental governmental agencies.

D. Complete the MDOT Work Zone Mobility Analysis. If any component of the Work Zone Mobility Analysis exceeds the thresholds, then a Transportation Management Plan will be developed and implemented.

E. Attend GI Meeting with the City of Swartz Creek, MDOT, and utility companies and prepare meeting minutes.

F. Incorporate comments received at the GI Meeting into the final design plans.

G. Prepare and submit electronic Final Plans Review Package to MDOT for review. The package will consist of the following:

   1. Updated Construction Plans.

   2. Engineer's Final Estimate of Construction Cost.

   3. Updated Special Provisions.

   4. Utility Coordination Clause.

   5. Final Progress Clause.

   6. HMA Application Estimate.

   7. Maintaining Traffic Special Provision and typical details.

H. Receive and incorporate comments from the Genesee County, City of Swartz Creek and MDOT.

I. Submit electronic plans and documents to the City of Swartz Creek and MDOT.

J. Perform geotechnical investigation consisting of six soil borings (5-foot deep) for the project.

Fees

We propose to provide the above design services for a Cost, Plus Fixed Fee of $XXXXX**,** as indicated in the enclosed Derivation of Cost Proposal Summary; Attachment "A." The Agreement Form to be used will be the standard Professional Service Agreement.

Owner Responsibilities

It is our understanding that the City of Swartz Creek will provide the following information for our use in completing the design.

A. Existing construction plans for Example Road.

B. Existing water, sewer and storm infrastructure documentation.

C. Videotaping and inspection of the existing storm sewers and culverts.

D. All costs and expenses for permit application fees, publication fees, recording fees, filing fees, and title search assistance for property acquisitions and/or easements are the responsibility of the Owner.

E. When requested by Spicer Group, the City of Swartz Creek will review documents prepared by Spicer Group and provide comments in a timely fashion.

F. Any additional engineering services requested by the City of Swartz Creek will be negotiated at the time of request for an Additional Fee prior to commencement of any additional work.

Services Not Included

For a clearer understanding of our work scope, the following is not included in our Scope of Professional Services.

All engineering design phase tasks that we anticipate will be required for this project are included in our proposed Scope of Professional Services.

EGLE Permits - At this time, it is assumed that no culverts or storm sewers under Example Road will require a Michigan Department of Environment, Great Lakes and Energy (EGLE) Permit Application for replacement. If this changes or if a EGLE Permit Application is required for replacing a major culvert or storm sewer, we propose to negotiate a fee for the work at that time.

Preparation of Easements – We do not anticipate easements being necessary for this project. We would be happy to prepare any easements for the project should they become necessary. We will perform this service for the project as an additional service using our hourly rates and we will obtain approval from you prior to performing any work related to the preparation of easements.

- Additional studies, investigation, and design relating to traffic impact studies, signage and signalization studies, and environmental issues (i.e., subsurface contamination, sensitive habitat areas, etc.).

- Unless specifically noted in our proposed Scope of Professional Services described above, design of upgrades to existing municipal utilities including water booster pump stations, storm sewer pump stations, utility main extensions, hydraulic modeling, water flow test of water systems, or downstream capacity analysis, etc.

- Effort and expenses related to retaining wall design.

- Separate utility meeting or public meeting.

- Traffic signal design.

- Preparation of permits and applications other than noted in our Scope of Professional Services.

- Construction phase services such as staking, inspection, testing, and contract administration are not included. Please note that these services will be required and Spicer Group will be prepared to submit a proposal to provide construction phase services at the appropriate time.

Additional Services

As the need for additional services may arise, we will provide additional services for a negotiated fee. Additional services will require a Contract Amendment to be approved and signed by the City of Swartz Creek prior to the start of any additional work.

Schedule

Based on an Authorization to Proceed date of November 1, 2019, Spicer Group can complete the design work per the schedule in Attachment B, based on the assumption that the City of Swartz Creek and MDOT can promptly schedule meetings and perform all necessary project reviews. These dates are in accordance with the MDOT LAP planning calendar.

We deeply appreciate your confidence in Spicer Group, and we look forward to working with you and for you on your project.

Sincerely,

Darrick W. Huff, P.E.
Principal/Senior Construction Manager

Michael G. Niederquell, P.E.
Project Manager

SPICER GROUP, INC
230 S. Washington Avenue
Saginaw, MI 48607
Phone: (989) 754-4717 ext. 5510
Fax: (989) 754-4440
E-mail: miken@spicergroup.com

C:\Users\huffdw\Documents\Swartz Creek Sample Proposal.docx

COMMUNICATION PLAN

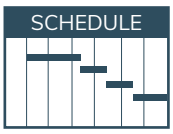
Our strategy for providing prompt service to the City of Swartz Creek includes having one designated point of contact. For the City of Swartz Creek, Darrick Huff, P.E., will be that contact. He will be responsible for coordinating Spicer Group's resources to address City project needs. Spicer Group and the identified team have the capacity to provide all requested professional services.

Our business growth model and staff structure allows us to be flexible with taking on demanding responsibilities such as City Engineer and project-specific work with challenging design considerations and deadlines. We are routinely taking on new clients and projects at Spicer, and having over 200 employees allows us to shift schedules and work tasks to appropriate personnel for the benefit of our clients.

We understand that different clients and different individuals have varying preferences for communication. We can customize the communication procedure based on client and project needs. We utilize meetings, teleconferences, phone calls, email, text messaging, and shared file drive servers to customize a communication strategy that is most efficient for the client.

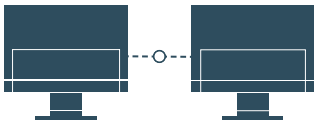
We want to make a special note that we have carefully analyzed our current and projected work load and have selected staff based on their expertise, availability and upcoming schedules to work directly with you.

Our strong project management skills mean extra dollars in your pocket and quality designs completed on-time and within budget. We incorporate a wide variety of published project management tools to ensure a high degree of quality in the work we perform:



Microsoft Project/ Microsoft Outlook for scheduling

Vision Accounting Software for effective and accurate billing



Intranet for efficient internal communication

Social Media for public relations with local stakeholders and residents

The project team listed in this proposal has extensive experience providing as-needed engineering services for Townships, Cities, and Villages. We serve as the engineer for several municipal clients across Michigan, and we are always available to assist as-needed. Whether it's just a phone call to ask us a question about the infrastructure, or the need for us to be on-site for a meeting or site evaluation, we have the flexibility to respond quickly and efficiently.

We recognize the responsibility that government agencies have in being accountable to their constituents. We share in that accountability with a holistic approach to each project. We have extensive experience in asset management plans for roads, water, sewer, and facilities. We bring this experience to each project in an effort to provide the maximum benefit to the City.

At Spicer Group, we also understand that capital work involving a consulting engineer is only a piece of the City's responsibilities. The Spicer Team will approach each project with the goal of providing the required services while minimizing the demand on the City's staff as much as possible. Our Principal in Charge, Darrick Huff, will also make himself available to attend any public meetings as requested by the City of Swartz Creek at no charge.

MDOT PREQUALIFICATIONS

Below is a list of everything Spicer Group is prequalified in for the Michigan Department of Transportation. Those required by this RFP are in bold.

- Construction Engineering: Assistance
- **Construction Engineering: Bridges & Ancillary Structures**
- Construction Engineering: Roadway
- Construction Engineering: Roadway - Local Agency Program
- Construction Inspection: Bridge Painting
- Construction Inspection: Bridges & Ancillary Structures
- **Construction Inspection: HMA Pavement**
- Construction Inspection: Roadway
- Construction Inspection: Traffic and Safety
- Construction Services: Office Technician
- Construction Testing: Aggregates
- **Construction Testing: Concrete**
- **Construction Testing: Density**
- Design - Bridges
- Design - Bridges: Load Rating
- Design - Bridges: Safety Inspection
- Design - Bridges: Scoping
- Design - Hydraulics I
- Design - Hydraulics II
- **Design - Roadway**
- Design - Roadway: Intermediate
- Design - Traffic: Pavement Markings
- **Design - Traffic: Signal**
- Design - Traffic: Signing - Freeway
- Design - Traffic: Signing - Non-Freeway
- Design - Traffic: Work Zone Maintenance of Traffic
- **Design - Utilities: Municipal**
- Design: Landscape Architecture
- **Surveying: Construction Staking**
- Surveying: Hydraulics
- Surveying: Right of Way
- Surveying: Road Design
- Surveying: Structure

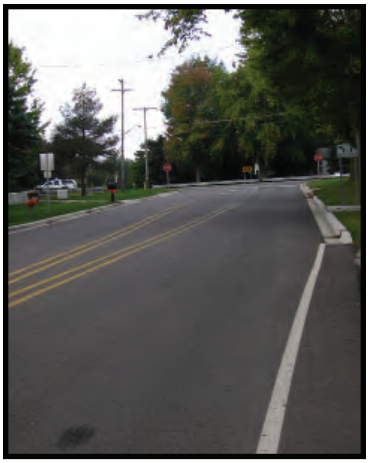
Statement of Qualifications for:

Professional Engineering Services

City of Swartz Creek, Michigan

Submitted on:

November 8, 2019



Submitted by:

ROWE PROFESSIONAL SERVICES COMPANY

540 S. Saginaw Street, Suite 200
Flint, MI 48502
810.341.7500

www.rowepsc.com

ROWE PROFESSIONAL SERVICES COMPANY

Table of Contents

Statement of Qualifications for:

Professional Engineering Services

Presented to:

City of Swartz Creek, Michigan

ROWE PROFESSIONAL SERVICES COMPANY

Large Firm Resources. Personal Attention. sm

November 8, 2019

Connie Olger, City Clerk
City of Swartz Creek
8083 Civic Drive
Swartz Creek, MI 48473

RE: Professional Engineering Services
Addendum #1 Received October 25, 2019

Dear Ms. Olger,

ROWE Professional Services Company appreciates the opportunity to submit this statement of qualifications for professional consulting services to once again be a partner with the City of Swartz Creek. We have a team of more than 175 employees with diverse skills who have the capacity to assist the city with numerous consulting services. Of our 175 staff members, more than 100 of them work at our corporate headquarters, within 15 minutes of city hall, and 10% of them *live* within the Swartz Creek School District. We have great energy and passion to be a part of improving your vibrant community.

Since we have had the fortune to provide services to the City of Swartz Creek for more than 30 years, ROWE has developed a deep knowledge of the city's infrastructure and its needs. Our understanding of the request for services include providing:

- Design engineering for streets, traffic signals, traffic analysis, bridges, sidewalks, park facilities, storm water systems, public water distribution, sanitary sewer distribution, pump stations, and structures
- Construction engineering, including staking, inspection, testing, MDOT paperwork, and as-built information
- Site plan review services
- Surveying, including property surveys, legal descriptions, and GIS mapping. We can also provide aerial surveying, as well as stationary and mobile LiDAR.
- Funding procurement and administration for sources such as CDBG, USDA, MDOT, MEDC, MDNR, Community Funds, and a variety of other sources. ROWE is constantly looking for money to off-set city funds.

Our company's leadership exercises attention to detail and our staff will do what is right for your community on every project. Senior Project Manager Douglas P. Skylis, PE, will serve as your single point of contact for services provided by ROWE. He works out of ROWE's Flint and Lapeer offices, and his cell phone number is (810) 869-5112. ROWE's fax number is (810) 341-7573. Since Jack Wheatley, PE, has been a long-term engineer for the city, he will assist Doug as needed. Jack can always be reached at (810) 869-5121. ROWE encourages anyone with questions to contact either of us.

Sincerely,
ROWE Professional Services Company

Jack T. Wheatley, PE
Vice President / Principal in Charge

Douglas P. Skylis, PE
Senior Project Manager

Organization

ROWE Professional Services Company (a Michigan corporation) is a professional engineering consulting firm, with large-firm resources, broad expertise, *and* the personal service and attention you deserve. Our staff of more than 175 professionals in five Michigan offices, and in Myrtle Beach, South Carolina, strives for 100 percent client satisfaction. Specialties include:

ENGINEERING ■ SURVEYING ■ AERIAL PHOTOGRAPHY/MAPPING
LANDSCAPE ARCHITECTURE ■ PLANNING

Michigan Office Locations

Corporate
The ROWE Building
540 S. Saginaw Street
Suite 200
Flint, MI 48502
Ph. (810) 341-7500
Fax (810) 341-7573
www.rowepsc.com

Branches

LAPEER
128 N. Saginaw Street
Lapeer, MI 48446
Ph. (810) 664-9411
Fax (810) 664-3451

MT. PLEASANT
127 S. Main Street
Mt. Pleasant, MI 48858
Ph. (989) 772-2138
Fax (989) 773-7757

FARMINGTON HILLS
27280 Haggerty Road
Suite C-2
Farmington Hills, MI 48331
Ph. (248) 675-1096
Fax (800) 974-1704

KENTWOOD
4345 44th Street SE
Suite A
Kentwood, MI 49512
Ph. (616) 272-7125
Fax (800) 974-1704

GRAYLING
2342 Industrial Street
Suite A
Grayling, MI 49738
Ph. (989) 348-4036
Fax (989) 348-5416

Aerial Division
AIR-LAND SURVEYS
540 S. Saginaw Street
Suite 200
Flint, MI 48502
Ph. (810) 762-6800
Fax (810) 762-6801
www.airlandsurveys.com

Office Location

All work for this contract will be completed out of our corporate headquarters in Flint, Michigan, located just 15 minutes from the City of Swartz Creek. All personnel assigned to any city project will be working out of this office, making meeting attendance and site visits very convenient and efficient.

Number of Staff

All work for this contract will be completed out of our corporate headquarters in Flint, Michigan office located just

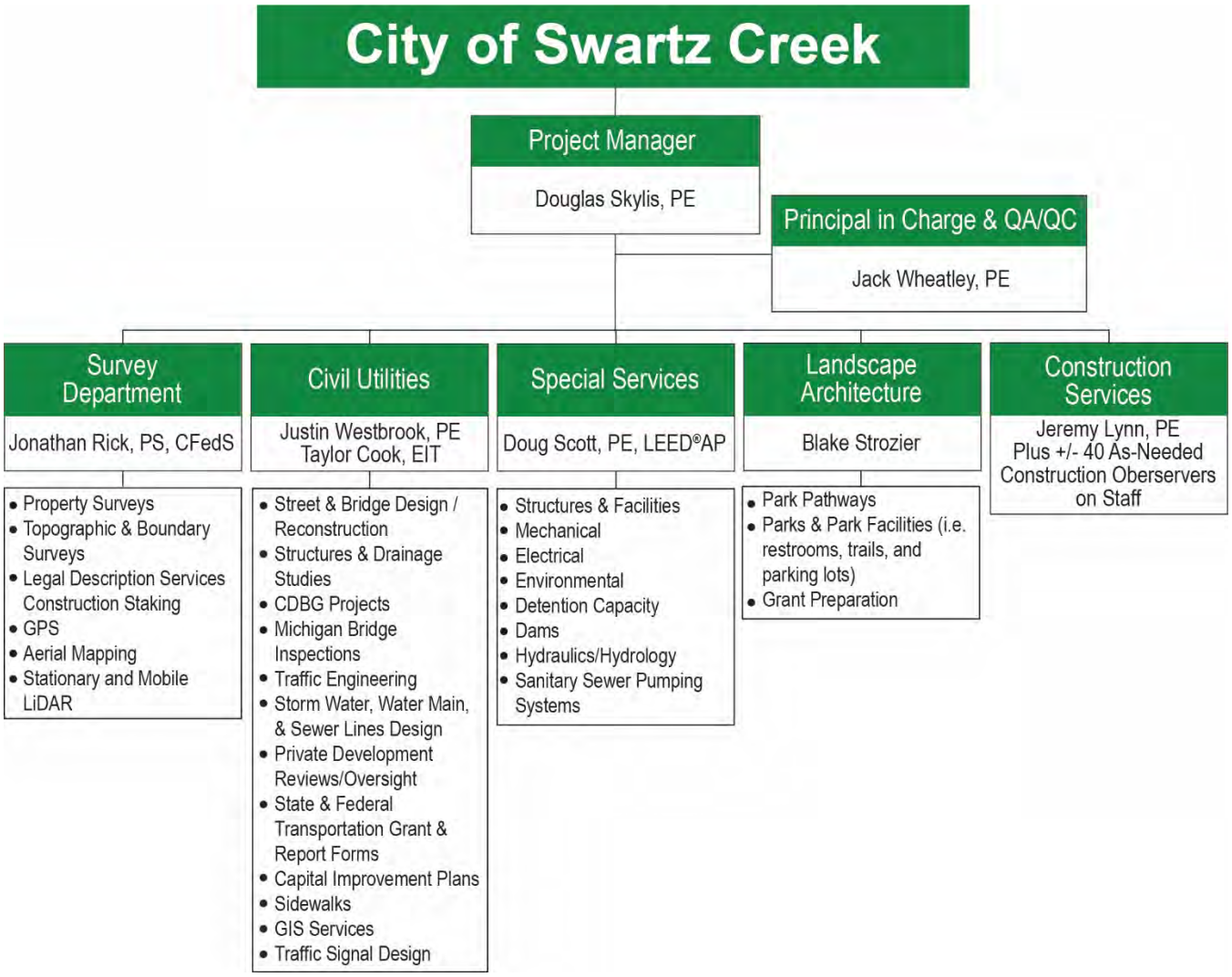
Flint Office Staff

Classification	# of Staff	Classification	# of Staff
Engineering Division Managers	2	Senior Surveying Project Managers	3
Senior Engineering Project Managers	12	Surveying Project Managers	1
Engineering Project Managers	7	Survey Project Coordinator	2
Senior Project Engineers	4	Project Surveyor	1
Senior Engineers	3	Survey Crew Chief	4
Project Engineers	7	Survey Field Technicians	3
Assistant Project Engineer	10	Graduate Surveyors	2
Graduate Engineers	3	Survey Intern	1
Engineering Interns	1	Cartographer	1
Senior Engineering Technicians	11	Planners	4
Engineering Technicians	16	Landscape Architects	2
Accounting Department	6	Information Technology	2
Clerical	4	Human Resources	2
Marketing	4		

ROWE FUN FACT

Approximately 10% of ROWE's Flint office staff live in the Swartz Creek School District area.

Key Personnel Resumes



Douglas P. Skylis, PE
Senior Project Manager

Professional Qualifications
Education: B.S., Civil Engineering

Registration: Professional Engineer, Michigan

Professional Background
Doug joined ROWE as a project engineer in 1994. He was promoted to project manager in 1995. He currently serves as project manager for several municipal clients in Genesee and Lapeer counties. His responsibilities include managing all aspects of project work relating to scope, schedule, cost, quality, and communications with clients, governmental agencies, and the public. Experience includes utilities, roadways, trails, enhancements, and safety improvements.

Doug's Contract Responsibilities
For this contract, he will act as the primary contact person with the city. He will coordinate the city's design and construction activities.

Jack T. Wheatley, PE
Principal in Charge & QA/QC

Professional Qualifications
Education: B.S., Civil Engineering; B.S., Horticulture

Registration: Professional Engineer, Michigan

Professional Background
Jack joined ROWE in 1989 and has served as project engineer and project manager on many projects, including numerous for the City of Swartz Creek. He has also worked with numerous funding sources and processes, including MDOT, STP, HES, HPP, Category A and C, Community Development Block Grants, MDNR Recreation Grants, and Transportation Enhancement Grants. He was named an associate (owner) in 1995, promoted to senior project manager in 2006, and principal / vice president in 2010.

Jack's Contract Responsibilities
As principal in charge, Jack will support Doug to ensure the city's projects are properly staffed and completed in a timely manner. He will also provide the City of Swartz Creek the means to communicate QA/QC concerns with ROWE. Jack will make sure all city projects are reviewed in conformance with ROWE QA/QC policies.

Jonathan H. Rick, PS, CFedS
Director of Surveying

Professional Qualifications
Education: B.S., Surveying

Registration: Professional Surveyor, Michigan, Illinois, North Carolina, & Ohio; Certified Federal Surveyor (CfedS)

Professional Background
Jon has been with ROWE since 2005; he was named associate in 2014, promoted to director of surveying in 2015, and named vice president/principal in 2018. As director of the surveying department, he directs surveying projects and staff in all seven ROWE offices.

Jon's Contract Responsibilities
Jon will supervise ROWE's large surveying department, which includes 15 licensed professional surveyors, to perform all necessary services for the city.

Justin A. Westbrook, PE
Senior Project Engineer

Professional Qualifications
Education: B.S., Civil Engineering

Registration: Professional Engineer, Michigan

Professional Background
Justin joined ROWE in 2008 as a graduate engineer and was promoted to assistant project engineer in 2010, project engineer in 2012, and senior project engineer in 2018. He assists in the analysis, design, and construction of various road and infrastructure projects.

Justin's Contract Responsibilities
Justin will serve as project engineer under Doug for this project and be involved in design and construction of water main, sewer lines, sidewalks, and pathways.

Taylor J. Cook, EIT
Assistant Project Engineer

Professional Qualifications
Education: B.S., Civil Engineering

Professional Background
Taylor joined ROWE fulltime in 2017 as a graduate engineer. He assists in the analysis, design, and construction of various road and infrastructure projects.

Taylor's Contract Responsibilities
Taylor will assist Justin and Doug and be involved in GIS mapping, and design and construction of water main, sewer lines, sidewalks, and pathways.

Douglas A. Scott, PE
Senior Project Engineer

Professional Qualifications
Education: B.S., Civil Engineering

Registration: Professional Engineer: Michigan, Alabama & South Carolina

Professional Background
Doug has 27 years of professional experience, focusing on project design and development for a variety of municipal and private clients. He joined ROWE as an assistant project engineer in 1995, was promoted to project engineer in 1997, was named an associate in 1998, and promoted to project manager in 2001 and senior project manager in 2014.

Doug's Contract Responsibilities
Doug will serve as an engineer under Doug and be involved in design and construction of certain utility projects.

Blake D. Strozier
Graduate Landscape Architect

Professional Qualifications
Education: B.L.A., Landscape Architecture

Professional Background
Blake joined ROWE in 2013 with two years' experience. He assists clients company-wide with quality-of-life issues, from project concept to completion.

Blake's Contract Responsibilities
Blake will be involved in designing landscape enhancements for city projects and will assist in the preparation of grant applications.

Jeremy M. Lynn, PE
Construction Manager

Professional Qualifications
Education: B.S., Civil Engineering

Registration: Professional Engineer: Michigan, Alabama & South Carolina

Professional Background
Jeremy joined ROWE as an assistant project engineer in 2000 after working as a field technician for MDOT and the City of Flint. He was promoted to project engineer in 2006, project manager in 2009, and was also named an associate in 2009. In 2011, Jeremy became a senior project manager. He acts as construction and safety engineer on many of ROWE's projects and oversees the firm's construction observers.

Jeremy's Contract Responsibilities
As construction manager, Jeremy will be responsible for assigning appropriate field personnel for construction inspection and testing.

Resumes follow for the personnel listed above.

ROWE FUN FACT

ROWE has steadily worked with the City of Swartz Creek since 1975.

Douglas P. Skylis, PE

Senior Project Manager

Doug's professional experience includes work with CSX Transportation from 1985 to 1987. He joined architectural/engineering firm SSOE, Inc. in 1987 as a project manager/engineer, and came to ROWE in 1994 as a project engineer. He was promoted to project manager in 1995 and named associate (company shareholder) that same year; he was promoted to a senior project manager in 2000.

Education

B.S., Civil Engineering (Michigan State University, 1985)

Registration

Professional Engineer
Michigan: 1990 (no. 35653)

Affiliations

- Mayfield Township Airport Board (Vice Chair)
- Michigan Society of Professional Engineers, Bluewater Chapter (Past President, Past Treasurer, and Secretary)
- National Society of Professional Engineers
- American Society of Civil Engineers
- American Public Works Association, Michigan Chapter (Past President)
- American Council of Engineering Companies-Michigan
- Qualifications Based Selection Committee (2015-2019)

Relevant Project Experience

Site Plan Review Services:

- Attica, Dryden, Metamora, and Mussey townships, MI
- Villages of Almont and Clifford, MI
- Cities of Lapeer and Caro, MI

City of Lapeer, MI

- *Davison Road Rehabilitation:* Project manager for the rehabilitation of Davison Road from the traffic circle at Lake Nepessing Street east to the intersection of DeMille and Millville Roads. Project consists of culvert upgrades, ditching, select areas of pavement repair, cold milling, HMA overlay, signage upgrades, and new pavement markings. Work will be done while maintaining existing traffic. Project is partially funded with MDOT Category F direct grant and city funding ($680K construction; 2019).
- *Genesee Street / Davison Road Non-Motorized Trail:* Project manager for the design of a westerly extension of a 10-foot non-motorized trail to the existing trail where it crosses Genesee Street, connecting to the DeMille Road trail and then west to the Polar Palace. Project will include new HMA trail, signs, and upgraded barrier-free ramps, where required. Project is funded by MDOT Congestion Mitigation and Air Quality (CMAQ) and City of Lapeer funds ($440K construction; 2019).
- *2018 Local Street Rehabilitation:* Rehabilitation of five (Mansfield Drive, Dewey Street, Lamoreaux Street, Hartley Street, and a portion of Baldwin Road) local streets which included repairing curb and gutter, rehabilitating drainage structures and manholes, constructing underdrains, pulverizing and grading existing asphalt, and constructing new asphalt pavement (2018).
- *Baldwin Road Rehabilitation:* Project manager for reconstructing Baldwin Road, from the south city limits to approximately 1,000 feet north, including new storm sewer, sand and aggregate base, curb and gutter, and HMA. Also included milling and resurfacing from the reconstruction section north to the MDOT M-24 right-of-

way (2018).

- *Woods and Oakdale Master Plan:* Project manager for feasibility analysis to assess 30 acres of woodlands adjacent to a middle school. The concept encompasses a passive recreation area including places for technical mountain bike skill areas and connections to regional trail systems. A timber study was completed to evaluate the forest and identify a sustainable method to selective-cut within the property to revitalize the forest as well as provide a revenue source for improvements ($9.8K construction; 2017).
- *Court and Calhoun Streets Reconstruction:* Project manager for the reconstruction of Court Street, from south side of the bridge to Genesee Street, including new water main and sanitary and storm sewers. Project also included reconstruction of Calhoun Street, from Nepessing Street to Genesee Street, including new water main, sanitary and storm sewers and sidewalks. Project was locally funded (2017).

City of Imlay City, MI

- *Capac and North Fairgrounds Roads Rehabilitation* (Awarded *2018 Quality of Life Award, Less than $1M Category,* American Public Works Association-Michigan): Project manager for milling, resurfacing, and adding designated bike lanes to Capac Road and North Fairgrounds Road. Project also included reducing Capac Road from four to three lanes. Assisted the city with a successful MEDC Scrap Tire Market Development Program grant application ($285K construction; 2017).

Imlay Township, MI

- *Township Park Improvements***:** Project engineer for a successful MDNR Recreation Passport grant application, design, and construction assistance for a site improvement project including accessible parking, pathways, and a pickle ball court (2019).

Village of Lake Orion DDA, MI / Michigan Department of Transportation

- *Paint Creek Trail Extension:* Project engineer for project that included preparing a successful TIP application and completing survey and design. This included routing a one mile of trail within an urban setting that includes a central business district and historic residential neighborhoods, connecting existing trails and key destinations. The project required negotiating easements through a commercial property, coordination with an existing county sewer easement, Michigan Department of Environmental Quality joint flood plain permit, inclusion of an existing timber bridge, and the addition of a rapid flashing beacon pedestrian crossing. Extensive ADA upgrades at intersections were needed ($360K construction; ongoing).

Village of Leonard, MI

- *Elmwood Street Rehabilitation:* Project manager for roadway rehabilitation design, from the east village limits west through Whitehead Street. Project was funded by the MDOT STP Local Agency Program (2017).

Village of Almont, MI

- *Water Booster Station:* Project manager for the evaluation of alternatives for direct Detroit Water and Sewerage Department (DWSD) supply and construct new booster station (2014).

Village of Armada, MI

- *Prospect Avenue Bridge Rehabilitation:* Project manager for superstructure replacement with prestressed, concrete box beams, HMA approach surfacing, and guardrail on Prospect Avenue, over the East Branch of Coon Creek, Macomb County. Project also included replacing existing culvert on Tietz Street to facilitate access during construction. Project was funded by MDOT Bridge Program (2015).

Hadley Township, MI

- *Sanitary Sewer Alternative Analysis:* Project manager for study to evaluate various alternatives for a sanitary sewer system for the commercial properties near the “four corners” of Pratt and Hadley Roads. The study identified the various properties to be serviced, proposed sewer flows, treatment options, and opinions of cost for the township to use to inform the property owners (2017).

Jack T. Wheatley, PE

Principal in Charge & QA/QC

Jack joined ROWE in 1989 and has served as project engineer and project manager on many projects. He has also worked with numerous funding sources and processes, including MDOT, STP, HES, HPP, Category A and C, Community Development Block Grants, MDNR Recreation Grants, and Transportation Enhancement Grants. Jack was named an associate (owner) in 1995, promoted to senior project manager in 2006, and to principal/vice president and director of corporate marketing in 2010.

Education

- B.S., Civil Engineering (Michigan State University, 1989)
- B.S., Horticulture (Michigan State University, 1982)

Registration

- *Professional Engineer*
  Michigan: 1994 (no. 39726)
- *Builder, Residential*
  Michigan: (no. 2101127872)

Affiliations

- American Council of Engineering Companies-Michigan
  - President-elect 2019
  - Board of Trustees Member (2013-present)
  - Consulting Engineers Political Action Committee Chair (2016-present)
- Bay Area Chamber of Commerce
- Flushing Community Schools Board of Education trustee (2009-14)
- Flushing Chamber of Commerce *Citizen of the Year,* 2003
- Flint River Corridor Alliance Board Secretary (2008-2015)
- Flint & Genesee Regional Chamber of Commerce Public Policy Committee Member
- Chi Epsilon Civil Engineering Honor Society
- Flushing Rotary Club (Awarded Honorary "Paul Harris" Fellow; President 2006-07

Relevant Project Experience

Site Plan Review Services:

- Mundy, Flushing, and Grand Blanc Townships
- Cities of Bay City, Flushing and Swartz Creek

City of Swartz Creek, MI

- *Sanitary Sewer Inflow/Infiltration (I/I) Study:* Metered sanitary sewer flows and currently updating the 2005 study for Districts 1 through 4 (ongoing).
- *GIS Mapping:* Project manager providing a GIS map for the entire city's infrastructure (sanitary sewer, storm sewer, water main, and streets). The goal is for the DPW and city staff to be able to use the map on mobile devices as well as desktop using ArcGIS online. The result will be to save an enormous amount of time and space using the latest technology (ongoing).
- *Fairchild Street Resurfacing (MDOT Local Agency Project):* Project manager for 0.28 mile of proposed Fairchild Street resurfacing with cold milling HMA surface, joint repairs, pavement repairs, HMA paving, select concrete curb and gutter replacement, sidewalk construction, ADA sidewalk ramp upgrades, pavement markings, and permanent signs (2019).
- *Daval Street (Elms Road to Miller Road) Reconstruction:* Project manager for street reconstruction, including water main and storm sewer replacement, complete road reconstruction including curb and gutter (2018).
- *Morrish Road Bridge Rehabilitation:* QA/QC for design and construction engineering for the rehabilitation of Morrish Road over Swartz Creek. Responsible for the development of construction drawings, design, and preparation of specifications and estimate for the rehabilitation of the existing one-span bridge with a 44-foot-long, one-span prestressed concrete spread box-beam bridge with a concrete deck (MDOT Critical Bridge funding; 2013).

- *Local Street Paving Project:* QA/QC for preparation of plans, specifications, and estimates for pavement overlay, crack repairs, and curb and gutter for 14 streets in the Heritage Village and Springbrook East subdivisions (2011).
- *Morrish Road Improvements:* QA/QC for design and construction of 2,200 feet of road improvements. Construction involved road reconstruction and widening including curb and gutter and storm sewer (MDOT STP funds; 2010).
- *Elms Road Park:* QA/QC for design and construction engineering for the park entrance. Enhancements included landscaping, ADA sidewalk ramps, pressed-colored concrete sidewalk and ornamental lighting (CDBG funds; 2009).

City of Bay City, MI

- *Uptown Bay City Phases 1 & 2* (Awarded *2015 Engineering Merit Award,* American Council of Engineering Companies-Michigan)*:* Project manager for brownfield riverfront multi-use redevelopment. As the city engineer, ROWE worked with the developer on both public and private site improvements to create a walkable riverfront community, including medical facilities, housing, office spaces, a hotel, retail shops, entertainment, parks, marina, and civic facilities. The riverfront includes construction of a public river walk that connects the riverfront park in front of Breaker Cove to the south of the site and Wenonah Park to the north of the site (public infrastructure $23M / Phase 1 overall $75M; 2015 - present).
- *Bicycle and Pedestrian Plan:* Project manager for the preparation of a bicycle and pedestrian plan for the city which expands on the existing 2011 Bay City Area Transportation Study (BCATS) Non-Motorized Plan prepared by the Bay County Transportation Planning Division. Work included reviewing surrounding community and state plans relevant to non-motorized facilities; perform data collection, field observation,; recommended general improvements along key streets that connect parks, schools, business districts, and neighborhoods needed to implement the non-motorized plan; and identify locations for implementation of complete streets improvements (2017).

City of Flushing, MI

- *Pierson Road / Main Street / Flushing Road Roundabout:* Project manager for conceptual design engineering and traffic study for a three-leg roundabout at the intersection of E. Pierson Road / Main Street / Flushing Road, partially funded using a Congestion Mitigation Air Quality (CMAQ) grant. ROWE provided a traffic study using Synchro® and Rodel traffic modeling. The project's study also included a road diet study of the E. Pierson and Main Street sections. The project is currently slated for construction in 2023 (2019).
- *Paving Projects:* QA/QC for preparation of plans, specifications, and estimates for pavement overlay, crack repair, curb and gutter and sidewalk repair, including ADA ramp upgrades, for various streets over several years (1996-present).

Grand Blanc Charter Township, MI

- *Holly Road Pump Station Abandonment & Gravity Sewer:* Principal in charge for studying options for eliminating the existing sanitary pump station and force main on Holly Road between Pollock Road and Baldwin Road. Two gravity sewer options were reviewed. The preferred option was to construct a new gravity sewer along Woodfield Boulevard and outlet to an existing sanitary sewer in the Genesys Regional Medical Center. Construction plans and bidding documents were developed for the abandonment of the existing pump station and construction of the new gravity sewer. ROWE provided construction staking and construction administration throughout the construction of the project ($563K construction; 2016).

Genesee County Parks & Recreation Commission, Flint, MI

- *Iron Belle Trail:* QA/QC for design and construction observation of a 3.5-mile multi-phase trail project along the Flint River. The route included wetlands, flood plain, and various stream crossings. The team worked closely with county staff on route selection, coordination for clearing during the design process, and assistance with MDOT and MDNR funding applications ($2.3M; ongoing).

Jonathan H. Rick, PS, CFedS

Vice President / Director of Surveying

Jonathan joined ROWE in 2005, was named an associate (company shareholder) in 2014, promoted to director of surveying in 2015, and named a vice president in 2018. He has accumulated experience in the areas of topographic, ALTA, and cadastral PLSS surveys and Global Positioning System (GPS) surveys and control networks. He directs the survey staff in all ROWE offices.

Education

B.S., Surveying (Michigan Technological University, 2004)

Registration

Professional Surveyor
Michigan: 2008 (no. 55562)
Illinois: 2011 (no. 035.003828)
North Carolina: 2018 (no. L-5299)
Ohio: 2014 (no. 8638)

Certified Federal Surveyor (CFedS)
2009 (no. 1259)

Continuing Education

- Certificate of Completion, Michigan Primary Soils Training (Michigan Onsite Wastewater Training and Education Center, 2007)
- Trimble Dimensions Conference, GPS Training, Las Vegas, Nevada, 2009
- Verification of Engineering Record (NCEES; 2018)
- MDOT/ACEC Partnering Workshop (2010-2018)

Affiliations

- Michigan Society of Professional Surveyors, Board of Directors and Treasurer
- Illinois Professional Land Surveyors Association
- National Society of Professional Surveyors

Relevant Project Experience

City of Burton, MI

- *Center Road Improvements (Lippincott to Lapeer):* Project surveyor for topographic design survey for design and preparation of plan-and-profile drawings, HMA pavement design, specifications, quantities, and construction administration assistance for 0.4 mile of five-lane roadway. Rehabilitation consisted of HMA milling, HMA pavement repair, and partial reconstruction of existing roadway including curb and gutter in accordance with 3R (AASHTO) guidelines. ADA sidewalk ramp upgrades were also incorporated into the project (MDOT STP funds; 2017).
- *Center Road Improvements (Davison to Dolphaine):* Project surveyor for topographic design survey for improvements, including 0.96 mile of HMA resurfacing with pavement repairs, joint and crack repairs, driveway repairs, pavement markings, permanent signing, maintenance of traffic, and ADA ramp upgrades (MDOT STP funds; 2018).
- *Saginaw Road Improvements (Hemphill to Bristol):* Project surveyor for topographic design survey for roadway improvements, including 0.54 mile of HMA resurfacing with pavement repairs, maintenance of traffic, and ADA ramp upgrades (2018).
- *Atherton Road:* Survey project manager for topographic design survey of one mile of four-lane roadway. Rehabilitation consisted of HMA milling and concrete pavement repair of existing roadway including curb and gutter in accordance with 3R (AASHTO) guidelines. ADA sidewalk ramp upgrades are also incorporated into the project (2014).
- *Center Road:* Project surveyor for design survey of one mile of four-lane roadway. Rehabilitation consisted of HMA milling and concrete pavement repair and partial reconstruction of existing roadway including curb and

gutter in accordance with 3R (AASHTO) guidelines. ADA sidewalk ramp upgrades were also incorporated into the project (2013).

City of Flint, MI / Michigan Department of Transportation

- *Genesee Valley Trail:* Survey project manager for developing a successful TIP application, modifying preliminary concepts prepared by a previous consultant. Managed a fast-track (three-month) survey and design for 1.5 miles of trail within an urban setting, connecting existing trails and key destinations. Negotiated easements required for two HAWK signal pedestrian crossings ($656K construction; 2014).

Genesee County Road Commission, MI

- *Dort Highway Extension (Genesee County):* Director of surveying providing project management and QA/QC for design survey services to include establishing horizontal and vertical control; property line and right-of-way determination; topographic mapping; and structure inventories cross country over a 1.3-mile area for the purpose of extending Dort Highway, from I-75 south to Baldwin Road in Genesee County. The survey included cross sections along the I-75 entrance ramp 0.25 mile in each direction, road crossings at Cook Road and Pollock Road, one drain crossing, and cross sections at the tie-in area at Baldwin Road. Much of the route corridor follows an existing Consumers Energy fee strip. Nine PLSS corners were found, witnessed, and located for the purpose of establishing property lines and right-of-way, in addition to pertinent plat monuments and property corners. A combination of two-person crews and one-person crews were used to complete the project, depending on traffic and conditions at specific locations. Both RTK and conventional total station mapping was used to acquire the cross section and topographic information, using the same criteria (ongoing).

Genesee County, MI

- *Remonumentation Program:* Director of surveying providing planning and QAQC for Public Act 345 remonumentation services, per the Genesee County Plan. The county plan was accepted by the State Remon Commission prior to commencing work, as required by the act. Performed remon survey services in numerous townships. Corners were brought in front of a peer review group consisting of surveyors familiar with the area and government corner preservation and recovery. Upon acceptance by the peer review group, the corners were recorded in conformance with Public Act 74, Land Corner Recordation Act. Corner locations vary throughout the county from rural wooded areas to urban areas and MDOT rights-of-way (2013-15).

Michigan Department of Transportation, various locations, MI

- *Bridge Underclearance Surveys (various locations, lower Michigan):* Project surveyor providing QA/QC and project management for bridge clearance survey services on 90 bridge structures across lower Michigan. A portion of the bridge clearances were completed by a subconsultant utilizing mobile LiDAR scanning techniques due to access and traffic concerns. Remaining bridge structures were completed using stationary terrestrial scanning and reflectorless conventional survey techniques. The bridge measurements are then extracted from point cloud data or direct measurements and reported to MDOT on MDOT form 1190 “Structure Clearance Measurements” along with photographs of the structure (2018).
- *Bay Region Intersections:* Project surveyor providing QA/QC and project management for design survey services at nine intersections along various routes in the Bay Region for ADA sidewalk improvements and signal design. Project included right-of-way determination along mainline and cross roads at each intersection, which includes ties to PLSS corners which controlled both the right-of-way and the alignment where applicable. The design survey utilized both conventional GPS and robotic data. Project control was based on NAD83/CORS2011 MCS South Zone and NAVD88 vertical datum (2017).
- *I-475 Design and Structure Survey (Genesee County):* Project surveyor for QA/QC on a project that included supplemental mapping and right-of-way determination along approximately two miles of I-475 in Genesee and Mt. Morris townships, Genesee County. A large component of this project was field verifying previous survey data completed by two other consultants and merging all three data sets into a combined MicroStation SS4 deliverable. The project also included completion of structure and substructure surveying for eight structures over I-475. Project control was relative NAD83/CORS2011 MCS South Zone and NAVD 88 vertical datum, derived from the previously established MDOT control stations (2016).

Justin A. Westbrook, PE

Senior Project Engineer

Justin joined ROWE in 2008, was promoted to assistant project engineer in 2010, project engineer in 2012, and senior project engineer in 2018. He assists with the design and analysis of various road and infrastructure projects.

Education

B.S., Civil Engineering (Michigan Technological University, 2007)

Registration

Professional Engineer
Michigan: 2011 (no. 58943)

Affiliations

- Michigan Society of Professional Engineers
  - Flint Chapter President (2014-2015; 2017-2018)
- National Society of Professional Engineers

Relevant Project Experience

City of Swartz Creek, MI

- *Elms Road Improvements:* Graduate engineer for design of road improvements, including milling and resurfacing, pavement repairs, curb and gutter, and drainage improvements (MDOT STP and "Jobs Today" funds; 2008).

City of Burton, MI

- *Saginaw Road Improvements (Hemphill to Bristol):* Project engineer for preliminary engineering for improvements, including 0.54 miles of HMA resurfacing with pavement repairs, maintenance of traffic, and ADA ramp upgrades (MDOT STP funds; 2018).
- *Center Road Improvements (Davison to Dolphaine):* Project engineer for preliminary engineering for improvements, including 0.96 mile of HMA resurfacing with pavement repairs, joint and crack repairs, driveway repairs, pavement markings, permanent signing, maintenance of traffic, and ADA ramp upgrades (MDOT STP funds; 2018).
- *Center Road Improvements (Lippincott to Lapeer):* Project engineer for design and preparation of plan-and-profile drawings, HMA pavement design, specifications, quantities, and construction administration assistance for 0.4 mile of five-lane roadway. Rehabilitation consisted of HMA milling, HMA pavement repair, and partial reconstruction of existing roadway including curb and gutter in accordance with 3R (AASHTO) guidelines. ADA sidewalk ramp upgrades were also incorporated into the project (MDOT STP funds; 2017).
- *Atherton Road:* Project engineer for design and preparation of plan-and-profile drawings, HMA pavement design, specifications, quantities, etc. for one mile of four-lane roadway. Rehabilitation consisted of HMA milling and concrete pavement repair of existing roadway including curb and gutter in accordance with 3R (AASHTO) guidelines. ADA sidewalk ramp upgrades are also incorporated into the project (MDOT STP funds; 2013-14 construction).

City of Flint, MI

- *Smith Village Redevelopment - Chippewa, Root, and Wood/Williams Streets Reconstruction*: Assistant project engineer for the planning, design, and bidding phases for this redevelopment project. Tasks included replacement of all public utilities (water main, sanitary sewer, storm sewer) and road reconstruction, along with coordination with private utilities because of road widening. Project also involved coordination with the developer for phasing of utility and road improvements to match phasing of redevelopment (2011).
- *Water Reliability Study:* Assistant project engineer for the development of a water reliability study. Project consisted of the development of a GIS-based water model, conversion of water base map from paper to electronic format, and development of a CIP program (2011).

- *Pasadena Avenue / Dupont Street Intersection:* Graduate engineer for preparation of plan and profile drawings, ADA ramp upgrades, traffic signal, and permanent pavement markings for reconstruction of intersection and restriping of Pasadena Avenue corridor. Designed a new box-span configured traffic signal to accommodate the new three-lane layout (2009).
- *Brush Alley Water Main Installation:* Lead field technician assisting with observation and materials testing for a new water main installation along Brush Alley in the City of Flint. This project included design of 500 feet of 8-inch water main. This project required an intricate design, due to maneuvering throughout complicated underground utilities in the city ($16K construction; 2008).
- *CMAQ Signal Upgrades:* Field technician for full construction engineering, project administration, inspection, and testing for this MDOT local agency project. The project included traffic and pedestrian signal upgrades, wireless signal interconnect, and ADA sidewalk ramps at 19 locations in the city. Jim completed as-needed inspection and office technician services on traffic and safety inspection contract ($1.1M construction; 2008).

City of Flint, MI / Michigan Department of Transportation

- *Genesee Valley Trail:* Project engineer for developing a successful TIP application and modifying preliminary concepts prepared by a previous consultant. Managed a fast-track (three-month) survey and design for 1.5 miles of trail within an urban setting, connecting existing trails and key destinations. Negotiated easements required for two HAWK signal pedestrian crossings ($656K construction; 2014).

City of Flushing, MI

- *Non-Motorized Trail:* Project engineer for preparation of plans, specifications, and estimates for 2,600-foot non-motorized trail along the Cole Creek, connecting Aberdeen Court to Winters Eave Drive. The trail was funded with the MDNR Trust Fund and the Saginaw Bay Watershed Initiative Network (WIN). The half-mile trail included 750 feet of 14-foot-wide boardwalk over a wetland, significant elevation changes, substantial wetland and floodplain permitting, as well as easements from private landowners (2018).
- *Water System Upgrades:* Project engineer for design and construction engineering for city-wide water main replacement (2018).
- *2013 Paving Projects:* Project engineer for preparation of plans, specifications, and estimates for annual street program, including pavement overlay, crack repair, curb and gutter, ADA ramp upgrades, and sidewalk repair for various streets (2013).
- *2012 Paving Projects:* Assistant project engineer for preparation of plans, specifications, and estimates for annual street program, including pavement overlay, crack repair, curb and gutter, ADA ramp upgrades, and sidewalk repair for various streets (2012).

Genesee County Parks and Recreation Commission, Flint, MI

- *Iron Belle Trail (Genesee Township)* (Awarded *2018 Excellence Award, Recreational Projects Category,* American Pavement Association-Michigan): Project engineer for design and construction observation of a 3.5-mile multi-phase trail project along the Flint River. Project consisted of preparing preliminary layouts, historic archeologic survey, trailhead parking, wetland delineation/permitting/mitigation, large arch culvert, road rapid flashing beacon crossings, and trail counters. The team worked closely with county staff on route selection, coordination for clearing during the design process, and assistance with CMAQ, MDOT, and MDNR funding ($2.5M construction; ongoing).

Michigan Department of Transportation, various locations

- *I-69 EB Signing (Davison TSC):* As-needed field technician for 49.93 miles of freeway signing upgrades on I-69, from M-13 easterly to Graham Road in the cities of Swartz Creek, Flint, and Burton, Genesee and Lapeer counties (2013).
- *Baldwin Road over I-75 and Maple Road over I-75 Beam Replacement (Davison TSC):* Field technician for partial superstructure replacement, full-depth deck patching, epoxy overlay, railing and H-bearing replacement, structural steel repair, partial cleaning and coating of structural steel, substructure repair, slope paving repair, approach work, and maintaining traffic on Baldwin Road over I-75 and on Maple Avenue over I-75, Genesee County (2013).

ROWE PROFESSIONAL SERVICES COMPANY

Taylor J. Cook, EIT

Assistant Project Engineer

Taylor joined ROWE fulltime in 2017 after working construction observation at other private firms while in college. He is a member of the Design Services Division, where he performs field and material testing technician services for a variety of projects.

Education

B.S., Civil Engineering (Michigan Technological University, 2017)

Certifications / Continuing Education

- MCA Concrete Field Testing Technician - Level 1
- ACI Concrete Field Testing Technician Grade 1

Relevant Project Experience

City of Swartz Creek, MI

- *Daval Street Reconstruction (Elms Road to Miller Road):* Reconstruction and water main replacement (2017).

City of Flushing, MI

- *Water System Upgrades:* Graduate engineer for design and construction engineering for city-wide water main replacement (2018).
- *2018 Local Paving Projects:* Graduate engineer for the mill and resurface of local streets, including Main Street, Frances to Warren, Myrtle Golfside, Joyce Hillwood, Cedarwood, and Beaumont Court (2018).

City of Burton, MI

- *Center Road Improvements:* Graduate engineer for preliminary engineering for improvements to Center Road, from Lippincott to Lapeer (2017).

City of Bay City, MI

- *Drainage Study for Existing 48-Inch Outfall*: Graduate engineer for a drainage study to evaluate the capacity of the existing storm sewer draining to the existing 48-inch diameter outfall to the Saginaw River south of the Veterans Memorial Bridge. The drainage study will also evaluate the impacts of routing approximately seven acres of additional drainage area from the proposed Uptown Bay City Phase 2 development to the 48-inch outfall (2018).
- *Johnson Street Reconstruction*: Graduate engineer for design engineering services for the reconstruction of Johnson Street, from Woodside Avenue to Water Street. The project includes complete reconstruction of the HMA roadway, replacement of the existing 15-inch sanitary sewers, replacement of the existing storm sewers, replacement of the existing water mains, and new concrete curb and gutter. An alternate will be included for cutting and capping the existing 20-inch water main at the intersection of Johnson Street and Water Street, flowable filling a section of the existing 20-inch water main and providing a new water main connection to the existing 16-inch water main in Water Street at the wastewater treatment facility (2018).

City of Caro, MI

- *Water Reliability Study:* Graduate engineer for revising a previous water master plan to reflect updated demands and water system improvements. Reviewed system map, well pumpage records, storage, lost water, fire flows, delivery pressures, valve maintenance and flushing programs, number of users, and necessary future system expansion. Updated and calibrated a WaterCAD model of the existing water system and developed and modeled options for addressing deficiencies. Project included hydrant flow testing, an emergency response plan, a general plan, and options for expanding the system to service a potential water user outside of the city limits. Prepared a comprehensive report outlining findings and recommended improvements (2018).

Grand Blanc Charter Township, MI

- *Water Distribution System Improvements:* Graduate engineer for design engineering for improvements to the township's water distribution system at three locations: Saginaw Street Water Main Extension (Pepperwood Drive to City of Grand Blanc Limits); Trillium Theater/Laird Technologies Water Main Loop; and Saginaw Street Water Main Loop (Woodfield Parkway to Dixie Lodge) (2018).

Rhoads & Johnson, Fenton, MI

- *Clyde Road Development (Fenton, MI):* Graduate engineer for the re-design of a 94-acre development and re-zoning for a light industrial 60,000 square-foot building and associated site improvements (2016).
- *Shannon Precision Fasteners:* Graduate engineer for the master planning services for the overall site located on Dixie Highway (2017).

City of Ovid, MI

- *Water Reliability Study:* Graduate engineer for revising a previous water master plan to reflect updated demands and water system improvements. Reviewed system map, well pumpage records, storage, lost water, fire flows, delivery pressures, valve maintenance and flushing programs, number of users, and necessary future system expansion. Updated and calibrated a WaterCAD model of the existing water system and developed and modeled options for addressing deficiencies. Project included hydrant flow testing, a general plan, and a capital improvement plan. Prepared a comprehensive report outlining findings and recommended improvements (2018).

ROWE PROFESSIONAL SERVICES COMPANY

Douglas A. Scott, PE, LEED®AP BD+C

Senior Project Engineer

Doug has more than 25 years of professional experience, focusing on project design and development for a variety of municipal and private clients. He joined ROWE as an assistant project engineer in 1995, was promoted to project engineer in 1997, was named an associate (company shareholder) in 1998, and was promoted to project manager in 2001 and to senior project manager in 2014.

Design emphasis has been in water and wastewater, including design of well houses, water storage, water and wastewater pump stations, treatment plants, and municipal water and sewer projects. He has also served as project manager/engineer for numerous site development and redevelopment projects for institutional and commercial facilities. Doug has been involved in the design of many school, parks, and hospital site plans throughout Michigan. He has also managed a number of demolition projects ranging in size from single-family structures to large multi-story buildings.

Education

B.S., Civil Engineering (Michigan State University, 1992)

Registration

Professional Engineer

Michigan: 1997 (no. 42673) Alabama: 2008 (no. 29375-E) South Carolina: 2008 (no. 26354)

Certifications / Continuing Education

- Leadership in Energy and Environmental Design (LEED®AP), 2008
- LEED®AP Building Design and Construction, 2011
- NCEES Board Certified, 2007 (no. 32412)

Affiliations

- Michigan Water Environment Association (MWEA)
- Michigan Society of Professional Engineers, Flint Chapter
  - » State Representative (2007-09)
  - » President (2006-07)
  - » Treasurer / Vice President (2005-06)
- Michigan Rural Water Association (MRWA)
- American Water Works Association – Michigan (AWWA-M)
  - » Water Treatment Practices Committee
  - » Conference & Recognition Committee

Relevant Project Experience

Water Treatment / Arsenic Removal:

- Villages of Byron, Caro, and Mayville, MI
- Cities of Brown City, Linden, and Rose City, MI
- Scofield Management

City of Swartz Creek, MI

- *Cappy Lane Pump Station Replacement:* Project manager for the evaluation of existing pump station system that included two piggy-back stations. Evaluation concluded the most efficient design would be to replace the four existing pumps with three higher-volume pumps and VFDs to modulate the flow. Ultimate design included three new pumps, and all new electrical and SCADA equipment. ROWE developed a plan to maintain service to the station without bypass pumping (2016).

City of Port Huron, MI

- *Lakeside Park (*Awarded *2016 Park Design Award,* Michigan Recreation and Park Association)*:* Project engineer for fast-track design and construction of MDNR-funded, universally accessible site improvements, including new restroom/concession building, splash pad, beach access, and pergola overlook on Lake Huron. Included demolition of former building, addressing old foundations and soil conditions, and preparing USACE permit ($600K; 2015).
- *Pump Station Upgrades:* Project manager for analysis, design, and construction engineering services on a multi-fiscal-year basis for the following projects being funded with local sewer funds (2015-2017).
  - » *Stone Street Pump Station Rehabilitation:* Evaluated the existing concrete pump station to recommend upgrades to submersible pumps. Recommended improvements include submersible pumps, new electrical and SCADA equipment, and new hatches to provide fall prevention measures. Bypass pumping was required to maintain flows in the system (2017).
  - » *Water Street Pump Station:* Emergency replacement of existing four submersible pumps. Project included an evaluation of the existing components and recommendations for replacement. All components within the wet well were completely replaced, including pumps, rails, chains, slide gates, safety rails, platforms, etc. A phasing plan was required to maintain service during the entire project (2016).
  - » *Gratiot Avenue Pump Station Rehabilitation:* Evaluated existing flooded suction station to determine the cost effectiveness of rehabilitation or conversion to a submersible-style pump station. Ultimately, the station was converted into a submersible pump station by utilizing the existing wet well (nearly 50 feet deep) and constructing a new valve vault. Project included installing new electrical and SCADA equipment with a new electrical source. Bypass pumping was required for the duration of the project (2015).

City of Davison, MI

- *Collingwood Avenue Pump Station Replacement:* Project manager for the design of upgrades to the existing lift station, which was located in the cul-de-sac of a subdivision. Improvements included complete replacement of the wet well, valve vault, pumps, and complete electrical replacement. Challenges included maintaining service with bypass pumping, providing an aesthetically pleasing design for residents, and a high water table. The station included eliminating an eyebrow on the public street (2017 design;2018 construction).
- *Lapeer Street Pump Station Replacement:* Project manager for the evaluation of existing station and design of upgrades to existing lift station. Improvements included complete replacement of the wet well and pumps, along with new valves and piping in the valve vault. Project included all new electrical and SCADA components. The new station was installed in a very tight footprint that was within the existing front lawn area of a residential area. Bypass pumping was required for the duration of the project (2016).

City of Gladwin, MI

- *Wellhead Protection Plan:* Project manager for preparation of a successful wellhead protection grant application and subsequent work related to preparation of a wellhead protection plan. Involved in organizing the wellhead protection committee, moderating meetings, and grant documentation. Project included construction of a new production well and associated hydrogeological testing to determine groundwater travel time and direction. Project also included recommendations for properly abandoning existing production wells not currently in operation (ongoing).
- *Water Treatment Plant (Iron Removal):* Project manager for the design and plan preparation for an aeration / iron removal system. The improvements included an aerator, clear well, horizontal pressure filter vessel, and chemical feed system contained in a new split face masonry building. The treatment system has a 1200 gpm firm capacity. The overall project was constructed using EDA, USDA Rural Development, and MEDC funding (2017-18 design; 2019 construction).
- *State Street Reconstruction:* Project manager for the reconstruction of 0.75 miles of roadway within the City of Gladwin commercial area. Improvements included new water main, sanitary sewer, storm sewer, and HMA roadway. Challenges included providing drainage options with a very limited outlet sewer. Final project included a storm sewer system with ditches to provide detention along the project (2014 design; 2015 construction).

Blake D. Strozier

Graduate Landscape Architect

Blake joined ROWE in 2013 and is responsible for preparing color renderings, concept drawings, construction documentation, and planting plans while aiding in overall site development, design, and construction observation and testing.

Education

B.S., Landscape Architecture (North Carolina Agricultural and Technical State University, 2011)

Certifications / Continuing Education

- Certified Concrete Field-Testing Technician (Michigan Concrete Association)
- Certified Density Technician (2014-2019) (Michigan Department of Transportation)

Affiliations

- Alpha Phi Alpha Fraternity, Inc. – Epsilon Upsilon Lambda Chapter
- Eureka Lodge No. 16 Prince Hall Affiliated (F&AM)
- Gamma Delta Kudos Alumni Mentor
- Tabernacle Missionary Baptist Church, Saginaw, MI (Senior Pastor)
- NAACP – Flint Chapter
- Flint Community Schools – Board of Education (Trustee)

Relevant Project Experience

Five-Year Community Recreation Plans

- Joint – City of Flushing, Flushing Charter Township, Flushing Schools (2015)
- Joint – City of Northville, Northville Township (2019)
- Cities of AuGres (2019), Beaverton (2019), Charlotte (2019), Dearborn Heights (2014), Livonia (2017), Omer (2013, 2018), Swartz Creek (2018)
- Villages of Port Sanilac (2018) and Sanford (2019)
- Imlay (2015), Meridian (2017), Mills (2018), Mundy Charter (2017) Townships
- Fenton Township amendment (2017)
- Shiawassee County Parks and Recreation Commission, 2016
- Southern Lakes Parks and Recreation (2014)

City of Flint, MI / Michigan Department of Transportation

- *Genesee Valley Trail:* Graduate landscape architect for developing a successful TIP application and modifying preliminary concepts prepared by a previous consultant. Managed a fast-track (three-month) survey and design for 1.5 miles of trail within an urban setting, connecting existing trails and key destinations. Completed materials testing during construction ($656K construction; 2014).

City of Flint, MI

- *Harrison Street Enhancements:* Graduate landscape architect for 0.45 mile of roadway cold milling and resurfacing, pedestrian island installation, decorative concrete border, and restriping of Harrison Street, Fourth Street to the bridge over the Flint River. Restriping will convert the three one-way lanes with parking to two one-way lanes with parking and protected bike lane (2017).
- *Dupont Street Rehabilitation:* Provided construction observation and material testing on HMA and concrete (2016).
- *N. Saginaw Street Rehabilitation:* Provided construction observation and material testing along 3-mile stretch of Saginaw Street (2015).

City of Charlevoix, MI

- *Lake Michigan Playground:* Graduate landscape architect for completing design and providing bidding and construction assistance to complete an accessible playground along the Lake Michigan shoreline. Utilized a Michigan Department of Natural Resources Trust Fund grant and local in-kind services ($70K construction; 2017).

City of Mt. Pleasant, MI / Charter Township of Union / Friends of the Dog Park

- *Mission Creek Dog Park / Hannah's Bark Park*: Graduate landscape architect for the completion of feasibility study, design concepts, and construction plans for a three-acre off-leash dog park that offers residents and their canine friends a place to have fun, socialize, and exercise. The park is fully fenced and includes separate areas for large and small dogs. It also has a safe double-gated key fob entry system, potable water service, benches, waste receptacles, a pavilion shelter, signage, concrete sidewalk, and concrete curb and gutter ($117,600 construction; 2015).

Delta Charter Township, MI

- *Non-Motorized Plan:* Graduate landscape architect crafting an extensive public input process and engineering analysis to prioritize routes and update long-range capital plan in conjunction with regional stakeholders, funding, and other strategic factors (2018).

Imlay Township, MI

- *Township Park Improvements***:** Graduate landscape architect for a successful MDNR Recreation Passport grant application, design, and construction assistance for a site improvement project including accessible parking, pathways, and a pickle ball court (2019).

St. Clair County Parks and Recreation Commission, MI

- *As-Needed Services – Blue Water River Walk Improvements:* As part of an as-needed contract (2006-19) to provide landscape architecture and engineering design services for small to mid-size projects, served as graduate landscape architect for a new county park along a brownfield site on the St. Clair River. Included survey and coordination of geotechnical and environmental investigations. Site drainage was redirected to be pre-treated through a created wetland area. Site features included a turf activity area, pavilion, trellis, stone swale, concrete seat wall, gateway arch and interpretive signage, boardwalk bridges, native seeding and landscape. The project coordinated both MNRTF and Recreation Passport funding (2019).

Ingham County Parks and Recreation Commission, MI

- *Lake Lansing Park North Improvements:* Graduate landscape architect for survey, landscape architecture, engineering, and architecture design services for accessible parking, pathways, boardwalk replacement, drive improvements, and restroom building accessibility upgrades with JFR Architects, PC. Adjusted grant concepts to provide more cost-effective solutions for accessible routes. MNRTF grant-funded project (2019).

Genesee County Parks and Recreation Commission, Flint, MI

- *Iron Belle Trail*: Graduate landscape architect for grant application, survey, design and construction of a three-mile long non-motorized pathway. Project consisted of two project phases, preparing preliminary layouts, historic archeologic survey, trailhead parking, wetland delineation and permitting and mitigation, large arch culvert, road rapid flashing beacon crossings and trail counters. Construction was funded by CMAQ, MDNR, and MDOT grants ($2.5M construction; completed Phase 1 in 2018, Phase 2 is in progress).
- *Max Brandon Wetland Overlook:* Graduate landscape architect for concept and construction drawings for an accessible interpretive deck adjacent to a wetland area within a mature forested urban city park (2016).
- *MDNR Gas and Oil Lease Properties (various locations):* Provided mapping and research for locations of 15 county properties with potential for mineral extraction (2014).

ROWE PROFESSIONAL SERVICES COMPANY

Jeremy M. Lynn, PE

Construction Services Division Manager

Jeremy joined ROWE in 2000, was promoted to project engineer in 2006, project manager in 2009, senior project manager in 2011, and Construction Services Division manager in 2016. He was named an associate (company shareholder) in 2009 and a principal in 2019. As manager of the Construction Services Division, he oversees engineers and technicians who are responsible for the management and administration of highway and utility construction projects for MDOT, utility companies, county road commissions, and municipalities across Michigan.

Education

B.S., Civil Engineering (Michigan Technological University, 2000)

Registration

Professional Engineer
Michigan: 2007 (no. 56023)

Builder, Residential
Michigan (no. 1498558)

Continuing Education / Certifications

- Radiation Safety Training Certification
- MDOT Bituminous Paving Operations
- MDOT FieldManager Training
- MDOT FieldManager User's Group Meeting
- ACEC Designing Pedestrian Facilities for Accessibility
- ACEC Material Acceptance Process Training
- MDOT Prevailing Wage Training
- MDOT Concrete Paving Inspection
- SSPC Fundamentals of Protective Coating (C-1)

Relevant Project Experience

City of Charlotte, MI

- *Reynolds Road Reconstruction* (Awarded *2007 Public Works Project of the Year, Transportation Category (<$2M),* Southwestern Michigan Branch, American Public Works Association): Project engineer/office technician for road reconstruction, including drainage improvements, replacement of curb and gutter, and HMA pavement. Documentation completed utilizing Field Manager and MDOT procedures; design and construction completed utilizing MDOT grant to the city ($500K construction; 2007).

Michigan Department of Transportation – Davison TSC

- *I-69 Reconstruction – M-54 to M-15 (Flint & Burton):* QA/QC manager for 10.50 miles of mainline and ramp reconstruction, bridge replacement, bridge widening, rehabilitation of five structures, storm sewer, concrete joint repair, crack sealing, diamond grinding and grooving, freeway lighting, traffic signals, signing, and pavement markings on I-69, from M-54 (Dort Highway) easterly to Center Road, from I-475 easterly to Center Road, and from Center Road easterly to M-15 in the cities of Flint and Burton, Genesee County. Performed oversight on HMA Detail 7 and 8 joint repair, concrete patches, and concrete joint sealing ($34.7M construction; 2015).
- *M-15 CPM Repairs (Davison)*: Project manager for 1.31 miles of HMA pavement repair, joint repair, and pavement markings on M-15 from Lapeer Road north to Davison Road ($295K construction; 2014).
- *NB I-475 under CN Railroad EB Emergency Bridge Repairs (Flint):* Project manager for emergency heat straightening, structural steel repairs, partial painting, and maintaining traffic at I-475 northbound under the Canadian National / Grand Trunk Western Railroad and at Railroad Service Road, and I-475 northbound under I-69 eastbound ($164K construction; 2014).
- *I-60 Overlays over Irish Road (Genesee County):* Project manager for bridge rehabilitation including deep concrete overlay, pin and hanger replacement, steel repairs, rocker realignment, painting, concrete surface coating, substructure and fascia repairs, and approach work on I-69 eastbound and westbound over Irish Road ($2M construction; 2013).

- *EB I-69 Signing (Genesee & Lapeer Counties):* Project manager for 49.93 miles of freeway signing upgrades on I-69, from M-13 easterly to Graham Road in the cities of Swartz Creek, Flint, and Burton ($2.9M construction; 2013).
- *I-75 to EB I-69 Ramp Geometrics (Genesee County):* Project manager for 1.11 miles of concrete ramp reconstruction with geometric upgrades and pavement markings on the ramp from I-75 to I-69 eastbound ($985K construction; 2013).
- *Baldwin Road over I-75 and Maple Avenue over I-75 Beam Replacement (Genesee County):* Project manager for partial superstructure replacement, full-depth deck patching, epoxy overlay, railing and H-bearing replacement, structural steel repair, partial cleaning and coating of structural steel, substructure repair, slope paving repair, approach work, and maintaining traffic on Baldwin Road over I-75 and on Maple Avenue over I-75 ($824K construction; 2013).
- *I-75 ITS Project (various counties):* Project manager for the installation of 10 closed-circuit television cameras, dynamic message signs, and three travel time signs at various locations on I-75, from Auburn Hills to Grayling, in Arenac, Bay, Crawford, Genesee, Oakland, Ogemaw, Roscommon, and Saginaw counties ($1.4M construction; 2013).
- *M-15 and SB I-75 Ramps A and C Epoxy (Genesee County):* Project manager for scour countermeasures, substructure repair, and epoxy overlay on I-75 ramps A and C over Swartz Creek and on M-15 over the Flint River ($310K construction; 2013).
- *Durant-Tuuri Mott Safe Routes to School (Flint):* Project manager for 0.01 mile of sidewalk and sidewalk ramp, concrete curb and gutter, signing, and pavement marking improvements on University, West 6th, and Cottage Grove avenues, and Gladwin, Frost, Stevenson, and Cadillac streets surrounding Durant-Tuuri-Mott Elementary School ($296K construction; 2013).
- *M-57 HMA Paving (Genesee County):* Project manager for 4.14 miles of HMA cold milling and two-course hot overlay, joint repairs, and drainage improvements on M-57, from Brent Run Creek easterly to east of Linden Road ($2.5M construction; 2012).
- *M-54 Sidewalk (Flint):* Project manager for 1.03 miles of safety improvements, including addition of concrete sidewalk and ramps and bridge railing upgrades on M-54, from south of Atherton Road to north of Lippincott Boulevard, and over Thread Creek ($789K construction; 2012).
- *I-75 Bridges (Genesee County):* Project manager for bridge rehabilitation including deep concrete and epoxy overlay, deck patching, joint replacement, steel repair, pin, hanger, partial deck and pier cap replacement, substructure repair, minor welding, railing replacement, heat straightening, hydro-demolition, and steal cleaning and coating on 16 structures on the I-75 corridor, from I-69 to Dodge Road ($10.7M construction; 2012).
- *M-21 Bridge Replacement (Genesee County)*: Project manager for bridge replacement, HMA approach work, and maintaining traffic on M-21 over the Mistequay Creek ($2.1M construction; 2012).
- *I-69 Bridge Rehabilitations in Flint:* Project manager for bridge rehabilitation, including expansion joint replacement, epoxy overlay, deck and sidewalk patching, substructure repair, pin and hanger replacement, and cleaning and coating structural steel on Grand Traverse Street, Church Street, Beach Street, and Saginaw Street over I-69 ($2.6M construction; 2011).

Genesee County Road Commission, Grand Blanc, MI

- *Irish/Lapeer Road Intersection:* Office technician for design of reconstruction of intersection, including widening to 5 lanes and design of storm sewer. Design included the preparation of staged construction and maintaining traffic plans (2005).
- *Gemstone Subdivision, Phase II:* Construction observer performing density and concrete testing and inspection for road construction in residential development. Served as road commission representative and monitored placement of storm sewer, curb and gutter, and HMA pavement. Project also included placement of three-span, precast, CON/SPAN bridge. Worked with contractor and supplier to ensure structure was built to specifications (2004).

List of Municipal Clients

Engineering General Services Clients

Cities	Villages	Townships
• Clio • Davison • Flushing • Mt. Morris • Swartz Creek • Holly • Caro • Imlay City • Lapeer • Vassar	• Almont • Armada • Birch Run • Columbiaville • Dryden • Holly • Kingston • Lake Isabella • Metamora • North Branch • Ortonville • Otisville • Oxford • Port Sanilac • Vernon	• Birch Run • Clayton • Dryden • Flushing • Grand Blanc • Hadley • Metamora • Mundy • Richfield • Vienna

ROWE is also prequalified and has Indefinite Delivery Service contracts with the Michigan Department of Transportation (MDOT), the Michigan Department of Technology, Management and Budget (MDTMB), and the Michigan Department of Natural Resources (MDNR).

References

City of Davison
Andrea Schroeder, Manager
200 E. Flint Street
Davison, MI 48423
(810) 653-4000

City of Flushing
Brad Barrett, Manager
725 E. Main Street
Flushing, MI 48433
(810) 659-3130

Village of Birch Run
Paul Moore, Manager
PO Box 371
Birch Run, MI 48415
(989) 624-5711

Grand Blanc Charter Township
Scott Bennett, Supervisor
5371 S. Saginaw Road
Grand Blanc, MI 48439
(810) 424-2600

ROWE FUN FACT

Over the last 20 years, ROWE has completed more than 100 projects with the City of Swartz Creek.

Contract for Engineering Services
[Insert Project Name]
[Insert Project Location]

THIS AGREEMENT, entered into this _____day of _____, by and between [Insert Owner Name] hereinafter referred to as the "OWNER", and ROWE Professional Services Company, hereinafter referred to as the "ENGINEER".

WITNESSETH, that whereas it is the intent of the Owner to complete the following, hereinafter called the "PROJECT": [Insert project description]

NOW, THEREFORE, the OWNER and the ENGINEER, in consideration of the mutual covenants hereinafter set forth, agree as follows:

SECTION 1 – BASIC SERVICES OF THE ENGINEER

A. General
The Engineer agrees to perform professional services in connection with the Project as hereinafter stated.

The Engineer will serve as the Owner's professional representative for the project and will give consultation and advice to the Owner during the performance of the Engineer's services.

B. Scope of Service
After written authorization to proceed with the project, the Engineer will execute the work plan described in the Engineer's Proposal, dated [Insert proposal date].

SECTION 2 – ADDITIONAL SERVICES OF THE ENGINEER

General
If authorized in writing by the Owner, the Engineer will finish, or obtain from others, additional services of the following types which will be paid for by the Owner as indicated in Paragraph 5.B.

1. Additional services due to significant changes in general scope of the Project or its design.
2. Additional services in connection with the Project, not otherwise provided for in this agreement, subject to prior approval of the Owner.

SECTION 3 – THE OWNER'S RESPONSIBILITIES

A. Provide full information as to its requirements for the Project.

B. Assist the Engineer by placing at the Engineer's disposal all available information pertinent to the site of the Project, including previous reports and any other data relative to design and construction of the Project.

C. Provide access for the Engineer to enter upon lands as required for the Engineer to perform work under this Agreement.

D. Examine all studies, reports, sketches, estimates, specifications, drawings, proposals and other documents presented by the Engineer and shall render in writing decisions pertaining thereto within a reasonable time so as not to delay the work of the Engineer.

E. Provide reasonable legal, accounting and insurance counseling service for the Project.

F. Designate a person to act as the Owner's representative with respect to the work to be performed under this Agreement. Such person shall have complete authority to transmit instructions, receive information, interpret and define Owner's policies and decisions with respect to material, equipment elements and systems pertinent to the work covered by this Agreement.

G. Give prompt notice to the Engineer whenever the Owner observes or otherwise becomes aware of any defect in the project.

H. Obtain approval of governmental authorities having jurisdiction over the Project.

I. Furnish, or direct the Engineer to provide, at the Owner's expense, necessary additional services as stipulated in Section 2 of this Agreement, or other services as required.

SECTION 4 – PERIOD OF SERVICE

A. Upon written authorization from the Owner, the Engineer will proceed with the performance of the service called for in this Agreement.

B. Unless sooner terminated as provided in Paragraph 6.A, this Agreement shall remain in force for a period which may reasonably be required for completion of the construction of the proposed project; however, not greater than one year from the Engineer's substantial completion of the phases of work that have been authorized for commencement.

SECTION 5 – PAYMENTS TO THE ENGINEER

A. Payments for Basic Service of the Engineer Under Section 1:
The Owner will pay the Engineer for basic services [$Insert cost].
The fee as defined above shall be allocated to be paid monthly, as the work progresses.

B. Payment for Additional Services of the Engineer Under Section 2:
The Owner will pay the Engineer for additional service at a mutually agreed upon fee.

C. General

If this Agreement is terminated upon completion of any phase of the Engineer's services, the progress payments to be made in accordance with Paragraph 5.A.1 and 5.A.2 on account of all prior phases shall constitute total payment for services rendered; if terminated during any phase of the work not due to any fault of the Engineer, payment shall be made for services performed during such phases on the basis of the portion of each phase completed prior to termination.

If, prior to termination of this Agreement, any work designed or specified by the Engineer during any phase of the work is suspended in whole or in part or abandoned not due to any fault of the Engineer, after written notice from the Owner, the Engineer shall be paid for services performed prior to receipt of such notice from the Owner as provided in Paragraph 6.A for termination during any phase of the work.

Where the Engineer utilizes subcontractors to perform a portion of the project, and the subcontractor(s) directly invoices the Engineer, the subconsultant's invoices will be marked up by fifteen percent to cover administration costs.

SECTION 6 – GENERAL CONDITIONS

A. Termination
This Agreement may be terminated by either party by fourteen (14) days written notice in the event of substantial failure to perform, in accordance with terms hereof, by the other party through no fault of the terminating party. If this Agreement is so terminated, the Engineer shall be paid as provided in Paragraph 5.C.

B. Ownership
All documents, except original drawings, but including estimates, specifications, field notes and data are and remain in the property of the Engineer as Instruments of Service. The Owner shall be provided a set of reproducible drawings and copies of other record documents. However, they are not intended or represented to be suitable for re-use by the Owner or others for extensions of the project or for any other project.

C. Insurance – Save Harmless
The Engineer shall secure and maintain such insurance as will protect the Engineer and the Owner from claims under the Workman's Compensation Acts and from claims for bodily injury, death or property damage which may rise due to the Engineer's negligence in the performance of services under this Agreement.

D. Successors & Assigns
The Owner and the Engineer each binds themselves and any partners, successors, executors, administrators and assigns to the other party of this Agreement and to the partners, successors, executors, administrators and assigns of such other party, in respect to all covenants of this Agreement; except as above, neither the Owner nor the Engineer shall assign, sublet or transfer their interests in this Agreement without the written consent of the other. Nothing herein shall be construed as creating any personal liability on the part of any officer or agent of any public body which may be a party hereto.

E. Independent Contractor
It is understood and agreed that the Engineer is an independent contractor, responsible to the Owner for the results of this undertaking by the Engineer and is not an employee or agent of the Owner.

F. Non-Discrimination
The Engineer and/or any sub-contractors shall not discriminate against any employees or applicant for employment, or to be employed in the performance of his Contract with respect to his or her hire, tenure, terms, conditions or privileges of employment, or any matter directly or indirectly related to employment because of race, color, religion, national origin or ancestry.

The Engineer and/or any sub-contractor shall not discriminate against any employee or applicant for employment to be employed in the performance of this Contract with respect to his hire, tenure, terms, conditions or privileges of employment, because of age or sex, except where based on a bona fide occupational qualification.

G. Mediation
In an effort to resolve any conflicts that arise during the design and construction of the project or following the completion of the project, the Owner and the Engineer agree that all disputes between them arising out of or relating to this Agreement or the project shall be submitted to nonbinding mediation unless the parties mutually agree otherwise.

The Owner and the Engineer further agree to include a similar mediation provision in all agreements with independent contractors and consultants retained for the project and to require all independent contractors and consultants also to include a similar mediation provision in all agreements with their subcontractors, sub-consultants, suppliers and fabricators, thereby providing for mediation as the primary method for dispute resolution between the parties to all those agreements.

H. Jobsite Safety
Neither the professional activities of the Engineer, nor the presence of the Engineer or its employees and subconsultants at a construction/project site, shall relieve the General Contractor of its obligations, duties and responsibilities including, but not limited to, construction means, methods, sequence, techniques or procedures necessary for performing, superintending and coordinating the work in accordance with the contract documents and any health or safety precautions required by any regulatory agencies. The Engineer and its personnel have no authority to exercise any control over any construction contractor or its employees in connection with their work or any health or safety programs or procedures. The Owner agrees to require the General Contractor(s) to provide liability insurance for the project(s), indemnifying and listing as additional insureds the Owner, the Engineer and the Engineer's subconsultants.

I. Limitation of Liability
In recognition of the relative risks and benefits of the project to both the Owner and the Engineer, the risks have been allocated such that the Owner agrees, to the fullest extend permitted by law, to limit the liability of the Engineer to the Owner for any and all claims, loses, costs, damages of any nature whatsoever or claims expenses from any cause or causes including attorney's fees and costs and expert-witness fees and costs, so that the total aggregate liability of the Engineer to the Owner shall not exceed $100,000, or the Engineer's total fee for services rendered on this project, whichever is greater. It is intended that this limitation apply to any and all liability or cause of action however alleged or arising, unless otherwise prohibited by law.

J. Standard of Care
The Owner recognized that the engineering services require decisions which are not based upon pure science but rather upon judgmental considerations, including the economic feasibility of alternative designs. The Engineer shall perform its services in accordance with generally accepted engineering practices. Services are rendered without any other warranty, express or implied and the Engineer shall be responsible solely for its own negligence.

K. Construction Costs
The Owner shall advise the Engineer in writing before design commencement of any budgetary limitation for the overall cost of construction. The Engineer will endeavor to work within such limitations and will, if requested and included within the scope of services, submit to the Owner an opinion of probable construction cost. Opinions of probable construction cost will represent the Engineer's best judgment as a design professional familiar with the construction industry but does not represent that bids or negotiated prices will not vary from budgets or opinions of probable cost. Owner acknowledges that neither the Engineer nor the Owner has control over the cost of labor, materials or methods by which contractors determine the prices for construction.

L. Applicable State Law
This document shall be governed by the laws of the State of Michigan.

SECTION 7 – SPECIAL PROVISIONS

The Owner and the Engineer mutually agree that this Agreement shall be subject to the following special provisions which, together with the provisions hereof and the exhibits hereto represent the entire Agreement between the Owner and the Engineer and that; they may only be altered or repealed by a duly executed written instrument.

NONE.

IN WITNESS WHEREOF, the parties hereto have made and executed this Agreement the day and year first above written.

Owner:	Engineer:
[Owner Name]	ROWE Professional Services Company
_____	_____
Signature	Signature
_____	_____
Typed Name and Title	Typed Name and Title

Communication Plan

ROWE is committed to exceeding your expectations of our firm. Following is an outline of the communication plan we propose to ensure the city is adequately informed of the status of services we will provide throughout this contract. ROWE typically checks in with the key city staff to determine their favored method of communication, whether it is face to face, phone, email, text, etc. The communication method is often different depending on the nature of the issue. We call or visit if the issue is time sensitive. We email or text if not. We will use the client's preferred method to make sure communication is optimized.

A. Personnel

1. *Project Manager:* Point of contact for all work done within the city. The project manager will track and coordinate all project efforts and will provide written and verbal reports on all activities.
2. *Project Team:* Comprised of licensed professional engineers and surveyors, as well as engineering and surveying graduates and other staff, the team will perform the project(s) design, as directed by the project manager. Each project will be assigned a team with experience most relevant to it. Once a project is identified and defined, the project manager will conduct a start-up meeting with the designated project team to review scope, specific task assignments, and schedule. Project teams meet weekly to review progress and adjust as necessary.
3. *Principal in Charge:* Provides support to project manager in various areas, including ensuring all project milestones are met on time. The principal in charge (or any of the firm's six principals) will also be available to the city to review or discuss our work with the city.

B. Communications with the City

1. *Scope of Services Fee Basis / Schedule for Completion:* Provide a scope of services, fee basis, and schedule for completion for every project, so all involved parties are aware of the cost and expected performance requirements. We will not begin a project until we have authorization from the city manager that the fee and schedule are acceptable.
2. *Attend City Council Meetings:* Attend selected city council meetings (at no additional expense to the city), so we can keep abreast of current issues, obtain immediate information on projects in progress, and answer any questions that may arise concerning ongoing projects.
3. *Monthly Report:* If work is in progress with the city, provide a monthly report (at no cost to the city), showing activity during the month, and progress on every project we are working on for the city.
4. *Major Project Communication Steps:* The following process is typically used for major projects.
   a) Meet with the city to define the project scope and project schedule.
   b) Engineer will prepare a project report to include:
      1) Project description and identification
      2) Detailed project scope (what the project intends to accomplish) and proposed fee
      3) Project schedule
      4) Preliminary plan review
      5) Tentative bid date
      6) Construction start date and project completion date
   c) Present preliminary plans (75% complete) to city manager with preliminary cost estimate. Based on type and complexity of the project, schedule a public information/input meeting as deemed necessary by the city.
   d) Present final plans to city manager. This presentation and/or report will include a description/ scope of

the project, construction cost estimate, request for approval to set bid date, and anticipated project schedule.

e) Take bids, review and make recommendation to the city regarding the award of contract (i.e., the bid price and ability of contractor to satisfactorily complete the project).
f) Schedule and preside over a preconstruction meeting.
g) Schedule public information meeting. With the contractor in attendance, make presentation to public regarding project schedule and details of proposed construction operations. Respond to concerns and questions presented by those in attendance.
h) Hold project progress meetings with the contractor and city manager. Depending on the complexity and duration of the individual project, ROWE will make interim progress reports to the city, as required.
i) Attend post-project review meeting.

Other Information / Our Specific Capabilities

Civil Engineering
Our 48 licensed professional engineers are experienced in design and construction engineering for:

- Bridges
- Roads
- Water Systems
- Sewer Systems
- Parks & Recreation Facilities
- Land Development
- Demolition
- Wastewater Treatment
- Parking Lots

Surveying
Fifteen licensed professional surveyors and 16 field crews use state-of-the-art equipment to provide:

- Topographic Mapping
- Right-of-Way
- Construction Staking
- Aerial Control
- Retracement
- Government Corners
- Control
- Aerial Mapping
- ALTA
- Cadastral / Boundary
- Remonumentation
- LiDAR Data Extraction

Planning
Our planner, certified by the American Institute of Certified Planners (AICP), and planning staff work closely with community representatives to provide:

- Master/Land Use Plans
- Parks & Recreation Plans
- Downtown Development Plans
- Tax Increment Finance Plans
- Strategic Plans
- Zoning Ordinances
- Urban Design
- Feasibility Studies
- Capital Improvement Programs
- Neighborhood Plans

Landscape Architecture
Respect for natural resources enhances every facet of our designs, with creativity and imagination the only rules. Our licensed, professional landscape architect and staff provide design services including:

- Streetscapes
- Parks
- Historic Landscapes
- Transportation Corridors
- Recreation Areas
- Walkways and Trails
- Waterfronts
- Residential Development
- Planting Plans
- Site Enhancements
- Campus Planning
- Sensitive Environments

Aerial Photography/Mapping
Using a variety of airborne sensors and cameras we can provide:

- Vertical & Oblique Photography
- Photo Reproductions
- Analytical Aerial Triangulation
- DTM-DEM Surface Modeling
- Volumetrics
- Airport Surface Analysis
- Digital Orthophotography
- GIS Base-Mapping
- UAS Imaging & Mapping*

** ROWE employs three FAA-licensed DRONE pilots.*

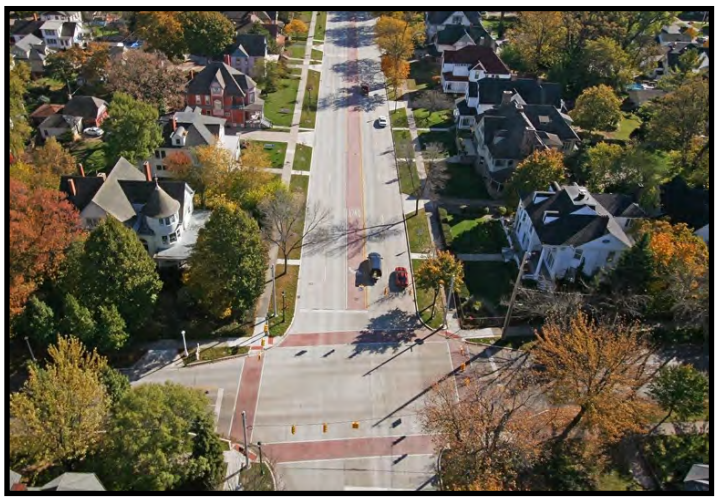
MDOT Prequalifications

ROWE is prequalified with MDOT in the following categories. Categories in blue are the city-required categories, per your RFQ.

MDOT Michigan Department of Transportation

Construction Engineering	Design	Surveying
Assistance	Bridges	**Construction Staking**
Bridges & Ancillary Structures	Bridges: Load Rating	Hydraulics
Roadway	Bridges: Safety Inspection	Right-of-Way
Roadway – Local Agency Program	Bridges: Scoping	Road Design
Construction Inspection	Hydraulics I	Structure
Bridge Painting	Hydraulics II	
Bridges & Ancillary Structures	**Roadway**	
HMA Pavement	Roadway: Complex	
Roadway	Roadway: Intermediate	
Traffic & Safety	Traffic: Capacity & Geometric Analysis	
Construction Services	Traffic: Pavement Markings	
Office Technician	Traffic: Safety Studies	
Construction Testing	**Traffic: Signal**	
Aggregates	Traffic: Signing – Freeway	
Concrete	Traffic: Signing – Non-Freeway	
Density	Traffic: Work Zone Maintenance of Traffic	
	Utilities: Municipal	
	Landscape Architecture	

ROWE PROFESSIONAL SERVICES COMPANY



800.837.9131

www.rowepsc.com

DLZ
ARCHITECTURE • ENGINEERING • PLANNING
SURVEYING • CONSTRUCTION SERVICES

OFFICES

DLZ is a full-service, multidisciplinary, family- and minority-owned professional consulting firm. Through its offices in Michigan, Illinois, Indiana, Kentucky, Ohio, Pennsylvania, and Wisconsin, DLZ has earned a reputation as a leader in the architecture/engineering and construction services industries.

MICHIGAN
DETROIT
FLINT
KALAMAZOO
LANSING
MELVINDALE
MUSKEGON
PORT HURON TOWNSHIP
SAINT JOSEPH
WATERFORD TOWNSHIP

ILLINOIS
CHICAGO
JOLIET

INDIANA
BURNS HARBOR
FORT WAYNE
INDIANAPOLIS
MUNSTER
SOUTH BEND

KENTUCKY
LEXINGTON
LOUISVILLE

OHIO
AKRON
CINCINNATI
CLEVELAND
COLUMBUS
TOLEDO

PENNSYLVANIA
BRIDEVILLE

WISCONSIN
MADISON

OFFICE 1.800.336.5352 | **ONLINE** WWW.**DLZ**.COM

PROFESSIONAL ENGINEERING SERVICES PROPOSAL

NOVEMBER 8, 2019

DLZ
ARCHITECTURE • ENGINEERING • PLANNING
SURVEYING • CONSTRUCTION SERVICES

INNOVATIVE IDEAS
EXCEPTIONAL DESIGN
UNMATCHED CLIENT SERVICE

November 8, 2019

Ms. Connie Olger, City Clerk
City of Swartz Creek
8083 Civic Drive
Swartz Creek, MI 48473

RE: RESPONSE TO REQUEST FOR QUALIFICATIONS - PROFESSIONAL ENGINEERING SERVICES

Dear Ms. Olger:

DLZ Michigan, Inc. (DLZ) is grateful for the opportunity to provide our proposal for your consideration. We are eager to serve the City of Swartz Creek (City).

STATEMENT OF UNDERSTANDING I The City is seeking up to four qualified firms to provide professional engineering services on a variety of planning and capital improvement projects including roads, utilities, paths, and other related projects on an as-needed basis. Project assignments will be determined by the City over the course of the proposed three year contract.

TEAM QUALIFICATIONS I DLZ is a full-service, multi-disciplinary professional firm with over 730 employees over 26 offices, with a common goal to solve problems and enhance opportunities for our clients. We have assembled a highly qualified project team of experienced professionals with decades of expertise in various disciplines to meet the City's needs. We are proud of the high quality, cost-effective services, which we have been providing municipalities across the state for over 70 years.

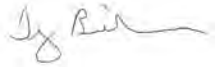
DEPTH OF EXPERIENCE I DLZ currently represents a multitude of clients ranging in size from the City of Rochester, in Oakland County, with a population of 12,711 to the City of Flint, with approximately 93,000 residents. In addition, we perform engineering services to Genesee County Water and Waste Services, Oakland County Water Resources Commission, and the Huron-Clinton Metropolitan Authority. We take great pride in providing client-centric customer service and the resources needed to successfully complete engineering project requirements in a timely and cost-effective manner.

FAMILIARITY I We understand that the City is not just a neighbor to the west of the City of Flint, but a small community with a hometown feel, front porch appeal, and that is unique in character. DLZ provides as-needed engineering services to the City of Rochester, which is similar in size and structure. The City of Rochester is a full-service community, and boasts of a vibrant, historical downtown, and impeccable customer service. We look forward to working with the City in a similar capacity.

We sincerely appreciate the opportunity to serve the City. If you have any questions or require additional information regarding this proposal, please contact our authorized representative Mr. Terry Biederman.

Respectfully submitted,

DLZ MICHIGAN, INC.



Terry Biederman, P.E.
Vice President
P: (248) 681-7800 / F: (248) 681-2660
tbiederman@dlz.com

TABLE OF CONTENTS

FIRM PROFILE

COMPANY OVERVIEW

Innovative Ideas. Exceptional Design. Unmatched Client Service.

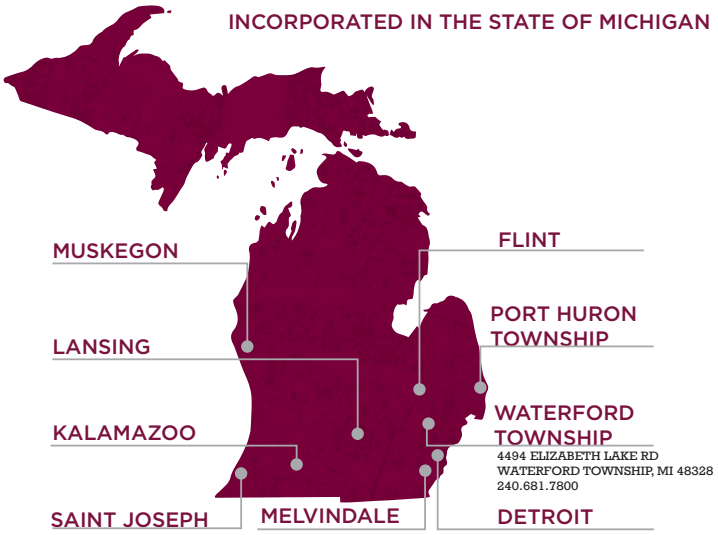
These are the principles that guide DLZ professionals in delivering solutions to your engineering, architecture, and construction service needs. We focus on meeting and exceeding our clients' expectations and are known for our expertise, integrity, and contributions to the people and communities we serve. As a family and minority-owned full-service firm, DLZ's multidisciplinary and collaborative approach to professional services allows us to build and lead successful project teams that are dedicated to providing solutions that save money, improve operations, and solve problems. **Our vision is simple: Create successful partnerships with our clients that facilitate trust, commitment, and communication.**

DLZ is an award-winning firm that has been providing complete engineering, architectural, environmental, planning, construction, right-of-way acquisition, materials testing, and survey services to both public and private sector clients since 1916. DLZ is an American success story, having graduated in 1984 from the 8(a) Small Disadvantaged Business Program. Since then, DLZ has grown to be one of the most reliable and experienced professional consulting firms in the Midwest with nearly 730 employees at over 26 offices. DLZ's multiple offices share a common goal — to help our clients solve problems and enhance their opportunities.

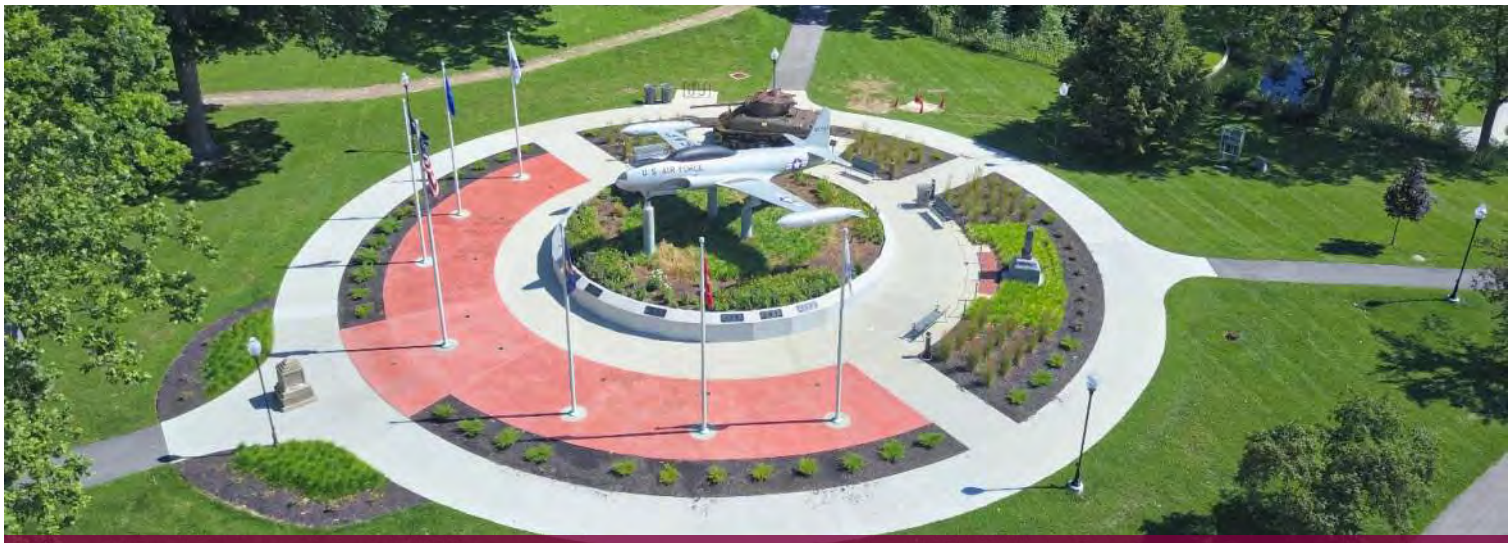
Consistently ranked as one of Engineering News-Record's prestigious Top 150 Design Firms in the United States, DLZ's continual growth and success is a testament to the quality of our work and the satisfaction of our clients. Additionally, DLZ is ranked as an ENR Top 100 Firm for Pure Design; an ENR Top 50 Program Management Firm; an ENR Top 100 Construction Management for Fee Firm; and a Trenchless Design Top 50 Trenchless Technology Firm. DLZ has also been recognized by Roads and Bridges magazine as a Top "Go-To" Design Firm for road and highway, storm water, and mass transit design.

OFFICE LOCATIONS

DLZ operates nine full-service offices in Michigan – Lansing, Detroit, Flint, Kalamazoo, Melvindale, Muskegon, Port Huron Township, Saint Joseph, and Waterford Township. DLZ also has offices in Indiana, Ohio, Illinois, Kentucky, Wisconsin, and Pennsylvania. Each office is equipped with technology services that allow for real-time transfer of data and project information, in addition to communication systems to enable Real-time collaboration efforts across offices.



Our Team will be housed out of the Waterford Township, Flint Township, Lansing, and Detroit offices for the City of Swartz Creek (City).



Memorial Park Veteran's Memorial, Huntington, Indiana

LOCAL PRESENCE

DLZ opened its first office in Flint Township in 2017, in an effort to better serve our Genesee County clients. We continue to strive to be an integral part of the community and to provide high quality services to the local area.

DLZ is currently an Engineer of Record for the City of Flint. In November 2018, DLZ completed SAW Grant implementation services for the City. The SAW Grant project services provided included: gathering GPS locations and performing condition assessments of all City-owned sanitary sewer manhole structures (per Manhole Assessment and Certification Program guidelines); gathering GPS locations of all storm sewer manholes and catch basins; performing storm sewer outfall investigations; scanning and digitizing of existing sewer lead cards; GIS mapping updates; Business Risk Evaluations (BRE) of the sanitary and storm sewer structures; CMMS implementation; developing Level of Service Goals; working with the City's Financial Manager and H.J. Umbaugh & Associates (now bakertilly) to perform a rate review; developing a prioritized CIP; and developing a Michigan Department of Environmental, Great Lakes, and Energy (EGLE) approvable Wastewater Asset Management Plan and Stormwater Asset Management Plan.

DLZ is currently under contract to upgrade the City of Flint's Northwest Pumping Station's pumps and station capacity rating with EGLE as well as optimization of the discharge force main configuration.

Also, in 2018, DLZ performed design engineering services to Genesee County for improvements to the Floyd J. McCree Surface Parking Lot, located at Beach and 2nd Streets in the City of Flint. The project consisted of developing a site plan, grading plan, utility plan for stormwater management, electrical and lighting plans, landscaping plan, and required detail sheets. The parking lot was constructed at the site of an existing parking lot and parking structure that was demolished under a separate contract.

DLZ is also currently working on several projects for the Genesee County Drain Commissioner. These projects include providing SCADA related services for sanitary sewage collection and wastewater treatment facilities. Three SCADA projects have been completed and two are under way. In addition, DLZ has been selected to provide as needed SCADA engineering and support services to the Genesee County Drain Commissioner for various projects including integration closed-circuit television (CCTV) and Pipeline Assessment Certification Program (PACP) data into their ESRI geodatabase.

We are intimately familiar with the standards and regulations of the Genesee County Drain Commissioner Water and Waste Services (GCDCWWS), the Genesee County Road Commissioner (GCRC), the Michigan Department of Transportation (MDOT), the Michigan Department of Environment, Great Lakes and Energy (EGLE), the Michigan Department of Natural Resources (MDNR), the Michigan Department of Community Health (MDCH), and the United States Environmental Protection Agency (USEPA).

In addition to the local expertise gained from the various projects our firm staff have completed in Flint and Genesee County, key staff are also permanent residents of Genesee County. In fact, Mr. Terry Biederman, was born and raised in Flint and is a 1981 graduate of Flint Southwestern High School and worked for the Genesee County Drain Commissioner Water and Waste Services for 10 years where he also worked with many Flint staff members on integrated projects such as the 72" water supply line to the area that feeds both the City of Flint and the County.

DLZ'S UNIQUE QUALITIES

There are many characteristics that set DLZ apart from the competition. The three listed below may be of most interest to the City as you make your decision on who to trust to deliver a successful project:

DEPTH OF EXPERTISE AND SOLUTION DRIVEN DESIGN

DLZ brings to the City relevant and contemporary experience in providing municipal engineering services. The designers, engineers, surveyors, and architects at DLZ devote significant time to staying current on the design trends that impact our clients. This can result in a better final project for you. In addition, DLZ staff have experience in operating and maintaining the systems that we design. This allows us to work with our clients to develop systems that meet the needs of the operational and maintenance staff as well.

TRUE MULTIDISCIPLINARY APPROACH TO PROJECT DELIVERY

DLZ is a full-service, multidisciplinary professional services firm. Our in-house GIS and SCADA programming staff provide our clients with training and system management assistance to facilitate the use of computerized maintenance management software systems and document management systems that aide the field staff in being able to quickly complete any field reporting requirements so that they can focus their energies on the field work.

Unlike most companies, DLZ actually brings all of the necessary geotechnical service lines together under one roof. DLZ's geotechnical professionals provide a full range of geotechnical, geo-structural, geo-environmental, and materials engineering services, including laboratory testing of soils and materials, construction monitoring and testing, as well as drilling and subsurface investigation and sampling. DLZ's geotechnical subsurface investigation capabilities include truck, all-terrain vehicle, and barge drilling. DLZ crews are experienced in soil and rock sampling as well as instrumentation installations. DLZ geotechnical engineers provide geotechnical support to other DLZ projects as well as stand-alone geotechnical assignments.

DLZ is a leader in design and construction of public infrastructure. Our construction services division provides construction management, construction observation, scheduling, claims analysis, document control, risk analysis, value engineering, field quality control and laboratory testing for the construction and rehabilitation of transportation and utility projects. Our flexibility and full-service capabilities allow us to serve our clients for their smallest projects to projects exceeding $300 million in construction.

LONG-TERM RELATIONSHIPS WITH OUR CLIENTS

DLZ is proud of our reputation for excellent client service and our record of repeat business. Because we view our relationship with you as a long-term situation, we will take the time to invest ourselves in developing a professional relationship that will be beneficial to the City. DLZ will act as an extension of the City to better serve your needs.

CLIENT MANAGER

Ms. Shannon Filarecki, P.E., our proposed prime contact and project manager with the City, has over 23 years of professional engineering experience. Ms. Filarecki specializes in: site plan and engineering plan reviews, utility design, project management, and project administration.

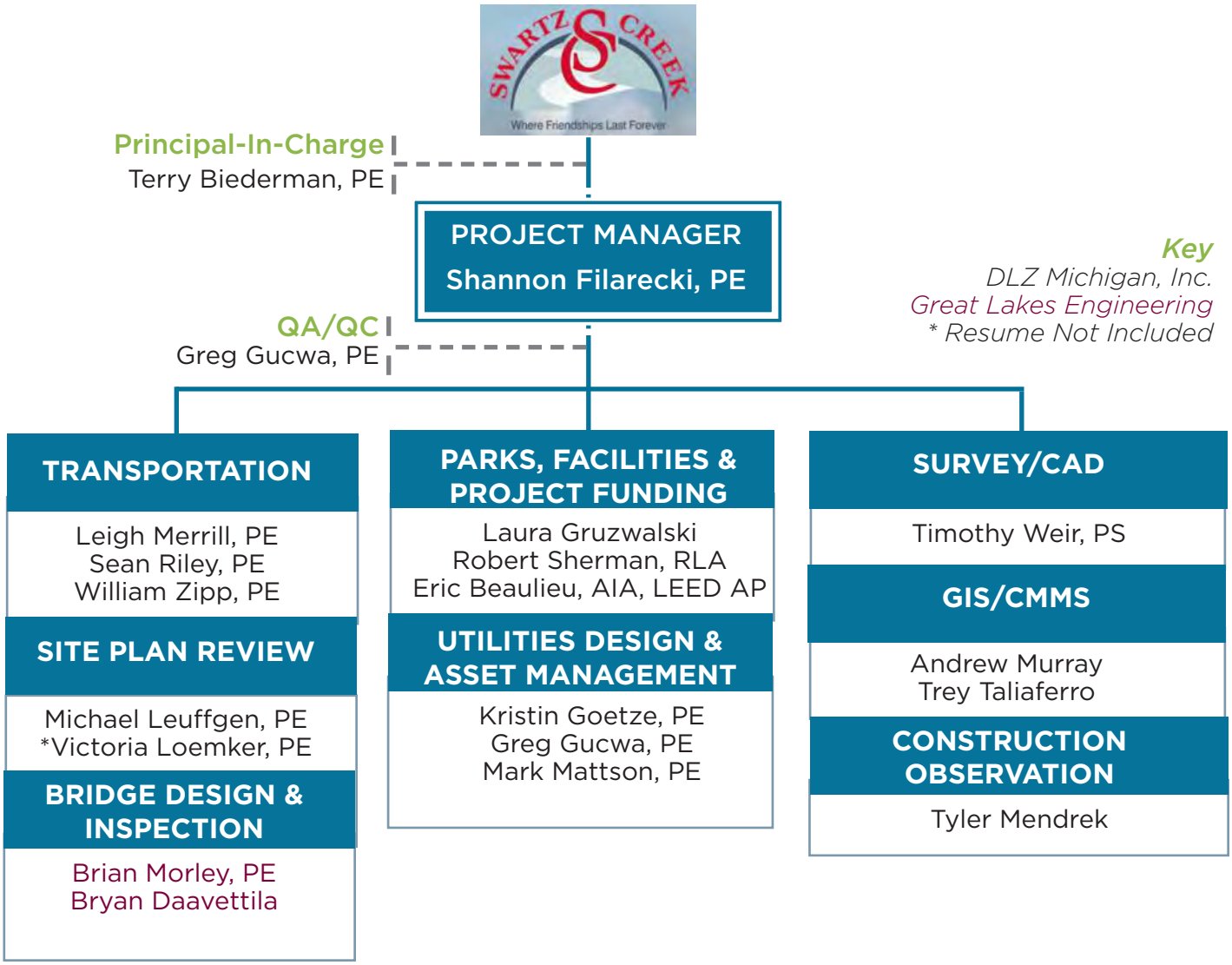
SUBCONSULTANT

For bridge construction engineering services, DLZ proposes to utilize Great Lakes Engineering Group, LLC (GLEG), located in Lansing, Michigan. DLZ has formed a great working relationship with GLEG, as we have partnered on multiple projects over the years throughout Michigan.

QUALIFICATIONS OF TEAM

KEY PERSONNEL

DLZ is proposing to utilize a team of experienced professionals to provide engineering and consulting services to the City. Resumes of key personnel that are proposed to perform professional services, as required, are provided in this Section following the organization chart. Resumes have been truncated to highlight key project experience. Additional project experience and/or resumes for field and ancillary staff can be provided upon request.



TERRY BIEDERMAN, P.E.
PRINCIPAL-IN-CHARGE

EDUCATION
B.S. Civil Engineering, University of Michigan, 1987

Masters of Public Administration, University of Michigan, 1991

REGISTRATIONS
Professional Engineer Michigan #6201037651, 1992

AFFILIATIONS
American Water Works Association

Southern Michigan Water and Sewer Utilities Association

Michigan Water Environment Association

American Public Works Association

AWARDS
2011 GIS-Centric Award from Azteca Systems for GIS-Centric vision and practice

2010 American Council of Engineering Companies MI Section Award of Merit for Engineering of Water and Treatment System

2009 Michigan Section AWWA Technical Practices award

Mr. Biederman will serve as Principal-in-Charge for the Township. Mr. Biederman has over 33 years of experience and is a recognized leader in wastewater, stormwater, and water system engineering, control, and management. He has extensive experience in managing public works operations including the development of capital improvement and asset management plans. It will be Mr. Biederman's responsibility to monitor the work tasks and to make certain that the proper resources are being allocated to the project in the best interest of the Township.

RELEVANT EXPERIENCE

- **DLZ Michigan, Inc**., Vice President. Municipal practice officer in charge of developing and maintaining municipal water, sewer, infrastructure, asset management, application development and SCADA systems for municipal and private clients in the state of Michigan. Municipal clients include Bay County Road Commission Department of Water and Sewer, Genesee County Drain Commissioner Division of Water & Waste Services, Waterford Township, West Bloomfield Township, White Lake Township, City of Rochester, Macomb County Public Works, City of Flint and the City of Bay City. Johnson & Anderson merged with DLZ in March of 2019 to enhance our service line and resource capability to better serve our valued clients. DLZ and DLZ- Michigan is a 700 person full-service, multidisciplinary, Minority-Owned Business Enterprise (MBE) that has been providing complete engineering, architectural, environmental, planning, construction, and survey services to both public and private sector clients since 1916. DLZ is consistently ranked as one of Engineering News-Record (ENR)'s Top 150 Design Firms and their commitment to excellence has resulted in DLZ being ranked by Engineering News Record as the No. 1 Design Firm of the Year in the Midwest. With our combined Michigan offices, we now offer locations in Muskegon, Lansing, Kalamazoo, Saint Joseph, Port Huron, Waterford, Detroit, Flint and Melvindale.
- **Genesee County Drain Commissioner Division of Water & Waste Services, SCADA10 Server Replacement, Michigan**. Project Engineer and Manager.
- **City of Midland Sewer Pumping Station SCADA Update, Michigan.** Project Engineer and Manager.
- **West Bloomfield Township Water & Sewer Curb Box Card Scanning and GIS Integration, Michigan**. Project Manager.
- **Genesee County Drain Commissioner Division of Water & Waste Services, SCADA Reporting Tool Implementation, Michigan**. Project Manager.
- **Independence Township, Engineer of Record for Engineering Services, Price TBD As-Needed**. Project Principal.
- **City of Flint, Fast Start Cityworks CMMS Programming and Data Development, Michigan**. Project Manager.
- **City of Rochester, Engineer of Record for Engineering Services, As-Needed, Michigan**. Project Principal.
- **Genesee County Drain Commissioner Division of Water & Waste Services, Win911 SCADA Alarm Review and Cleanup, Michigan**. Project Manager.
- **City of Flint, Dort & Cedar Pumping Station and Storage Reservoir Rehabilitation, Michigan**. Project Principal.
- **Granite/City of Southfield, GIS-CCTV PACP Data Integration and Application Development, Michigan**. Project Manager.
- **City of Flint, Sewer Diversion Design Project, Michigan.** Project Principal.
- **City of Flint, Northwest Pumping Station Rehabilitation, Michigan**. Project Principal.
- **Gun Plain Township, Cemetery GIS Management System Development, Michigan**. Project Manager.
- **Detroit Water & Sewerage Department, Water System GIS Updates and Onsite Support, Michigan**. Project Manager.
- **Bay County Road Commission Department of Water & Sewer, 500,000 Gallon Ground Storage Tank and Pumping Station Design, Construction and Rehabilitation, Michigan**. Project Principal.

SHANNON L. FILARECKI, P.E.
PROJECT MANAGER

EDUCATION
B.S. in Civil Engineering, Lawrence Technological University, 2004

REGISTRATIONS
Professional Engineer: Michigan #6201048131, 2001

TRAINING
DPIC Insurance Training

AWWA/MDEQ Spring Regional Seminars

Ductile Iron Pipe

Research Association (DIPRA) Seminars

Thickness Design/Pipe Classification

External Corrosion

AFFILIATIONS
American Water Works Association (AWWA)

American Public Works Association (APWA)

South Oakland County Municipal Engineers (SOCME)

**work with previous employer*

Ms. Filarecki has been responsible for managing multiple design and construction engineering projects of varying scopes for a variety of clients. Responsibilities include providing plan review services, development meetings with potential developers to provide direction with respect to the local, county and state regulatory requirements. She also provided design and construction engineering on various commercial, industrial, and residential developments; WTPs; water booster stations, water mains; ground and elevated storage tanks, sanitary sewers, and lift stations, roads, parks and airports. In addition to her time in the private sector, Ms. Filarecki was the Director of Public works for both Hartland Township and the City of Rochester. In these roles, she was responsible for multi-year budget planning, process mapping, contract negotiations, purchasing, asset management planning, facilities management, inter-departmental coordination, development of annual and long-term goals and objectives, departmental and municipal missions' statements, customer service and multi-agency coordination.

RELEVANT EXPERIENCE

- **Plan Review Services Charter Townships of Oxford (Oakland County), Michigan. Project Manager**. Provided plan review services for all platted subdivisions, condominium developments, lot splits, private roads, and individual site plans (i.e., commercial, industrial, office, manufacturing, etc.) for conformance with appropriate Township ordinances. Construction drawings were reviewed for conformance with the Township Design Standards and Construction Specifications Manual and the OCDC's requirements.*
- **Village of New Haven (Macomb County), Michigan**. Project Manager Site Plan and Engineering drawing review, coordination with the Great Lakes Water Authority (GLWA – formerly DWSD) on rate setting, water use and peak demand issues, assist DPW with management of water, sanitary sewer, and storm sewer systems as well as administration of the NPDES permit and asset management for roads, pedestrian bridges, sidewalks, sanitary, and storm sewers.*
- **Charter Township of Oxford, Michigan, Roads Master Plan**. Project Manager. Assisted in developing a roads master plan to prioritize the Township's road improvement projects. Attended task force committee meetings and provided input regarding cost and scope of projects identified by task force.*
- **Village of Otisville, Michigan. East Main Street Reconstruction.** Project Manager. Worked with the Village's DDA to convert an existing cross section from pavement with gravel shoulders to curb and gutter. *
- **SRF Project, Rochester, Michigan.*** Director of Public Works. Work include the SRF project plan submittal, EGLE schedule coordination for both engineering and financing arms of the SRF process, Public Hearing coordination, plan review, construction coordination, reimbursement request management and communication with City Administration and Elected Officials. The project was broken up into 3 sections; manholes open cut repairs, and structural pipe lining (sectional and full). Manhole rehabilitation included changing castings, adjusting structures to grade, sealing the chimneys, grouting, structural lining and complete replacements.
- **Pontiac Trail Water Main, City of Novi, Michigan**. Project Manager. The project was necessary to complete a missing water main loop in the City's northwest area. The design included two wetland crossings, 5,980 lf of 12-inch ductile iron water main and 1,325 lf of 12-inch HDPE pipe through two wetland crossings. The project required attainment of numerous easements and coordination of lane closures along Pontiac Trail with the RCOC.*
- **Sanitary Sewer Capacity Assessment Charter Township of Oxford, Oakland County Water Resources Commissioner, Oakland County, Michigan**. Project Manager. Worked with the Township and the OCWRC to evaluate availability of sanitary sewer capacity for areas not served by the sanitary sewer system. Estimated the number of REUs connected to the system. *

GREGORY GUCWA, P.E.
QA/QC AND UTILITY ENGINEER

Mr. Gucwa has more than 41 years of experience in municipal engineering specializing in sanitary and water system pump stations, water treatment, wastewater treatment, process control, water distribution, sanitary collection, road design, and site plan review. Gregory has completed the design and contract administration for many water treatment, water distribution, sanitary and storm sewage collection system projects and has provided start up assistance for water treatment facilities and pumping stations. He has also served as the project engineer for various Huron-Clinton Metropolitan Authority (HCMA) aquatic/pool projects.

EDUCATION

B.S. Civil Engineering, Michigan State University, 1975

REGISTRATIONS

Professional Engineer: Michigan #6201026553, 1979

RELEVANT EXPERIENCE

- **Clinton River Pump Station Rehabilitation, Waterford Township, Michigan**. Project Manager. The Project included complete rehabilitation of the pump station consisting of a new chopper type dry well submersible pump, wet well mixer, sluice gate, new valves with pneumatic operators, new flow meter, odor control, new electrical equipment and controls, and SCADA equipment.
- **Rehabilitation of the Water Street Pump Station, Port Huron Township, Michigan.** Project Manager. The project included complete rehabilitation of the existing triplex submersible pump station converting to a larger duplex submersible pump station with variable speed drives. A new control building with new electrical equipment, variable speed drives and control system was part of the project. A natural gas fed generator with automatic transfer switch was provided.
- **Waterford Township Water Treatment Plant Phase I Pilot Study, Waterford Township, Michigan**. Project Manager for Phase I Pilot Treatability Study for water treatment plant in Waterford Township to determine if increased capacity of treated water could be accomplished at an existing treatment plant. Three processes were evaluated and design for plant upgrade and expansion included a new well, pressure filters, chemical additions, building additions, and all necessary controls and appurtenances.
- **Sanitary Sewer Pump Station Rehabilitation, Pontiac, Michigan.** Project Engineer for design of complete rehabilitation of eleven sanitary sewage pump stations to include new pumps, building and piping design to eliminate confined space entry, emergency generators, emergency portable pump connection provisions, new instrumentation-controls and SCADA for Pontiac, Michigan.
- **Bay City Riverwalk Pier New Pedestrian Bridge, Bay City, Michigan.** Project Manager on Bay City Riverwalk Pier. A 740-foot-long foot bridge constructed on existing ¬railroad piers and intermediate pile bents. Responsible for design, construction inspection and pay estimates.
- **DWRF Project Planning, Waterford Township, Michigan.** Project Engineer for Waterford Township Drinking Water Revolving Fund Project Plan development and implementation, design engineering, plans and specification development, bidding, and construction contract administration for lining 11,400 feet of 8-inch water main, replacement of 8,600 feet of 6-inch water main with directionally drilled 8-inch water main and installation of 18,000 residential water meters.
- **Bridge over Chippewa River Rehabilitation, Mount Pleasant, Michigan**. Project Engineer on Rehabilitation of a concrete arch bridge including the addition of a prefabricated pedestrian bridge over the Chippewa River in the City of Mount Pleasant, Michigan.
- **Kensington Metropark for Huron-Clinton Metropolitan Authority Spray Park, Livingston County, Michigan.** Project Manager/Engineer for a zero-depth water spray park, water supply well and water treatment system at Kensington Metropark for Huron-Clinton Metropolitan Authority.
- **Indian Springs Metropark for Huron-Clinton Metropolitan Authority Environmental Education Center, White Lake, Michigan.** Project Engineer for an environmental education center complex to include water supply well, water distribution, on-site wastewater disposal, and zero-depth water spray park at Indian Springs Metropark for Huron-Clinton Metropolitan Authority.
- **Metro Beach for Huron-Clinton Metropolitan Authority, Harrison Township Water Spray Park, Michigan**. Project Engineer for the mechanical and piping system for a water spray park at Metro Beach for Huron-Clinton Metropolitan Authority.

LEIGH MERRILL, P.E.
TRANSPORTATION ENGINEER

Mr. Merrill has more than 12 years of experience in designing roads, water mains, and bridges. Mr. Merrill is responsible for engineering, coordination, and quality oversight on projects primarily in Transportation areas. Completed projects have ranged from local municipal road projects to MDOT administered bridge reconstruction projects. Mr. Merrill's duties include project planning, project design in accordance with MDOT standards, troubleshooting during construction, meeting and coordination schedules with the Contractor, and oversight of both design and field personnel.

EDUCATION

B.S. Civil Engineering, Michigan State University, 2007

REGISTRATIONS

Professional Engineer Michigan #6201061025, 2014

RELEVANT EXPERIENCE

- **Utica Road Water Main Replacement, Fraser, Michigan**. Project Engineer. Project involved replacing over 6000 LF of water main using open-cut, directional drilling, and jack and bore methods of construction. Created complete construction plans and the engineering estimate, drafted temporary easements and obtained necessary permits
- **Beach Street Reconstruction, Muskegon, Michigan**. Project Manager. Project consisted of reconstructing 2800 feet of HMA roadway in coordination with a transmission water main installation. Helped with development of complete construction plans, ADA compliant crosswalks and intersection grades, contract documents, and engineering estimate.
- **CDBG Pathway Improvements, West Bloomfield, Michigan**. Project Manager. Project consisted of reconstructing ADA ramps for pathways at two busy intersections. Created the project plans and ADA compliant designs, bid specifications, engineering estimate, and CDBG grant paperwork.
- **Pine Street Reconstruction, Rochester, Michigan**. Project Manager. Project consisted of reconstructing an HMA roadway in coordination with sanitary sewer replacement and water main replacement projects. Created complete construction plans, ADA compliant crosswalks detailed grades abutting existing parking lots to ensure proposer storm drainage. Proposed storm drain idea to potentially save the City over $100,000. Also completed contract documents, engineering estimate, field design and construction administration.
- **Smith Street Scoping Project, Bay City, Michigan**. Project Manager. Project consisted of providing preliminary survey information and recommendations for the future road reconstruction project. Provided recommendations for road reconstruction cross sections, storm and sanitary sewer system upgrades, and water main replacement, and the engineering estimate for reconstruction activities.
- **Oakland County Water Resources Commission Sanitary Sewer System Improvements Design / Build, Pontiac, Michigan**. Project Manager. Project consisted of three separate sanitary sewer system replacements utilizing multiple replacement techniques including directional drilling, pilot tube boring, pipe bursting, sectional pipe lining, full length pipe lining, and open cutting. Created completed design sets for each project and field engineering when issues arose.
- **2018-2019 Waterford Pavement Rehabilitation Project, Waterford Township, Michigan**. Project Manager. Created log-book and construction plans, contract documents, and the engineering estimates for the parking lot rehabilitation around the Township's campus. Participated in regular project update meetings, provided construction assistance for pavement repairs and reviewed invoices.
- **Sturgeon Street and Sturgeon Court Concrete Road Reconstruction, Roseville, Michigan.** Project Engineer. Project consisted of dual cul-de-sacs necessitating the use of temporary aggregate lanes to maintain 2-way industrial traffic. Created complete construction plans, contract documents and the engineering estimate.
- **Pinehurst Street Concrete Road Reconstruction, Roseville, Michigan**. Project Engineer. Project consisted of reconstructing the road and separating the storm sewer from the existing combined sewer system. Created complete construction plans, contract documents, engineering estimate, and performed construction observation on the project.
- **2016 and 2017 Concrete Road Programs, Livonia, Michigan**. Project Engineer. Design of 0.37 miles of industrial road full-depth reconstruction with curb and gutter, drainage improvements and difficult maintenance of traffic to maintain access to all businesses and two-way industrial traffic. Project Engineer – responsible for design, specifications and detailed construction estimate

SEAN RILEY, P.E.
TRANSPORTATION ENGINEER

Mr. Riley has more than 20 years of civil engineering and construction related experience. His duties include project management, highway and drainage design, design feasibility studies, cost estimation, project inspection, survey crew chief, and material inspection. Mr. Riley has worked on many MDOT projects throughout Michigan including both bridge and highway construction. He has also worked on county and local agency projects.

Mr. Riley is one of our experts in the preparation of plans for roundabouts. Mr. Riley has prepared dozens of designs for roundabouts in various stages of development from design studies through construction. With a strong background in roadway geometrics and field services, his technical knowledge helps us solve challenging design problems, often resulting in significant cost savings to our clients. Mr. Riley has worked on many successful DLZ roundabout designs including for MDOT, INDOT, and WisDOT. Mr. Riley has also been the Lead Roadway Engineer/ Project Manager on many local agency route roundabout projects. His roundabout design experience has included horizontal and vertical geometry, pavement design, drainage design, utility coordination, right-of-way coordination, cost estimation, signing plans, pavement markings, lighting, and maintenance of traffic.

EDUCATION

B.S. Civil Engineering, Michigan State University, 1996

REGISTRATIONS

Professional Engineer Michigan #6201048143, 2008

CERTIFICATIONS

LPA Project Development Training, Indiana Department of Transportation, 2012

Designing Pedestrian Facilities for Accessibility, American Council of Engineering Companies-Michigan, 2009

Wisconsin Department of Transportation (WisDOT) Level II Roundabout Design Certification, 2008

RELEVANT EXPERIENCE

- **US-127 and US-127 BR, Mt. Pleasant, Michigan, Michigan Department of Transportation**. Lead Highway Engineer. Design of coldmilling and resurfacing of US-127 and US-127 BR in Mt. Pleasant. Project includes under clearance improvements, drainage improvements, guardrail upgrades, Geopak modeling, HY-8 culvert design, Geopak storm sewer design, multi-stage maintenance of traffic, Transportation Management Plan, and permanent pavement markings and signing.
- **US-127/M-223 and I-94/US-127 Roundabout Scoping, Jackson, Michigan, Michigan Department of Transportation**. Lead Highway Engineer. Scoping for two roundabouts, one US-127 and M-223 and the other at the I-94 and US-127 interchange. Project includes preliminary roundabout design, scoping report, and maintenance of traffic concepts.
- **M-43 and G Avenue, Kalamazoo, Michig**an, Michigan Department of Transportation. Project Engineer. Preliminary design and engineering report for several roundabout options. Second phase of project will include design and plans.
- **I-94 BL and M-63 over St. Joseph River, St. Joseph, Michigan, Michigan Department of Transportation**. DLZ Project Manager. Sub to Modjeski and Masters for the design for the repair of the I-94 BL and M-63 bascule bridges over the St. Joseph River. DLZ's services included maintenance of traffic plans, Transportation Management Plan, review of the plans and proposal, packaging all submittals, and the development of the front-end sheets for the plans.
- **Midland Downtown Streetscape Study and Design, City of Midland, Michigan**. Lead Roadway Engineer. This project involved a detailed study and design for streetscape improvements on Main Street in Midland. Services included traffic studies, public/ stakeholder engagement, surveying, concept design, design development plans, construction documents, and geotechnical analysis. Design process was completed on a very expedited schedule.
- **Bay Region As-Needed Traffic and Safety Design, Michigan Department of Transportation**. Lead Highway Engineer. This project is an as-needed contract for traffic and safety operations in the Bay Region. The project required developing maintenance of traffic concepts on the I-75, I-475, and I-675 corridors in multiple locations. Projects included a TMP and evaluation of MOT options to find the best alternative to minimize user delay, construction costs, and MOT costs.
- **Beech Daly Road, Cities of Dearborn Heights and Inkster, Michigan**. Project Administrator. Road reconstruction in an urban area. Responsibilities included payment processing, correspondence direction, and monthly city council meetings for both cites.

WILLIAM ZIPP, P.E.
TRANSPORTATION ENGINEER

EDUCATION
B.S., Civil Engineering, Michigan Technology University, 1979

REGISTRATIONS
Professional Engineer Michigan #6201036185, 1990

AFFILIATIONS
Past President, Institute of Transportation Engineers (ITE)

Michigan Section; Past Board Member, Institute of Transportation Engineers (ITE)

Great Lakes District; Member, Institute of Transportation Engineers (ITE International)

**work with previous employer*

Mr. Zipp has managed or participated in more than 300 miles of major highway design projects in his career as a consultant and with the Federal Highway Administration (FHWA). He has concentrated his work effort in Southeastern Michigan with a focus on MDOT or MDOT administered projects. Mr. Zipp has managed projects from the conceptual stage through to the bidding phase. One of his specialties is design concept work. He has a strong working knowledge of the federal and state environmental clearance regulations and has managed or been involved in developing several environmental assessments. He has a strong background in traffic operations issues and the development of pavement marking, permanent signing and maintenance of traffic plans. He was responsible for the early design concept work and geometric design for the entire 8.5-mile Oakland Technology Park boulevard network in Auburn Hills. While working at the FHWA, Mr. Zipp was a regional engineer responsible for the review of environmental documents and design/ construction documents to ensure compliance with AASHTO design criteria, federal aid requirements and environmental regulations.

RELEVANT EXPERIENCE

- **I-275 Rehabilitation, Ford Road (M-153) to Five Mile Road, Wayne County.** Project Manager responsible for the development of detailed plans for rehabilitation of 5.2 miles of this major six-lane rural freeway. This project will mill and overlay the mainline and place an HMA overlay on the ramps at the three interchanges within the project limits (Ford Road, Ann Arbor Road and M-14/I-96). Complexities include unique intermittent culvert replacement due to new MDEQ MS4 drainage requirements, matching existing elevation at multiple bridge decks, providing wedging for superelevation and crown correction and traffic signal modernization at the signalized ramp intersections.
- **Mechanic Street, Morrell Street to Washington Avenue, City of Jackson.** Project Manager responsible for the development of detailed plans for reconstruction of 1.0 miles of this collector residential collector street. Complexities included unique parking considerations; access issues; driveway and sidewalk reconstruction and compliance with the Americans with Disabilities Act (ADA); maintaining traffic during construction; and coordination of replacement of City water main and sanitary sewer replacement as part of the project.
- **Davison Avenue, Livernois to M-10, City of Detroit**. Project Manager responsible for the development of detailed maintenance of traffic (MOT) plans for the replacement of DWSD water main as a subconsultant to CEA. The MOT plans were prepared in accordance with MDOT requirements as Davison Avenue is an MDOT trunkline roadway. New mains were to be placed on both sides of this multi-lane roadway with traffic shifted from one bound to the other to make connections between the parallel mains. Coordination with the Detroit TSC traffic staff was required and an MDOT permit was obtained. Provisions for maintaining pedestrian access was also accomplished.
- **Various Streets, City of Detroit.** Project Manager responsible for the development of detailed maintenance of traffic (MOT) plans for the replacement of DWSD water main as a subconsultant to PCM. The MOT plans were prepared for a variety of roadway facilities in accordance with Wayne County and MDOT requirements as. New mains were to be placed in various locations within the right-of-way with traffic shifted to accommodate construction. Coordination with the WCDPS traffic staff was required and WCDPS approval was obtained.
- **Maple Road at the CN Railroad, City of Birmingham, Michigan.** Project Manager responsible for all aspects of preparing log plans and details for installing crash attenuation at the pier locations within the influence of the road. Close coordination with City and railroad staff was required due to repairs of the bridge structure and funding requirements. Details for staging the construction activities and replacing pavement markings were also developed.*
- **Walton Boulevard, Perry to Squirrel, Road Commission for Oakland County, Oakland County, Michigan**. Project Manager responsible for the Environmental Assessment preparation and design plan preparation on this widening and reconstruction project. The project is being developed in coordination with and will match MDOT's bridge replacement project over I-75 to the west. It will connect to the existing boulevard east of Squirrel Road and involves the design of a narrow boulevard. Project involves resource agency coordination, a public hearing, right-of-way acquisition, maintenance of traffic, permanent signing and pavement marking, traffic signals, and utility coordination and relocations. *

MICHAEL LEUFFGEN, P.E.
SITE PLAN REVIEW

EDUCATION
B.S. Civil Engineering, Wayne State University, 2005

REGISTRATIONS
Professional Engineer Michigan #6201057281, 2010

AFFILIATIONS
Engineering Society of Detroit

TRAINING
MDEQ SESC Comprehensive

Mr. Leuffgen is currently the project manager and primary liaison for many projects in White Lake and Port Huron Townships. He has over 16 years of municipal engineering experience including transportation and non-motorized pathway and sidewalk engineering, water and sanitary sewer systems design, construction administration, and site plan review.

Mr. Leuffgen has recent experience in design and construction contract administration of utility improvements, including pumping station rehabilitation and pathways in various communities in southeast Michigan. Mr. Leuffgen has assisted numerous communities with the design and implementation of pathways and sidewalks to meet ADA requirements, which were constructed within public rights-of-way generally controlled by road commissions. He also performs site plan review for White Lake and Port Huron Townships.

RELEVANT EXPERIENCE

- **Municipal Engineer for White Lake Township, Michigan**. Engineer of record for municipal client from 2015 to present. Responsible for review of all development plans within Township and master planning/ reliability studies for sanitary sewer and watermain utilities.
- **Municipal Engineer for Port Huron Township, Michigan.** Engineer of record for municipal client from 2011 to present. Responsible for review of all development plans within Township and master planning/ reliability studies for sanitary sewer and watermain utilities.
- **Strawberry Lane Pumping Station and Forcemain Rehabilitation, Port Huron Township, Michigan.** Project Engineer/ Contract Administration. Project included design and construction of 5,300 of directionally drilled 10-inch diameter forcemain and rehabilitation of existing pump station to include an above ground pump house, new valves, meters, and control equipment. The design also integrated station control and SCADA equipment into the existing Township system.
- **Bakers Field Park Development, Port Huron Township, Michigan.** Project Engineer/ Contract Administration. Project consisted of developing a park focused on recreational facilities that are handicap accessible. Accessible recreational facilities include a fishing pier, boat launch and kayak launch on the Black River, 2,000 feet of pathway, and picnic areas. 2011. Total Project Cost of $800,000.
- **Waterford Township State Revolving Fund (SRF) Loan Pumping Station Rehabilitation Project, Waterford Township, Michigan.** Project Engineer/Contract Administration. Project included complete rehabilitation of 11 sanitary sewage pump stations including new pumps, control buildings, new controls and instrumentation, connections for portable emergency pump and coordination with the Township's SCADA system. Project also included meeting all Michigan Department of Environmental Quality SRF loan requirements and milestone dates.
- **Castlewood Sanitary Sewer S.A.D., White Lake Township, Michigan**. Project Engineer/ Contract Administration. Project consisted of approximately 6,700 feet of low-pressure sewer within a dense lakefront residential community. Project was funded by a Special Assessment District. 2017. Total Project Cost of $470,000.
- **White Lake Township SAW Grant, White Lake, Michigan.** Project Engineer. Perform condition assessment on split gravity and low pressure sanitary sewer infrastructure. Complete business risk evaluation and form capital improvement plan for a 20 year forecast. 2019. Total Grant Amount $510,000.
- **Port Huron Township SAW Grant, Port Huron Township, Michigan.** Project Engineer. Perform condition assessment on approximately 70 miles of sanitary sewer infrastructure. Complete business risk evaluation and form capital improvement plan for a 20 year forecast. 2017. Total Grant Amount $1,400,000.
- **Rehabilitation of 11 Sanitary Sewer Pumping Stations, Pontiac, Michigan**. Project Engineer/Contract Administration. Projects included pump replacements, SCADA RTU installation, control modifications, and pump building roof and structure renovations. Project consisting of assessment of existing facilities, determining scope of rehabilitation, design of mechanical systems, pump sizing, site restoration design. The project was funded with a SRF loan through the State of Michigan. 2010. Construction Cost of $4.5M.

LAURA GRUZWALSKI
Parks and Project Financing

Ms. Gruzwalski has more than 19 years of experience in private consulting, specializing in project management, storm water management, asset management, MS4 program assistance, park improvements planning and design, and funding assistance and administration.

EDUCATION
B.S. Environmental Science, Lake Superior University, 1998

CERTIFICATIONS
Illicit Discharge Elimination Training Certification, March 2012
Certified Storm Water Operator, Industrial Sites, May 2016
Michigan Shoreline Educator Training, April 2017
Certified Storm Water Operator, Construction Sites, January 2019

AFFILIATIONS
Michigan Water Environment Association (MWEA)

RELEVANT EXPERIENCE

- **City of Madison Heights Wildwood Park Improvements Project, Madison Heights, Michigan**. Project Manager. Assisted the City with the development of an MDNR Recreation Passport Grant Application, with project design, and grant and budget administration.
- **Independence Township Wellhead Protection Program, Independence Township, Michigan**. Project Manager. Develops grant applications and administers the annual grant implementation program for the Township. Administers Wellhead Protection Team meetings, submits quarterly reports and disbursement requests to EGLE.
- **SEMCOG Green Infrastructure Grant Implementation Program, City of Madison Heights, Michigan**. Project Manager. Developed a grant application for a series of rain garden installations at the City's Civic Center Park. Currently providing grant administration and engineering services on the project.
- **West Bloomfield Township Water and Sewer Site Improvements, West Bloomfield Township, Michigan**. Project Manager. Designed storm water management enhancements to the existing site, including vegetated swales and permeable bituminous pavement.
- **City of Bloomfield Hills Bioswale Project, Bloomfield Hills, Michigan.** Project Manager. Work provided for this project included grant application and administration for the installation of native plantings.
- **Port of Monroe Storm Water Management, Monroe, Michigan**. Project Manager. Assisted with the development of a Pollution Incident Prevention Plan (PIPP) for salt storage at the port; conducted monthly PIPP inspections on site; administered good housekeeping and pollution prevention operations for salt and gypsum storage and transport.
- **White Lake Township SAW Grant Implementation, Rochester, Michigan.** Project Manager. Assisting the Township with the development of a GIS map, development of Level of Service (LOS) Goals, and integrating their sanitary sewer infrastructure and providing services relating to the Township's Fats, Oils, and Grease (FOG) program, including inspections, community engagement, and public education. Grant budget administration and coordination with EGLE.
- **City of Flint SAW Grant Implementation, Flint, Michigan.** Project Manager. Storm outfall inventories and investigations, administering the grant budget, developing meeting agendas and minutes, coordination with MDEQ, and development of Level of Service (LOS) Goals.
- **City of Rochester SAW Grant Implementation, Rochester, Michigan**. Project Manager. Assisted the City with the development of a GIS map, development of Level of Service (LOS) Goals, and integrating their storm sewer infrastructure and providing services relating to the City's Fats, Oils, and Grease (FOG) program, including inspections, community engagement, and public education.
- **Port Huron Charter Township SAW Grant Implementation, Port Huron, Michigan.** Project Manager. Assisted the Township with the development of a GIS map, integrating their storm sewer infrastructure and providing services relating to the Township's Fats, Oils, and Grease (FOG) program, including public education.
- **City of Rochester, Oils, and Grease (FOG) Program Development & Implementation, Rochester, Michigan**. Project Manager. Assisting the City with FOG inspections, reporting, Cityworks edits, correspondence with FOG property owners, and public education.
- **White Lake Township Fats, Oils, and Grease (FOG) Program Development & Implementation, White Lake, Michigan**. Project Manager. Assisted the City with FOG inspections, reporting, Cityworks edits, correspondence with FOG property owners, and public education.
- **Site Drainage Investigations, West Bloomfield Township, Michigan.** Project Manager. Performed site drainage complaint investigations, provided recommendations to Township residents, coordinated issues with contractors and Township staff, and developed code enforcement letters as needed.

ROBERT SHERMAN, RLA
LANDSCAPE ARCHITECT

EDUCATION

B.L.A. Landscape Architecture, Michigan State University, 1994

REGISTRATIONS

Landscape Architect Michigan #3901001337, 2002

CERTIFICATIONS

Council of Landscape Architectural Registration Boards (CLARB), Council Record # 40449, 2012

Michigan Department of Transportation (MDEQ) Storm Water Management – Construction Site, Expires 2021

Mr. Sherman has more than 25 years of experience in site planning, design and construction inspection experience on various projects for local and state governmental jurisdictions, transit agencies, universities, private developers, as well as collaboration with architects, engineers and environmental scientists. His responsibilities include involvement in all phases of project development, client involvement, initial programming and planning through design development, construction documents and construction administration. Common project work tasks include site layout, construction detailing, grading, civil design of site utilities, planting design and construction cost estimating. Throughout the course of his career, he has designed and managed a cross-section of projects, which include land development, educational facilities, college campuses, public transit facilities, community parks, and highway landscaping.

RELEVANT EXPERIENCE

- **Kalamazoo Department of Public Safety, Station No. 2, Kalamazoo, Michigan.** Landscape Architect. Site planning and preparation of design and construction bid documents associated with the new fire station. Design of the new station included locating the building and site program, fire apparatus and vehicular circulation, parking, sidewalks, extensive earthwork, grading and coordinating storm drainage, and landscape plantings.
- **Williamston Department of Public Works Facility Addition and Renovation, Williamston, Michigan**. Project Manager/ Site Designer. DLZ partnered with Laux Construction to assist the City of Williamston in consolidating and improving their operations at their existing public works facility. DLZ worked closely with the City's Engineer to prepare schematic drawings to renovate their existing building, including a 10,000 square foot building addition for vehicle storage; a new outbuilding; and reorganize the site parking, circulation, and storm water management. DLZ provided professional design services, which included architecture, survey, site and civil design, landscaping, wetland delineation, site plan review, permit assistance, construction staking, and construction administration.
- **Fire Station and Service Department, Village of Newburgh Heights, Ohio**. Site Designer. Responsible for preparing site design and construction documents to renovate the existing site pavement, reconfigure the drive approach, replace existing utility services, and provide parking improvements. DLZ was commissioned to provide complete architecture and engineering services associated with the renovation and conversion of a former warehouse into a new fire station and service department facility. The 12,925 square foot building is located on a limited urban site. The existing fire department facility had deteriorated and no longer met the needs of the Fire Department.
- **Keller Road Landscape Screening, Delhi Township DDA, Holt Michigan.** Project Manager. Developed plans for installation of roadside landscaping along the south side of Keller Road to screen views from the roadway to an existing warehouse and trucking facility owned by DART Development. The planting design for this project included low maintenance trees and shrubs suitable for the roadside environment.
- **Meridian Central Fire Station No. 91, Charter Township of Meridian, Okemos, Michigan**. Landscape Architect. Designed proposed grading and new underground utilities, including storm sewer, sanitary sewer, and water service. Provided stormwater management for the site and assisted with construction documents. DLZ provided full service architecture and engineering design associated with a new five-bay, 15,000 square-foot fire station in Okemos, Michigan. Project space program includes apparatus bays, administrative offices, living quarters, locker rooms, fitness room, and a community training classroom. Project includes complete site development of a new site including parking, vehicular site circulation, stormwater management, site utilities, landscaping, site lighting, and other site improvements.
- **Flint Park Lake Development, Flint, Michigan.** Landscape Architect and Construction Oversight for preparation of conceptual plans, recreation grant application and construction documents for development of Phase II of Flint Park Lake development. Plans included fishing pier, boat ramp, picnic shelter, non-motorized path, parking lot, landscaping, and site improvements.

ERIC BEAULIEU, AIA, LEED AP
ARCHITECT

Mr. Beaulieu's 19 years of experience includes project management, design, preparation of construction documents, multi-discipline coordination, code analysis, cost analysis, bidding, and construction administration. Mr. Beaulieu has acquired experience in a wide variety of project types including renovations and new construction of all sizes and levels of complexity. Most notably, his architectural experience includes projects for a broad range of federal, state, and local public agencies. Mr. Beaulieu contributes a significant role to the project team and offers a practical and proactive approach to problem solving and project coordination.

EDUCATION

Master of Architecture, College of Architecture and Design, Lawrence Technological University, 2003

B. S. Architecture, College of Architecture and Design, Lawrence Technological University, 1999

REGISTRATIONS

Registered Architect: MI #1301052443

CERTIFICATIONS

LEED Accredited, U.S. Green Building Council, 2009

National Council of Architectural Registration Boards (NCARB), #60222

AFFILIATIONS

American Institute of Architects

Association of Licensed Architects

RELEVANT EXPERIENCE

- **Lansing City Hall Space Planning and Facility Assessment Study, Lansing, Michigan**. Project Manager, Architect.
- **Williamston Department of Public Works Facility Addition and Renovation, Williamston, Michigan.** Design-Build with Laux Construction. Architect.
- **City of Grand Rapids As-Needed Architecture/Engineering Service Contract, Grand Rapids, Michigan.** Project Manager, Quality Manager.
- **Grand Rapids Roof Asset Management Program**. Quality Manager.
- **South Bend Water Works North Pumping Station; Historic Roof Restoration, South Bend, Indiana**. Project Manager, Architect.
- **Detroit DWSD Springwells Water Treatment Plan, 1958 Filter Rehabilitation and Auxiliary Facilities Improvements, Dearborn, Michigan.** Quality Control.
- **Town of Schererville WWTP, Headworks Building, Schererville, Indiana**. Architect.
- **Valparaiso City Utilities; Elden Kuehl Pollution Control Facility WWTP, Main Control Building Addition and Renovation, Valparaiso, Indiana.** Project Manager, Architect.
- **West Bloomfield Township Fire Station #3, West Bloomfield, Michigan.** Project Manager.
- **Meridian Charter Township Central Fire Station No. 91, Okemos, Michigan.** Project Manager, Architect.
- **Williamston Police Station, Williamston, Michigan**. Design-Build with Laux Construction. Architect.
- **Mishawaka Fire Station No. 4, Mishawaka, Indiana.** Project Manager, Architect.
- **Pulaski Park Recreation Building, Hammond, Indiana.** Architect.
- **Hermits Park Concessions and Pressbox Building, Hammond, Indiana.** Architect.
- **Hessville Youth Soccer Complex, Concessions Building, Hammond, Indiana.** Architect.
- **Elkhart Highdive Park Restroom and Storage Building, Elkhart, Indiana.** Architect.
- **Hums Park Shelter & Bennington Drive Extension; Mishawaka, Indiana.** Architect.
- **Tod Park Site Improvements, Park Pavilion Restrooms and Concessions, East Chicago, Indiana.** Architect.
- **Caldwell Park Concessions and Pressbox Buildings, Hammond, Indiana**. Architect.
- **Hammond Parks Department, Pool Bath House Building Assessments, Hammond, Indiana**. Architect.
- **Founder's Square Park, City of Portage Redevelopment Commission, Portage, Indiana**. Architect.
- **Ingham County Fairgrounds Main Arena Renovations, Mason, Michigan.** Architect.
- **Porter County, Historic Old Jail Museum, Fire Alarm and Security System Replacement, Valparaiso, Indiana**. Project Manager.
- **Porter County Fairgrounds, Exposition Center Fire Alarm System Replacement, Valparaiso, Indiana**. Project Manager.
- **Michigan Department of Transportation, Metro Region Office Renovation, Southfield, Michigan.** Design-Build with L.D. Docsa and Associates. Architect.
- **Michigan Department of Transportation, Bureau of Field Services Combined Facility Programming and Feasibility Study, Lansing, Michigan.** Project Manager, Architect.

KRISTIN GOETZE, P.E.
UTILITIES ENGINEER

EDUCATION
B.S. Civil Engineering, Michigan Technological University, 1981

REGISTRATIONS
Professional Engineer
MI #6201034013, 1988

AFFILIATIONS
American Water Works Association

TRAINING
Risk Assessment Methodology

Studies in Water and Wastewater Security using VSAT™

Ms. Goetze has more than 38 years of experience. Her area of expertise is water distribution, sewage collection and hydraulic modeling of those systems. She has authored numerous water system reliability studies, water and sewer system master plans, and Drinking Water and State Revolving Fund Project Plans. She has also developed plans and specifications for DWRF water main rehabilitation projects and water meter replacement projects and completed construction contract management/ administration for the projects.

RELEVANT EXPERIENCE

- **Bay City Drinking Water Revolving Fund Project, Bay City, Michigan.** Project Engineer/ Manager. Project Plan development to include lead service line replacements throughout the city, water main replacement to eliminate lead mains in the system, and hydro-excavation to determine existing lead service line locations. Plans and specifications developed for all projects once DWRF project plan was approved.
- **White Lake Township Drinking Water Revolving Fund Project Plan, White Lake Township, Michigan.** Project Engineer for the development of a DWRF Project Plan that included a new 6,200 gpd iron filtration plant and 11,650 of 12-inch diameter water transmission main to fed treated water to a Huron Valley Schools complex.
- **Waterford Township Drinking Water Revolving Fund Project, Waterford Township, Michigan.** Project Engineer/Manager. Plan development and implementation, design engineering, plans and specification development, bidding, and construction contract administration for lining 11,400 feet of 8-inch water main, replacement of 8,600 feet of 6-inch water main with directionally drilled 8-inch water main and installation of 18,000 residential water meters.
- **White Lake Township Drinking Water Revolving Fund Project, White Lake Township, Michigan**. Project Engineer. Plan development and implementation to include a 16-inch water main connection, booster pumping station to improve water quality by filling existing elevated storage with lower iron content water during off peak hours, and an emergency connection to adjacent township's water system. Construction contract administration for three DWRF loan projects with American Recovery and Reinvestment Act monies and requirements.
- **City of Rochester Wellhead Protection Program Grant, Rochester, Michigan.** Project Engineer for the development of the Wellhead Protection Program Grant application and grant implementation. Facilitated wellhead protect team development and quarterly meetings, the wellhead protection area delineation, public education, contaminant inventory, and grant reporting.
- **City of Royal Oak Safe Drinking Water Act, Royal Oak, Michigan.** Project Engineer for development of Water System Reliability Study to meet Michigan Safe Drinking Water Act requirements for the City. Project included hydraulic model development, GIS general water system plan development, hydrant flow testing, model calibration, demand development and allocation, recommended system improvements, cost estimates for improvements, and Capital Improvement Plan development.
- **City of Rochester Water System Reports, Rochester, Michigan**. Project Engineer for development of Water System Reliability Study, Water System Master Plan, and Water Asset Management Plan to meet Michigan Safe Drinking Water Act requirements for the City of Rochester. Projects comprised hydraulic model development to include both a ground water fed system and Great Lakes Water Authority fed system, hydrant flow testing, model calibration, demand development and allocation, recommended system improvements, cost estimates for improvements, Capital Improvement Plan development, and rate study to meet all Michigan Department of Environment, Great Lakes, and Energy (EGLE) requirements.
- **City of Rochester, Drinking Water Revolving Fund Project, Rochester, Michigan.** Project Engineer/Project Manager for the development of a DWRF Project Plan to meet all Michigan Department of Environmental Quality (MDEQ) now EGLE), requirements that presented three projects in the selected alternative – transmission and distribution main pre-chlorinated pipe bursting and distribution main replacement using open cut. Plans and specifications were developed for all projects meeting all deadlines and requirements of EGLE.

MARK MATTSON. P.E.
UTILITIES ENGINEER

EDUCATION
B.S. Civil Engineering, Michigan Technological University, 1995

REGISTRATIONS
Professional Engineer
MI #6201048114, 2001

CERTIFICATIONS
NCEES Record, 2011, #44543

AFFILIATIONS
American Water works Association

Water Environment Federation

Mr. Mattson has nearly 25 years of experience in the consulting field serving clients in both the rural markets of Michigan, as well as those in urban Southeast Michigan. He has managed, designed, inspected and surveyed projects involving streets, water, wastewater and storm water including the design of water systems, wastewater collection systems, and storm water collection and retention/detention systems.

RELEVANT EXPERIENCE

- **Oakland County Water Resources Commissioner, Replacement of Walnut #3 Pumping Station, Bloomfield Township, Michigan.** Senior Project Manager. Under our as-needed services contract with the OCWRC, DLZ has been tasked with the design for the replacement of the Walnut #3 lift station located in Bloomfield Township Michigan. This station will utilize submersible pumps and a small utility building to house the valving and electrical controls equipment. The pump station is expected to be rated for a maximum capacity of 500 GPM.
- **Pumping Stations #1 and #3 Replacement, West Bloomfield Township, Michigan.** Senior Project Manager. DLZ has been contracted to design replacement lift stations #1 and #3 for the Charter Township of West Bloomfield. Both stations will utilize submersible pumps, and above ground unit masonry buildings to house the valving, metering, and electrical controls equipment. Lift station #1 has a maximum capacity of 2,600 GPM, and lift station #3 will have a maximum capacity of 1,600 GPM.
- **Waldo Avenue Road, Watermain and Sanitary Sewer Design, Midland, Michigan.** Project Manager/Lead Utility Engineer. Directed design of road reconstruction, watermain design, and sanitary sewer improvements. Project also included pump station design and drainage improvements.
- **Oakland County Water Resources Commissioner, As-Needed Professional Services, Various Locations in Oakland County, Michigan**. Project Manager. Mr. Mattson performs project management tasks for this project and is also involved in the asset review for the work in Walled Lake. Since 2012, DLZ has been providing the Oakland County Water Resources Commissioner (WRC) with professional services related to asset management. DLZ was initially tasked with information technology projects related to system GIS, the Computerized Maintenance Management System (CMMS), and WinCAN Televising software. DLZ also worked with our partner, CH2M to develop the WRC asset management templates, and was also tasked with the implementation of the asset management plan for the City of Walled Lake completed in May of 2017.
- **Williamston Department of Public Works Facility Addition and Renovation, Williamston, Michigan.** Civil Engineer. Building/site improvements at their existing Department of Public Works (DPW) facilities. Renovation of the existing office and vehicle storage areas, approximately 10,000 square feet, includes modifying office and training room sizes/ relocating walls, upgrading finishes, upgrading lighting, reconfiguring the restrooms and adding locker room and shower facilities, additional floor drainage/ oil water separator/upgrade ventilation at the garage, adding maintenance bay area with lifts, and mezzanine improvements.
- **East 140th Consolidation and Relief Sewer, Northeast Ohio Regional Sewer District, Cleveland, Ohio.** Senior Project Engineer. The proposed project will capture Combined Sewer Separation (CSO) at two outfalls, and provide surcharge relief for an existing interceptor. The intended system will relieve a complex system of separate and combined sewers, and regulator structures. Responsible for the design and modification of over 30 CSO regulators in the project area, including the necessary hydraulic control structures (weirs) and relief sewers, and also reviewed and interpreted SWMM modeling results in support of this design. This project is in construction, with a construction value of $69 Million.

TIMOTHY WEIR, P.S.
SURVEY/CAD

Mr. Weir has more than 24 years of experience in survey engineering and CAD.

EDUCATION

B.S. Surveying Engineering, Ferris State University, 1999

B.S. Ecology & Evolutionary Biology, Michigan State University, 1995

REGISTRATIONS

Professional Land Surveyor
MI #6201050457, 2003

AFFILIATIONS

Michigan Society of Professional Surveyors (MSPS)

National Society of Professional Surveyors (NSPS)

International Right of Way Association (IRWA)

National Institute of Building Sciences (NIBS)

Lambda Sigma – Surveying Honor Society

RELEVANT EXPERIENCE

- **City of Flint SAW Grant Implementation, Flint, Michigan.** Project Surveyor. Coordinating the mapping of over 35,000 sanitary and storm sewer manholes and catch basins. Oversee NASSCO Level 1 inspections of the sanitary sewer manholes. Assist with GIS and CMMS construction and development.
- **GIS Data Collection of Utility Assets, Sterling Heights, Michigan.** Project Surveyor. Coordinated the locating and mapping of over 34,000 sanitary, storm and water features. Assisted the project team in implementing the geodatabase attribute updates in GIS along with QA/QC procedures.
- **West Bloomfield Water Asset Management Plan (WAMP), West Bloomfield, Michigan.** Project Surveyor. Coordinated the mapping of over 10,000 water main features. Assist in the construction of the base utility information in GIS.
- **West Bloomfield Water Utilities Department Facilities, West Bloomfield, Michigan.** Project Surveyor. Mapped the existing site and oversaw construction layout. Assisted Township in transferring property from a dissolved Township Entity to the Charter Township of West Bloomfield. Worked closely with the title company to transfer the property for final site and engineering plan approval.
- **City of Pontiac Geospatial, Asset and Document Management, Pontiac, Michigan.** Project Surveyor. Consulting services - coordinated the mapping of over 5,000 storm sewer features throughout the city limits and assisted in the construction of the base information in GIS and CMMS.
- **West Bloomfield Pump Station 2, West Bloomfield, Michigan.** Project Surveyor. Performed all aspects of site mapping from document research to final layout. Created easement exhibits and assisted with easement acquisition.
- **GIS Data Entry, Hydraulic Water Model and System Reliability Study, Royal Oak, Michigan.** Project Surveyor. GIS Data Entry, Hydraulic Water Model and System Reliability Study. Coordinated the Locating and Mapping, with GPS, of over 10,000 utility features within a 6-week period between snow melt and leaf. Assisted GIS staff in the implementation and construction of Royal Oak's GIS utility network.
- **Laketon Township Sanitary Sewer Asset Management Plan, Laketon Township, Michigan.** Project Surveyor. Manhole Assessments. Manage the locating and inspection of 150 sanitary manholes according to the NASSCO standards. Provided location of manholes and import into GIS for future asset management project.
- **Egelston Township SAW Grant Implementation, Egelston Township, Michigan**. Project Surveyor. Managed the mapping of over 400 sanitary sewer manholes. Coordinated GIS Staff for data insertion into future/present asset management component.
- **City of Rochester Asset Management Project for Sanitary Infrastructure, Rochester, Michigan**. Project Surveyor. Manage the locating and inspection of over 300 sanitary manholes according to the NASSCO standards. Provided location of manholes and import into GIS for future asset management project.
- **Boundary and Topographic Map for Proposed Bakers Field Park, Port Huron, Michigan.** Project Surveyor. Consisted of mapping 50 plus acres of land adjacent to the Black River. Mapped the floodplain contour, wetland flags and cross sectioned the Black River for boat launch calculations. Provide conversion from NGVD 1929 to IGLD 1985 for Army Corps of Engineering Review. Site located in Port Huron Township, Michigan.
- **Oakland County Water Resource Commission, City of Pontiac Water Main Replacement Project, Pontiac, Michigan.** Project Surveyor. Mapped over 4 miles of urban roadway for water main replacement. Managed the CAD reduction and final plan creation in Civil 3D 2016.
- **Reeths Puffer School District Safe Routes 2 School Sidewalk, Laketon Township, Michigan.** Project Surveyor. Coordinated the mapping of 1.3 miles of road way for new sidewalk. Reviewed over 30 easement exhibits.

GREAT LAKES ENGINEERING GROUP, LLC

STAFF EDUCATION AND EXPERIENCE REPORT

NAME	TITLE	ROLE ON THIS SERVICE
Brian Morley, P.E.	Construction Project Manager	Engineering Assistance

COMPANY NAME	YEARS OF EXPERIENCE
Great Lakes Engineering Group, LLC	**6** with company **11** with other consultant/vendors

EDUCATION

Master of Science, Civil Engineering – Wayne State University – 2008
Bachelor of Science, Civil Engineering – Michigan State University - 2003

LICENSES & REGISTRATIONS

Professional Engineer, State of MI - #6201055736	MDOT-Prevailing Wage Rate
DEQ-Certified Storm Water Operator	Bridge Paint-OSHA Lead Abatement
MDOT-Bridge Paint School	Nuclear Gauge Safety Training
MDOT-Computerized Office Technician	Nuclear Hazmat Certification
MDOT-Materials Acceptance	ACEC-Emerging Leaders Program

SPECIFIC EXPERIENCE

KEY			
	1: General description of service 2: Role of person in the service 3: Service budget	4: Year service was completed 5: Name of client 6: Role of submitting firm in the service	7: Name & phone number of client contact 8: Construction budget

PROJECT ID

JN 119803; Bridge Reconstruction on I-75, State Line to Erie, Monroe County; MDOT Brighton TSC

ROLE & DESCRIPTION OF SERVICE

3: $3,000,000 4: Present 6: Prime Consultant-Bridges Only 8: $115 Million	1: .06 mi of roadway reconstruction, concrete curb, gutter, siewalk and driveway, drainage, sewer, culverts, shoulder corrugations, signing, reconstruction of 9 s tructures with prestressed concrete bulb-tee, concrete I-beams, steel beams and precast concrete box culverts, rehab of 2 structures including sheet piling, cofferdams, st eel piles, deep overlay and patching, bridge barrier replacement and approach work on I-75 Monroe County. 2: Bridge Only-Project Engineer 5: Brighton TSC 7: Jim Daavettila, PE

PROJECT ID

JN 126888; Bridge Rehabilitation on Cleveland and Glenlord over I-94; MDOT Coloma TSC

ROLE & DESCRIPTION OF SERVICE

3: $450,000 4: 2019 6: Prime Consultant 8: $3 Million	1: Bridge rehabilitation including deck patching, epoxy overlay, deep overlay, painting bearings, concrete beam patching, substructure repair, steel beam end repair, pin and hanger replacement, thrie beam retrofit, concrete surface coating, full structural steel paint, pack rust repair on I-94 at Glenlord Road and at Cleveland Avenue, Berrien County. 2: Project Engineer 5: Coloma TSC 7: Chris Jacobs, PE 269.207.1928

PROJECT ID

JN 129569, MDOT Full CE Freeway Signing Upgrade; MDOT Grand Rapids TSC

ROLE & DESCRIPTION OF SERVICE

3: $1,800,000 4: 2019-Present 6: Prime Consultant 8. $274,000	1: 19.70 mi of freeway sign upgrading and delineator installations along M-6 from I-196 to I-96, Ottawa and Kent Counties.2: Project Engineer 5: MDOT Grand Rapids TSC 7: Kara Stein, PE

PROJECT ID

JN 118729, MDOT Full CE Freeway Signing Upgrade; MDOT Grand Rapids TSC

ROLE & DESCRIPTION OF SERVICE

3: $2,020,000 4: 2018-Present 6: Prime Consultant 8. $299,000	1: 13.04 mi of freeway sign upgrading, delineator installations, steel sheet piling, drilled shaft construction and concrete glare screen along I-196 from 8th Avenue to east of Fuller Avenue, Ottawa and Kent Counties. 2: Project Engineer 5: MDOT Grand Rapids TSC 7: Kara Stein, PE

PROJECT ID

JN 116287, Various; As Needed Road & Bridge Construction Engineering on I-75; MDOT Taylor TSC

ROLE & DESCRIPTION OF SERVICE

STAFF EDUCATION AND EXPERIENCE REPORT
Brian Morley, PE

3: $6,500,000 4: 2017-2018 6: Prime Consultant 8. $200 Million	1: 4.41 mi of concrete pavement and joint repairs, bridge approach, concrete barrier replacement, attenuator replacement, full bridge painting, tree removal, bridge rehabilitation on 6 structures, permanent lighting, pin and hanger replacement, backwall replacement, filler wall work, structural steel repairs, noise barriers, 0.63 mi of roadway reconstruction, various locations on I-75 in Wayne County. 2: Engineering Assistance 5: MDOT Taylor TSC 7: Adam Penzenstadler, PE
PROJECT ID	
JN 122124; Road Construction Engineering; M-25 Cold Milling and Resurfacing; Bay City TSC	
ROLE & DESCRIPTION OF SERVICE	
3: $98,000 4: 2015 6: Prime Consultant 8: $1.7 Million	1: 11.25 mi of hot mix asphalt cold milling and resurfacing with shoulder widening, detail 7 & 8 joint repairs & pavement markings on M-25 from Cecelia Drive east to Nolet Road, Bay County. Cold Mill existing 2-3 lane pavements, turn lanes shall be cold milled to their existing width, resurface the entire 6.68 mi of pavement. 4.57 mi of trenching & HMA shoulder widening. 2: Project Engineer 5: MDOT Bay City TSC 7: Brian Ulman, PE, 989.671.1555
PROJECT ID	
JN 79447; Road and Bridge Construction Engineering; M-11 and I-196, MDOT Grand Rapids TSC	
ROLE & DESCRIPTION OF SERVICE	
3: $450,000 4: 2015 6: Prime 8: $3.2 Million	1: Bridge rehabilitation work on 6 structures along I-196 including deep and full depth deck patches, welded repairs, substructure repairs, thrie beam retrofit, pin and hanger replacement, temp supports, zone and full bridge painting, bearing replacements, and concrete approach replacement in the cities of Grandville and Wyoming, Kent County. 2: Assistant Project Engineer 5: MDOT Grand Rapids TSC 7: Tom Tellier 616-464-1800
PROJECT ID	
JN 115735; Bridge Construction Engineering; Poseyville over Tittawabasee River, City of Midland	
ROLE & DESCRIPTION OF SERVICE	
3: $110,000 4: 2015 6: Prime 8: $1.7 Million	1: Deep and full depth concrete deck patching, epoxy overlay, ~700 ft of longitudinal expansion joint device replacement, concrete approach pavement, and full structural steel painting of the beam over 7 spans on the Poseyville bridge over the Tittabawassee River in city of Midland. 2: Project Engineer 5: Midland 7: Brian McManus 989.837.3353
PROJECT ID	
JN 119041; Bridge Construction Engineering; I-375 & Mack Ave over I-75, Bridge Rehabilitation, Detroit TSC	
ROLE & DESCRIPTION OF SERVICE	
3: $75,000 4: 2013 6: Prime Consultant 8: $670,000	1: I-375 Northwest Turn Road over I-75 and Ramp and Mack Avenue and Mack Avenue over I-75. Pier replacement, structural steel repairs, temporary supports, substructure patching, beam end repairs, H-Bearing repair, partial clean and coat structural steel. 2: Project Engineer 5: MDOT Detroit TSC 7: Bonnie Yu, PE, 313.967.5412
PROJECT ID	
JN 79694; Bridge Construction Engineering; I-275 reconstruction of 34 Bridges; Taylor TSC	
ROLE & DESCRIPTION OF SERVICE	
3: $2,600,000 4: 2012 6: Prime Consultant 8: $25 Million	1: Bridge reconstruction of 34 bridges on I-275 from 6 Mile Rd to Hannan Rd in Wayne County. Project included superstructure and deck replacements, widening superstructures and substructure units, temporary supports, steel sheet piling, pin and hanger replacements, hydro and concrete deep overlays, healer sealer applications, concrete approaches, guardrail, full and partial bridge painting. 2: Assistant Project Engineer 5: MDOT Taylor TSC 7: Adam Penzenstadler, PE

GREAT LAKES ENGINEERING GROUP, LLC

STAFF EDUCATION AND EXPERIENCE REPORT

NAME	TITLE	ROLE ON THIS SERVICE
Bryan Daavettila	Construction Technician I	Construction Inspector

COMPANY NAME	YEARS OF EXPERIENCE
Great Lakes Engineering Group, LLC	5 with company 2 with other consultant/vendors

EDUCATION

Bachelor of Science, Michigan Technological University, 2014, Houghton, MI

LICENSES & REGISTRATIONS

NHI #130101 Introduction to Safety Inspection of In-Service Bridges – Web Based	MCA-Concrete Technician Level I
NHI #130055 Safety Inspection of In-Service Bridges	ACI-Concrete Field Testing Technician Grade I
MDOT-Density Technician	Bridge Paint-OSHA Lead Abatement
MDOT-Aggregate Technician	MDOT-Bridge Paint School
	MDOT-Bridge Deck Construction and Rehab.Course

SPECIFIC EXPERIENCE

KEY			
	1: General description of service 2: Role of person in the service 3: Service budget	4: Year service was completed 5: Name of client 6: Role of submitting firm in the service	7: Name & phone number of client contact 8: Construction budget

PROJECT ID

JN 113127, Various; As Needed Bridge Construction Engineering on I-94 Mega Project; MDOT Detroit TSC

ROLE & DESCRIPTION OF SERVICE

3: $350,000 4: 2019-Present 6: Sub Consultant 8. $ 17.6 Million	1: 0.80 mi of replacement of two structures with 42 inch by 49 inch and 48 inch by 49 inch concrete bulb tee beams, concrete curb, gutter, sidewalk, driveway opening, sewer, drainage, guardrail, steel piles, sheet piling, approach work, signage and pavement markings on I-94 at French Road and Concord Avenue in the city of Detroit, Wayne County. This project includes two 5 year materials and workmanship pavement warranties and a 2 year warranty on concrete surface coating. 2. Bridge Construction Inspector 5. MDOT Detroit TSC 7. Victor Judnic, P.E.

PROJECT ID

JN 116287, Various; As Needed Road & Bridge Construction Engineering on I-75; MDOT Taylor TSC

ROLE & DESCRIPTION OF SERVICE

3: $6,500,000 4: 2017-2018 6: Prime Consultant 8. $200 Million	1: 4.41 mi of concrete pavement and joint repairs, bridge approach, concrete barrier replacement, attenuator replacement, full bridge painting, tree removal, bridge rehabilitation on 6 structures, permanent lighting, pin and hanger replacement, backwall replacement, filler wall work, structural steel repairs noise barriers, 0.63 mi of roadway reconstruction, various locations on I-75 in Wayne County. 2: Bridge Construction Inspector 5: MDOT Taylor TSC 7: Adam Penzenstadler, PE

PROJECT ID

JN 112221; As Needed Road & Bridge Construction Engineering on I-275; MDOT Taylor TSC

ROLE & DESCRIPTION OF SERVICE

3: $1.25 million 4: 2016 6: Prime Consultant 8. $75 Million	1: 7.25 mi of concrete inlay, concrete pavement repairs, detail 7 joint repairs, hot mix asphalt cold milling and resurfacing, epoxy overlay, guardrail, ditch cleaning, permanent pavement markings, signing, ITS infrastructure and device installation, deep overlay, substructure repairs, approach work, bridge rehabilitation, and maintaining of traffic on I-275 from the I-96/I-696/M-5 interchange southerly to north of 5 Mile Road and onI-696 from the I-96/M-5/I-275 interchange to Telegraph Road, Oakland and Wayne Counties. 2: Bridge Construction Inspector 5: MDOT Taylor TSC 7: Adam Penzenstadler P.E., 313.375.2400

PROJECT ID

Wayne County Control No 37-15-055: Structural, Mechanical and Electrical Repairs to the Jefferson West Bascule Bridge Over the Rouge River (Phase 3), Wayne County

ROLE & DESCRIPTION OF SERVICE

STAFF EDUCATION AND EXPERIENCE REPORT
Bryan Daavettila

3: $114,000 4: 2015 6: Sub Consultant 8: $18 Million	1: Remove/replace structural steel, mechanical and electrical systems repairs, bridge span and machinery realignment, concrete repair to the river pit wall and other bridge concrete, partial blast cleaning and painting, and all together with necessary related work, to restore the bridge to working order. This bridge is on the border of the Cities of Detroit and River Rouge 2: Construction Inspector 5: HNTB 7: Victor Judnic, P.E.
PROJECT ID JN 79447; Road and Bridge Construction Engineering; M-11 and I-196, MDOT Grand Rapids TSC	
ROLE & DESCRIPTION OF SERVICE	
3: $450,000 4: 2015 6: Prime 8: $3.2 Million	1: 0.23 mi of full-depth concrete pavement reconstruction, concrete curb, gutter and sidewalk, guardrail, underdrains, signals, slope restoration, permanent pavement markings, deep overlay, bearing replacement, structural steel bolted and welded repairs, thrie beam retrofit, zone painting, and approach work on M-11 from Indian Mounds Road east to east of Church Street and on I-196 from M-11 to the abandoned RR, Kent County. 2: Construction Inspector 5: MDOT Grand Rapids TSC 7: Tom Tellier 616-464-1800
PROJECT ID JN 115735; Bridge Construction Engineering; Poseyville over Tittawabasee River, City of Midland	
ROLE & DESCRIPTION OF SERVICE	
3: $110,000 4: 2015 6: Prime 8: $1.7 Million	1: Concrete patching, epoxy overlay, ~700 ft of longitudinal expansion joint device replacement, concrete approach pavement, and full structural steel painting of the beam over 7 spans on the Poseyville bridge over the Tittabawassee River in the city of Midland, Midland County.2: Construction Inspector 5: City of Midland 7: Brian McManus 989.837.3353
PROJECT ID JN 122124; Road Construction Engineering; M-25 Cold Milling and Resurfacing; Bay City TSC	
ROLE & DESCRIPTION OF SERVICE	
3: $98,000 4: 2015 6: Prime Consultant 8: $1.7 Million	1: 11.25 mi of hot mix asphalt cold milling and resurfacing with shoulder widening, detail 7 & 8 joint repairs & pavement markings on M-25 from Cecelia Drive east to Nolet Road, Bay County. Location #1 Cold Mill existing 2-3 lane pavements, turn lanes shall be cold milled to their existing width, resurface the entire 6.68 mi of pavement. Location #2 4.57 mi of trenching & HMA shoulder widening where existing HMA paved shoulders are less than 8'. 2: Construction Inspector 5: MDOT Bay City TSC 7: Brian Ulman, PE, 989.671.1555
PROJECT ID JN 110616; As-Needed Construction Inspection; Road & Bridge Reconstruction on I-75, Monroe Co; Lansing TSC	
ROLE & DESCRIPTION OF SERVICE	
3: $1.9 Millon 4: 2015-2016 6: Prime Consultant 8: $118 Million	1: 5.60 mi of concrete reconstruction, grading, drainage and geometric improvements, traffic signals, ITS, signing, pavement markings, lighting, landscaping, bridge reconstruction and widening on 5 structures, riprap, and slope protection on I-75 from Dixie Highway to I-275, Monroe County. 2: Bridge Construction Inspector 5: MDOT Lansing TSC 7: Greg Losch
PROJECT ID JN 89095; As-Needed Construction Inspection; Engineering & Technical Assistance on I-96; MDOT Taylor TSC	
ROLE & DESCRIPTION OF SERVICE	
3: $5.4 Million 4: 2014 6: Prime Consultant 8: $173 Million	1: I-96, 7.09 mi of concrete freeway reconstruction and bridge replacements and rehabilitations on 37 bridges, hot mix asphalt, epoxy and deep concrete overlay, aggregate base, storm and sanitary sewer, watermain, concrete barrier, sidewalk, curb and gutter, guardrail, fence, landscape, signs, pavement markings, freeway lighting, ITS, pump station rehabilitation, on I-96 from Newburgh Road easterly to US-24 (Telegraph Road), Wayne County. 2: Road Construction Inspector 5: MDOT Taylor TSC 7: Gerard Pawloski

ANDREW MURRAY
GIS/CMMS ANALYST

Mr. Murray has more than 6 years of GIS and Computer Maintenance Management System (CMMS) development, implementation, and maintenance. His background includes assisting communities with the development and growth of their GIS and CMMS systems in the office and the field, as well as integrating various data types into GIS. He has developed custom GIS and CMMS applications, workflows, models, and analyses for water, wastewater, roads, and numerous other assets.

EDUCATION
B.S. Environmental Geosciences, Michigan State University, 2013

CERTIFICATIONS
Geographic Information Systems Professional
Cityworks Office 15.1 for AMS Administration

AFFILIATIONS
IMAGIN
URISA

RELEVANT EXPERIENCE

- **FAST Start Service Line Replacement, Phases 5 & 6, Flint, Michigan**. GIS/CMMS Analyst. Modified the City's CMMS program to manage non-copper service line replacement and restoration. Developed reports within this program to streamline data management. Coordinated and exchanged data with external groups to enhance predictive modeling of non-copper service line locations.
- **SAW Grant Implementation, Flint, Michigan**. GIS Analyst. Installed, configured, and administered ArcGIS for Server and Cityworks, the City's CMMS. Updated the City's sanitary and storm sewer GIS per GPS points including defects and laterals. Collected and assembled necessary data to create a Business Risk Evaluation for the City's sanitary and storm sewer systems.
- **SAW Grant Implementation, Rochester, Michigan**. GIS Analyst. Responsible for the installation, configuration, and administration of ArcGIS for Server and Cityworks. Updated the City's sanitary sewer, water, streets, and parks GIS per GPS points and CCTV data, including defects and laterals. Collected and assembled necessary data to create a Business Risk Evaluation for the City's sanitary sewer system. Developed layers and attributes for the City's Fats, Oils, and Grease (FOG) Program.
- **SAW Grant Implementation, Port Huron Charter Township, Michigan**. GIS Analyst. Responsible for the installation, configuration, and administration of ArcGIS for Server and Cityworks. Updated the Township's sanitary sewer GIS per GPS points and CCTV data, including defects and laterals. Collected and assembled necessary data to create a Business Risk Evaluation for the Township's sanitary sewer system. Developed layers and attributes for the Township's Fats, Oils, and Grease (FOG) Program.
- **GIS Data Entry, Hydraulic Water Model & Water Reliability Study, Royal Oak, Michigan.** GIS Specialist. Created the entirety of Royal Oak's water, storm and sanitary infrastructure in GIS, using section maps and GPS points to digitize these networks. Conducted quality control checks on network features and their attributes. Imported the water system and its demands into InfoWater and readied these for use as the framework of the InfoWater model.
- **GIS & CMMS Update, Meridian Township, Michigan.** GIS Specialist. Constructed 22,000+ water and sewer laterals in GIS. Developed lead links to account numbers and sewer drawings. Sorted and organized water and sewer drawings for individual properties and enabled these drawings to be accessible to staff in the field. Upgraded Township to latest versions of ArcGIS for Server and Cityworks.
- **Water System Reliability Study, Bangor, Michigan.** GIS Technician. Created a geodatabase containing all available information on the City of Bangor's water distribution network for InfoWater modeling and asset management purposes. Used as-built drawings, reports, and city-wide maps to digitize the network. Performed quality control checks on attributes and network features. Interpolated elevations of water features using collected GPS points to enhance the quality of the GIS and InfoWater models.
- **Remote Sensing and GIS, Michigan State University, East Lansing, Michigan.** GIS and Field Technician. Identified, digitized and populated information for assets, including water and sewer system features from sources including legal documents, ortho-imagery, as-built drawings, and CAD drawings. Recorded GPS locations of various utility features in the field. Located, scanned and transferred imagery to clients.
- **City of Pontiac Geospatial, Asset and Document Management, Pontiac, Michigan.** GIS Technician. Consulting services - Mapped over 5,000 storm sewer features throughout the city limits and assisted in the construction of the base information in GIS and CMMS.

TREY TALIAFERRO
GIS/CMMS ANALYST

EDUCATION

B.S. Geography, Eastern Michigan University, 2016

* *work with previous employer*

Mr. Taliaferro has more than 3 years of experience in GIS mapping and data analysis.

RELEVANT EXPERIENCE

- **City of Flint Stormwater, Asset Management, and Wastewater Grant Implementation, Flint, Michigan**. GIS Technician. GIS investigation, updates, and review for sanitary and storm sewer networks
- **City of Bay City Water Asset Management Program, Bay City, Michigan**. GIS Technician. Record drawing review and water system GIS network updates
- **City of Pontiac Geospatial, Asset and Document Management, Pontiac, Michigan.** GIS Technician. Consulting services - Mapped over 5,000 storm sewer features throughout the city limits and assisted in the construction of the base information in GIS and CMMS.
- **SAW Grant Implementation, White Lake Township, Michigan**. GIS Technician. Installing, configuring, and administering ArcGIS for Server and Cityworks, the Township's CMMS. Updating the Township's sanitary GIS per GPS points including defects and laterals. Collecting and assembling the necessary data to create a Business Risk Evaluation for the Township's sanitary sewer system.
- **SAW Grant Implementation, Waterford Township, Michigan**. GIS Technician. Installing, configuring, and administering ArcGIS for Server and Cityworks, the Township's CMMS. Updating the Township's sanitary GIS per GPS points including defects and laterals. Collecting and assembling the necessary data to create a Business Risk Evaluation for the Township's sanitary sewer system.

Apple Inc. via Apex Systems*:

- Analyze, validate and enhance data content and assemble new content for consumer applications
  - Was part of a small group that was moved through different projects that were high priority and finished them ahead of expectations.
- Lead numerous special projects
  - Participated in and eventually led pilot teams testing new tools and workflows
- Responsible for updating training materials
  - As our projects were often spearheading into new territory, training materials were needed to be updated, improved, or created completely to push these processes to large scale production
- QA/QC others work product
  - Due to my attention to detail, I was often tasked with reviewing others' work to meet the high standards of a user end map product.

City of Jackson*:

- Inventory of assets through collection of GPS and attribute data
  - Used a GPS device to collect spatial data of citywide assets, and recorded their properties in the form of attribute data, thus creating a layer to be viewed and analyzed in ArcMap
  - Completed in half of expected time leading to the following other tasks
- Conducted numerous traffic studies
  - Implemented counting equipment, as well as extracted resulting data, and organized it such that it could be referenced for planning purposes.
- Digitization of archived maps
  - Scanned drawings/maps, and occasionally georeferenced them into ArcMap

DLZ

TYLER MENDREK
CONSTRUCTION OBSERVATION

EDUCATION

B.S. Engineering Management, Western Michigan University, 2014

CERTIFICATIONS

MDOT Density Technology, 2011

American Concrete Institute Certified Level 1 Technician, 2013

MDOT Bridge Painting, 2014

Certified Storm Water Operator, Construction Sites, 2014

MDOT Computerized Office Technician, 2016

MDOT Level 1 Aggregate Technician, 2018

NASSCO, PACP, MACP, LACP – to 2020

*work with previous employer

Mr. Mendrek has more than 5 years of experience in project estimating, construction management, and AutoCAD.

RELEVANT EXPERIENCE

- **Port Huron Township Water Street Non-Motorized Shared Use Path, Port Huron Township, Michigan**. Office Technician/Construction Engineer. Provided construction engineering and office technician services per MDOT specifications on approximately a half mile of hot mix asphalt shared use path, concrete curb, gutter, sidewalk and ADA ramps and driveways on Water Street from I-94 northwesterly to West Water Road.
- **City of Bay City Vermont/Midland Street Resurfacing Project, Bay City, Michigan**. Office Technician/Construction Engineer. Provided construction engineering and office technician services per MDOT specifications on 0.18 miles of hot mix asphalt cold milling and resurfacing, joint and crack repairs, concrete curb, gutter, sidewalk and ADA ramps, watermain, pavements markings and signing on Midland Street from Wenona Avenue to Dean Street.
- **City of Flint Asset Management Project for Sanitary and Storm Sewer Infrastructure, Flint, Michigan**. Civil Engineer. Sanitary and storm sewer structures are currently being GPS located and inspected according to NASSCO standards and the data was then imported into GIS.
- **Port Huron Township Asset Management Project for Sanitary Infrastructure, Port Huron Township, Michigan**. Civil Engineer. Sanitary sewer manholes were GPS located and inspected according to NASSCO standards and the data was then imported into GIS.
- **Village of Carleton Monroe Street Reconstruction, Carleton, Michigan**. Design Engineer. Assisted with the design engineering for 1 Mile of road reconstruction on the Village street.
- **West Bloomfield Township Stonebridge Subdivision Repaving, West Bloomfield Township, Michigan**. Construction Engineer/Manager. Provided construction engineering and management for the subdivision road resurfacing project.
- **West Bloomfield Township Aldingbrooke Road Reconstruction, West Bloomfield Township, Michigan**. Construction Engineer/Manager. Provided construction engineering and management for the subdivision road resurfacing project.

Prior to working for DLZ, Tyler Mendrek worked for consulting engineering firms and the Michigan Department of Transportation performing the following tasks:

- Preparing estimates of possible costs of materials, labor, and equipment for construction of relay panels and control enclosures based on schematics, blueprints, and specifications on projects up to $1,000,000.*
- Providing oversight and guidance to contractors and crews at construction sites.*
- Effectively managed and supervised construction crews on projects from $500,000 to $30,000,000.*
- Performing concrete quality control testing by means of air, slump, and temperatures tests.*
- Successfully inspecting and managing construction sites and communicated in an effective and professional manner with contractors and supervisors on projects from $500,000 t $6,000,000.*
- Utilizing MDOT specifications to ensure proper placement of asphalt, concrete, and bridge work.*
- Submitting pay items through daily progress reports utilizing MDOT FieldBook software. *
- Assisting project coordinators with kickoff meetings and provided specific details on each project once awarded the project.*

COMMUNICATION PLAN

COMMUNICATION PLAN

Information flow during delivery of any project will occur at multiple levels and for a variety of purposes, depending on the activity and the nature of the task. A key role of the Project Manager is to facilitate effective internal and external project communications through development of a Project Communications Plan, which will identify specific communication needs for information and how communication will be coordinated for each task.

The Project Communications Plan will provide the framework for communications among all project stakeholders - including the City, our Project Manager, technical/design leads, and subconsultants by providing contact information for all project stakeholders, basic guidelines for conducting and documenting internal and external project communications, and guidelines for scheduling, conducting, and documenting project progress meetings with the City. Project meetings, workshops, periodic coordination calls, recorded notes, and regular emails can all be used to keep City staff, DLZ, our team members, and other stakeholders apprised of project progress throughout the entire project life cycle.

We will submit monthly progress reports with highlights of work achievements, issues requiring action and proposed solutions, work planned and important milestones for the upcoming month, summary of design work hours by discipline, and construction photos as work progresses. The report will identify any issues or scope changes that may affect overall cost and/or schedule of planning/design phases. We will also include an updated list of outstanding action items and information needed from the City, along with time frames in which decisions and/or information are required in order to meet the schedule.

SAMPLE PROJECT APPROACH

KICKOFF MEETING

DLZ will conduct an internal project Kickoff Meeting after Notice to Proceed to confirm scope, budget, schedule, and other project related information as well as defining the specific Project Communications Plan.

RESOURCE ALLOCATIONS

DLZ's Project Management team will monitor the workload of the assigned team members and evaluate the schedule to determine if additional staffing is needed.

SCHEDULE

DLZ will work with the City to create an agreed upon schedule.

TEAM MEETINGS

Progress Meetings will be held at the desired frequency with assigned project personnel to review assignments, project parameters, project progress, anticipated needs, and overall schedule.

PROGRESS MEETINGS/UPDATES

It is critical that scheduled face-to-face meetings are conducted between DLZ's Project Manager and the City's Project Manager. These meetings will provide a status report on the project's progress and development and identify specific upcoming action items.

QUALITY CONTROL STANDARDS AND PROCEDURES

It is DLZ's philosophy to "invest in our staff". This is done by offering opportunities for continuing education, facilitating "Lunch & Learns" for staff, viewing technical webinars and attending off site training related to design and construction. Senior staff are encouraged to participate in seminars provided by our insurance carrier related to such relevant topics as contracts, construction claims and liability issues. CAD staff are provided opportunities for advanced training in Auto Cad on features such as Civil 3D. Training certificates and professional development activities are included on staff resumes in Section 1.

Design Philosophy and Approach

DLZ offers the City a comprehensive design philosophy and approach crafted for the City to provide:

- a project manager with recent experience managing projects for communities in western Michigan;
- management for the project to meet deliverable deadlines and schedules for critical project elements;
- engineering products within the cost parameters of engineering agreement;
- familiarity with staff at the City, Genesee County Drain Commission, and EGLE.

DLZ is prepared to provide the engineering manpower required for completing the project on time and to a very high standard.

DLZ is currently implementing portions of ACEC QA/QC policies for utilities and site plans. In addition, our team relies on portions of MDOT QA/QC Process Guide philosophy when completing a sizable project with a heavy road component.

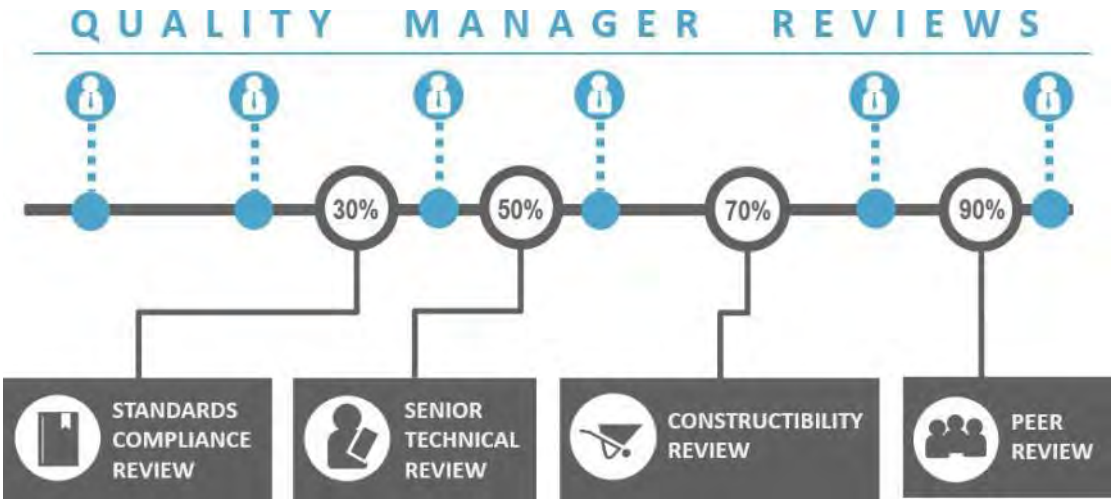
Project statuses are routinely discussed at our bi-weekly staff meetings. Approaching deadlines, changes and scope, and other items are identified with firm staff directly and indirectly related to the project.

Project Management

Mr. Shannon Filarecki, P.E. will be responsible for directing all aspects of the project. Mr. Merrill has over 12 years of engineering experience in management, utility design, and construction. By coordinating the project effort from the Waterford Branch Office, Ms. Filarecki will provide timely, responsive input and feedback to the City staff. Maintaining the project schedules will be vital to completing the project within the required time frame. Regularly scheduled status meetings will verify that the project remains on schedule and that milestones are being met. The status meetings will verify that the City staff is familiar with the work product before the actual Project Plans and Specifications are delivered. Their continued involvement will guarantee a sense of ownership in the final product.

Ms. Filarecki will monitor progress of the projects using numerous methods, including:

- use of the internet e-mail for messaging, file transfers and Owner updates;
- regular progress meetings with representatives of the City;
- regular internal project meetings;
- internal schedule adjustments;
- meetings with EGLE staff, if necessary, to ensure familiarity with the project before permit application submittal; and
- early identification and resolution of potential problems.
- regular internal project meetings;
- internal schedule adjustments;
- meetings with EGLE staff, if necessary, to ensure familiarity with the project before Permit Application submittal; and
- early identification and resolution of potential problems.



UNDERSTANDING OF SERVICE

The City is seeking qualified firms to provide professional engineering services relating to:

- Design Engineering for roads, utilities, capital improvement projects, parks, and facilitie;.
- Transportation Engineering, including traffic signalization;
- Construction Engineering, Staking, and Inspection;
- Site Plan Review;
- Surveying and GIS;
- CDBG Project Planning and Implementation;
- Project Financing; and
- Coordination and Leadership to City staff and Officials.

Up to four firms will be selected on a project by project basis to administer a multitude of City capital improvement assignments. Firms that are prequalified are not guaranteed work. All firms are to hold the following Michigan Department of Transportation (MDOT) prequalifications:

- Bituminous Pavement Inspection
- Construction Staking
- Bridge Construction Engineering
- Density Inspection and Testing
- Portland Cement Concrete Inspection and Testing
- Road Construction Engineering
- Municipal Utilities
- Roads and Streets
- Traffic Signal Design

The City anticipates over the next three years, to perform approximately $6.0M in water main construction, $2.5M in street rehabilitation and construction, $1.0M in trail construction, and $1.0M in miscellaneous engineering projects. The City, a full-service community, has developed a 20-Year Paving Program and seeks assistance with the implementation of the projects identified in this Plan. In addition, the City plans to make amendments to its Zoning Ordinance, provide streetscape, parks, and trailway improvements, and install pedestrian pathways connections throughout the City.

When the selected consultant is chosen for a particular assignment, the consultant shall present the project scope, budget, and schedule to the City for review and approval. All projects shall adhere to City, Genesee County Drain Commission Water and Waste Services, and MDOT standards.

The City, where town and country join hands, is a community with a population of approximately 5,758 and is located in Genesee County, about 10 miles southwest of the City of Flint. The City, which is primarily made up of single-use family and industrial land uses, has seen strong growth in residential and commercial areas over the past two decades. The City stakeholders, while enjoy continuous growth, strive to maintain the City's small-town feel. The City aims to select its engineering consultants who understand this, and also understand the needs of its residents.

DLZ is proud of our municipal experience throughout the State of Michigan and the high quality, cost-effective services that are tailored for each community. Several of the communities we work with have been clients for over 50 years! We understand and appreciate the specific needs of the City and we are eager to work with you!

Water and Sewer Services Facility Bioswale, West Bloomfield Township

PAST PERFORMANCE AND REFERENCES

DLZ

CURRENT MUNICIPAL CLIENTS

DLZ provides a full range of professional engineering services to many municipal clients across the state. Please refer to our list of municipal clients below that identifies communities and entities we currently provide services for. We have included past project examples that we have performed similar services to those requested from the City on the following pages.

MUNICIPAL CLIENTS LIST

Client	Years of Service	Population	Acreage	Transportation	Utilities - Water, Sanitary, and Storm	Parks and Facilities	Survey and Construction Observation	Development Services/Plan Review	Project Financing	GIS/CMMS	Asset Management
City of Bay City	3	33,019	7,169	●	●		●		●		●
City of Rochester	9	13,348	23,770	●	●		●		●	●	●
City of Flint	2	95,943	21,830		●		●		●	●	●
Charter Township of West Bloomfield	9	64,690	19,970	●	●	●	●	●	●	●	●
Charter Township of Independence	5	34,681	23,230		●	●			●	●	●
Port Huron Charter Township	50	10,654	8,384	●	●	●	●	●	●	●	●
Charter Township of White Lake	52	30,019	23,800	●	●	●	●	●	●	●	●
Charter Township of Waterford	50	72,166	22,590	●	●	●	●		●	●	●
Laketon Township	47	7,363	11,960	●	●	●	●		●	●	●
City of Pontiac	9	59,772	12,960	●	●		●		●	●	●
Genesee County Water and Waste Services	2									●	●
Oakland County Water Resource Commissioner	6			●	●		●		●		●
City of Madison Heights	5	29,694	4,608			●	●		●		

DLZ

FIRM REFERENCES

1

Ms. Kim Arter
Township Supervisor
Laketon Township
2735 West Giles Road
North Muskegon, MI 49445

Phone: (231) 744-2454
Email: karter@laketon.org

Recent Projects: Stormwater, Asset Management, and Wastewater Grant implementation; Horton Park improvements; Safe Routes To School; Bear Lake Road Pathway

2

Mr. Blaine Wing
City Manager
City of Rochester
400 Sixth Street
Rochester, MI 48307

Phone: (248) 733-3700
Email: bwing@rochestermi.gov

Recent Projects: Stormwater, Asset Management, and Wastewater Grant Implementation, Water Asset Management Plan development; Drinking Water Revolving Fund Projects, Water System and Sanitary Sewer System Master Plans and implementation; FOG Program Implementation; stormwater permit compliance services

3

Mr. Robert Dion
Director of Public Works
City of Bay City
301 Washington Avenue, Suite 410
Bay City, MI 48708

Phone: (989) 894-8312
Email: rdion@baycitymi.org

Recent Projects: Water Asset Management Program development; Cityworks work order development; stormwater permit compliance services

4

Ms. Rachel Phillips
Engineering Manager
City of Bay City
301 Washington Avenue, Suite 410
Bay City, MI 48708

Phone: (989) 894-8183
Email: rphillips@baycitymi.org

Recent Projects: City Hall parking lot, street, water main, and storm sewer restoration projects

5

Mr. Edwin Haapala
Water & Sewer Utilities Department Director
Charter Township of West Bloomfield
2400 Haggerty Road
West Bloomfield Township, MI 48323

Phone: (248) 451-4785
Email: ehaapala@wbtownship.org

Recent Projects: Water Asset Management Plan, Water Utilities Department Building and Site Improvements, Drinking Water Revolving Fund Projects, Water System and Sanitary Sewer System Master Plans, Pump Station Rehabilitation

6

Mr. David McKee
Director of Public Works
Charter Township of Independence
6483 Waldon Center Drive
Clarkston, MI 48346

Phone: (248) 625-8222
Email: dmckee@indtwp.com

Recent Projects: REU assessment, SCADA support; IT review and assessment; stormwater permit compliance

WATER ASSET MANAGEMENT PROGRAM

BAY CITY, MICHIGAN

CLIENT
City of Bay City
Public Works Department

CONTACT
Mr. Robert Dion
Director
(989) 894-8312

PROJECT COST
$60,000

COMPLETION DATE
2017

DLZ Michigan, Inc. was retained by City of Bay City Public Works Department to develop a Water Asset Management Program (WAMP), as required by the Michigan Department of Environment, Great Lakes, and Energy (EGLE). The core components of a WAMP are an asset inventory, level of service goals, asset criticality analysis, revenue structure review, and a capital improvement plan.

DLZ updated the city's water system GIS network based on as-built plans and reviewed and updated the geometric network to ensure connectivity between water mains.

Level of Service (LOS) goals were developed in consultation with city staff. Goals included regulation compliance and meeting all drinking water standards, public health goals, reliability, maintaining pressures within the system, limiting disruptions in service, customer service and response time improvements, limiting non-revenue water, review of water rates, and efficient system operation.

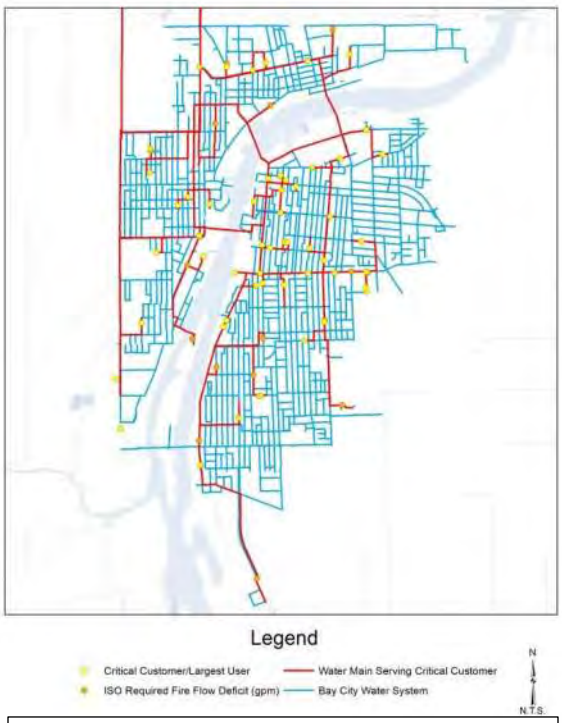
DLZ completed a thorough review of the consequence and probability of failure to determine the criticality of assets. Consequences of failure (COF) ratings were developed with assistance from city staff based on critical customer locations, roadway classifications, customer type/zoning, and availability of Insurance Services Office required fire flows. DLZ developed probability of failure (POF) ratings using a review of the asset age, material, existing conditions, maintenance history, failure (break) history, staff knowledge, and general operational experience. COF and POF ratings for each asset were multiplied to determine a criticality rating for all assets within the distribution system.

A Capital Improvement Plan (CIP) was developed based on recently completed projects and studies, results of the asset inventory, LOS goals developed, and the criticality analysis.

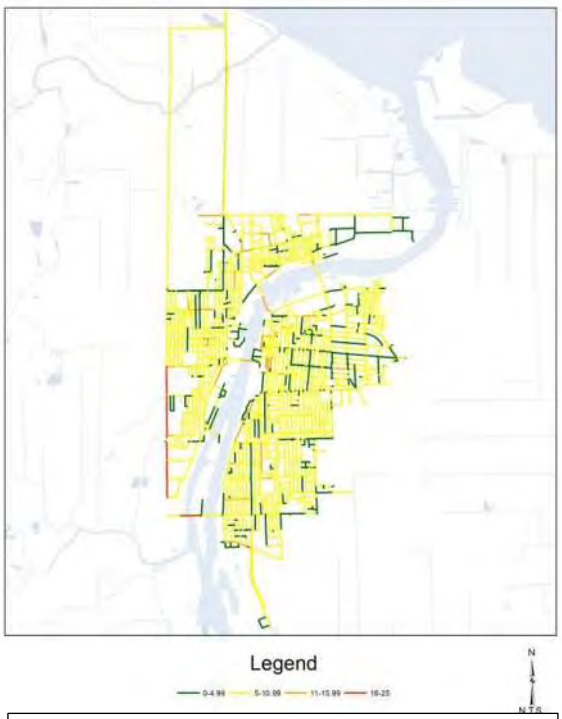
The revenue structure for the water system, including current revenue and expenditures, was reviewed. A financial consultant, bakertilly, was used to provide an analysis of historical and current financial data. The historical operating expenses were reviewed using audit and budget information. A test year was developed to reflect a baseline of operating costs. The existing annual debt service from the city was reviewed and scenarios were developed for funding the 20-year CIP projects.

DLZ, with additional services provided by bakertilly, performed a revenue and expense GAP analysis based on the required yearly estimated costs to fund capital improvement projects and/or repairs, replacements and upgrades to reduce criticality ratings to meet the developed LOS goals outlined in the WAMP. As part of this analysis, the city's current operating budget was analyzed to determine if current rates would meet general water system budget expense (bond debt, cost of water, intergovernmental expenses, utility, insurance and labor expense) requirements including the addition of long term CIP projects and short term repairs, replacements and upgrades to meet the WAMP requirements. The financial analysis was reviewed with city staff and their input incorporated into the final document.

When EGLE requested second call Drinking Water Revolving Fund Project Plans for 2019, the City took the opportunity to have DLZ develop a plan to remove/replace lead water mains from the distribution system and replace City and customer side lead services throughout the City. The draft project plan has been submitted and the public hearing has been advertised. The final project plan was submitted in March 2019.



Water Main Supplying Critical Customers



Water Main Criticality Scores

WATER, SEWER, AND ROAD CIP DEVELOPMENT

ROCHESTER, MICHIGAN

CLIENT
City of Rochester

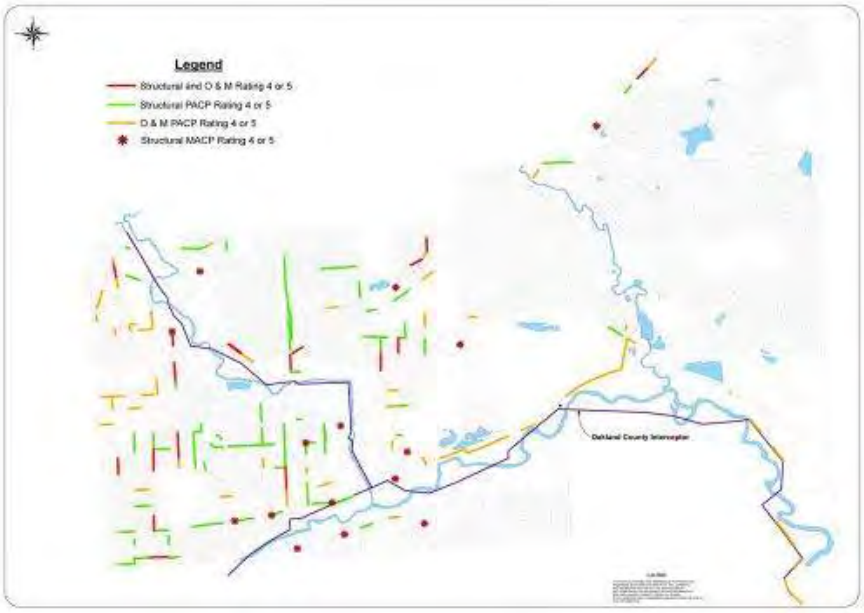
CONTACT
Mr. Blaine Wing
City Manager
(248) 651-9061

COMPLETION DATE
2016 - 2019

DLZ was contracted by the City of Rochester, as one of the City consulting engineers of record, to provide services on a newly formed Infrastructure Committee comprised of three City Council, one citizen, the Public Works Director, the City Manager, and staff from their other consulting engineering firm of record to develop a comprehensive 20-year water, sewer, and road Capital Improvement Plan (CIP) program for review and adoption by the City Council totaling approximately $75M. Work began in early 2016 and resulted in the development of a long-term flexible water, sewer, and road CIP project identification, optimization, and funding CIP program. Development included the creation of project plans for SRF and DWRF project funding and scheduling to coordinate with identified road improvement projects with the SRF projects slated to begin construction in the fall of 2017. Work was also completed to review and develop Water and Sewer Enterprise Fund rates and required General Fund Millage increase to support the approved CIP outline. Road PASER survey information was used to develop a prioritized CIP and schedule that was closely aligned with water and sewer projects to optimize improvements and to leverage available funds.

Proposed SRF Sanitary Sewer System Upgrade Costs

Year	Project Description/Location	Cost	Upgrade Description
7/1/2017	Ludlow Sanitary	$208,540.00	Lining and grouting
7/1/2018	Mill Street, MS-1	$1,063,130.00	Lining and grouting
7/1/2018	Mill Street, MS-2	$544,800.00	Lining and grouting
7/1/2018	Paint Creek, PC-1	$621,590.00	Lining and grouting
7/1/2018	Paint Creek, PC-1-2 (Ludlow Ave is in this District)	$617,310.00	Lining and grouting
7/1/2018	Paint Creek, PC-2	$203,930.00	Lining and grouting
7/1/2018	Paint Creek, PC-2-1	$194,130.00	Lining
7/1/2018	Paint Creek, PC-3-1	$345,370.00	Lining
7/1/2018	Paint Creek, PC-3-2	$289,530.00	Lining and grouting
7/1/2018	Paint Creek, 1045	$95,540.00	Lining and grouting
7/1/2018	Metro Park, MP-1	$17,020.00	Sectional Liner
7/1/2018	Metro Park, MP-2	$44,060.00	Sectional Liner
7/1/2018	South Street, SS-1	$37,380.00	Sectional Liner
7/1/2018	Sanitary Sewer Rehab - 1020	$25,110.00	Sectional Liner
7/1/2018	Elizabeth District, EZ-1	$188,460.00	Lining and grouting
7/1/2018	Elizabeth District, EZ-2	$522,500.00	Lining and grouting
7/1/2018	Manhole Rehabilitation	$463,843.00	
7/1/2018	Wet Weather Rehabilitation	$266,881.00	
7/1/2018	Sanitary Sewer Repair (O&M PACP 4 and 5 ratings)	$184,490.00	
	Total SRF Loan Projects =	$5,934,904.00	



Proposed SRF Sewer and Manhole Repair Locations

Proposed Water System Upgrade Costs

Year	Project Description/Location	Cost	Proposed Funding Source	Upgrade Description
7/1/2017	Ludlow	$757,512.50	System Funds	4" to 6" and 8" to 12"
7/1/2018	South Street	$1,085,000.00	DWRF Loan	4" and 6" to 8"
7/1/2018	Water Treatment Plant Transmission Main	$2,459,500.00	DWRF Loan	Lined
7/1/2018	Griggs/Castell	$636,450.00	DWRF Loan	4" to 8"
7/1/2018	Mahaffy/Walnut	$771,400.00	DWRF Loan	4" to 8"
7/1/2018	Riverview/Pine	$578,675.00	DWRF Loan	4" to 8"
7/1/2018	Wesley/Oak	$556,500.00	DWRF Loan	4" to 8"
7/1/2022	East/E University	$347,112.50		4" to 8" and 12"
7/1/2022	Romeo/Terry	$674,625.00		4" to 8"
7/1/2023	N. Hiesen/Taylor	$795,112.50		4" to 8"
7/1/2027	Water Treatment Plant Transmission Main	$2,316,537.50		Lined
7/1/2028	3rd/Wilcox	$714,787.50		4" to 8"
7/1/2029	Water/1st/7th/Madison	$715,837.50		4" to 8"
7/1/2030	8th/Kenshaw/West/Elm	$528,150.00		4" to 8"
7/1/2031	Additional 6-inch Mains as funds permit			
7/1/2032	Additional 6-inch Mains as funds permit			
7/1/2033	Additional 6-inch Mains as funds permit			
7/1/2034	Additional 6-inch Mains as funds permit			
7/1/2035	Additional 6-inch Mains as funds permit			
7/1/2036	Additional 6-inch Mains as funds permit			
7/1/2037	Additional 6-inch Mains as funds permit			
	Possible DWRF Loan Projects for $6.0 M =	$6,865,525.00	DWRF Loan	
	Total Estimated Water Main Replacement from Reliability Study =	$12,805,000.00		

Note: Projects prioritized by DPW staff for Water System Reliability Study and based on Revenue Summary Options.

Proposed Water Main Rehabilitation Methods

Open-cut and Service Transfers

Pipe Bursting and Service Transfers

Relining and Service Transfers

Directional Drilling and Service Transfers

Annual Revenue Generated from Ordinance Change

Rate Increase Description	Rate Increase
Annual Water Rate Ready to Serve Fee Increase per MEU ($24/quarter)	$96.00
Annual Sewer Rate Ready to Serve Fee Increase per MEU ($24/quarter)	$96.00
Total Annual Fixed Rate Increase per MEU	$192.00
Water Rate Commodity Charge Increase per Unit	$0.19
Annual Water Rate Commodity Charge Increase per average 31 Unit/quarter user	$23.56
Sewer Rate Commodity Charge Increase per Unit	$0.20
Annual Sewer Rate Commodity Charge Increase per average 31 Unit/quarter user	$24.80
Total Estimated Average Water and Sewer Bill Annual Increase/Quarter Increase	**$240.00/$60.00**
Total MEUs 5,128 x $96 Water Rate Ready to Serve Fee Increase Revenue =	$492,288.00
Total MEUs 5,128 x $96 Ready to Serve Fee Sewer Rate Increase Revenue =	$492,288.00
Total Average Water Units wirrigation sold 830,547 x 0.19 Commodity Charge Increase Revenue =	$159,000.00
Total Average Sewer Units sold 807,957 x 0.20 Commodity Charge Increase Revenue =	$161,000.00
Total Projected Revenue =	**$1,304,576.00**

PASER - Cost Estimation

Cost Estimate for Road Improvements

Rating	Length (miles)	Repair Strategy	Unit Cost (Major)	Unit Cost (Minor)	Total Cost
10 - Excellent	0.38	N/A	$ -	$ -	$ -
9 - Excellent	0.49	N/A	$ -	$ -	$ -
8 - Very Good	1.86	Crack Sealing	$ 2.00	$ 1.50	$ 19,000.00
7 - Good	4.95	Crack Sealing	$ 2.00	$ 1.50	$ 48,000.00
6 - Good	12.72	Crack Sealing	$ 2.00	$ 1.50	$ 118,000.00
5 - Fair	8.19	Mill and Fill	$ 160.00	$ 120.00	$ 6,266,000.00
4 - Fair	3.61	Mill and Fill	$ 160.00	$ 120.00	$ 2,960,000.00
3 - Poor	9.11	Reconstruct	$ 650.00	$ 500.00	$ 15,978,000.00
2 - Very Poor	2.10	Reconstruct	$ 650.00	$ 500.00	$ 3,427,000.00
Total	43.40				$ 28,813,000.00

Annual Road Funding Summary

$2,000,000 / Year

Year	City Fund*	DDA	General Fund	Total	Funding Option	Additonal Fund
1-20	$ 700,000.00	$ 500,000.00	$ 500,000.00	$ 1,700,000.00	$ 2,000,000.00	$ 300,000.00

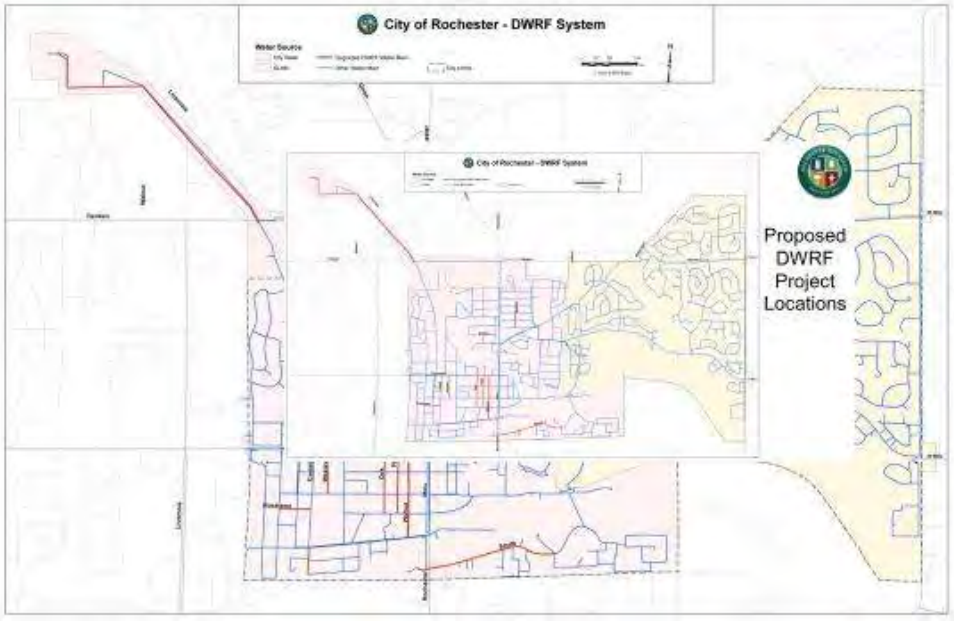
$5,000,000 / Year (years 1-3) & $2,000,000 / Year (years 4-20)

Year	City Fund*	DDA	General Fund	Total	Funding Option	Additonal Fund
1-3	$ 700,000.00	$ 500,000.00	$ 500,000.00	$ 1,700,000.00	$ 5,000,000.00	$ 3,300,000.00
4-20	$ 700,000.00	$ 500,000.00	$ 500,000.00	$ 1,700,000.00	$ 2,000,000.00	$ 300,000.00

$4,000,000 / Year (years 1-3) & $2,000,000 / Year (years 4-20)

Year	City Fund*	DDA	General Fund	Total	Funding Option	Additonal Fund
1-3	$ 700,000.00	$ 500,000.00	$ 500,000.00	$ 1,700,000.00	$ 4,000,000.00	$ 2,300,000.00
4-20	$ 700,000.00	$ 500,000.00	$ 500,000.00	$ 1,700,000.00	$ 2,000,000.00	$ 300,000.00

Water, Sewer & Paving Overlaps



Proposed DWRF Project Locations

WATERFORD TOWNSHIP - S2 GRANT AND 2012 SRF/SWQIF PROJECT PLAN

OAKLAND COUNTY, MI

CLIENT
Waterford Township DPW
Waterford Township

CONTACT
Mr. Russ Williams
Director
(248) 618-7451

PROJECT COST
$3,660,250

COMPLETION DATE
2014

DLZ, Inc. was contracted by Waterford Township to develop an S2 Grant Application for a State Revolving Fund/Strategic Water Quality Initiatives Fund (SRF/SWQIF) Project Plan preparation, manhole inspections for elimination of infiltration/inflow into the sanitary sewage collection system, and private property inspections for the elimination of inflow into the sanitary sewage collection system. DLZ performed private property inspections at 244 homes in three sanitary sewage pumping station tributary districts to determine the number of sump pumps and footing drains discharging to the sanitary sewage collection system and which ones could be eliminated economically. Results were extrapolated to the 1,804 total homes in the districts. Methods and costs were developed to redirect the storm water from the sanitary sewage collection system to acceptable outlets and presented in a 2012 SRF/SWQIF Project Plan.

Existing Wetwell with submersible Pumps & Existing Can station Dry Pit

DLZ also completed approximately 730 manhole inspections using National Association of Sewer Service Companies – Manhole Assessment Certification Program standards. Repair strategies were determined, compiled, and cost estimates prepared for inclusion in the 2012 SRF/SWQIF Project Plan.

DLZ also performed pumping station inspections that included draw-down tests to determine the inflow into the stations. Based on the inspections, it was determined that components of 11 pumping stations were in need of rehabilitation. Cost estimates were developed and presented in the 2012 SRF/SWQIF Project Plan. Construction of the pump station rehabilitation project began in 2013. Six of the 11 pumping stations received new buildings to house piping, electrical, and controls and 4 will be conventional submersible stations with valve

pits. The new buildings utilize an innovative design where the discharge lines from the new submersible sewage pumps were brought up into a building that contains all the required valves, meters, and control equipment, virtually eliminating confined space entry for maintenance personnel. All stations received new pumps, panels and controls, SCADA, flow meters where applicable, and valves. The rehabilitation was paid for with a low interest loan from the State Revolving Fund Program. Construction was completed in 2016.

Discharge piping from the submersible pumps in the wet well comes up into the building and through a discharge header with pressure transmitter, flow meter, and associated valves

Above ground well house virtually eliminates confined space entry for system operators

WEST BLOOMFIELD TOWNSHIP - KNOLLWOOD HEIGHTS WATER MAIN REPLACEMENT

OAKLAND COUNTY, MI

As part of a continuing effort to upgrade the Township's water distribution system, West Bloomfield Township contracted with DLZ perform design and construction engineering services for water system improvements to the water distribution system in the Knollwood Heights subdivision in Section 36 of the Township. The goal of the project was to replace aging distribution pipe and water services with mains and appurtenances using current materials. This project was complex in two aspects: a) residents had to be kept in service throughout the installation, pressure testing, bacteriological testing, and connections to the new system; and b) the subdivision was very old with poor drainage and roads making restoration of ditches and roads a very important aspect of the water main replacement project.

CLIENT
Charter Township of West Bloomfield
West Bloomfield Township

CONTACT
Edwin Haapala
Director
Water & Sewer Utilities Dept.
(248) 451-4785

PROJECT COST
$1,080,000

COMPLETION DATE
2013 - 2014

DLZ evaluated available alternatives to replace the mains. The alternatives evaluated were open-cut construction, directional drilling and pipe bursting. Based on the characteristics of the subdivision and the goals of the project the selected construction method was directional drilling with high density polyethylene pipe (HDPE). This technique allowed the residents to be served from the existing main until the new main was installed and passed bacteriological and pressure tests. New services could then be installed and connected to the new system. The majority of the construction of this project took place in 2013 with minor cleanup and restoration taking place in spring of 2014.

DLZ was responsible for all aspects of design including gathering of topographic information, preparation of final plans, acquisition of permits, bidding and construction engineering including: construction layout, contract administration, inspection, and preparation of project record drawings. Permits acquired by DLZ for the project include Road Commission for Oakland County for work within their right-of-way, West Bloomfield Township for Soil Erosion and Sedimentation Control, and a Michigan Department of Environment, Great Lakes, and Energy water supply construction permit under Act 399.

CITY OF ROYAL OAK GIS DATA ENTRY, HYDRAULIC WATER MODEL & WATER SYSTEM RELIABILITY STUDY

OAKLAND COUNTY, MICHIGAN

CLIENT
City of Royal Oak

CONTACT
Ms. Holly Donoghue, P.E.
(248) 246-3620

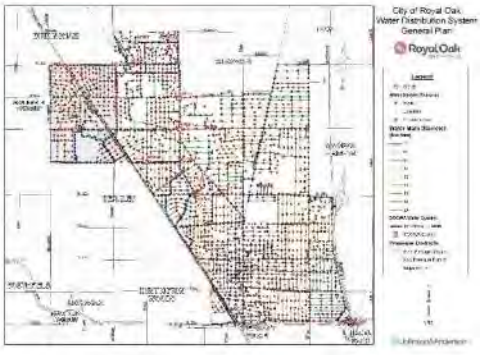
PROJECT COST
$76,000

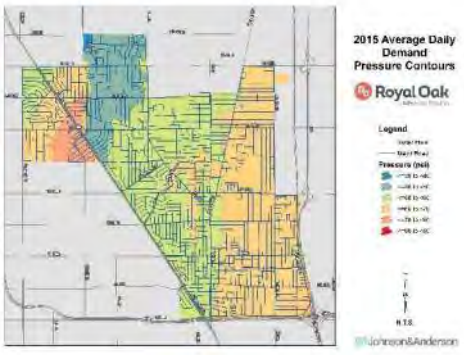
COMPLETION DATE
2015

DLZ was contracted by the City of Royal Oak (population of 58,946) to develop their geographical information system (GIS), water distribution system hydraulic model, and a Water Distribution System Reliability Study. The City needed to complete an updated Water Distribution System Reliability Study to be compliant with the Michigan *Safe Drinking Water Act*. In order to prepare this study, GIS data entry and hydraulic modeling were required.

The City did not previously have water main utility information in a GIS database. In order to develop a hydraulic computer model for the City's water system, the existing water mains, hydrants, auxiliary valves, meters, and gate wells were located by DLZ using a global positioning system (GPS). The GPS data was entered into a GIS database utilizing ESRI-based software and geo-spatial data, compatible with Oakland County's standards for GIS, to construct the water system geometric network. The City also wanted to include sanitary, storm, and combined sewer data to construct geometric networks for them, in the GIS, as part of the project. Aerial photographs and City records were reviewed to help verify the locations of sanitary, storm, and combined system structures.

Once the water system data model was constructed, a hydraulic water data model was developed and calibrated. DLZ and City staff performed hydrant flow tests for model calibration purposes. The model included all system water mains within the City. Demand loading for the model was developed using City water billing data. The model was used to run simulations necessary to complete the required Reliability Study. All the required system data, demands, modeling results, proposed system improvements, cost estimates for improvements, and the general plan were included in the final Reliability Study to meet the Michigan *Safe Drinking Water Act, Part 12, Reliability and Part 16, General Plans*.





GENESEE COUNTY DRAIN COMMISSIONER WATER & WASTE SERVICES CCTV & NASSCO SCORING INFORMATION INCORPORATION INTO GIS GEODATABASE

GENESEE COUNTY, MI

CLIENT
Genesee County Drain Commissioner Water & Waste Services

CONTACT
Mr. Tim Davidek
Assist. Dir. Of Operations
(810) 732-7870

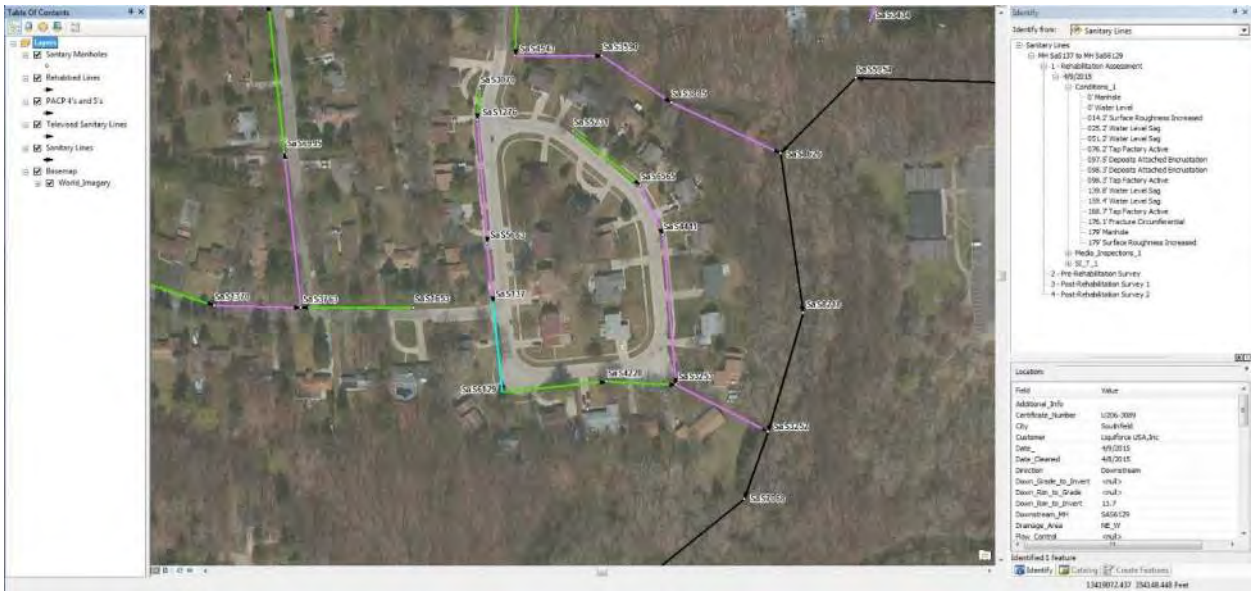
PROJECT COST
$80,000

COMPLETION DATE
Ongoing

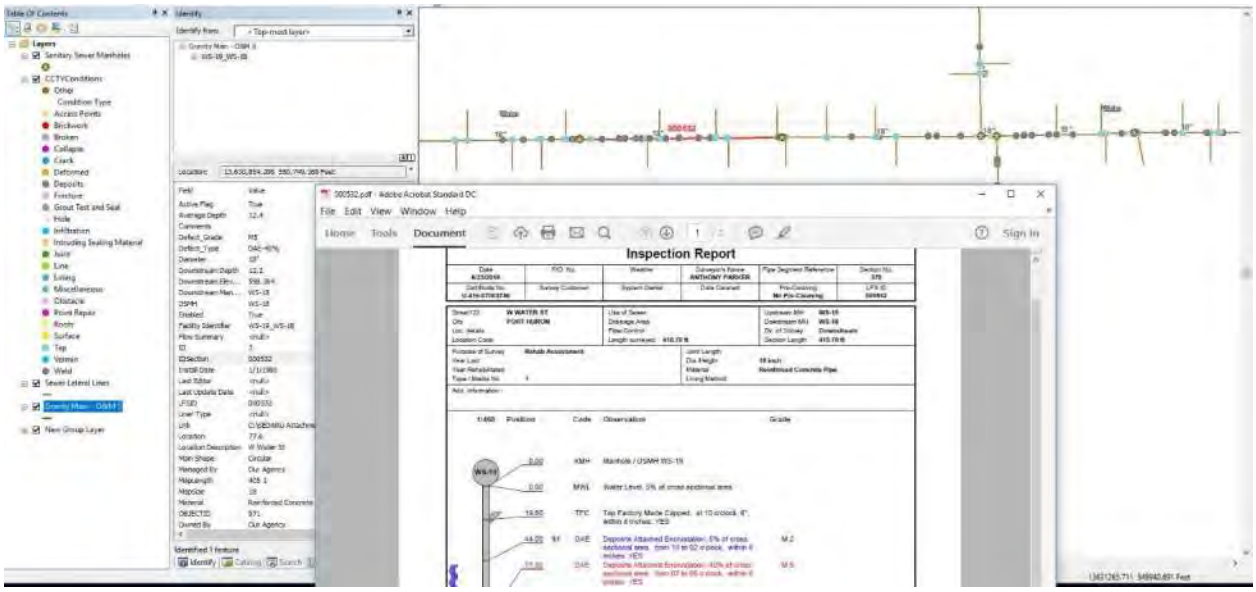
DLZ was contracted by the Genesee County Drain Commissioner to integrate over 2000 CCTV inspection and pipeline scoring projects into their ESRI geodatabase for quick retrieval and analysis using our data incorporation and query tool. Genesee County is not alone in trying to cost effectively solve the problem of CCTV pipeline inspection and scoring data overload whether completed by in-house resources or contractors. In fact, many utilities spend hundreds of thousands to millions of dollars annually to inspect their sanitary sewer lines and manholes using CCTV equipment and inspection software that is NASSCO compliant. Most often, completed inspection work and videos are delivered to the Owner on portable hard drives and spreadsheets never to be viewed or referenced again resulting in minimal utilization of the cost and effort expended to obtain the information. In response to this situation, DLZ has developed a powerful and cost-effective application using ESRI's ModelBuilder tool, which is part of ArcMap resulting in no additional software costs. The application facilitates the incorporation of CCTV inspection records and video from PACP and NASSCO scoring databases. In addition to this, the estimated and actual rehabilitation cost information for a pipe can be directly incorporated into the ESRI GIS geodatabase.

The application also includes basic navigation tools for easy viewing and analysis in GIS as well as the capability to snap sewer leads to their PACP inspection data coordinates. Our solution leverages their investment in the ESRI geodatabase while also providing a cost-effective viewing and analysis capability using their existing ESRI licenses without having to buy additional software licenses and additional development costs.

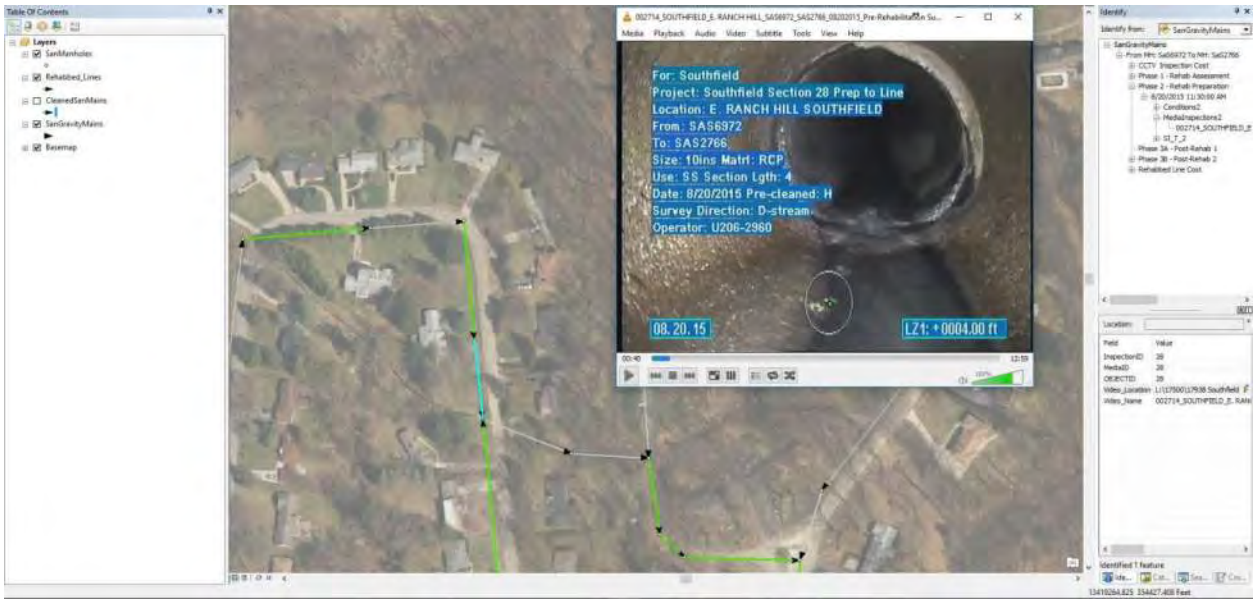
PACP inspection results and completed segment rehabilitation are integrated as part of GIS for review



Pipeline Inspection Report pdfs are available for retrieval from GIS pipe segments through hyperlinks

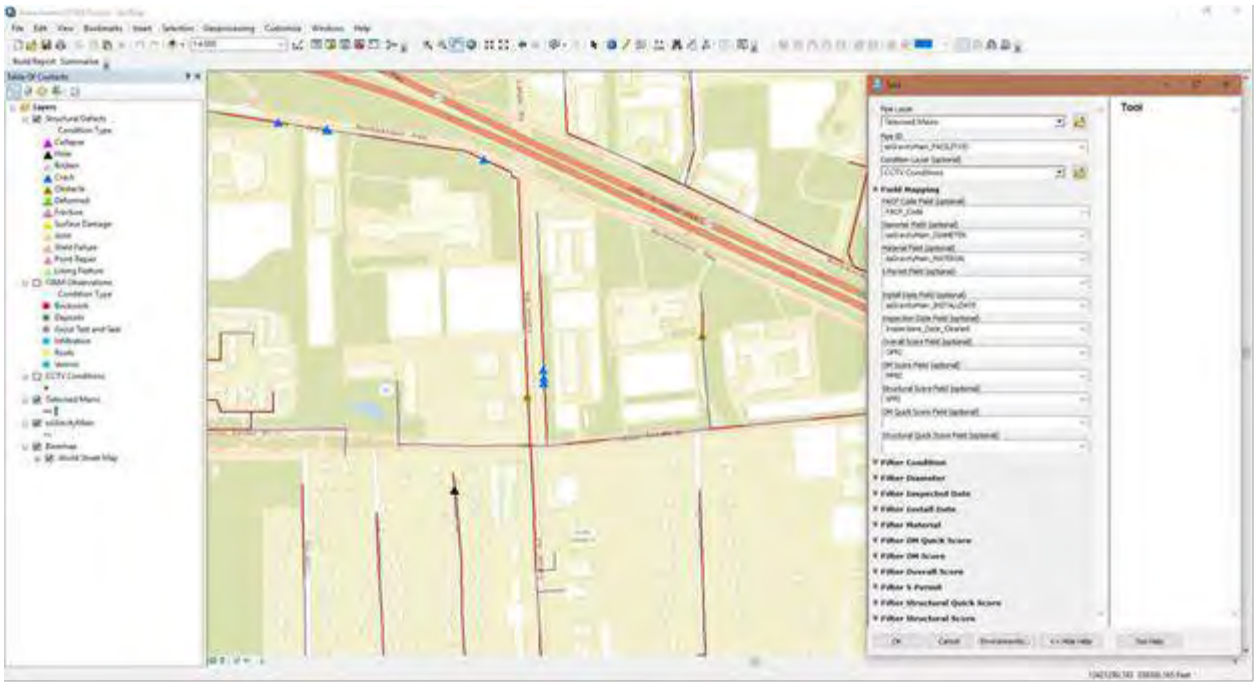


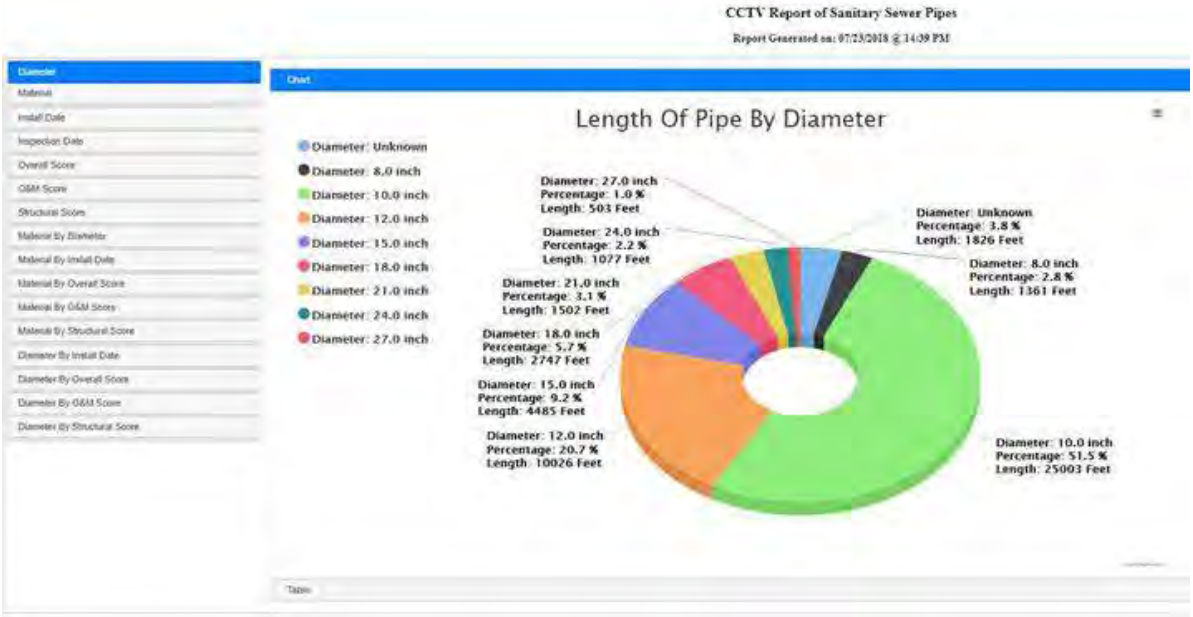
Videos from pipeline inspection are linked to specific pipes and can be viewed by selecting pipes in the Geodatabase



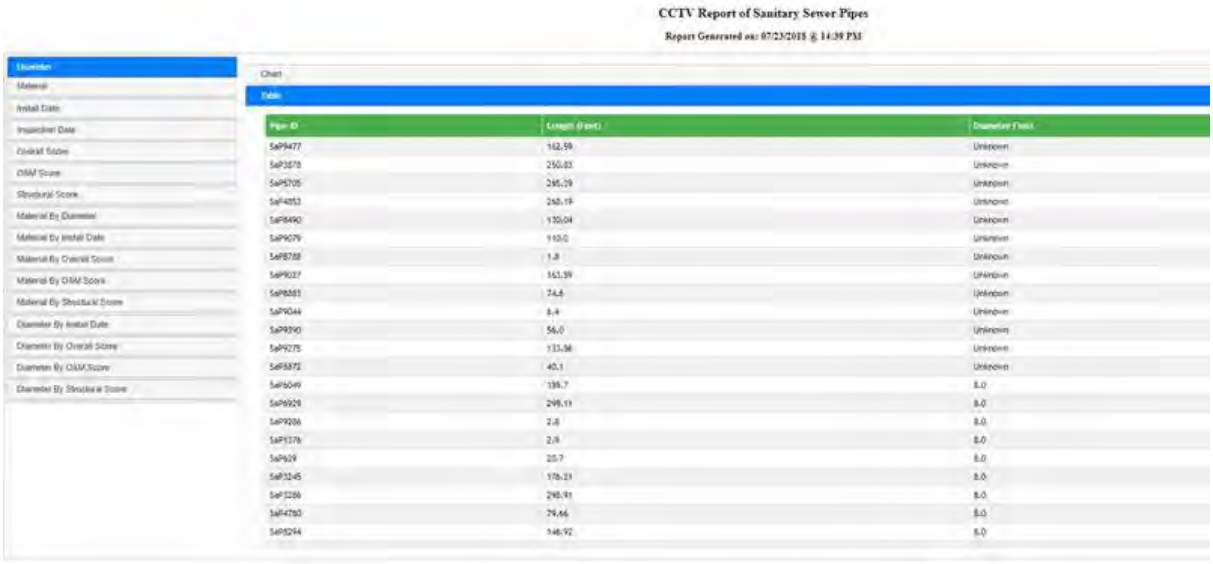
Pipe rehabilitation costs for completed and future segments are integrated into the Geodatabase for easy retrieval

Configuration of Reporting Tool (outlined in red) for selecting and analyzing PACP conditions and defects





Report generates an interactive page to display various data summaries including length of pipe by diameter as shown, pipe material by diameter, install date, and PACP scores.



Reports may also be reviewed in a tabular format that displays raw data and can be exported.





NEW DOWNTOWN PERFORMANCE PAVILION AND EVENT AREA

PORTAGE, INDIANA

***Key Elements**: Performance Pavilion | 3 Acres | Outdoor Gathering Space | Passive Recreation Areas*

The City of Portage selected DLZ to provide professional architectural/engineering services for preparation of design and construction bid documents related to the Downtown Performance Pavilion and Event Area. The 3-acre development includes a new performance pavilion, outdoor gathering space, and passive recreation areas. The Pavilion includes a raised platform area that can serve a variety of performers and venues, including music, dance and film. The project complements and creates an extension of the adjacent park at Founders Square located to the immediate north.

OWNER
City of Portage
6070 Central Avenue
Portage, IN 46368

CONTACT
Ms. Sandy McDaniel
Community Development
219.762.5425
smcdaniel@portage.in.com

PROJECT COST
$822,900

COMPLETION DATE
2015 (design)
2016 (construction)

SAFE ROUTES 2 SCHOOL

LAKETON TOWNSHIP, MICHIGAN

CLIENT
Laketon Township

CONTACT
Ms. Kim Arter
Supervisor
(231) 744-2454

PROJECT COST
$328,000

COMPLETION DATE
2015

DLZ was selected by Laketon Township to perform planning, surveying, design, and construction engineering services on the installation of a sidewalk along Horton and Giles Roads located in Laketon Township, Muskegon County, Michigan.

The sidewalk consists of approximately 6,850 lineal feet (1.3 miles) of concrete sidewalk varying in width from 5 to 6 feet. The sidewalk is located in a residential area and was funded by the Federal Highway Administration's Safe Routes 2 School Program, an international movement to make it safe, convenient, and fun for children to bicycle and walk to school. The terminus of the sidewalk project is at Reeths Puffer Elementary School. The project was contracted by Laketon Township and designed using the 2012 Michigan Department of Transportation Standard Specifications. The sidewalk was also designed in accordance with the AASHTO Guide for the Planning, Design, and Operation of Pedestrian Facilities and current Americans with Disabilities Act requirements.

DLZ performed all aspects of construction engineering to include: topographic mapping, development of easement descriptions, construction staking of the concrete sidewalk, documentation of all construction related quantities, coordination with the material testing subconsultant, resolution of citizen complaints, utility coordination with the various utilities encountered during construction, attending a preconstruction meeting, documentation of project record quantities, and development of contract punch lists.

BEAR LAKE ROAD NON-MOTORIZED PATHWAY

LAKETON TOWNSHIP, MICHIGAN

DLZ was selected by Laketon Township to perform planning, surveying, design, and construction engineering services on the installation of a non-motorized bituminous pathway along Bear Lake Road located in Laketon Township, Muskegon County, Michigan. This project was funded through a Michigan Department of Natural Resources Trust Fund Grant.

The pathway consists of approximately 5,200 lineal feet of bituminous pathway, 8 feet in width. The pathway is located in a rural-residential area and includes a large section on a 35-foot easement through a wooded area. Three sections of elevated wooden walkways, approximately 865 feet in length and 8 feet wide, were designed and constructed. One elevated walkway, approximately 125 feet in length, traverses a drainage ditch. The other two elevated walkways are lower profile and traverse areas that experience standing water in seasonally wet times. Also designed and constructed as part of this project was a 325-foot long segmented retaining wall. The pathway was designed in accordance with current ADA requirements and the AASHTO Guide for Development of Bicycle Facilities.

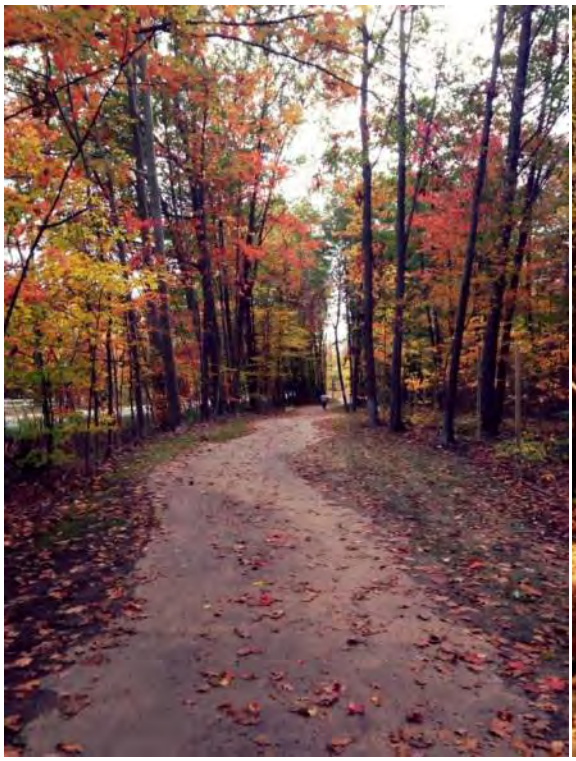
DLZ handled all aspects of construction engineering to include: topographic mapping, development of easement descriptions, construction staking of the bituminous pathway, coordination with the material testing subconsultant, resolution of citizen complaints, utility coordination with the various utilities encountered during construction, attending a preconstruction meeting, documentation of project record quantities, and development of contract punch lists.

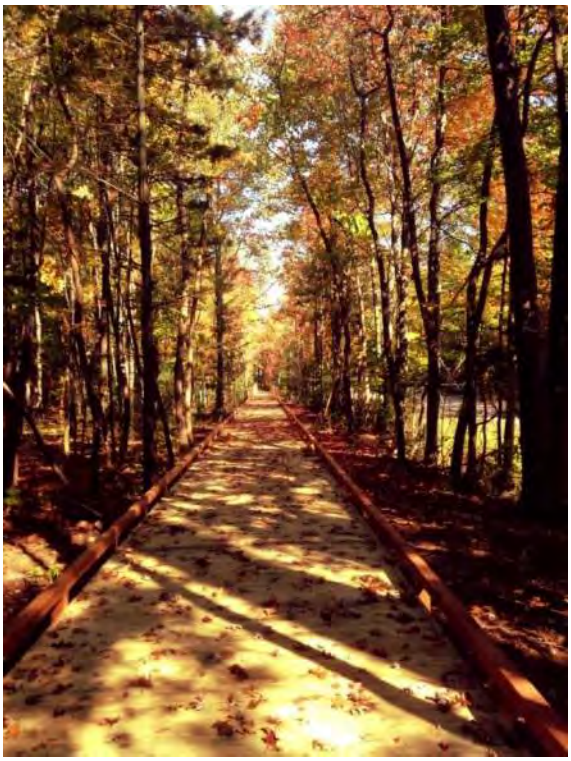
CLIENT
Laketon Township

CONTACT
Ms. Kim Arter
Supervisor
(231) 744-2454

PROJECT COST
$457,000

COMPLETION DATE
2013





Ribbon Cutting Ceremony

L-R: State Representative Geoff Hansen, Twp. Clerk Christina Achterhoff, Twp. Treasurer Lori Archer, Twp. Trustee Cindy Zaagman, Twp. Supervisor Kim Arter, Twp. Building Official Rod Siegel, State Representative Marcia Hovey-Wright, Muskegon County Commissioner Terry Sabo

MEMORIAL PARK – SPORTS COURTS AND PLAYGROUND IMPROVEMENTS

HUNTINGTON, INDIANA

***Key Elements**: Parking Lot | Tennis, Pickleball and Basketball Courts | Horseshoe Pits | Shelter | Site Furnishings | Stormwater Management | Plantings*

The City of Huntington partnered with DLZ to develop a new sports court area within the 48 acre Memorial Park. Located at the north end of the park, a new drive and parking lot was constructed as well as connecting sidewalks between all improvements, site furnishings, and a sunshade structure with picnic tables. Existing horseshoe pits were replaced with ADA compliant courts. The main sports court improvements consisted of three tennis courts, a hitting wall, three pickleball courts, and two basketball courts including color acrylic court surfacing, court equipment, player benches, and fencing. Storm water management was achieved through a series of small interconnected basins.

OWNER
City of Huntington
300 Cherry Street
Huntington, Indiana 46750

CONTACT
Mr. Anthony Goodnight
Director of Public Works and Engineering
260.356.1400
anthony.goodnight@huntington.in.us

PROJECT COST
$811,692 (Construction)

COMPLETION DATE
September 2015

At the south end of the park, an existing playground was renovated including sidewalk replacement and installation of a playground turf safety surfacing system around existing play structures.

DLZ services included survey, preliminary design documents, construction documents, permitting, bidding assistance, and construction administration services.

MECHANIC STREET ENGINEERING

JACKSON, MICHIGAN

***Key Elements**: Horizontal Alignment | Vertical Alignment | Drainage Design | Utility Coordination | Water Main Design | Sanitary Sewer Design | Parking Accommodation | Maintenance of Traffic*

CLIENT
City of Jackson
521 Water Street
Jackson, Michigan 49203

CONTACT
Mr. Jon Dowling, P.E.
(517) 788-4160

PROJECT COST
$178,962

DLZ was selected by the City of Jackson (City) to prepare design and biddable construction plans and specifications for the roadway reconstruction of Mechanic Street, from Morrell Street to Washington Avenue. The project included replacement of the existing 6- and 8-inch water main for the entire length and replacement of the existing 24-inch sanitary sewer for approximately half the project length. The project replaced the deteriorated roadway and all of the brick drainage structures with an overall roadway width less than the existing. This reduction saved impact to mature trees and existing street lights. Other design elements included horizontal and vertical alignment, driveway approaches, sidewalks and Americans with Disabilities Act (ADA) sidewalk ramps, maintenance of traffic plans, detailed grading, permanent signing, and pavement markings. Access to adjacent residents and churches was an important consideration in the project development.

The project was in compliance with American Association of State Highway and Transportation (AASHTO) and Michigan Department of Transportation (MDOT) standards, specifications, and provisions.

STONEBRIDGE PAVING

CHARTER TOWNSHIP OF WEST BLOOMFIELD, MICHIGAN

As a result of the implementation of a Special Assessment District initiated by the residents of the Stonebridge Subdivision, West Bloomfield Township contracted with DLZ to perform design and construction engineering services for road improvements in the Stonebridge Subdivision in Section 33 of the Township. The goal of the project was to replace an aging paved surface and bring the road up to Road Commission for Oakland County standards. This project was complex in two aspects: a) ingress and egress had to be maintained during the construction and paving process; and b) during construction it was discovered a 14'x8' CMP Arch culvert had failed under the roadway, requiring unique repair design to keep the project within budget. The repair option selected was to design a soil-supported concrete slab that would work to bridge the culvert.

CLIENT
Charter Township of West Bloomfield
West Bloomfield Township

CONTACT
Marshall Labadie
Director
Development Services Department
(248) 451-4824

PROJECT COST
$750,000

COMPLETION DATE
2015

The improvements were financed through a Special Assessment District (SAD). The scope of the project included Stonebridge Subdivisions Nos. 1 and 2 which totaled approximately 6,450 L.F. in length.

DLZ was responsible for all aspects of design and construction engineering. Design services included gathering of topographic information, coordination for the completion of soil borings, preparation of final plans, acquisition of permits, and bidding. Construction engineering included: construction layout, contract administration, construction inspection, and preparation of project record drawings.

FLOYD J. MCCREE SURFACE PARKING LOT

GENESEE COUNTY, MICHIGAN

DLZ was contracted by Genesee County to prepare plans and specification for the Floyd J. McCree Surface Parking Lot located at Beach and 2nd Streets in the City of Flint.

The project consisted of developing a site plan, grading plan, utility plan for stormwater management, electrical and lighting plans, landscaping plan, required detail sheets. The parking lot was constructed at the site of an existing parking lot and parking structure that was demolished under a separate contract.

DLZ completed a site topographic survey and prepared base plan sheets for design. The existing parking lot was assessed to determine if resurfacing or reconstruction was required. Preliminary plans were prepared including the asphalt parking lot design with underground storm drainage, ADA compliant parking, parking space layout, and landscaping, decorative aluminum fencing, and overhead lighting locations, controlled gate operators, and access drives. A temporary gravel parking surface plan was also prepared. Pavement sections utilized for the project used standard Michigan Department of Transportation details and materials specifications. The preliminary plans were reviewed with the County and final plans were developed incorporating County comments. Specifications and an engineer's estimate of probable construction costs were also prepared.

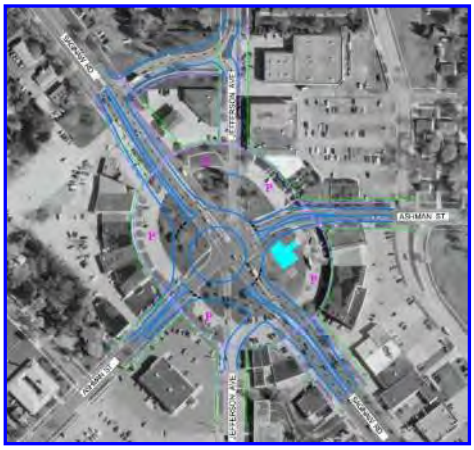
DLZ provided bidding documents to the County and clarifications during the bidding process. Once a contractor was selected, DLZ attended the preconstruction meeting and visited the site during construction and providing inspection reports to the County. Final restoration is underway.

CLIENT
Genesee County
Flint, Michigan

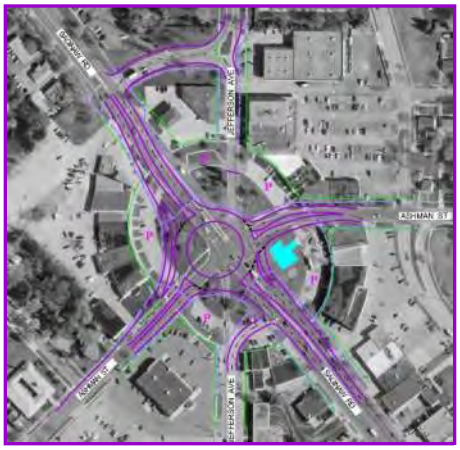
CONTACT
Mr. Joshua Freeman
(810) 762-7762

PROJECT COST
$39,800
$590,000 (Construction)

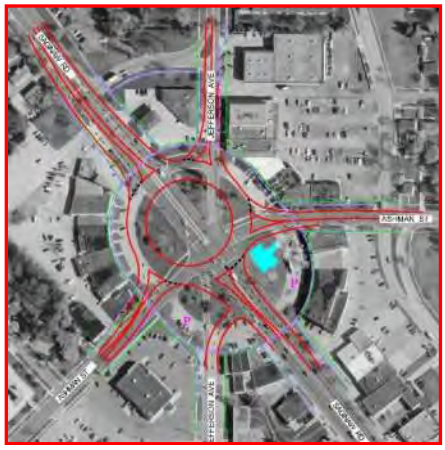
COMPLETION DATE
2018



Concept A



Concept B



Concept C

ASHMAN CIRCLE ROUNDABOUT/FEASIBILITY STUDY

MIDLAND, MICHIGAN

This project involved a detailed comparison of roundabout options for a six-leg intersection in Midland, Michigan. The intersection of Saginaw Road, Jefferson Avenue, and Ashman Street is located within the former Ashman Circle. DLZ was retained by the City of Midland to perform a feasibility study to address existing and future traffic flow and economic opportunities at the intersection. The roundabout options developed by DLZ fit into a larger planning effort for the area known as the Ashman Circle Enhancement Plan.

DLZ performed background research and developed traffic forecasts for the year 2025. This process involved considerable coordination with City staff. Using these volumes, DLZ developed three roundabout concepts for study and consideration. These included four- and five-leg intersection concepts. These concepts were evaluated, a feasibility report was prepared, and DLZ made a presentation to a local citizens/business group. After considering this information, a four-leg modern roundabout was selected as the "preferred" concept to be evaluated in more detail.

OWNER
City of Midland
333 West Ellsworth Street
Midland, Michigan 48640

CONTACT
Mr. Josh Fredrickson
989.837.3353

COMPLETION DATE
2014

Preferred Alternative

ENGINEERING EXPERIENCE

CAD/GIS

DLZ designers are fully trained and experienced in the use of AutoCAD Civil 3D software. Our knowledge and use of this software enables the project team to design, analyze, and visualize projects more efficiently. The built-in functions of the software combined with the experience of our project team of engineers and designers allow for better identification and resolution of potential conflicts and to optimize design. Benefits of this approach include:

- Reduction of drawing and calculation time as a result of using automatic generation for mapping, profile plans, latitudinal sections, general earthwork, etc.;
- Elimination of graphic representation errors ensuring plans are generated based on the client's drawing standards;
- Reduced drawing change requests through the use of a unique and dynamic 3D model;
- Automatic transfer of data from the CAD software to survey data instruments;
- Elimination of quantity estimation errors by using optimized calculations for filling and excavating;
- Creation of as-built files in a format that can be easily imported into a client's GIS.

COMPUTERIZED MAINTENANCE MANAGEMENT SYSTEMS (CMMS)

DLZ has extensive experience in the implementation of Azteca Cityworks CMMS applications having successfully completed them in the Townships of West Bloomfield, White Lake, Port Huron and Egelston, and the Cities of Flint, Pontiac, and Rochester. DLZ also provides GIS and Cityworks training as well as ongoing maintenance and support to better suit our clients' needs.

The DLZ can assist the City with leveraging its investment in GIS to provide a single data warehouse for which all O&M and capital improvement planning can be integrated.

ASSET MANAGEMENT PLANNING (AMP)

DLZ's approach to AMP is to develop Asset Management and Capital Improvement Plans (CIP) as living, breathing documents, that can evolve as projects, data and CIPs are developed. This approach simplifies the transition from planning to budgeting and ultimately construction. DLZ has a proven track record of simplifying the development, implementation, and application of both GIS and CMMS for a number of our clients. This philosophy embodies DLZ's real world operational experience and vision of a comprehensive asset and operations management program to ensure consistent, efficient, and accountable operations.

DLZ has successfully completed four (4) Stormwater, Asset Management, and Wastewater (SAW) Grant projects and are currently working on four (4) additional SAW Grant projects scheduled to be completed in 2019 and 2020. For these projects, our team is performing asset management activities including:

- Installation and development of an ESRI based GIS and geodatabase to map sewer main, storm sewer main, manholes and pumping stations;
- Installation and development of ESRI GIS geodatabase centric CMMS applications for work order, inventory and scheduling related activities;
- Providing project engineering, planning, and management for sewer cleaning and closed- circuit television (CCTV) activities;
- Global Positioning System (GPS) locating and performing National Association of Sewer Service Companies (NASSCO) inspection and rating of manholes and sewers within the communities;
- GPS locating and performing wastewater pumping station inventory and condition assessments;
- Developing a Business Risk Evaluation (BRE) to prioritize and rank these assets using criteria including diameter, age, material, consequence of failure, likelihood of failure, hydraulic and water quality deficiencies, and other criteria including PASER road ratings to formulate optimized and defensible CIPs that meet the Level of Service (LOS) goals and objectives;
- Planning, digitizing, and linking engineering drawings and documents and sewer lead documents to the GIS network;
- Developing a Capital Improvement Plan that is cost effective and efficient for the municipality;
- Creating wastewater and pump station network hydraulic models including calibration of the models;
- Determining Level of Service criteria;
- Determining criticality of assets and development of Business Risk Evaluations;
- Developing Fats, Oils, and Grease (FOG) programs;
- Developing a Funding Support System;
- Preparing a Capital Improvement Plan with cost estimates for assets needing repair, replacement, or upgrades based on findings; and

- Preparing an Asset Management Plan (AMP).
- Development and implementation of Cityworks CMMS and other tools to provide for the long-term management of the assets.

ENGINEERING AND SITE PLAN REVIEW

DLZ's staff have extensive experience with site and engineering plan review for commercial and condominium sites, platted subdivisions, construction plans, and as-built plan reviews. The staff is also familiar with the standards and requirements of the Macomb County Public Works Commissioner's Office, Macomb County Department of Roads, MDOT, ADA, and EGLE standards and requirements. DLZ also provides exclusive Site Plan Review services for the Townships of White Lake, West Bloomfield, and Port Huron.

DLZ will perform layout and grading reviews of all plans to verify conformance with the Zoning Ordinance, the Master Plan, the Code of Ordinances, and the adopted engineering standards of the City. DLZ will report, in writing, to the City its findings pursuant to the technical review.

DLZ will attend site plan review sessions and pre-construction meetings conducted by the City staff, to assist with the working knowledge of the project, and be available for consultation regarding the engineering plans either from the City staff, developer, outside agencies, or other consultants. DLZ will also coordinate reviews with other consultants such as planners that may be employed by the City to minimize conflict and redundancy.

Using thorough and diligent inspection procedures, DLZ staff will collect the GPS locations of all underground appurtenances on the water, sanitary, and storm sewer utilities. That data will be utilized to create a detailed and accurate record drawing of all construction activities whether they are City initiated projects or those of developers. DLZ would propose to require all developers to submit an AutoCAD plan of the proposed develop on the State Plane coordinate system so that the field data could easily be overlaid on the proposed plans to clearly indicate field changes. Additionally, that data could then be imported into GIS as part of the record drawing preparation process. This will verify that the City's GIS system is as up to date as possible, thus facilitating the use of work orders through the Cityworks program that are tied directly to field conditions.

SIDEWALKS AND PATHWAYS

The DLZ project team has assisted many communities in the planning and implementation of sidewalks and pathways for both pedestrian and non-motorized vehicle applications. DLZ services in this area range from preparing master plans for communities and institutions to implementing plans prepared by others. DLZ has recent experience in the design and construction of both concrete and bituminous sidewalks and pathways. As the Engineer of Record for West Bloomfield Township, DLZ has provided design engineering and construction administration services for the Township's annual Safety Path Program for the past several years. This has included the design of boardwalks over wetlands, rivers, and other areas with poor drainage.

West Bloomfield Township Halsted Road Boardwalk

TRANSPORTATION ENGINEERING

DLZ project team members have years of experience working on road design, rehabilitation, and traffic signalization projects for Michigan Department of Transportation (MDOT), Federal Highway Administration (FHWA), and various County road agencies ranging in size from rural roads with low traffic counts to freeways that are part of the interstate system. All road and street projects involve drainage consideration, utility design and/or relocations, maintenance of traffic and resident accessibility, intersection design, traffic studies, signalization, and attention to environmental impacts. DLZ has technical experts to address each of these challenges.

For all these projects, DLZ provides effective communication and updates to residents and businesses that are impacted by detours and lane closures during road construction cycles.

The City is committing $2.5M towards street rehabilitation and reconstruction over the next 3 years. DLZ has the experience and expertise to successfully provide design,

construction, and project administration services for these City projects.

The table below outlines the DLZ MDOT prequalifications. Additional information can be found in our attached Transportation Engineering market sheet, located in Appendix B.

Service Prequalification Classification	
Construction Engineering	**Design (Continued)**
Assistance	Roadway
Roadway	Roadway: Intermediate
Roadway - Local Agency Program	Roadway: Complex
Construction Inspection	Traffic: Capacity & Geometrics Analysis
Bridges & Anciliary Structures	Traffic: Pavement Markings
HMA Pavement	Traffic: Signal Operations - Complex
Roadway	Traffic: Safety Studies
Traffic and Safety	Traffic: Signal
Construction Testing	Traffic: Signal Operations
Aggregates	Traffic: Signing - Freeway
Concrete	Traffic: Signing - Non-Freeway
Density	Traffic: Work Zone Maintenance of Traffic
Design	Traffic: Work Zone Mibility & Safety
Bridges	Utilities: Municipal
Bridges: Complex	Utilities: Pump Stations
Bridges: Load Rating	Utilities: Roadway Lighting
Bridges: Railroad	Landscape Architecture
Bridges: Safety Inspection	Project Development Studies
Bridges: Scoping	Wetlands
Buildings	**Environmental**
Geotechnical	Contamination
Geotechnical: Advanced	Noise Assessment
Hydraulics I	Wetland Assessment
Hydraulics II	

ENGINEERING REPORTS, PLANS, AND STUDIES

The DLZ project team has developed numerous engineering reports and studies including water distribution system reliability studies, master plans, Water Asset Management, Wastewater Asset Management, and Stormwater Asset Management Plans, lake assessment and streambank erosion reports, and much more. Some of these reports are highlighted below for your reference.

City of Rochester 20 Year Water System Master Plan/DWRF Project Plan

DLZ recently prepared a 20-year Water System Master Plan for the City of Rochester, following the update of a water system reliability study. An InfoWATER computer model was calibrated during the preparation of the Reliability Study was used to model system scenarios with updated future demands. The demands were calculated based on future development as identified by the City's Planning Director.

The model was used to develop pressure contour maps for the future demand scenarios. Future system deficiencies were compiled based on model results and recommended system improvements with cost estimates were developed. A Capital Improvement Program was developed with input from Department of Public Works staff and included in the Master Plan.

Data from the Master Plan was utilized to create a $6M DWRF Project Plan that incorporated open-cut construction methods along with directional drilling and pre-chlorinated pipe bursting trenchless technology methods.

West Bloomfield Township SRF Project Plan

DLZ recently assisted West Bloomfield Township with the development and implementation of an SRF Project Plan aimed to identify and alleviate excessive groundwater infiltration and stormwater inflow. A Sanitary Sewer Disposal System Infiltration and Inflow (I/I) Alternatives Feasibility Study was developed to identify high priority projects and recommend a staged approach to meet the objectives. Following this study, DLZ performed sewer system GIS map corrections, wet weather sewer system modeling using InfoSWMM, meter investigations, a meter system pilot study, downspout surveys, and manhole I/I inspections. Over the last several years, DLZ has performed design and construction engineering services for multiple pumping station improvements and rehabilitations throughout the Township.

Waterford Township 2013 Drinking Water Revolving Fund Projects – Residential Water Meter Replacements

The DLZ project team developed a Drinking Water Revolving Fund (DWRF) Project Plan for Waterford Township's DPW that included a 20-year capital improvement plan for upgrading water system components. Three projects with immediate need were included and developed as the Selected Alternative including replacement of approximately 18,900 existing residential water meters with state-of-the-art meters and fixed based automated meter interface units (MIUs) for transmitting meter readings.

The Table to the right outlines a list of DWRF and SRF projects that we have developed and implemented since 2006. These projects total over $110M in construction costs.

The DLZ project team has recently completed additional DWRF Project plans for Bay City and the Townships of Port Huron and White Lake.

PERMITTING

Many engineering projects involve permitting through government/regulatory agencies. The DLZ project team has been involved in the acquisition of numerous permits for construction of water mains, sanitary sewers, storm sewers and outfalls, flood plain and stream modifications, and water and wastewater treatment plants, through a variety of agencies. Most project permits are issued through EGLE, MDOT, the GCDCWWS, GCRC, and the U.S. Army Corps of Engineers. Our team has vast experience in working and coordinating with these agencies on various projects. DLZ has several Certified Construction Storm Water Operators and additional staff with Certifications to review SESC plans and other related documents, as well as perform as-needed SESC inspections.

GRANT AND LOAN PROGRAMS

The DLZ project team has vast experience with the development and administration of various state and federal grant funding program applications including the Michigan Department of Environment, Great Lakes, and Energy (EGLE) Wellhead Protection Program, Nonpoint Source Program, and Clean Michigan Initiative, Michigan Department of Natural Resources (MDNR) Trust Fund, Land Water Conservation Fund, and Aquatic Habitat, and Recreation Passport Grants, Safe Routes to School, Transportation Alternatives Program (TAP), Community Development Block Grant (CDBG) Program, and many others.

The DLZ project team is currently providing MDNR grant administration services for the City of Madison Heights Wildwood Park Improvements Project, which includes a new Universally Accessible (UA) playscape, swing sets, benches, several ground features, 2 UA picnic tables, and a UA walkway from the parking lot to the park amenities.

The DLZ project team is also providing similar services for the Laketon Township Horton Park project which consists of an Americans with Disabilities Act (ADA) accessible kayak launch, playground and walkways, covered pavilion, and parking to accommodate both personal vehicles and vehicles with boat trailers, and installation of lighting for safety and security.

DLZ has helped our clients successfully acquire over $169M in grants and loans.

In addition to the above projects, DLZ provided engineering services to West Bloomfield Township for various energy efficiency and weatherization measures at seven Township-owned facilities. This project was funded in part through an Energy Efficiency and Conservation Block Grant (EECBG).

In the capacity of Township Engineer for West Bloomfield Charter Township, DLZ is currently assisting with the design of Intersection Improvements to pathways at two locations. These improvements are funded by Community Development Block Grant (CDBG) funding.

Date	Grant/Loan Program	Client	Project Name
2012	DWRF	Waterford Twp.	Project Plan and Administration
2013	DWRF	Waterford Twp.	Water Main Replacement - Directional Drilling
2013	DWRF	Waterford Twp.	Water Main Lining
2013	DWRF	Waterford Twp.	Residential Meter Replacements
2012	SRF	Waterford Twp.	Project Plan and Administration
2013	SRF	Waterford Twp.	Sanitary Sewer Pump Station Rehabilitation
2006	SRF	Waterford Twp.	Project Plan and Administration
2007	SRF	Waterford Twp.	Sanitary Pump Station Rehab/Flood Proofing
2007	SRF	Waterford Twp.	Manhole Rehabilitation
2007	SRF	Waterford Twp.	Clinton River Pump Station Rehabilitation
2007	SRF	Waterford Twp.	Sewer Lateral Lining
2006	DWRF	Waterford Twp.	Project Plan and Administration
2007	DWRF	Waterford Twp.	Hess-Hathaway and Ridgetop Water Treatment Plants
2017	DWRF	Rochester	Project Plan and Administration
2018	DWRF	Rochester	Water Main Replacement - Directional Drilling
2018	DWRF	Rochester	Water Main Replacement - Pre-chlorinated Pipe Bursting
2016	SRF	Rochester	Project Plan and Administration
2017	SRF	Rochester	SRF Design, Specifications, and CA
2009	DWRF	West Bloomfield Twp.	Hiller Road Water Main
2009	DWRF	West Bloomfield Twp.	Haggerty Water Main
2009	DWRF	West Bloomfield Twp.	Alden-Wellington Water Main Replacement
2009	DWRF	West Bloomfield Twp.	Bloomfield Farms Water Main
2008	DWRF	West Bloomfield Twp.	Lochaven Road Water Main
2009	DWRF	West Bloomfield Twp.	PRVs WB-B/WB-4, WB-C/WB-3 AND WB-O/WB-6 Improvements
2009	DWRF	West Bloomfield Twp.	PRVs WB-M AND WB-N Improvements
2009	DWRF	West Bloomfield Twp.	PRVs WB-F, WB-G AND WB-H Improvements
2009	DWRF	West Bloomfield Twp.	PRV WB-A and GLWA METER WB-2 Improvements
2009	DWRF	West Bloomfield Twp.	PRV Vault Abandonments, Air Relief & Pressure District Valves
2008	DWRF	West Bloomfield Twp.	DWRF Administration
2009	DWRF	West Bloomfield Twp.	DWRF Closeout
2011	SRF	West Bloomfield Twp.	Project Plan and Administration
2011	SRF	West Bloomfield Twp.	Sanitary Sewer Manhole Rehabilitation
2011	SRF	West Bloomfield Twp.	Sanitary Sewer Lining
2016	DWRF	OCWRC	City of Pontiac Water Main Replacement and Looping
2016	DWRF	OCWRC	City of Pontiac Water Main Replacement and Looping
2016	DWRF	OCWRC	City of Pontiac Meter Installation - Phase I
2017	DWRF	OCWRC	City of Pontiac Meter Installation - Phase II
2009	SRF	City of Pontiac	Project Plan and Administration
2009	DWRF	City of Pontiac	Project Plan and Administration
2010	SRF	City of Pontiac	Pontiac Lift Station Rehabilitation
2010	DWRF	City of Pontiac	Major Valve Replacement
2009	DWRF	White Lake Twp.	Project Plan and Administration
2010	DWRF	White Lake Twp.	Contract 7 - Water Main
2010	DWRF	White Lake Twp.	Contract 8 - Water Main
2010	DWRF	White Lake Twp.	Hurondale Booster Station

APPENDIX A

AGREEMENT FOR ENGINEERING SERVICES

This Agreement is entered into as of this **[DAY]** day of **[MONTH]**, 20**[_____]**, (hereinafter referred to as the "effective date of the Agreement"), by and between **[NAME OF DLZ COMPANY]**, hereinafter called "DLZ," located at **[ADDRESS OF DLZ COMPANY]** and **[NAME OF CLIENT]**, hereinafter called "Client," located at **[CLIENT ADDRESS]**.

WITNESSETH

WHEREAS, the Client is authorized to make and enter into all contracts or agreements which it determines are necessary or incidental to the performance of its duties and to the execution of the purposes of and the powers granted by the State of **[STATE]**;

WHEREAS, in accordance with its procurement procedures, the Client has determined that it desires to hire DLZ to perform certain services in connection with **[NAME OF PROJECT]**, hereinafter called the "Project" as set forth herein; and

WHEREAS, DLZ desires to assist the Client as provided herein;

NOW, THEREFORE, in consideration of the premises, the mutual covenants and agreements herein set forth, and the undertakings of each party to the other, the Client and DLZ, acting as aforesaid and each binding itself, its successors and assigns, do mutually covenant, promise and agree as follows:

I. SCOPE OF SERVICES

DLZ shall, in a professional manner, perform the services set forth in Exhibit A, attached to this Agreement.

II. COMPENSATION

A. DLZ shall be compensated as set forth in Exhibit **[_____]** for services rendered under this Agreement.

B. DLZ shall promptly bill Client for all professional fees and expenses incurred on a monthly basis, and Client shall make payment in full to DLZ within 30 days of the date of each invoice.

C. If the Client does not make payment in full to DLZ within 60 days of the date of an invoice, DLZ may suspend services upon 7 days written notice on the basis of non-performance on the part of the Client. When all payments due have been made, DLZ will continue its services.

III. PERIOD OF PERFORMANCE

DLZ agrees to commence performance of services hereunder upon receipt of a written "Notice to Proceed." Client recognizes that DLZ's work and the completion thereof may

be conditioned upon Client's review of DLZ's work and/or the timely performance and completion of certain activities by Client. DLZ shall not be held liable for delays in performance of services hereunder that arise from causes beyond DLZ's reasonable control and without its fault or negligence.

IV. CLIENT RESPONSIBILITY

A. Client shall identify and coordinate all services to be performed hereunder.

B. Client will verify that DLZ has a complete understanding of the scope of services to be performed hereunder. Client shall provide DLZ, in a timely fashion, all information reasonably required for the performance of the services by DLZ to be performed hereunder.

C. Client shall upon execution of the Agreement, designate **[NAME OF COORDINATOR OF PROJECT]**, as coordinator of the Project described herein and of the professional services to be performed under this Agreement.

D. Client shall provide DLZ with reasonable access to the premises necessary for the performance of the services required under this Agreement.

V. INDEPENDENT CONTRACTOR

It is understood and agreed that DLZ shall provide services under this Agreement as an independent contractor and that during the performance of services under this Agreement, DLZ's employees shall not be considered employees of the Client.

VI. TERMINATION

It is hereby agreed that if either party should fail materially to fulfill its obligations under this Agreement, the other party may notify the breaching party of the intent to terminate the contract, in whole or in part, if the breach is not cured as provided in this Article. Such notice to the breaching party shall be given, in the manner required in Article XII of this Agreement, thirty (30) days prior to the effective date of the intended termination and shall identify the breach to be cured. The breaching party shall have thirty (30) days from receipt of the notice to cure the breach identified in the notice. The failure to cure the breach within thirty (30) days shall entitle the nonbreaching party to terminate the Agreement at the end of thirty (30) days. DLZ shall use reasonable efforts to minimize fees and expenses upon giving or receiving notice of any intended termination. Client shall pay DLZ all fees and expenses accrued for services rendered up to the effective date of any termination.

VII. INSURANCE

DLZ shall maintain at DLZ’s own expense (1) Comprehensive General Liability Insurance, (2) Professional Liability Insurance for negligent acts, errors and omissions and (3) Worker's Compensation Insurance which insurance shall provide coverage for

liabilities or claims for damages resulting from services performed or undertaken by DLZ hereunder. Certificates of Insurance shall be furnished to Client upon request of Client.

VIII. CHANGES

Changes or amendments to this Agreement may be made only in writing signed by a duly authorized representative of each of the parties. Changes in scope of the project dictated by the Client and changing conditions of law or schedule delays or other events beyond DLZ's reasonable control will require contract price and/or date of performance revisions to reflect such changes or delays.

IX. ASSIGNMENT AND DELEGATION

Neither party shall assign or delegate this Agreement or any right, duties or obligations hereunder to any person and/or entity without prior express written approval to the other.

X. TRADEMARK AND TRADE NAME

Notwithstanding any other provision of this Agreement, neither party shall have the right to use the trademark or trade name of the other without prior written approval of the other.

XI. STANDARD TERMS AND CONDITIONS

The Standard Terms and Conditions attached hereto as Exhibit **[_____]** are incorporated herein and made a part of this Agreement.

XII. NOTICES

All notices shall be in writing and be deemed to be given or made when delivered by hand or by regular U.S. mail as follows:

A. Notices to DLZ shall be addressed to: **[DLZ CONTACT AND ADDRESS]**.

B. Notices to the Client shall be addressed to: **[CLIENT CONTACT AND ADDRESS]**.

XIII. GENERAL PROVISIONS

A. Entire Agreement: This Agreement constitutes the entire agreement between the parties with respect to its subject matter and any prior agreements, understandings, or other matters, whether oral or written, are hereby merged into and made a part hereof, and are of no further force or effect. This agreement may be amended, changed, or supplemented only by written agreement executed by both of the parties hereto.

B. Conflict: In the event of any conflict, ambiguity or inconsistency between this Agreement and any other document which may be annexed hereto, the terms of this Agreement shall govern.

C. Waiver: No waiver shall be deemed to have been made by any of the parties unless expressed in writing and signed by the waiving party. The failure of any party to insist in any one or more instances upon strict performance of any of the terms or provisions of this agreement, or to exercise any option of election herein contained, shall not be construed as a waiver or relinquishment for the future of such terms, provisions, option or election, but the same shall continue and remain in full force and effect, and no waiver by any party of any one or more of its rights or remedies under this Agreement shall be deemed to be waiver of any prior of subsequent rights or remedy hereunder or at law. All remedies afforded in this Agreement shall be taken and construed as cumulative; that is, in addition to every other remedy available at law or in equity.

D. Severability: If any term or provision of this Agreement or the application thereof to any person or circumstances shall, to any extent, be invalid or unenforceable, the remainder of this Agreement, or the applications of such term or provisions of this Agreement shall be valid and enforced to the fullest extent permitted by law.

E. Captions: Captions and paragraph headings are inserted only as a matter of convenience and in no way define, limit, or describe the scope or intent of this Agreement.

F. Governing Law: This Agreement shall be governed by and construed in accordance with the laws of the State of **[STATE]**.

XIV. EMPLOYMENT ELIGIBILTY VERIFICATION

DLZ affirms it does not knowingly employ unauthorized aliens. DLZ shall enroll in and verify the work eligibility status of all its newly hired employees through the E-Verify program as defined in IC 22-5-1.7-3. DLZ is not required to participate should the E-Verify program cease to exist. DLZ shall not knowingly employ or contract with any unauthorized alien. DLZ shall not retain an employee or contract with a person whom DLZ learns is an unauthorized alien. DLZ shall require all of its subconsultants, who perform work under this Agreement to certify to DLZ that the subconsultant does not knowingly employ or contract with unauthorized aliens and that the subconsultant has enrolled and is participating in the E-Verify program. However, the subconsultant is not required to participate if the subconsultant is self-employed and does not employ any

employees. DLZ agrees to maintain this certification requirement throughout the duration of the term of its contract with a subconsultant.

IN WITNESS WHEREOF, the parties by their duly authorized representatives, have caused this agreement to be executed as of the date first written above.

[CLIENT FIRM NAME]	**[NAME OF DLZ COMPANY]**
By: _____	By: _____
(Name)	(Name)
_____	_____
(Signature)	(Signature)
_____	_____
(Title)	(Title)
_____	_____
(Date)	(Date)

APPENDIX B

CHICAGO REDLINE SURVEY, ILLINOIS

DLZ
ARCHITECTURE • ENGINEERING • PLANNING
SURVEYING • CONSTRUCTION SERVICES

SURVEYING SERVICES

DLZ has extensive experience with a history that spans more than 100 years. Our professional land surveyors are licensed in numerous states throughout the country. With more than 50 full time field crews, the depth of our resources and diverse experience provides us the opportunity to offer the professional surveying services you need, when you need them.

DLZ uses the latest survey technologies, from conventional GPS and robotic total stations and today's high-end technologies including 3-D HDS (High Definition Surveying) Laser Scanners, and underground tunnel alignment lasers.

Our services include:

- ALTA/ACSM land title surveys
- Boundary surveys
- Topographic surveys
- Hydrographic surveys
- Route surveys
- Right-of-way survey
- Right-of-way engineering
- Right-of-way acquisition
- Easement surveys
- Geodetic control surveys
- Ground control for photogrammetric surveys
- Volumetric surveys (bulk material inventory)
- Site surveys for construction
- Construction layout and monitoring (quality control)
- As-built surveys
- FEMA elevation certificates
- Geographic Information System (GIS) database development
- HDS laser scanning
- Industrial distribution surveys
- High precision equipment alignment
- Settlement checks and movement monitoring
- Unmanned Aircraft Systems (UAS) surveying

CITY OF MARYSVILLE, TRUNK INTERCEPTOR PROJECT *($40M)*

DLZ CONSTRUCTION SERVICES

ARCHITECTURE • ENGINEERING • PLANNING
SURVEYING • CONSTRUCTION SERVICES

DLZ is a leader in design and construction of public infrastructure. Our construction services division provides construction management, construction observation, scheduling, claims analysis, document control, risk analysis, value engineering, field quality control and laboratory testing for the construction and rehabilitation of transportation and utility projects. Our flexibility and full service capabilities allow us to serve our clients for their smallest projects to projects exceeding $300 million in construction.

DISTRICT 6-FRA-71/670 *(Design Build, $200M)*

DLZ's construction services personnel are dedicated construction managers, engineers and inspectors that provide services from pre-design through construction and commissioning. Our team-oriented approach allows us to facilitate solutions to construction issues and provide fully integrated services that keep the owner in control.

DUGWAY EAST INTERCEPTOR RELIEF SEWER *($17.5M)*

DISTRICT 12 - CUY-90 *(Design Build $287M)*

OLENTANGY-SCIOTO AUGMENTATION RELIEF SEWER, COLUMBUS, OHIO

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SURVEYING • CONSTRUCTION SERVICES

GEOTECHNICAL AND SUBSURFACE INVESTIGATION

Unlike most organizations, DLZ actually brings all of the necessary geotechnical service lines together under one roof. DLZ's geotechnical professionals provide a full range of geotechnical, geo-structural, geo-environmental, and materials engineering services, including laboratory testing of soils and materials, construction monitoring and testing, as well as drilling and subsurface investigation and sampling.

DLZ's geotechnical subsurface investigation capabilities include truck, all-terrain vehicle, and barge drilling. DLZ crews are experienced in soil and rock sampling as well as instrumentation installations. DLZ geotechnical engineers provide geotechnical support to other DLZ projects as well as stand-alone geotechnical assignments.

DLZ's areas of expertise include:

- Geotechnical engineering
- Subsurface investigation
- Surveying services
- Right-of-way design and acquisition
- Environmental studies

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SURVEYING • CONSTRUCTION SERVICES

GIS TECHNOLOGY AND YOUR COMMUNITY

Having access to up-to-date, accurate data is essential to balancing the needs of the community with available public funding.

Every community, regardless of size, is faced with the challenge to save money, improve operations, and solve problems. In today's technology-driven world, community leaders rely more and more on geospatial information to address complex issues in a more strategic manner. From infrastructure renovations and replacements to economic development, the implementation of a Geographic Information System (GIS) can help communities streamline processes, manage vital information, and help plan for the future. GIS integrates hardware, software, and data for capturing, managing, analyzing, and displaying all forms of geographically referenced data.

Today, GIS is one of the fastest growing technologies. This growth is due to both the increasing demand for information and the ever-increasing ability of computer technology to provide efficient, cost-effective data processing and management capabilities.

At DLZ, we believe that people are the link between technology and a community's ability to develop and grow.

As a full-service consulting firm, we combine engineering excellence with proven GIS expertise to provide our clients with comprehensive capabilities and a unique insight into their individual needs. Our team of GIS specialists is prepared to work side by side with you, delivering tailored solutions to address your short- and long-term plans. We can make the collection and management of data, ranging from digital photos, scanned as-built plans, external databases, and documentation, fast, easy, and accurate.

THE RESULT

- Better information
- Better control
- Better decisions
- Better quality

The key to developing and applying a successful GIS begins with a clear understanding of your needs. Whether you lack the in-house capability or your in-house staff is flooded with work, our goal is to deliver systems that are immediate

solutions, easily maintainable, and expandable to the community's long-term needs.

DLZ is prepared to provide your community with an intelligent and customized system, enabling quick access to important information for better decision making.

OUR SERVICES INCLUDE

Water/Wastewater

- Utilities inventory
- Capital improvement planning
- Operations and maintenance applications
- Utility coordination
- Permitting support
- As-built drawing management
- Hydrologic and hydraulic modeling

Transportation

- Traffic engineering
- Pavement management

Our database design can address the needs of public works, public utilities, planning departments, parks and recreation, police/fire departments, and financial services.

Public Safety

- Crime/fire incident mapping
- Fire hydrant locations
- Traffic collision analysis

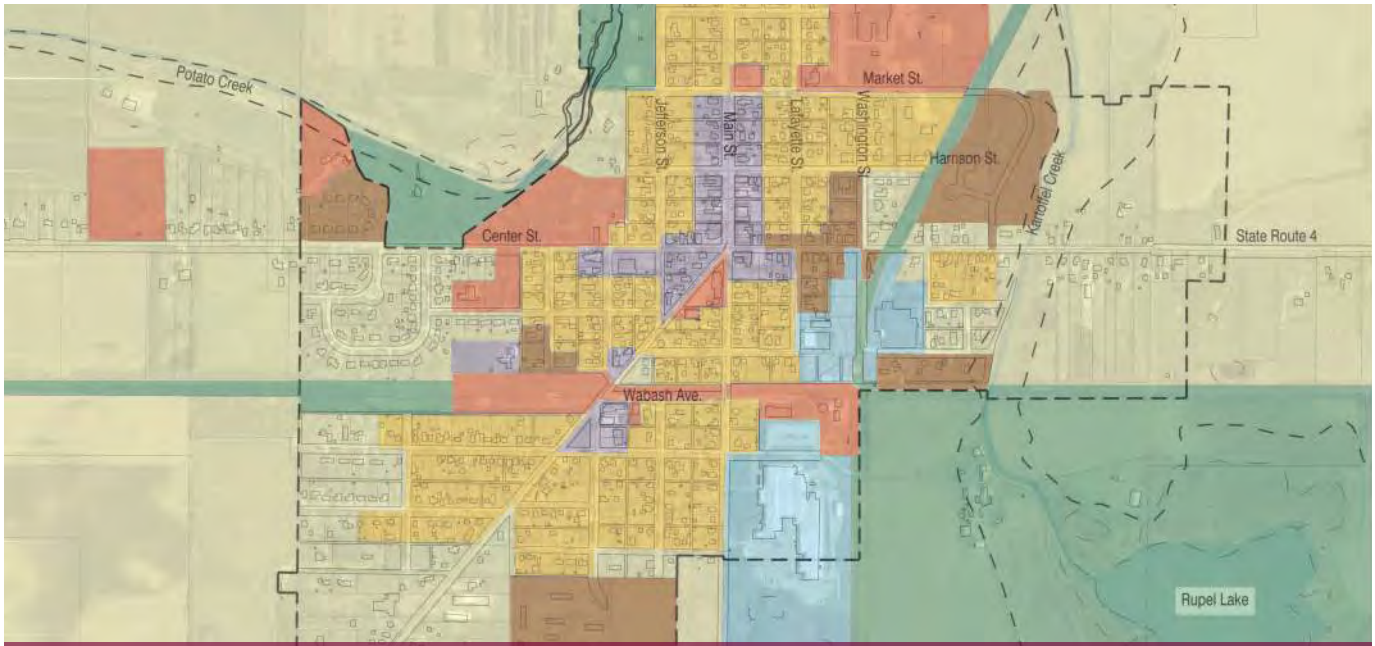
Economic Development

- Transportation planning
- Demographic analysis

Extensive Cityworks CMMS Development, Implementation and Training

WHAT YOU SHOULD EXPECT FROM A GIS CONSULTANT

- Keen understanding of your business needs
- Superior customer service, even after the project is completed
- User-friendly systems that can be maintained by your staff
- Cross section of GIS and engineering expertise
- Flexible workforce to accommodate your way of doing business
- Strict attention and adherence to schedule and budget



NORTH LIBERTY COMPREHENSIVE PLAN, NORTH LIBERTY, INDIANA

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PLANNING

DLZ's talented and versatile planners, engineers, architects, landscape architects, scientists, and support staff allow our firm to provide a diversity of planning services. We have helped numerous communities develop plans intended to preserve/create a community amenable to the values of its citizens. Our position as an outside expert relieves us from excessive special interest pressure allowing us to develop plans in the best interest of the community. These plans require the analysis of various design elements, including annexation proceeding, zoning, signage, parking, community involvement, landscaping, utilities, traffic, property rights, community standards, neighborhood identity, capital improvement, and growth management.

Our services include:

- Master plan development
  - Municipal
  - Watershed
  - Recreational
- Feasibility studies
- Zoning ordinance development/review
- Transportation facility development
- Citizen surveys
- Geographic information consulting
- CBD/main street revitalization plans
- Comprehensive plans
- Housing
- Urban design

NEW MOBILITY SERVICES FACILITY, COLUMBUS, OHIO *(LEED Silver Rating)*

ARCHITECTURE/BUILDING ENGINEERING

Exceptional design is the result of strong leadership and teamwork. DLZ's design process includes the use of the latest design software, including REVIT Architecture, and a focus on sustainable design principles. DLZ's architectural staff is dedicated to creating responsive, memorable architecture. Early involvement of the client and key stakeholders in the architectural process solidifies the design team's understanding of project needs and client goals. At DLZ, we are energized by developing design solutions that exceed our client's expectations.

DLZ's design professionals are proficient in REVIT Architecture, which enables them to work effectively in the Building Information Modeling (BIM) environment. Working in a BIM environment allows DLZ's architects to develop more sustainable, accurate designs, thus allowing for critical decisions to occur earlier in the design process when they have the greatest impact on project success and cost.

SUSTAINABILITY/LEED CERTIFICATION

DLZ's LEED Accredited Professional architects and engineers utilize the principles of sustainable design to reduce the carbon footprint and to minimize the environmental impact associated with our projects. DLZ designs projects using LEED design principles and has completed projects ranging from LEED Certified to LEED Gold.

DLZ actively promotes renewable energy and we seek opportunities to restore our environment and to create a new model of sustainable community development. DLZ's LEED APs are experts in sustainable design, LEED Certificate consulting, and LEED building commissioning. The design of structures that conserve the earth's resources and save energy is a constant focus at DLZ.

As a leader in the architectural community, DLZ has significant experience in:

- Complete facility design
- Program development
- Interior design
- New construction
- Renovation/restoration
- Americans with Disabilities Act compliance
- Capital improvements
- Structural/Mechanical/Electrical/Plumbing design
- Commissioning
- LEED certification
- Interior and exterior wayfinding and signage
- Quality management and peer review

I-670 INTERNATIONAL GATEWAY, COLUMBUS, OHIO

TRANSPORTATION ENGINEERING

The strength and growth of the nation's economy are closely linked to the strength of our roads, highways, and bridges. For more than a century, DLZ has provided comprehensive transportation planning, design, and construction services, from rural roads to complex urban freeways, interchanges, and bridges; from airport runways, taxiways, and aprons to railroad bridges and tracks; as well as bikeways and parking lots for commercial developments. The scope of our work has involved all engineering design services from preliminary route studies through complete roadway and bridge design including construction inspection and materials testing. Serving the transportation industry's needs is an important part of DLZ's business...and has been for over 100 years.

Our services include:

- Transportation planning
- NEPA studies and compliance
- Location and right-of-way surveys
- Highway geometrics and alignment
- Drainage
- Pavement design
- Bridge inspection and scour analysis
- Airport facilities
- Bridge and retaining wall design
- Traffic engineering and Intelligent Transportation Systems (ITS)
- Traffic signal and traffic signal system design
- Roadway and interchange lighting
- Soils and foundation investigations
- Foundation design
- Construction staking and construction testing
- Construction inspection and management
- Right-of-way engineering and acquisition
- Surveying
- Railroad grade separations
- Road rehabilitation

HAMMOND OPTIMIST CLUB YOUTH SPORTS COMPLEX MASTER PLANNING, HAMMOND, INDIANA

DLZ | PARKS AND RECREATION

ARCHITECTURE • ENGINEERING • PLANNING
SURVEYING • CONSTRUCTION SERVICES

DLZ provides Parks & Recreation consulting services for community parks of all sizes. Our designs have featured multi-field athletic complexes, individual sports fields, playgrounds, aquatic features, skate parks, campgrounds, dog parks, recreational trails, greenways, and interpretive features. We offer innovative solutions that are sustainable and sensitive to the context of the site.

Parks & Recreation consulting services are led by our LEED® accredited professional landscape architects, with assistance from in-house engineers, architects and technicians, addressing support facilities and infrastructure needs. Our clients include municipalities, counties, state agencies and private institutions.

Our professional services include:

- Open-space evaluations
- Needs assessment and programming
- Public input meetings
- Accessibility evaluations
- Conceptual design
- Park master plans
- Design and preparation construction documents
- Assisting with public bid procurement
- Construction administration

Support services include:

- Professional surveying services
- Wetlands investigations
- Utilities coordination and research
- Public agency coordination
- Permitting
- Hydrologic and hydraulic analysis
- Site utilities
- Site lighting
- Sports field lighting
- Design of public service buildings
- Roadways and parking
- Construction observation

SOUTH CALUMET BUSINESS DISTRICT, CHESTERTON, INDIANA

DLZ
ARCHITECTURE • ENGINEERING • PLANNING
SURVEYING • CONSTRUCTION SERVICES

GREEN INFRASTRUCTURE

DESIGNING FOR A SUSTAINABLE FUTURE

At DLZ, we help clients protect our nation's natural resources for future generations and provide effective and economical storm water management. The use of Integrated Planning (IP) and the development of Green Infrastructure (GI) is one way we do that. GI uses vegetation, soils, and natural processes to manage water and create healthier urban environments and has emerged as a best practice for storm water management.

GI solutions are defined as planned and managed natural and semi-natural systems which can provide more categories of benefits when compared to traditional gray infrastructure. GI solutions can enhance or even replace a functionality that is traditionally provided by gray structures. Unlike gray infrastructure that simply moves storm water runoff, GI mimics nature by filtering and cleaning the water and keeping it in place, thus reducing degradation to local receiving waterways.

GI is comprised of various sustainable solutions some of which include:

- bioswales
- rain gardens
- planter boxes
- pervious pavement

The challenge is to strike the right balance between sustainable solutions and engineering efficiency. At DLZ, we understand the value that sustainable solutions can bring to these engineering challenges.

PROJECT EXPERIENCE

UNIVERSITY OF NOTRE DAME CAMPUS ROADS PROJECT, SOUTH BEND, INDIANA

A comprehensive range of design and construction inspection services, incorporating several GI components, for the reconstruction of several major roadways surrounding the University of Notre Dame campus.

CREATIVE CAMPUS STUDY, COLUMBUS, OHIO

ROADWAY IMPROVEMENTS — CREATIVE CAMPUS STUDY, COLUMBUS, OHIO

Redesign of streets surrounding the Columbus Museum of Art and the Columbus College of Art & Design incorporating several GI components including tree lawn with mature street trees; permeable pavements; raised, landscaped medians; and landscape beds.

NEORSD EAST 140TH STREET INTERCOMMUNITY RELIEF SEWER AND GREEN INFRASTRUCTURE, CLEVELAND, OHIO

The flow into the existing combined system was significantly reduced by utilizing various green infrastructures such us detention, flow redirection, and improvements to the private properties. This approach allowed for an estimated $20 million in construction cost savings due to the reduction in pipes sizes and for improvements to the community's appearance by providing attractive landscape features.

EAST FRANKLINTON IMPROVEMENTS, COLUMBUS, OHIO

This redevelopment of the city's oldest neighborhood is a major focus for the continued revitalization of downtown and surrounding communities. GI storm water control is part of the complete street design which may include trees, gardens, and patios; some pervious curbs and pavement; and various approaches to storm water harvesting such as artistic downspouts, cisterns, "rain chains", water walls, and even rain-fed fountains.

FIREKEEPERS CASINO, BATTLE CREEK, MICHIGAN

DLZ provided a range of professional services to incorporate green infrastructure elements related to on-site storm water control, vehicular circulation, pedestrian circulation, site lighting, and incorporation of native plant environments.

HYBRID DITCH GREEN INFRASTRUCTURE, INDIANAPOLIS AND GREENFIELD, INDIANA

A modified form of swale, this system is particularly effective in areas with little or no slope to convey storm runoff. The system is designed with perforated underdrain and a permeable planting soil mixture. The perforated pipe is surrounded by a geotextile to prevent sediment from clogging the perforations. A small inlet is placed at locations along the system as an overflow. The hybrid ditch requires very little maintenance beyond mowing.

DETROIT WAYNE COUNTY METROPOLITAN AIRPORT, RUNWAY 4/22 ENVIRONMENTAL MITIGATION

This project included the development and implementation of a detailed mitigation plan for all impacts associated with the development of the fourth parallel runway at the Detroit Metropolitan Wayne County Airport. The mitigation plan addressed the displacement of more than 175 acres of wetland, the relocation of Hale Creek and several drains and tributaries, the remediation of environmentally contaminated sites, the relocation of state listed threatened and endangered species, and the design of more than 290 acres of mitigation wetland.

MICHIGAN DEPARTMENT OF TRANSPORTATION MACKINAW CATTLE COMPANY WETLAND DESIGN, OGEMAW COUNTY, MICHIGAN

DLZ was responsible for the wetland mitigation design, construction plans, and bid specifications for this wetland creation to compensate for a portion of the wetlands affected by the US-23 Freeway Extension Project and as pre-mitigation for other planned transportation improvements in northeast Michigan. DLZ developed several design concepts for the entire 960-acre site and was authorized to proceed to the design phase for 76 acres of wetland for this project.

CITY OF SOUTH BEND — MEMORIAL HOSPITAL

This GI-focused project provided a parking lot of interlocking permeable pavers to reduce storm water runoff. The project also incorporated bioswales to further reduce runoff. Energy efficient lighting and an irrigation system were also included.

ARCHITECTURE • ENGINEERING • PLANNING
SURVEYING • CONSTRUCTION SERVICES

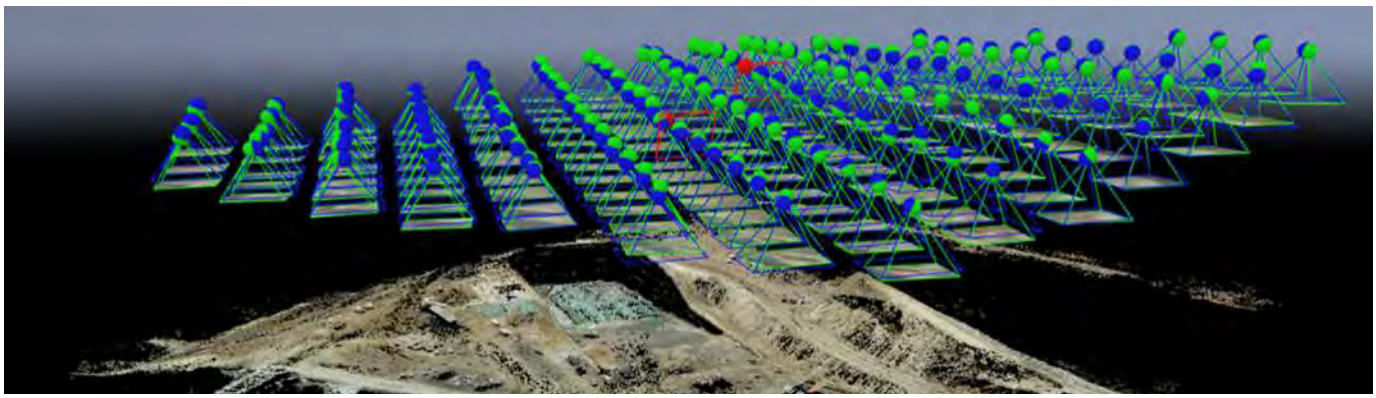
WETLAND SERVICES

DLZ has extensive experience in performing wetlands studies, permitting and wetland mitigation. Services include INDOT Waters of the US Reports/wetland determinations, routine delineations, mitigation design, permit document preparation, annual mitigation monitoring, construction monitoring, and floristic quality evaluations for numerous projects.

All wetland investigations are performed in accordance with the Corps of Engineers 1987 Wetland Delineation Manual (Department of the Army Technical Report Y-87-1) and the applicable Regional Supplement to the Corps of Engineers Wetland Delineation Manual including all provisions required by Section 404 of the Clean Water Act, Section 401 Water Quality Certification, and IDEM Isolated Wetland Permit.

DLZ's numerous wetland mitigation plans and developed wetland mitigation measures comply with the 1990 Memorandum of Understanding between Indiana Department of Natural Resources, Indiana Department of Transportation, and United States Fish and Wildlife Service.

DLZ also has extensive experience in compliance with Part 303 of Michigan Public Act regarding impacts to jurisdictional wetlands and permitting requirements as well as Part 301 of Michigan's Natural Resources and Environmental Protection Act regulations for impacts to waters of the State of Michigan.



UNMANNED AIRCRAFT SYSTEMS

With more than 600 people in 22 offices, DLZ is one of the top consulting firms in the architectural, engineering, and surveying industry. We are consistently ranked as a Top Design Firm in the United States by Engineering News-Record and the leader in the Midwest. In 2016, **ENR Midwest named DLZ Design Firm of the Year**. Our professionals work cohesively to safely deliver a wide range of project sizes and types across the country.

DLZ is your source for the latest surveying technologies. From High Definition Laser Scanning to Hydrographic Surveying, DLZ offers cutting edge solutions to all your surveying needs. Our professional surveyors are licensed in numerous states nationwide. With more than 40 full time field crews, the depth of our resources, diverse experience, and reputation for excellence provides us the opportunity to meet any challenge head on.

UNMANNED AIRCRAFT SYSTEMS

The emergence of Unmanned Aircraft Systems (UAS) has allowed DLZ to provide clients the most comprehensive view of field conditions. DLZ has the tools and expertise to accurately capture real world conditions and bring them to your desktop. The use of UAS technology allows DLZ to acquire data with limited need for field personnel to get physically near surveyed objects. This promotes safety and efficiency in the field, especially in conditions that could be hazardous to our employees.

With several FAA certified licensed Remote Pilots, DLZ understands Federal regulations, airspace restrictions, and procedures. We have invested in the latest technology including both multi-rotor (helicopter) and fixed wing options allowing for multiple surveying and inspection applications.

SURVEYING AND MAPPING

- Topographic survey
- Volumetric quantities
- Industrial
- Mining
- Power
- Asset management
- Architectural renderings
- Disaster relief
- Wildlife planning
- Orthomosaic documentation

INSPECTION

- Bridges
- Dams
- Tunnels and shafts
- Buildings
- Wind turbines
- Cellular towers
- Building heat loss (thermal)
- Bridge deck delimitation (thermal)
- Insurance claim adjustments
- Traffic count monitoring

CONSTRUCTION AND AS-BUILT

- Thermal monitoring
- Progress monitoring
- As-builts
- Stockpile/material quantity tracking
- During/after construction
- Fly-by video

PROJECT EXPERIENCE

LS POWER — SENECA UR HYDRO ELECTRIC PUMP STORAGE FACILITY | WARREN COUNTY, PENNSYLVANIA

- Dam monitoring
- Maintenance tracking
- As-built aerial mapping
- Orthomosaic documentation
- Point cloud analysis

LANDFILL ANALYSIS | CUYAHOGA COUNTY, OHIO

- Landfill mapping
- Volumetric analysis
- As-built aerial mapping
- Orthomosaic documentation
- Point cloud analysis

BRIDGE NO. 72 | BOONE COUNTY, INDIANA

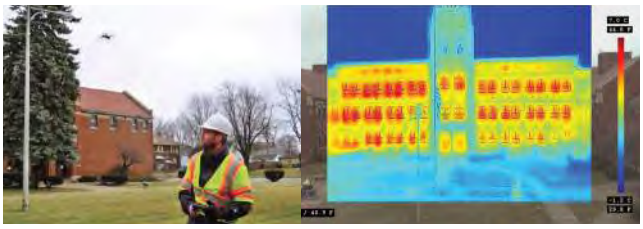
- Aerial bridge inspection
- Orthomosaic documentation
- Point cloud analysis

INDUSTRIAL FACILITY | NORTHWEST INDIANA

- Volumetric stock pile quantities
- Topographic survey
- Orthomosaic documentation
- Point cloud analysis

OHIO CANAL INTERCEPTOR TUNNEL | AKRON, OHIO

- Construction monitoring
- As-built aerial mapping
- Orthomosaic documentation
- Point cloud analysis



MISHAWAKA HIGH SCHOOL | MISHAWAKA, INDIANA

- Building and roof inspection
- Thermal heat loss inspection

THREE MILE LONG WATER LINE PROJECT | DELAWARE COUNTY, OHIO

- Topographic survey
- Orthomosaic documentation
- Point cloud analysis

OHM Advancing Communities®

NOVEMBER 8, 2019

Proposal for

Professional Engineering Services

City of Swartz Creek
8083 Civic Drive
Swartz Creek, MI 48473

OHM Advisors®

November 8, 2019

Mr. Adam Zettel, AICP
City Manager
8083 Civic Drive
Swartz Creek, MI 48473

Proposal for Professional Engineering Services

Dear Mr. Zettel,

Change is constant. Every day, we adapt to new ways of providing services to the public. Because the OHM Advisors team focuses on providing services to government clients, we understand the dynamics at work within City government, especially in Michigan. You're struggling to maintain services with fewer resources. Our team can help you deliver the necessary services and find ways to do more with less.

As a trusted advisor to communities since 1962, OHM Advisors has demonstrated the ability to not only meet project requirements but exceed them. **Municipal engineering is what we do!** We have an experienced team that will provide exceptional services to the City in our constant pursuit of our corporate mission, "Advancing Communities."

The City of Swartz Creek will receive the following benefits if the OHM Advisors team is selected:

- **Solid experience and familiarity –** Over 50 years serving similar municipalities. Our experience with local government has allowed OHM Advisors to develop a unique set of skills to benefit the City of Swartz Creek.
    - We have worked with the City on public works projects since 2013, including major and local street improvements, trail ways, corridor enhancements, as well as watermain upgrades.
    - Our diverse and multi-talented staff provides technical expertise in all facets of municipal engineering, from planning and design through construction. This also includes "in-house" staff with expertise in GIS, traffic engineering, architecture, electrical engineering, surveying, and structural engineering.

- **Budget Conscious –** Public works projects depend on tax dollars. We take this stewardship very seriously, seek every opportunity to leverage local dollars, and stay within project budgets.
    - In our role of ***"Trusted Advisor"*** we are constantly on the lookout for ways to bring value to the municipalities we represent, having helped secure over $300 million in funding to communities in just the last three years.

- **Resources to meet any schedule –** We have the resources of over 500 people and the "in-house" expertise to meet the needs of any of the services listed in the RFQ.
    - Our Project Manager lives within 15 minutes of Swartz Creek.
    - We have experience working with and coordinating a multi-discipline team to meet the specific needs of the project.

As indicated, our team provides a variety of engineering consulting services to a broad client base located throughout Michigan. Most of the communities we serve have engineering needs like those of Swartz Creek. We value the opportunity to continue to provide the City with successful projects and exceptional service.

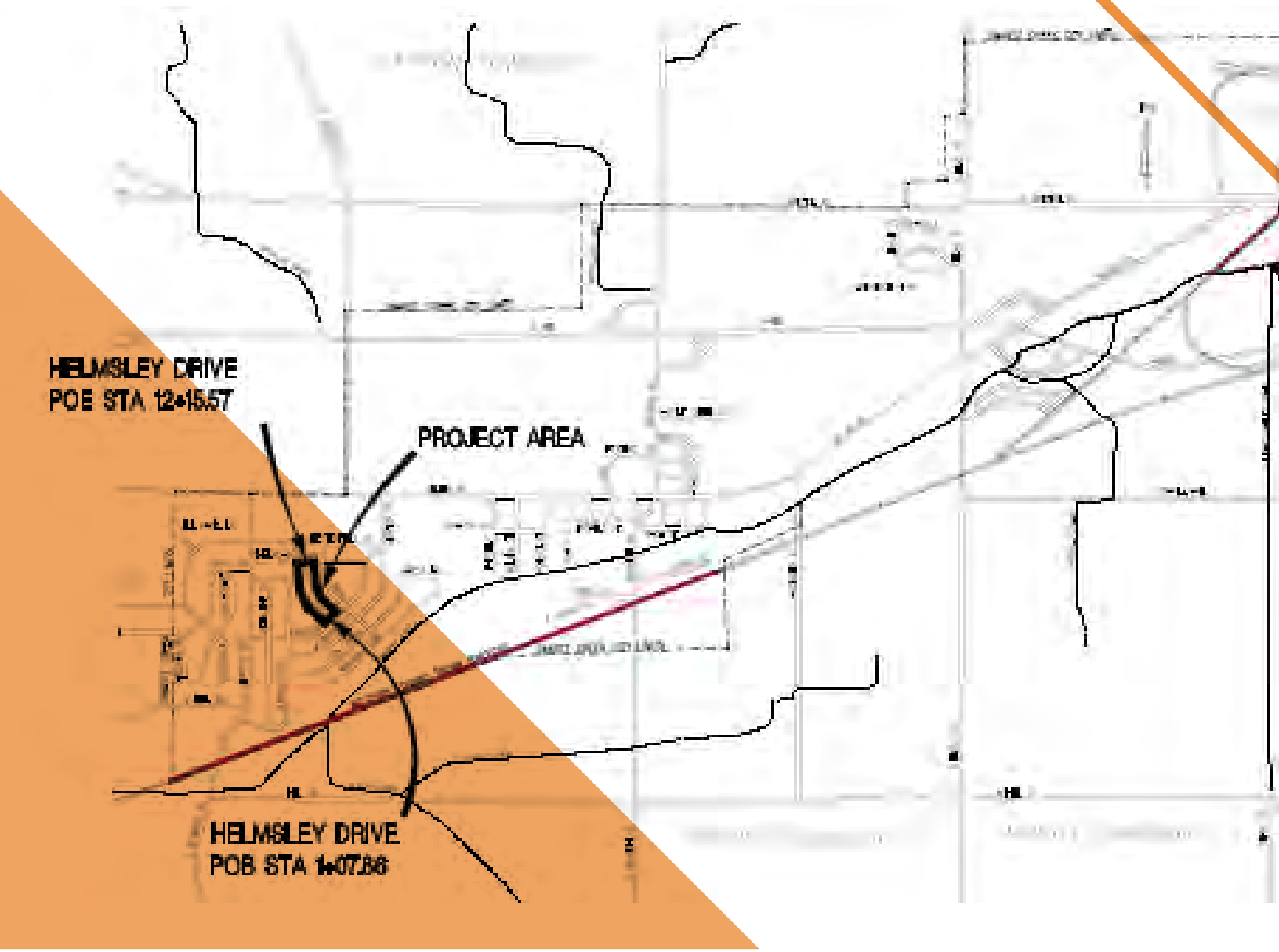
On behalf of the OHM Advisors team, we look forward to discussing our qualifications in greater detail with you and answering any questions you may have. Please call Andy Harris at 810.396.4374, or me at 989.393.1713 with any questions or additional information for your evaluation.

Sincerely,
OHM Advisors

Lou Fleury, PE
Principal in Charge
lou.fleury@ohm-advisors.com
T 989.393.1713
F 734.522.6427

Infused into everything we do is the belief that putting people first creates a lasting impact.

Contents



Swartz Creek Helmsley Drive Reconstruction Illustration

A. FIRM OVERVIEW

Who We Are

We think differently.

OHM Advisors is a community advancement firm designing award-winning work across the **engineering, architecture, and planning spheres**. We believe that something incredible grows out of a team of experts with individual specialties – ideas with bigger impact. More energy. Greater synergy.

Firm Growth

OHM Advisors was established in 1962 and has been growing steadily ever since. As a growing multidisciplinary organization, we provide a variety of services to our clients with a passion to be Advancing Communities for many years to come.

Firm Ownership

OHM Advisors is a privately held corporation, governed by a seven-member Board of Directors and has 37 employee shareholders.

Professional Staff by Classification

In our Flint office we have 3 Municipal Engineers, 5 Construction Technicians, 1 Construction Manager, and 1 Environmental & Water Resources Engineer.

69	Administrative
34	Architecture
23	CADD Technicians
106	Civil Engineers
86	Construction Technicians
18	Construction Managers
3	Ecologists
6	Electrical Engineers
1	Geotechnical Engineer
6	GIS Specialists
2	Hydraulic Engineers
1	Hydrologists
5	Interior Designer
27	Surveyors
19	Landscape Architects
8	Mechanical Engineers
8	Planners
6	Structural Engineers
7	Technicians/Analysts
46	Transportation Engineers
41	Water Resources Engineers

OVER 500 TOTAL IN HOUSE CAPACITY

Community is at the center of everything we do.

As a team of over 500 multidisciplinary professionals in three states, we're wildly diverse and singularly passionate about Advancing Communities.

In addition to working in Swartz Creek over the past few years, we've proudly had an impact on many communities over the past five-plus decades, but are especially honored that our four original clients are still with us today. They tell us it's because we make their challenges our own and embed ourselves deeply in their organizations to deliver innovation. We like to think it's because infused into everything we do is the belief that putting people first makes an impact on a community.

Our Clients

- Cities, Villages, Towns, Counties and Townships
- State and Federal Agencies
- County Road Agencies
- ODOT, MDOT, TDOT
- K-12, Colleges and Universities
- Drain and Water Resource Commissioners
- Utility Authorities
- Parks Authorities

15 Locations
Throughout
Michigan, Ohio
& Tennessee

Contract Office

G3101 West Bristol Rd.
Flint, MI 48507

What We Do

Our services list is long, but our philosophy is simple:
Advancing Communities. It's the approach that **guides us in everything we do.**

Civil Engineering

Transportation & Traffic

- Bridge Design, Inspection, Scoping, Rating
- Highway/Interchange Design & Enhancements
- NEPA Planning, Governmental Reviews & Permitting
- Community-Based Streetscape, Complete Street Designs
- Safety Studies, Capacity Analysis, Data Collection
- Traffic Signal Design
- Roundabout Analysis & Design

Stormwater Management

- Stormwater, Drainage, Watershed Planning & Asset Management
- Hydrologic & Hydraulic Modeling
- Stream Restoration Analysis & Design
- Low Impact Development, LEED Site Design
- Collection & Conveyance Design
- Stormwater Utilities
- Permitting & Ordinance Writing

Wastewater Systems

- Facility Master Planning & Asset Management
- Hydrologic & Hydraulic Modeling
- I/I, SSES Analysis & Flow Metering
- Pump Station, Collection System Design & Rehabilitation
- Wastewater Treatment Plant Design
- SCADA Systems

Drinking Water Systems

- Facility Master Planning & Asset Management
- Hydraulic Network Modeling
- Source Water Protection
- Storage Facility, Booster Pump Design & Inspection
- Water Treatment Plant Design
- SCADA Systems

Municipal Engineering

Community Engineering

- Process/Plan Review
- Standards, Ordinance Development
- Stakeholder/Public Engagement
- Strategic Planning

Infrastructure Assessment & Planning

- Pavement Maintenance
- Sewer
- Capital Improvement

Design & Implementation

- Non-motorized Path/Sidewalk
- Utilities
- Roadways
- Parks/Recreation

Architecture

- Site & Facility Evaluation
- Facility Master Planning
- BIM, 3D Modeling & Renderings
- Space Planning & Programming
- Interior Design & Finishes
- Design (incl. LEED) & Documentation
- Construction Administration

Mechanical & Electrical Engineering

- Energy Audits
- HVAC System Design
- Lighting & Controls
- Plumbing System Design
- Fire Protection and Fire Alarm Systems
- Power Distribution
- LEED/Sustainability

Planning & Urban Design

- Community Planning & Visioning
- Park, Streetscape & Corridor Design
- Economic Development Strategies
- Transportation Planning
- Land Planning
- Zoning & Entitlements
- Codes & Standards

Surveying

- Topographic, Right-of-way, Boundary & Geodetic Control Surveys
- Road Design Surveys
- Bridge Surveys
- Hydraulic Surveys
- Construction Staking
- Global Positioning System (GPS) Surveys

Construction Engineering

- Construction Observation
- Fieldbook Administration
- Construction Documentation
- Contractor Payment Requests
- Field Engineering
- Contract Administration & Close-Out
- Preconstruction Meetings

Funding Procurement & Administration

Geospatial Decision Making/GIS

Our Prequalifications

OHM Advisors is MDOT prequalified in the areas indicated below.

Construction Engineering
- Assistance
- Bridges & Ancillary Structures
- Roadway
- Roadway- Local Agency Program

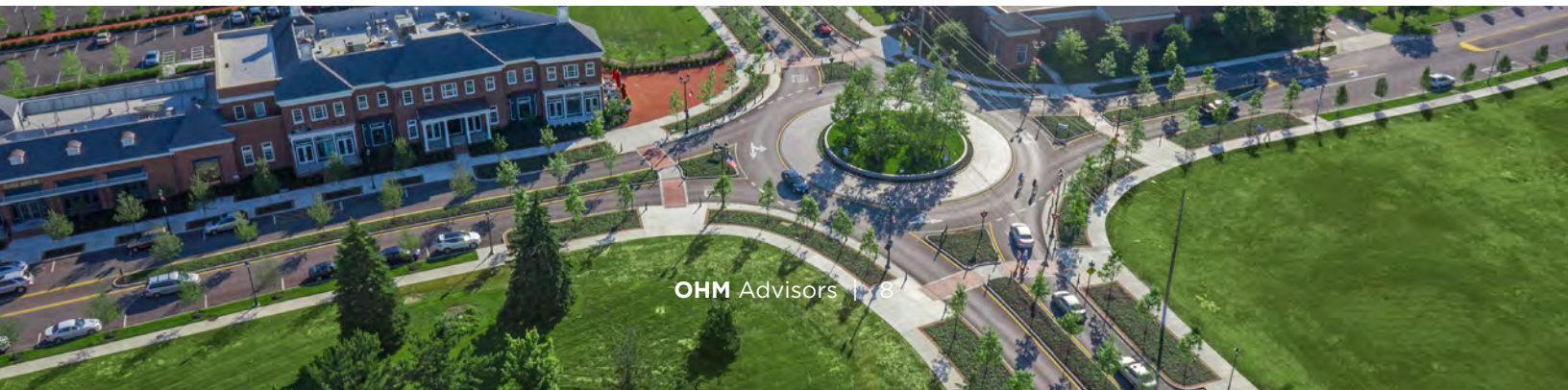
Construction Inspection
- Bridge Painting
- Bridges & Ancillary Structures
- HMA Pavement
- Roadway
- Traffic & Safety

Construction Services
- Office Technician

Construction Testing
- Aggregates
- Concrete
- Density

Surveying
- Construction Staking
- Hydraulics
- Right of Way
- Road Design
- Structure

Design
- Bituminous Pavement Inspection
- Bridges
- Bridges: Load Rating
- Bridges: Safety Inspection
- Bridges: Scoping
- Buildings
- Cement Concrete Inspection
- Density Inspection
- Hydraulics I & II
- Roadway
- Roadway: Intermediate
- Roadway: Complex
- Traffic: Capacity & Geometrics Analysis
- Traffic: ITS Design & System Manager
- Traffic: Pavement Markings
- Traffic: Safety Studies
- Traffic: Signal
- Traffic: Signal Operations
- Traffic: Signal Operations- Complex
- Traffic: Signing- Freeway
- Traffic: Signing- NonFreeway
- Traffic: Work Zone Maintenance of Traffic
- Traffic: Work Zone Mobility & Safety
- Utilities: Municipal
- Utilities: Pump Stations
- Landscape Architecture
- Project Development Studies



Project Understanding

OHM Advisors understands that Swartz Creek will be qualifying up to four firms to provide general services for typical local, state and federally funded projects on a project by project basis. OHM Advisors works with many communities similar to Swartz Creek, and has developed expertise over the years to provide a complete service package for communities in all of the following anticipated services.

CIVIL ENGINEERING

Our team understands the unique challenges municipalities have. As the City knows, we offer both traditional and innovative delivery systems. Our engineers can assist with design, cost estimates, feasibility reports, funding procurement assistance, design, permitting, and construction related services.

OHM excels in providing the best service for:

- Pavement and roadway design
- Utility design
- Stormwater/watershed management
- Plan and specification development
- Construction cost estimation
- Community Development Block Grant projects and administration
- Traffic engineering and design

CONSTRUCTION ENGINEERING

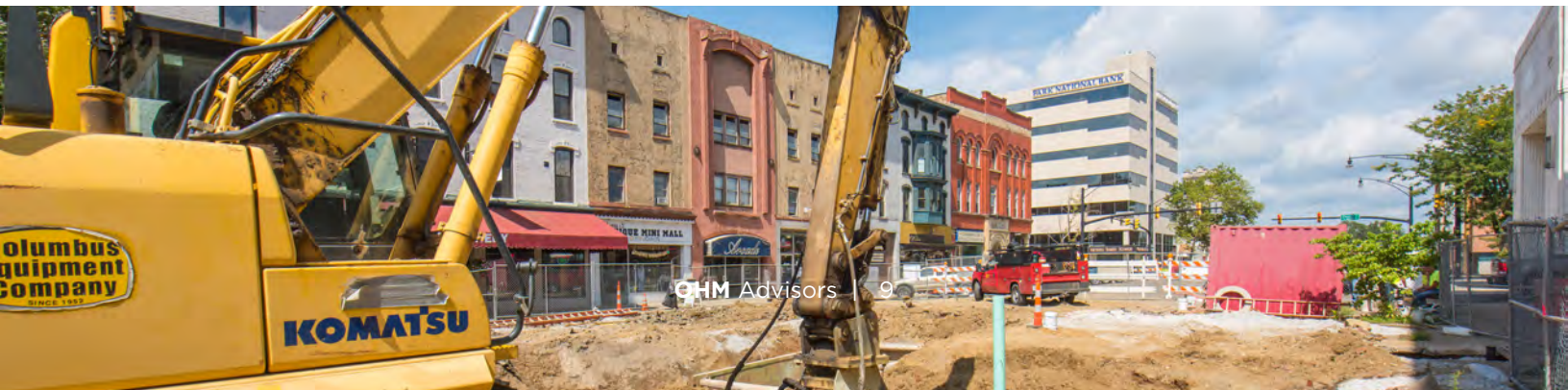
OHM Advisors is very experienced at providing construction observation and administration that generally includes a pre-construction meeting, construction observation, pay item tracking, contractor's pay requests, construction observation reports, soil and material testing, and obtaining final agency acceptance through an audit review process. The City is familiar with OHM's construction project delivery having completed three projects in the City during the summer of 2019. OHM Advisors works with many governmental agencies on projects large and small.

Functions and activities of this task include:

- Establish, maintain, and utilize a project documentation filing system
- Cross reference items to their respective project files
- Post Inspector's Daily Reports (IDR) relating to all material testing;
- Input Material Source Lists (testing orders), material certifications, and test results to keep materials updated
- Track materials (certification/testing) and material quantities
- Monitor project progress vs. the planned schedule

SITE PLAN ENGINEERING REVIEWS

OHM Advisors is familiar with the City's ordinance and engineering standards, and is prepared to continue the task of performing site plan engineering reviews for the City of Swartz Creek to ensure compliance with the City's ordinance and engineering standards. Parking lots, drives, and roads will be reviewed to verify that the typical cross sections meet the minimum design standards, drive aisle widths will be reviewed for adequacies in circulation, and proposed grading for thoughtful, positive drainage. Utilities will be reviewed to insure they meet State and local design standards including stormwater management calculations and design for meeting the City's Stormwater requirements.



Project Understanding

SURVEYING

The multi-discipline setting at OHM Advisors allows for an expertise that is both diverse and efficient. All of our professionals provide an expertise in planning whether the projects are traditional, turn-key, or design built. From the ground up, our surveyors work closely with the engineers and landscape architects to provide site information and viewpoints that will become essential components in the design process.

The OHM Advisors survey services include, but are not limited to:

- Boundary and topographical survey
- ALTA certification
- Construction layout and staking
- Structure surveys
- CAD and graphics mapping

STRUCTURAL ENGINEERING

Our structural engineering staff provides a unique combination of civil-structural design and field supervision experience and capabilities. Our team members possess strong managerial and technical skills over a broad range of structural disciplines. The OHM Advisors Structural Team has extensive civil-structural experience in, and is prepared to provide the DTMB with master planning, engineering design, contract document production, construction support and inspection.

The team will use its experience in:

- Road and pedestrian bridges
- Bridge inspections
- Development of industrial and institutional buildings
- Structural seismic evaluation
- Design and construction of deep bored and cut-and-cover tunnels
- Structural investigation and assessment

LANDSCAPE ARCHITECTURE

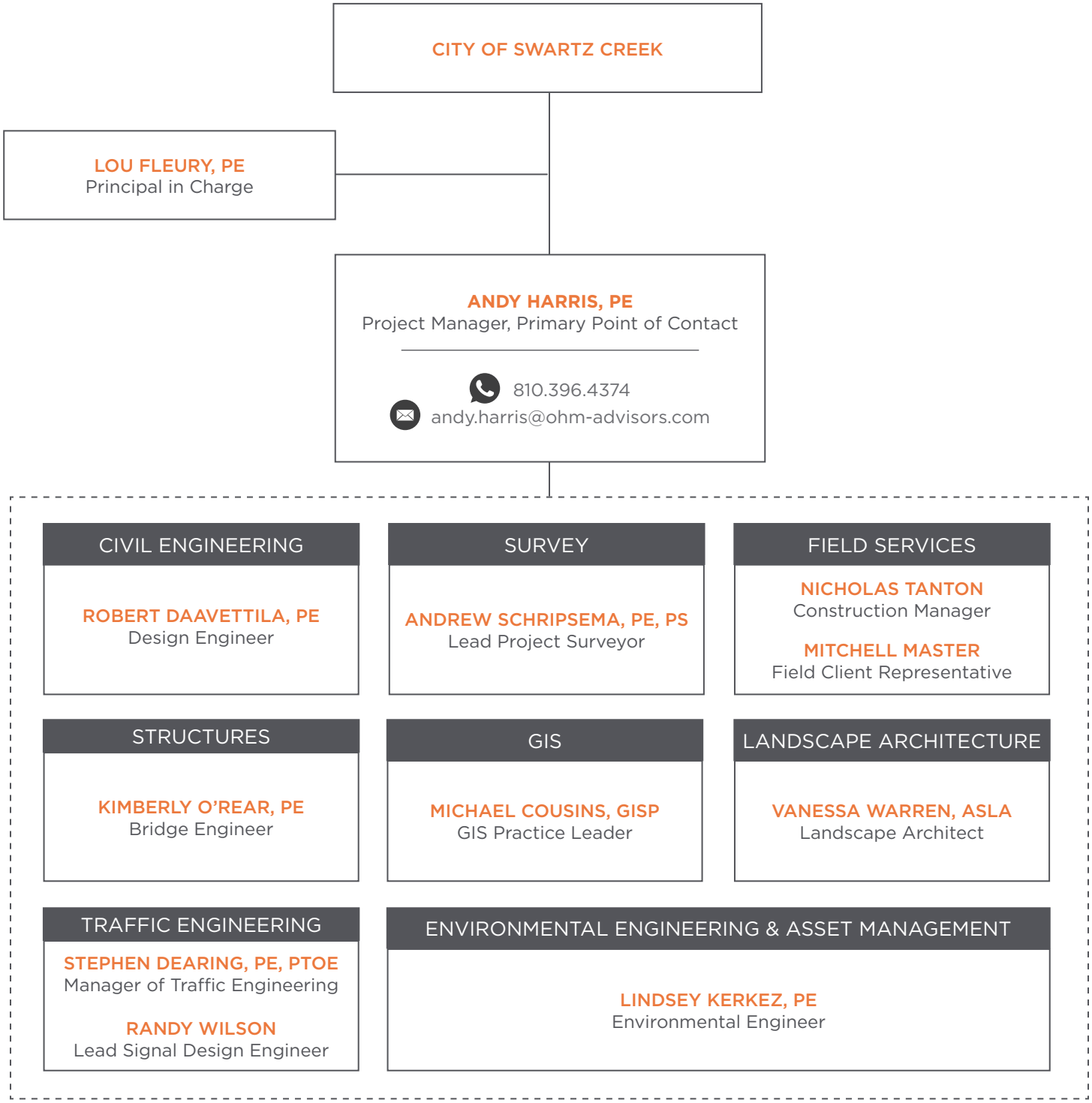
Our team specializes in aesthetically enhancing a variety of sites. Some examples of our work include non-motorized trails; park planning and design; returning areas to a natural state; streetscapes for MDOT and municipalities; and the integration of landscape architecture into master plans for facilities or communities. Our team has 45+ years of experience in:

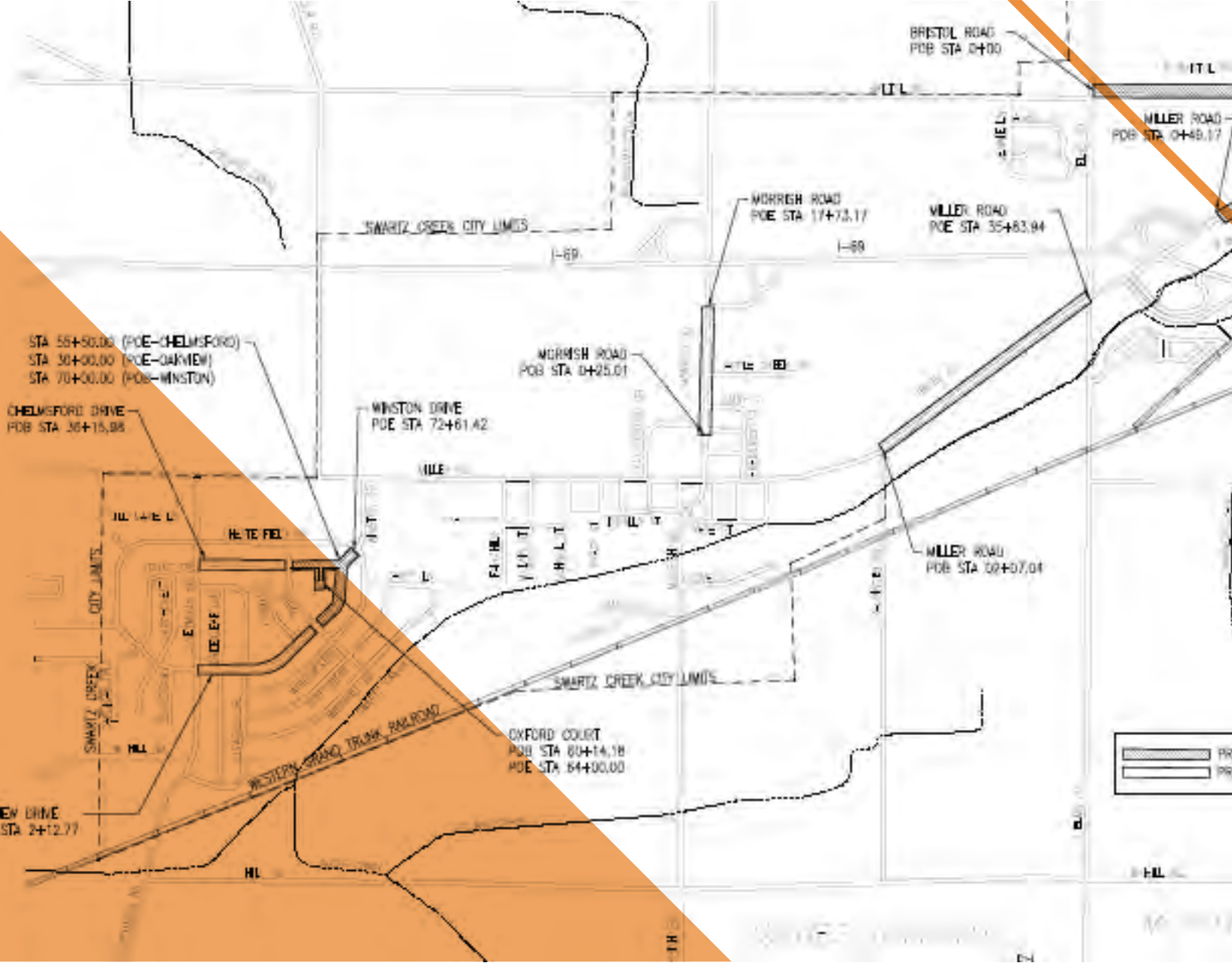
- Grant writing, acquisition, and administration
- Site design
- Non-motorized trail design
- Site maintenance plans
- Park strategic/master planning
- Design and construction of retaining walls
- Plant specification
- Land use and environmental regulations
- Wetland design
- Construction inspection
- Cost estimating
- Hand and computer graphics

B. ORGANIZATIONAL CHART

Team Organization & Qualifications

OHM Advisors attests to the fact that the key personnel provided within this proposal have adequate availability to provide the services as outlined in this document. In addition to the key staff that will support a project directly, we have over 500 professionals firm-wide to provide as-needed support to our clients.





Swartz Creek USDA Water Main & Local Road Improvements Illustration

C. KEY STAFF

Lou Fleury, PE | Principal In Charge

Education
- Associate in Applied Science in Architectural Technology, Ferris State University, 1991
- Bachelor of Science in Civil Engineering, Michigan Tech University, 1995

Professional Registration(s)
Professional Engineer
MI, 2000, #48655

Experience
With OHM since 2018
18 Years prior experience

Professional Certification(s)
American Public Works Association

Professional Affiliation(s)
Flint Township Planning Commission

Background

Lou has over 19 years of experience in municipal engineering projects including feasibility studies and reports, project funding, estimating, design, analysis, permitting, preparation of contract drawings and specifications, bidding, project management, staff scheduling, staff management and construction oversight. He has worked with multiple communities throughout the region; and his knowledge of local, county and state agencies allows him to effectively provide innovative and cost effective solutions to his clients.

His expertise includes Road Design and Construction, Sanitary and Stormwater Collection, Water Distribution, Non-motorized Trails, Cost Estimating, QA/QC Reviews and Funding Programs such as MDOTLAP, MDNR Trust Fund, TEA-21 Enhancement, SRF, DWRF, and USDA Rural Development.

Lou has successfully taken projects in communities throughout Michigan from project concept - to design - through to construction.

Select Relevant Experience

EGLE Pilot Grant, City of Owosso, MI
Project Manager for material inventory, replacement and asset management planning of lead service lines. Design and construction engineering services were performed for approximately 70 service leads located on private property. Project funding was provided through a pilot grant administered through EGLE.

Sanitary Sewer Rehabilitation, City of Owosso, MI
Project Manager for design and construction of sewer rehabilitation for critical areas throughout the City. Work included replacement, grouting and lining of sewer main and manholes. The project was funded locally.

Watermain Replacements, City of Owosso, MI
Project Manager for design of watermain replacements. Work included replacement of approximately 4,000 feet of watermain replacement on E. North and Clark Avenue. Project funding received through EGLE DWRF.

DWRF Loan Program, City of Owosso, MI
Project Manager for preparation of funding application for upgrades to the water distribution system. Alternatives included water main replacement, water treatment plant upgrades, water tower preventative maintenance, and new well site. Project funding received through EGLE DWRF.

SRF Loan Program, City of Owosso, MI
Project Manager for preparation of funding application for upgrades to the sanitary sewer collection system. Alternatives involved rehabilitation of sewer main, and construction of an equalization basin. Work involved creation of the project plan and public outreach. Project funding received through EGLE SRF.

Select Relevant Experience Continued

2019 Local Road Paving Projects, Lapeer County Road Commission
QA/QC for the design of Millville Road from north of Reamer Road to south of Davis Lake Road involving crushing and shaping and road widening to accommodate a proposed center left turn lane. The project included enclosing the existing ditches and utilizing swales and storm sewer to improve drainage and side slopes conditions. The project also included assisting the Lapeer County Road Commission in preparing log plans for their local road paving program which included 10 separate project locations within the county. The projects varied in scope and included crushing and shaping, milling and resurfacing, and overlaying the existing pavement. Plans were completed April 2019 and are planned to be completed during the 2019 construction season.

Helmsley Drive Reconstruction, City of Swartz Creek, MI
QA/QC for the design of Helmsley Drive from Oakview Drive to Chelmsford Drive. The project consisted of 0.21 miles of road reconstruction along Helmsley Drive. The proposed reconstruction included drainage improvements, driveways, lighting, curb and gutter, and pavement markings and signage. The construction is planned to be completed during the 2019 construction season and will be included in an existing contract the contractor has with the City of Swartz Creek.

West Main Street Reconstruction, City of Milan, MI
QA/QC for the design of 2,000 feet of road reconstruction including concrete curb and gutter, storm sewers, ADA ramp upgrades and replacement of watermain on West Main Street from Platt Road to the R.R. crossing. Project Funding was MDOT STP

Local Street Paving, City of Swartz Creek, MI*
Project Manager for design and construction of local street improvements. Work included one mile of street reconstruction including replacement of pavement, curb and gutter, watermain, and driveways. In addition, approximately 2600 feet of streets were rehabilitated by milling and resurfacing, including pavement and joint repair, ADA upgrades, curb and gutter replacements and pavement markings. The project was funded locally.

Center Road Signal Upgrades, City of Burton, MI*
Project Manager for traffic signal modernization at thirteen intersections along Center Road from Atherton Road to Court Street. Project funding utilized Congestion Mitigation Air Quality (CMAQ) grant funds.

Center Road Rehabilitation, City of Burton, MI*
Project Manager for design of road rehabiltation including pavement and joint repair, ADA upgrades, curb and gutter and milling and resurfacing of Center Road from Atherton Road to Lippincott Blvd. Project funding was MDOT STP.

Capital Improvement Program Street Paving, City of Swartz Creek, MI*
Project Manager for the development of a local street asset management plan. Worked with city staff to develop a 20-year city-wide paving program

Atherton Road Rehabilitation, City of Burton, MI*
Project Manager for design of road rehabilitation including pavement and joint repair, ADA upgrades, curb and gutter and milling and resurfacing of Atherton Road from Dort Highway to Center Street. Project funding was MDOT STP.

*Work completed prior to joining OHM Advisors**

Andy Harris, PE | Project Manager, Primary Point of Contact

Education
Bachelor of Science in Civil Engineering, Michigan State University, 2000

Professional Registration(s)
Professional Engineer
MI, 2004, #52170

Experience
With OHM since 2013
13 Years prior experience

Professional Development
- FieldManager and FieldBook software
- AutoCad
- Civil3D
- Land Desk Development
- MERL estimate software
- Microsoft Windows
- Microsoft Office

Background

Andy manages OHM Advisors' Flint office and is a registered Professional Engineer in the State of Michigan. Andy is responsible for project management, engineering, coordination, site plan reviews, and quality oversight from project planning through construction. With over 19 years of experience in the industry he has become well versed in understanding the Client's needs and desires and is able to use his technical expertise to assist in Advancing Communities. Andy is very familiar with the inner workings of the City of Swartz Creek, the City Council, the City's administrative staff and the City's DPS staff. Andy has experience with a wide variety of municipal engineering challenges and works with communities to integrating OHM's industry experts as necessary in a community. He believes in the importance of engaging project stakeholders early in the planning process in order to provide a most efficient project execution and delivery. Andy strives to provide the best services to his Clients and in most cases exceed the Client's expectations.

Select Relevant Experience

City of Swartz Creek Water Main and Local Road Improvements
Project Manager for assisting the City with securing grant and loan funding through the United States Department of Agriculture (USDA) Rural Development program for the design and construction of approximately 3.9 miles of water main at several locations throughout the City. In addition to the water main improvements the local road improvement program will continue in Winchester Village along Oakview, Chelmsford, Winston, and Oxford Roads. All road improvements in the Village will be consistent with the recent projects completed over the past few years. New water main will also be installed along Miller Road from Raubinger to Elms, Miller Road from Talmadge to Dye, Bristol road from Elms to Miller and Morrish Road from Fortino to the I-69 ramps. The funding was secured in 2018 and the design is nearing completion. The project will be out for bid in late 2019 and construction is scheduled to begin in early 2020 and will be completed in two phases between 2020 and 2021.

Helmsley Road Rehabilitation
Project Manager for the design and construction of Helmsley Road in Winchester Village. Helmsley was the next in line for improvement and the road was designed with similar features to the previous local road program. Sidewalk and water main was previously installed on the east side and was not included as part of this project. The work was added to the Contract for the previous local road project completed in 2018 and OHM worked with the City and the Contractor to assure the work was completed within the City's budget. The design was completed in late 2018 and the project was negotiated with the Contractor in early 2019 for construction in mid-2019. Consistent with recent projects, Consumers Energy was integrated into the design and construction for pedestrian and street lighting along the project. Design parameters were implemented to accommodate the future projects on the adjacent Oakview and Chelmsford streets.

Select Relevant Experience Continued

Miller Road Streetscape and Parking Lot Paving
Project Manager for the design and construction of Streetscape Improvements on Miller Road from just west of Morrish Road to Paul Fortino Drive. The project scope included sidewalk replacement with a brick paver feature, addition of a decorative knee wall on both sides of the road, addition of a decorative fence on the south side of the road, addition of pedestrian lighting, trees, and the addition of two pedestrian refuge areas/crosswalks on Miller Road. Along with the streetscape features the existing Holland Avenue parking lot was graded and paved to provide additional parking downtown. The project was completed as an effort to establish a more pedestrian friendly downtown area. Significant planning occurred in 2017 on the parking lot area however the focus was changed the streetscape improvements in 2018. Construction began mid-summer, 2019 and was completed in early fall. It's anticipated that these improvements will continue along Miller Road in the future as additional funding becomes available.

Fairchild Street Resurfacing
Project Manager the construction of Fairchild from Cappy Lane to just south of Miller Road. This project was funded by MDOT through the Genesee County Metropolitan Planning Commission and was part of the 2017-2020 Transportation Improvement Program (TIP). The plans were designed by another firm and OHM completed the Construction Engineering portion of the project. The project scope included intermittent curb and gutter replacement, road milling and resurfacing, installation of pedestrian lighting and sidewalk ramp upgrades. During the project after the pavement was milled areas of insufficient subgrade material were identified and undercut prior to placing new pavement. The project construction began in June 2019 and was completed in mid-August. OHM is currently in the process of moving the project towards closeout with the Contractor and the MDOT.

Miller Road, Morrish to Elms and Talmadge to Dye, City of Swartz Creek
Project Manager for design and construction of Miller Road in Swartz Creek at two separate locations within the City. The project included road milling and resurfacing, intermittent curb and gutter repairs, pavement repairs, sign upgrades, sidewalk repairs, and replacing pavement markings to include the addition of a bike lane throughout the project limits. Plans were designed in accordance with MDOT 3R standards and were let through MDOT in the February 2015 and construction was completed in 2015. The funding was secured through the Genesee County TIP program and was set up as two separate projects. The projects were packaged in one bid document and quantities for each project were tracked separately during the construction and the design.

City of Swartz Creek Site Plan Reviews and Construction Services:

- Brewer Townhomes, 2019: Plan Review
- BCUBED (Bigby), 2019: Plan Review
- Springbrook East, Phase II, 2018/2019: Plan review and construction services
- Sharp Funeral Homes, 8138 Miller Road, 2019: Plan review and construction services
- Apple Creek Station, 2019: Plan Review
- KFC, 7026 Miller Road, 2018/2019: Plan review and construction

Robert Daavettila, PE | Design Engineer

Education
Bachelor of Science in Civil Engineering, Michigan Technological University, 2015

Professional Registration(s)
Professional Engineer
MI, 2019, #68897

Experience
With OHM since 2017
2 years prior experience

Professional Development
- AutoCAD
- Civil3D
- Microsoft Project
- Microsoft Office
- MIWaters
- Microstation
- WIN TR-55
- MERL Estimate Software
- Fieldbook software

Background

Robert Daavettila is a Professional Engineer in the State of Michigan, responsible for designing a variety of road, utility, and site development projects. Robert has designed multiple MDOT Local Agency Program (LAP) projects involving milling and resurfacing, crushing and shaping, and full reconstruction. Robert has experience working with local governments, including Swartz Creek, to provide local paving and utility projects like Helmsley Road.

Prior to working at OHM, Robert had experience in a large variety of projects involving residential development, parking lots, private roads, watermain, sanitary sewer, storm sewer, detention basins, septic systems, and well houses. Robert has designed multiple projects involving drainage improvements, road grading, sign upgrades, and maintenance of traffic in accordance with MDOT Local Agency Program guidelines and local standards.

Select Relevant Experience

City of Swartz Creek Water Main and Local Road Improvements – 2018/2019
Project Engineer for the design, permitting, and construction of approximately 3.9 miles of water main at several locations throughout the City. New water main will be installed along Miller Road from Raubinger to Elms, Miller Road from Talmadge to Dye, Bristol road from Elms to Miller and Morrish Road from Fortino to the I-69 ramps. In addition, the project included full reconstruction and water main along Oakview, Chelmsford, Winston, and Oxford Roads. All road improvements in the Village will be consistent with the recent projects completed over the past few years. The project will be out for bid in late 2019 and construction is scheduled to begin in early 2020 and will be completed in two phases between 2020 and 2021.

Helmsley Drive Rehabilitation – 2018/2019
Project Engineer for the design and construction of Helmsley Road. Robert played an integral role in the permitting, 3D modeling, estimating, and coordination with the Contractor. Helmsley was the next in line for improvement and the road was designed with similar features to the previous local road program. The work was added to the Contract for the previous local road project completed in 2018 and OHM worked with the City and the Contractor to assure the work was completed within the City's budget. The design was completed in late 2018 and the project was negotiated with the Contractor in early 2019 for construction in mid-2019. Consistent with recent projects, Consumers Energy was integrated into the design and construction for pedestrian and street lighting along the project. Design parameters were implemented to accommodate the future projects on the adjacent Oakview and Chelmsford streets.

Select Relevant Experience Continued

North Road Rehabilitation, City of Fenton, MI
Project Engineer for the design, permitting, and construction of a roundabout at the intersection of North Road and Torrey Road and 0.43 miles of road rehabilitation along North Road east of the Torrey Intersection. The proposed improvements include pedestrian ramp upgrades, drainage improvements, pavement markings, signage, and curb and pavement repairs. During the design phase the project shifted from a signalized intersection to a roundabout and additional funding was required. The project received additional funds for the roundabout construction through the Genesee County Metropolitan Alliance Roadway Expand portion of the FY2020-2023 Transportation Improvement Program. After the additional funding was awarded in early 2019, the plans had to be shifted to incorporate the addition of the roundabout and included in the June 2019 bid letting to ensure funding would not be lost. The project design was completed March 2018 and the project was included in the June 2019 bid letting with construction planned to be complete early November. Once completed this will be the first roundabout project in Fenton and some design elements like the decorative concrete crosswalks were designed to match the recent downtown streetscape.

South Bridge Street Rehabilitation, City of Linden, MI
Project Engineer for the design, permitting, and construction of S. Bridge Street from the south City limits to the south side of the existing bridge over the Shiawassee River in accordance with MDOT's Local Agency Program guidelines. The project included a section of road to be crushed and shaped, a section to be reconstructed, and a section to be milled and resurfaced. Additional design items included the implementation of bike lanes, water main replacement, ADA sidewalk ramp upgrades, drainage improvements, and pavement marking and signage upgrades. The project design began in May 2017 and was included in the February 2018 MDOT Letting with construction completed during the 2018 construction season

Harris Road Reconstruction, Washtenaw County Road Commission
Project Engineer for the design of Harris Road from US-12 (Michigan Avenue) to Holmes Road in Ypsilanti Township. The existing pavement was removed and replaced with full depth asphalt cross section with bike lanes along with the addition of curb and gutter and ADA ramp upgrades throughout the project limits. Drainage improvements and upgrades were designed with focus being on proposed bio-swales and rain gardens to enhance green opportunities. OHM worked with the Ypsilanti Community Utility Authority (YCUA) for the design and replacement of water main from Michigan to Forest Street. The project design began in February 2017 and was included in the February 2018 MDOT Letting with construction completed during the 2018 construction season.

City of Swartz Creek Site Plan Reviews and Construction Services:

- Brewer Townhomes, 2019: Plan Review
- Syring Elementary, 2019: Storm Sewer Review
- BCUBED (Bigby), 2019: Plan Review
- Springbrook East, Phase II, 2018/2019: Plan review and construction services
- Sharp Funeral Homes, 8138 Miller Road, 2019: Plan review and construction services
- Apple Creek Station, 2019: Plan Review
- KFC, 7026 Miller Road, 2018/2019: Plan review and construction services

Andrew Schripsema, PE, PS | Lead Project Surveyor

Education
- Bachelor of Science in Land Surveying, Michigan Technological University, 2000
- Bachelor of Science in Civil Engineering, Michigan Technological University, 2000

Professional Registration(s)
Professional Engineer
MI, 2005, #52605

Professional Surveyor
- MI, 2008, #55483
- WI, 2009, #2915-008

Experience
With OHM since 2007
7 years prior experience

Professional Certification(s)
- Confined Space Entry Training per 29CFR 1910.146, 2011
- Integrated Distance Learning Environment (FAA IDLE) Level 3 Training for FAA Advisory Circulars AC 150/5300-16A, AC 150/5300-17C, AC 150/5300-18B, Certification #FAAIDLE20141023-307, 2014

Background

Andy's field experience includes crew supervision, data collection, boundary surveys, establishment of horizontal and vertical control using conventional and GPS methods, construction stakeout for buildings and roads, and underground utility studies.

Andy's office experience includes topographic data clean-up and processing using AutoCAD 2000, Land Development Desktop and Eaglepoint software packages; earth volume computations; building, road and bridge layout computations, least squares adjustments (conventional and GPS), performing boundary calculations, writing and checking legal descriptions; construction of Digital Terrain Models for use in machine grading, and interpreting engineering drawings. His responsibilities also include QA/QC of staking, deliverables and engineering plans. Andy also has project management and design experience pertaining to site developments and road projects.

Select Relevant Experience

Miller Road, Morrish to Elms and Talmadge to Dye, Genesee County, Swartz Creek
Project Surveyor responsible for the design survey needed for the milling and resurfacing of approximately two miles of roadway located within the City of Swartz Creek. Project included road milling and resurfacing, intermittent curb and gutter repairs, pavement repairs, sign upgrades, sidewalk repairs, and replacing pavement markings to include the addition of a bike lane throughout the project limits. Plans were designed in accordance with MDOT 3R standards and were let through MDOT in the February 2015 to be constructed in the summer of 2015.

As-Needed Old M-14 Boundary Surveys, City of Livonia, Wayne County, MI
Project Manager for this project consisting of performing eight (8) Certified Surveys for parcels being impacted by right of way changes to accommodate the proposed intersection improvements. The parcels included 3 complex Park properties surrounded by Plats. Surveys were completed in State Plane Coordinates and Bearings. Existing records were researched at the County Register of Deeds. Surveys were prepared using the new MDOT Guidelines for PA132 Certified Surveys.

Riopelle Streetscape; I-75 Service Drive to Division Street, Detroit, MI
Lead Surveyor responsible for establishing horizontal and vertical control, the design survey, and right of way establishment required for the engineering of 3 blocks of streetscaping on Riopelle St. An Unmanned Aerial Vehicle (UAV) with a high definition camera was also used to create orthorectified imagery of the corridor. The goal of this project is to help bolster the transformation of the Riopelle St corridor between I-75 Service Drive and Division St from a wholesale packaging and market environment to a walkable retail and entertainment area. Goals of the project were to improve, safety, aesthetics, and economic development in the area. The project incorporated creative design elements including a curbless road, colored concrete, scored sidewalks, overhead string lighting, landscaping, and other street amenities. The major items of work include sidewalk improvements, HMA paving, street lighting, and landscaping.

Select Relevant Experience Continued

Matthaei Botanical Gardens Trail, Washtenaw County, MI
Survey Project Manager overseeing the construction staking efforts for two miles of shared-use trail construction. Construction staking tasks includes recovering/establishing control so that control was available through the life of the project, staking of alignment and clearing limits for tree removal, pathway staking, helical pile staking and boardwalk staking. Coordination with the contractor was critical because of the tight work limits and the surrounding botanical garden and wetlands.

Maple and Middlebelt Reconstruction, Road Commission for Oakland County, MI
Lead Surveyor on the reconstruction of the intersection of Maple Road and Middlebelt Road as a modern multi-lane roundabout and the replacement of the culvert carrying the Rouge River under Maple Road. This project includes a profile study to determine the extent of vertical curve corrections needed. MSE walls, guardrail, MDEQ permitting, ROW acquisitions, and utility coordination are all included in this project. Anticipated construction in 2019, through the MDOT LAP.

Big Beaver Road & Manhattan Drive, Troy, Oakland County, MI
Lead Surveyor for the installation of one new traffic signal installed to promote pedestrian access across this major arterial road. The signals were designed using mast arm supports, and vehicle detection / pedestrian pushbuttons were added for side street approaches. This location was integrated into RCOC's SCATS traffic adaptive signal system. Responsibilities on this project included producing the signal plan sheets and wiring diagrams, scheduling and attending several meetings / field meetings as well as compiling the construction estimate and special provisions for the signal work.

As-Needed Design Services, Muskegon County, MI
Lead Surveyor for an as-needed design contract. Provided scoping level cost estimates, maintaining traffic concepts, and draft TMP's for the programming of the following upcoming roadway improvement projects: M-104 CPM in Spring Lake, US-31BR CPM in Hart, and M-116 CPM in Ludington. A separate assignment consisted of the design and preparation of a CPM Log of Project, cost estimate, maintaining traffic, ADA sidewalk ramp upgrades, and pedestrian pushbuttons for 0.8 mile of US-10 (Ludington Ave) from Rowe St to Jackson Rd in the City of Ludington, Mason County.

As-Needed US-31 Design Survey, Charlevoix County, MI
Project Manager for this project consisting of full topographic survey along with right of way and alignment determination for seven (7) miles of US-31, south of Charlevoix. Horizontal datum was NAD83(NSRS2011) using the MDOT CORS network. Vertical datum was NAVD88. This project involved mobile scanning and traditional surveying methods in order to obtain a topographic survey of the route. OHM's scope included the horizontal and vertical control establishment, supplemental mapping of the surface streets and areas surrounding US-31, as well as the alignment and right of way determination and preparation of a Certified Survey for the right of way.

Culvert Asset Location and Condition Assessment for TAMS in Oakland, Baraga and Houghton Counties, MI
Project Manager for this innovative project consisting of locating and attributing culverts the counties of Oakland, Baraga and Houghton, per the "MDOT TAMS Asset Collection & Condition Assessment Guide for 1'-10' Span Culverts". This project utilized ArcGIS Online in order to locate and attribute the culverts. This allowed the database to be updated as the culverts were located and assessed, flagging critical culverts in need of immediate attention. EOS Arrow Gold GNSS receivers with SafeRTK were utilized during data collection and attribution in remote parts of Houghton and Baraga Counties, where there was poor cell phone coverage.

Harris Road Reconstruction, Washtenaw County, MI
Project Surveyor for the design survey and construction staking of Harris Road from US-12 (Michigan Avenue) to Holmes Road in Ypsilanti Township. The existing pavement was removed and replaced with full depth asphalt cross section with bike lanes along with the addition of curb and gutter and ADA ramp upgrades throughout the project limits. OHM Advisors worked with the Ypsilanti Community Utility Authority (YCUA) for the design and replacement of water main from Michigan to Forest Street.

Nicholas Tanton | Construction Manager

Education
Associate of Applied Science, Civil Engineering Technology from Ferris State University, 2000

Experience
With OHM since 2014
14 years prior experience

Professional Certification(s)
- MDOT, HMA Paving Operations
- OSHA, 30-Hour Construction Safety, expires 02/06/2021
- MDEQ NPDES Certified Stormwater Operator – Construction Site/Industrial
- MDEQ Certified Soil Erosion – Part 91 SESC
- MCA Concrete Field Testing Technician, Level 1
- MCA Level 2 Advanced Cncrete Technician
- MDOT Density Technology Certification
- MDOT Aggregate Technician, Level 1
- Michigan Certified Bituminous Lab Technician, Level 1
- ACI Concrete Field Testing Technician, Grade 1

Professional Development
- Coursework in Construction Management, Ferris State University
- Bituminous Pavement Testing Training, MDOT
- Aggregate Technician Testing Training, MDOT

Background

Nick provides inspection and documentation of MDOT road and bridge rehabilitation and reconstruction projects. His experience includes various aspects of bridge rehabilitation and reconstruction, HMA paving, concrete pavement reconstruction, signing, and maintenance of traffic. Nick is proficient in Microsoft Office, FieldBook, ProjectWise, E-Construction, plan and specification interpretation, construction staking and layout, calculation computation, and generating detailed sketches and daily reports. He is familiar with AASHTO and MDOT standards and procedures.

Select Relevant Experience

I-96 over the Grand River and Market Street, Ionia County, MI
Lead Inspector for full construction engineering services for application of penetrating healer/sealer to the existing bridge deck, deck patching, joint replacement, partial cleaning and coating of the existing structural steel, Pier 1 cap and column replacement, substructure patching, slope paving repairs, and approach reconstruction on I-96 over the Grand River and Market Street, Ionia County.

I-96, Market Avenue to Chicago Drive and I-96, Ionia County Line to M-66, Kent and Ionia Counties, MI
Lead Inspector for full construction engineering services for 14.88 miles of median cable barrier installation, guardrail extension, shoulder paving, and minor slope flattening on I-196 from west of Market Avenue to east of Market Avenue and from Chicago Drive to west of Market Avenue, and on I-96 from the west Ionia County line to M-66 in the cities of Grand Rapids, Grandville, and Wyoming, Kent and Ionia Counties.

Newburgh Road, Palmer Road to Cherry Hill Road, Wayne County, MI
Senior Inspector for full construction engineering for 0.98 miles of hot mix asphalt cold milling and resurfacing, concrete pavement repairs, sidewalk ramps, and pavement markings on Newburgh Road from Palmer Road to Cherry Hill Road, in the city of Westland, Wayne County.

Feldkamp Road over the Saline River, Washtenaw County, MI
Senior Inspector for bridge removal and replacement with 17-inch prestressed concrete beams and approach work on Feldkamp Road over Saline River, Washtenaw County.

M-59, Oakway Drive to Old US-23, Livingston County, MI
Lead Inspector for full construction engineering services for 9.14 miles of widening to construct a center left turn lane, hot mix asphalt cold milling, and single course overlay on M-59 from west of Botsford Road to east of April Court and from west of Oakway Drive to west of Old US-23, Livingston County.

Select Relevant Experience Continued

I-75 at Eureka Road, Wayne County, MI
Lead Inspector for full construction engineering services for0.74 miles of concrete ramp repair and reconstruction, hot mix asphalt cold milling and resurfacing, permanent pavement markings, and signing on I-75 at the Eureka Road interchange in the city of Taylor, Wayne County.

I-94, 11 Mile Road to Masonic boulevard, Macomb County, MI
Inspector for full construction engineering services for 3.25 mi of hot mix asphalt cold milling and resurfacing, drainage improvements, median concrete barrier replacements, lighting replacement, pavement repair, signing, pavement markings, guardrail, MITS conduit installation, scarifying, deck surface construction, and shallow concrete overlay on I-94 from 11 Mile Road to Masonic Boulevard in the cities of Roseville and St. Clair Shores, Macomb County.

I-96, Kensington Road to east of Milford Road, Oakland County, MI
Lead Inspector for full construction engineering services for the rehabilitation of four bridges and the removal of two bridges, replaced with one bridge, installation of freeway lighting along I-96, and construction of a filtration basin on I-96 from Huron Valley Trail westerly to Huron River, Oakland County.

M-3, Remick Drive to Sandpiper Drive, Macomb County, MI
Inspector for full construction engineering services for 2.87 miles of cold milling, pavement repair, hot mix asphalt overlay, curb and gutter repair, sidewalk ramp replacement, path construction, and traffic signal replacement on M-3 from Remick Drive to Sandpiper Drive in the city of Mount Clemens, Macomb County.

I-96 and I-696, CSX RR to Halstead Road, Oakland County, MI
Inspector for full construction engineering services for 4.08 miles of freeway reconstruction, concrete pavement repair, hot mix asphalt overlay, ramp reconstruction, auxiliary lane construction, bridge replacements, bridge repair, signing, pavement marking, and MITS on I-96 and I-696 from west of the CSX railroad easterly to west of Halsted Road in the cities of Novi and Farmington Hills, Oakland County.

I-696, Halsted Road to Scotia Avenue, Oakland County, MI
Lead Inspector for full construction engineering services for 12.93 miles of concrete pavement repair, bridge work, deck replacement, and approach work on I-696 from Halsted Road to Scotia Road and on 42 structures on I-696, US-24, M-10, and M-1 in the cities of Farmington Hills, Huntington Woods, Lathrup Village, Oak Park, and Southfield, Oakland County.

M-57, Gasper Road to Sheridan Road, Saginaw County, MI
Lead Inspector for full construction engineering services for 6.00 miles of concrete joint repairs, crack and joint sealing on M-57 from Gasper Road easterly to Sheridan Road (M-13), Saginaw County.

Emergency Bridge Repair I-275 over 8 Mile Road, Livonia, MI
Construction Inspector for this emergency bridge repair, to complete temporary concrete barrier wall, full depth deck repair, bridge barrier railing, and temporary traffic control on both I-275 and 8-mile road in the City of Livonia.

I-75 Bridges, I-696 to 8 Mile, Oakland/Wayne County, MI
Construction Technician for the rehabilitation of 26 structures, including the I-75/I-696 interchange, and pavement patching on I-696. CE services include administration, inspection, control surveying, quality assurance testing, and all related documentation. Work included cleaning and coating structural steel, epoxy overlay, pin and hanger replacement, joint replacement, and railing repairs, deck repair and replacement, substructure repair, shallow and deep overlays, approach work, and maintaining traffic.

Mitchell Master | Field Client Representative

Experience
With OHM since 2015
23 years prior experience

Professional Certification(s)
- HMA Paving Operations, Ferris State University
- Storm Water Management-Construction Site, MDEQ
- First Aid/CPR, American Red Cross
- Soil Erosion and Sedimentation Control. MDEQ
- Aggregate Presentation, Edward C Levy Co
- Constructing Pedestrian Facilities for Access, CTT
- APAM LRW Workshop
- Materials Acceptance Process, MDOT
- Pressure Pipe Rehabilitation, Lanzo Technologies

Background

Mitchell is an experienced leader capable of representing the construction management department, supporting organizational policies and procedures, demonstrating core values, and providing a high standard of quality assurance. Mitchell will proactively lead the project team in the field by communicating regularly with all involved parties regarding project plans, status of the project, upcoming activities and open issues.

Select Relevant Experience

Commerce Road- Construction Services, Milford, MI
Full time Field Client Representative for project which included construction observation on paving, roadway, storm sewer installation and repairs, construction staking and layout. OHM performed construction layout, observation, construction engineering, and oversaw the work of a testing sub-consultant.

CE- Oak Park Federal Aid Patching, Oak Park, MI
Field Client Representative, Plan QC on this MDOT Local Agency Project will involve developing project details and specifications to MDOT's criteria and letting schedule. Due to the condition of the road, patching and diamond grinding was thought to provide the best and most economic rehabilitation strategy for this roadway by replacing the worst concrete panels (structure improvement) and ride quality (diamond grinding). With this type of rehabilitation strategy, it is believed that the design of this project can be developed in a log format providing the City with the best design value efficiency.

2015 Asphalt Paving, Livonia, MI
Full-time Field Client Representative on engineering services for the 2015 Asphalt Comprehensive Road Reconstruction and Rehabilitation Program.

Inkster- Annapolis Pump Station and Force Main- Construction Services, Westland, MI
Full time Field Client Representative on Construction Administration (CA) and Construction Engineering (CE) services for the IAPS and Force Main construction project.

CE- Central City Parkway, Westland, MI
Field Client Representative and QC Plans on project consisting of replacing the full depth HMA pavement for Central City Parkway between Ford Rd. and Warren Rd. The project also includes spot repairs for the curb and sidewalk, ADA ramp work and implementing a few geometric changes to the corridor.

2015 HMA Road Rehabilitation, Farmington Hills, MI
Full-time Field Client Representative for 2015 HMA Pavement Rehabilitation project.

Select Relevant Experience Continued

Whipple Street Bridge Replacement- Construction, Novi, MI
Field Client Representative on project to replace the existing jack arch structure on Whipple Street over the Leavenworth Creek. The existing culvert abutments have failed, but it was stable, until recently when a hole on the roadway above opened up. We understand that at this point the City would like to replace the culvert.

2015 DWRF, Livonia, MI
Full-time Field Client Representative Replacement of approximately 47,300 feet of existing 6" water main with 8" water main, valves, and hydrants within the City of Livonia. The existing water main has been subject to several breaks. The new 8" water main will be installed primarily by directional drilling with High Density Polyethylene (HDPE) pipe.

Annapolis Repairs, Westland, MI
Full-time Field Client Representative on pavement repairs project along Annapolis Ave. between Henry Ruff Rd. and Middlebelt Rd.

Marlee Woods, Farmington Hills, MI
Field Client Representative on roadway repairs and re-installation of soil erosion control measures. The asphalt of Schuman Ave. failed. There was substantial cracking throughout the asphalt section of the roadway, and the subgrade was pumping, making the road impassible.

CE Services for 8 Traffic Signals, Oak Park, MI
Full time Field Client Representative for The project includes updating corridor signal progression plans for 36 locations in the Cities of Southfield, Oak Park, and Ferndale with optimized traffic signal operations, as well as designing to upgrade the existing traffic signal equipment at eight intersections in Oak Park per Road Commission for Oakland County (RCOC) standards. The goals are to improve the flow of traffic by implementing new signal timings, and to update select outdated equipment.

Clyde Smith Subdivision Inspection, Westland, MI
Full-time Field Client Representative on inspection of subdivision development.

Former National Airport, Westland, MI
Intermittent Field Client Representative on project that involves grading and excavation for the installation of a detention pond and removal and consolidation of soil and associated waste materials.

CE- 13 Mile Rehabilitation, Farmington Hills, MI
Field Client Representative for logging on project that included a mile of road widening, drainage improvements, the rehabilitation of the existing asphalt pavement and widening with curb and gutter additions at key locations. The lengthening of the Pebble Creek culvert crossing was a key feature of the project. Sidewalk gaps were also filled. R.O.W. impacts were minimal by developing detailed grading schemes throughout the design process to keep the project on schedule for construction.

Inspection- Abbeys of Westland, Westland, MI
Field Client Representative on inspection services for Abbey's of Westland.

Kimberly O'Rear, PE | Bridge Engineer

Education
Bachelor of Science in Civil Engineering, Michigan Technological University, 1995

Professional Registration(s)
Professional Engineer
MI, 1999, #45717

Experience
With OHM since 2002
7 years prior experience

Professional Development
- 2015 MDOT Bridge Inspection Calibration, April 2015
- Fracture Critical Inspection Techniques for Steel Bridges, Federal Highway Administration, National Highway Institute, Course 130078, Jan 2015
- 2014 MDOT Bridge Inspection Calibration, April 2014
- Element-Level Bridge Inspection Training, MDOT, March 2014
- Bridge Inspection Non-Destructive Testing, Federal Highway Administration, National Highway Institute, 2011
- Bridge Inspection Refresher Training, Federal Highway Administration, National Highway Institute, 2006 & 2010
- Bridge Inspection Refresher Training, MDOT/ ACEC, 2006 & 2010

Background

Kim is currently the Group Manager and Project Manager in OHM Advisors' Structures Group. She has extensive experience working on bridge repair, rehabilitation and replacement projects and working on bridge inspection and scoping. Kim's experience in bridge design and bridge inspection and scoping allows her to determine rehabilitation concepts and programming costs. She is a qualified team leader for bridge inspections and completes numerous inspections each year. She has experience on various types of projects, including the preparation of construction plans, specifications and estimates.

Select Relevant Experience

Macon Road Bridge Replacement and Hydraulic Analysis, Washtenaw County, MI
Project Manager for the replacement of the existing bridge on Macon Road over the Cammett Luckhardt Drain. The existing bridge was in poor condition and closed to traffic and the existing drain had excessive build up. A culvert was designed to replace the existing bridge to convey the flow and the drain was cleaned out. The project included a full hydraulic analysis, including flow determination on this less than 2 sq mi drain. OHM was responsible for the construction plans, estimate, and bidding documents as well as the construction administration and engineering.

Wood Trail Culvert Replacement, Orion Township, MI
Project Manager for the emergency culvert replacement of Wood Trail over the Paint Creek Tributary. During a period of exceptional heavy rain events the exciting CMP culvert collapsed and Wood Trail was forced to be closed. The collapse of the culvert caused enough water to back up that emergency pumps were installed get water across the roadway. OHM was in contact with local culvert suppliers to determine what size pipe they had in stock so that the replacement could happen as quickly as possible. After discussions with suppliers, RCOC and MDEQ it was decided that the existing CMP would be replaced with a round concrete culvert. The existing culvert that failed is immediately adjacent to and abuts a stone arch culvert that goes under the MDNR Pollyann Trail Pathway. The pathway was also closed due the culvert failure. A further complication was the number of buried public and private utilities. The culvert was opened four months after it was closed.

Eager Road Bridge Replacement and Road Reconstruction, Osceola Township, MI
Project Manager for the road reconstruction and bridge replacement on Eager Road. The existing bridge was closed in 2015 due to its poor condition and OHM was retained by LCRC to design the replacement structure along with reconstructing the roadway to meeting current horizontal and vertical criteria. The existing horizontal curve was too tight and the new curve will be pushing the roadway approximately 25' to the west. The upgrade to the vertical curve will raise the roadway at the bridge approximately 7'. The design was complicated due the existing area being a swamp. The soil conditions resulted in the use of lightweight fill components and geotextile reinforcement in order to maintain stability of the underground material. The bridge will be replaced with an aluminum arch culvert founded on a concrete spread footing to keep dead loads as light as possible.

Select Relevant Experience Continued

Mike Levine Lakelands Trail, Ingham & Jackson Counties, MI
Lead Bridge Engineer for the construction of 11.8 miles of trail for pedestrian and equestrian usage, which includes the replacement of three timber railroad bridges over three different water crossings. The pathway is a 10' wide aggregate surface pathway that runs along an old railroad alignment. The bridges are 120', 100' and 80' single span pre-manufactured trusses founded on concrete abutments. The project is the first project that is a coordination effort with MDOT and MDNR. The trail is an extension of the Lakelands Trail that begins in Hamburg and runs southeast. This project will begin in Stockbridge and at Hawkins Road where a new trailhead will be constructed on MDNR property in the southwest quadrant of Hawkins Road and Portage Creek.

Pratt Road Culvert Replacement, Kalamazoo, MI
Project Manager for the culvert replacement on Pratt Rd over the Portage Creek. There existing sanitary and water main utilities which are shallow and would prevent the use of a four-sided box culvert therefore a three-sided concrete culvert on spread footings was designed. The project included utility coordination, construction plans, special provisions, construction cost estimate and review of shop drawings.

Clarkston Road Regional Pedestrian Pathway Connector Project, Orion, MI
Lead Bridge Engineer for the design of the boardwalk that is part of the nearly one mile proposed pathway along the north side of Clarkston Road from Pine Tree Road to the Polly Ann Trail through the banks of Elkhorn Lake. The trail utilized 2 sections of boardwalk to span wetland areas which totaled approximately ¼ mile.

Wixom Road Bridge Replacement, Wixom Township, MI
Project Manager for the bridge replacement of Wixom Road over the Huron River. The existing twin CMP culverts were in poor condition and in need of replacement. The existing culverts were replaced with a 60' bulb tee bridge founded on concrete abutments supported on H-piles. The existing structure is within the Proud Lake State Recreation Park and the design of the structure included enough head room to accommodate for kayak and canoe traffic. The roadway cross section was widened slightly to increase shoulder width. The project site is a known area for the threatened Eastern Mississauga rattlesnake and several species of mussels. The project included provisions to deal with all the threatened species. Project deliverables included construction plans, special provision and cost estimate for a letting through the MDOT LAP system.

Caster Road over Big Salt River Superstructure Replacement, Midland County, MI
Project manager for the superstructure replacement of Caster Road over Big Salt River. The existing side-by-side box beam structure will be replaced spread box beams and a concrete deck. The existing substructure is in good condition and will remain. The existing profile will be modified slightly to allow for some longitudinal drainage. The project include plans for the superstructure and approach replacement, special provisions and cost estimate for a letting through the MDOT local agency program.

Sturgeon Road over Newell Drain Bridge Replacement, Midland County, MI
Project manager for the bridge replacement of Sturgeon Road over Newell Drain. The existing three barrel timber box culvert will be replaced with spread box beams, a concrete deck and GRS abutments. The foundations are fast and easy to build and offer a savings over typical concrete abutments. The project include plans for bridge plans and approach replacement, special provisions and cost estimate for a letting through the MDOT local agency program.

Monroe Road over Newell Drain Bridge Replacement, Midland County, MI
Project manager for the bridge replacement of Monroe Road over Newell Drain. The existing three barrel timber box culvert will be replaced with spread box beams, a concrete deck and GRS abutments. The foundations are fast and easy to build and offer a savings over typical concrete abutments. The project include plans for bridge plans and approach replacement, special provisions and cost estimate for a letting through the MDOT local agency program.

Michael Cousins, GISP | GIS Practice Leader

Education
Bachelor of Science in Geography with a Specialization in Spatial Information Processing, Michigan State University, 2007

Experience
With OHM since 2014
8 years prior experience

Professional Certification(s)
- Geographic Information Systems Professional (GISP), GIS Certification Institute, 2012, #29470
- Esri ArcGIS Desktop Certified Professional 19-001, 2019
- Former GIS/LIS Technologist, ASPRS, 2009

Professional Affiliation(s)
- Improving Michigan's Access to Geographic Information Networks (IMAGIN)
- Michigan Communities Association of Mapping Professionals (MiCAMP), Member, 2014-Present
- Urban and Regional Information Systems Association (URISA), Member, 2012-Present
- Tennessee Geographic Information Council (TNGIC) – Member, 2014-Present
- Ohio-Michigan GIS User Group (OH-MI), Member, 2014-Present

Background

Michael has over 13 years of experience in consulting with a primary focus on GIS, project management, and asset management. Michael is the team's lead technical GIS expert and has a strong work ethic with the ability to address complex problems and design technical solutions. Michael specializes in the areas of GIS, asset management, augmented & virtual reality (AR/VR) applications, environmental planning and assessment, and floodplain management. With his experience in GIS and planning, his development concentrations range from data model design to asset management. The popularity and near necessity of GIS technology within municipal government and public organizations has driven his desire to understand the spatial and attribute components to public assets, such as utilities and natural features, along with asset management.

As the firm's practice leader for GIS, Michael is responsible for managing and overseeing all GIS tasks within each discipline. This includes the mentoring and training of all staff members spread throughout each of our regional offices. Michael's team currently consists of a team of 7 dedicated GIS staff members.

Due to the increased demand for data spatial accuracy and integrity, Michael's focus has also been on the integration and usage of GPS & mobile platforms. Incorporating GPS and GIS together creates an enterprise solution for data collection, analysis and presentation.

Michael is the Information & Technology leader of the OHM Asset Management team. He is responsible for all GIS components of an asset management plan. This includes but is not limited to the following: data collection, data implementation, and data standardization.

Along with data platform design and development, Michael has added his expertise to numerous professional organizations and is heavily involved in the GIS community. Michael is recognized regionally as an expert and leader in the field of GIS. Michael is a member of the Michigan State University Geography Department Alumni Advisory Board. Through the ESRI Geomentor Program and the GRACE committee, he has volunteered his time to teach GIS to various K-12 schools through SE Michigan. Michael is experienced in using a variety of software and related tools, including ESRI ArcGIS Enterprise, ArcGIS Online Suite, ArcHydro, ArcPad, Trimble TerraFlex, Adobe Photoshop and Microsoft Office.

Select Relevant Experience

Infrastructure AMP Development Assistance, SEMCOG, Southeast MI
GIS Lead - SEMCOG acquired the assistance of OHM Advisors as part of a region-wide Infrastructure Asset Management planning project. The purpose of this project is to assist SEMCOG in developing the southeast Michigan infrastructure asset management program across all infrastructure owners. Michael is leading OHM's GIS effort with this project as they seek to collect and analyze the region's utility networks. Several key components of this project include: Community outreach through a series of story maps, Collection of each municipality's GIS, standardizing of the data into one common database, analyzing of the data from a regional perspective, and reporting of the results back to the Region and State.

Select Relevant Experience Continued

Stormwater and Wastewater Asset Management Plans (SAW Grant), Traverse City, MI
GIS Manager for the City's three-year $2M SAW Grant to develop Asset Management Plans for its stormwater and wastewater infrastructure. Project includes City-wide enhancements to its GIS databases, record drawing research, system survey, detention pond and open channel assessments, sewer televising, manhole inspections, modeling, and the development of rate studies for both utilities. The stormwater rate study will include coordination with key local stakeholders to explore the feasibility of community-wide revenue sources for the stormwater system.

Asset Management Programs, Various Communities/ Locations
GIS Lead - Asset management programs (AMP) vary depending on the community's needs and budgets. As the GIS Manager, Michael works with the community to create or update their GIS for each desired utility system. The GIS team updates the GIS both via spatial location and attribution to create a complete system. Once the GIS is complete, Michael works with the community to implement an asset management plan within a secondary AMP software or within ArcGIS. Along with an AMP software integration, Michael may help the community in GIS/AMP training along with an ArcGIS Online implementation for more efficient workflows. Systems analyzed have included some of the largest utility systems in the State of Michigan.

Signing Bridge Connection Inventory, MDOT, Various MDOT Regions, MI
Michael was the Deputy Project Manager for this large inventory. OHM Advisors was tasked with developing a GIS inventory of all MDOT signing bridge connections on all MDOT trunk line routes in 6 regions throughout the state. Michael used the mobile data collection technique he had developed to GPS and collect a detailed inventory, including photos, for nearly 5,000 signs.

RVSDS Long Term Corrective Action Plan, Wayne County, Wayne County, MI
GIS Manager - Michael developed an enhanced GIS database for the key assets in the RVSDS interceptor system, including the addition of system attributes from sewer and manhole inspection efforts. This information was developed into a master table that was used to build the updated hydraulic model. The expanded database was developed to facilitate future O&M on the system and to provide current and relevant system information on the County's GIS platform.

Economic Development Plan, Oakland County, Pontiac, MI
GIS Manager for this project. The City of Pontiac is roughly 20.28 square miles. OHM Advisors was tasked with developing an economic development strategy to revitalize the city. Michael was responsible for creating a variety of figures used for reporting to show various things from demographics to land use throughout the city.

Residential Rental Analysis, Ypsilanti Township, MI
GIS Manager - OHM Advisors was tasked with performing residential rental analysis on properties throughout the township. Using tax assessors' data, crime data, and existing GIS parcel data, Michael created various hotspot report figures to be used for future development. Michael served as the primary person responsible for creating these figures.

Pavement Maintenance Program, Romulus, MI
GIS Manager for this project. The City of Romulus has 106 miles of streets in their jurisdiction. The project includes collecting PASER condition ratings yearly and continuous tracking of contracted pavement maintenance procedures. Michael takes the data from Roadsoft and creates various figures showing the yearly ratings to be used for further analysis.

Non-Freeway Sign Inventory, MDOT, Detroit, MI
GIS Manager - OHM Advisors was tasked with collecting a full sign inventory of 4 major roads in Detroit totaling approximately 22 miles and over 2,200 signs. Michael developed a new data collection technique using tablets and a portable GPS that would allow our technicians in the field to take a full inventory, including pictures, in a fast and efficient manner that exceeded expectations from the client.

Vanessa Warren, ASLA | Landscape Architect

Education
- Bachelor of Landscape Architecture, Michigan State University, Landscape Architecture, 2000
- Bachelor of Science, Purdue University, Horticulture Science, 1989

Experience
With OHM since 2013
13 years prior experience

Professional Certification(s)
- Playground Equipment Installation and Safety Certification
- Leadership in Energy and Environmental Design

Professional Affiliation(s)
- American Society of Landscape Architects-Michigan Chapter (Executive Committee Member, Current Trustee and Past President)
- American Society of Landscape Architects (Vice President of Membership)
- Landscape Architecture Foundation (Member)
- Yearly Planting Plan for the State of Michigan Grounds including annual and perennial beds
- Adjunct Instructor for Michigan State University's School of Planning, Design and Construction, 2006 - present

Background

Vanessa is responsible for landscape design services including project planning, design, contract administration and quality systems oversight. Her experience is environmentally based in both planning and design. She has experience with all engineering disciplines, geologists, chemists, biologists, ecologists and architects. Vanessa has 19 years of experience in managing and performing parks and recreation master planning, streetscape improvements, site restoration, site development, illustrative master planning, grant writing and urban design. She also has experience providing research and design services to multiple agencies and municipalities.

Select Relevant Experience

Trail Schematic, Swartz Creek, MI
Performed a trail schematic design for the City of Swartz Creek in order to improve connectivity from the existing Genesee Valley Trail to and throughout the City. The schematic depicted the entire site that was to be developed, natural features, utilities, exiting conditions and a detailed cost estimate. The trail was broken into three segments, and deliverables were provided in a format that could be used in the submittal of grants.

Trail Feasibility Study, Swartz Creek, MI
Performed a feasibility study for the placement of a non-motorized, multi-use trail system to loop through the city and connect its public park system and schools. Plan included the development of a classification system, site inventory and analysis and comparing existing conditions with established resources such as maps, aerials, local community plans and existing trail.

Sault Ste Marie Downtown Placemaking, City of Sault Ste. Marie, Michigan Department of Natural Resources, Detroit, MI
Preparing conceptual place-making spaces for five City parking lots as part of a HUD Federal funding grant. These spaces are designed to capture the spirit of region and provide opportunities for pedestrians and public transportation. With the use of unique surfacing, lighting, local art, and curbless roads that can serve as public open space for special events, this plan will provide local and tourist a sense of place and convenience.

Belle Isle State Park Boat Launch Schematic Design, Michigan Department of Natural Resources, Detroit, MI
Preformed site investigation, schematic and final design for the newly re-imagined boat launch at Belle Isle State Park. The project identified the need for a new launch on the Detroit River and identified three possible locations for a launch. Schematic Functional Use Diagrams and schematic conceptual designs with cost estimates were developed for future planning by the State of Michigan..

Select Relevant Experience Continued

Bluebell Beach Park Improvements, Genesee County, MI
Preformed site investigation, schematic and final design for the newly re-imagined Bluebell Beach for improved accessibility to the water including access to the water for park users with mobility impairments. This project is funded through the Michigan Department of Natural Resources Trust Fund, and entails the necessary regrading of the site to allow accessibility, and natural drainage solutions.

Bigelow Park Improvements, Bay City, MI
Preformed site investigation, schematic and final design for the newly re-imagined Imagination Station for the City of Bay City. The process included public participation within the schools and steering committees and will implement nature based play, alternative energy sources, and natural drainage solutions.

Sleeping Bear Dunes Heritage Route, National Park Service, Empire, MI
Performed preliminary design and community engagement for five miles of non-motorized trail at this scenic and heavily visited National Lakeshore Park. The trail segment stretched from CR-669 to CR-651 and utilized universal design to accommodate a spectrum of users, and best management practices for sustainable design that considered historic, cultural and natural aspects while maximizing connectivity and safety.

Wenonah Park Master Plan and Park Improvements, Bay City, MI
Validated the existing Park Master Plan for the City and presented alternative design solutions based off of site investigation and public meetings. Solutions included a streetscape and park improvements for a revitalized space that will serve to connect the downtown to the Saginaw River visually, physically, and in a sense of place.

Riverfront Park, City of Zilwaukee/MDNR, Zilwaukee, MI
Worked with the City of Zilwaukee to acquire a Michigan Trust Fund Grant through the Michigan Department of Natural Resources and subsequently acquired all necessary permits for this park within the floodplain and prepared construction drawings for a seawall, boat drop off area, parking lot and playground area for the city.

Trail Schematic, City of Swartz Creek, Swartz Creek, MI
Performed a trail schematic design for the City of Swartz Creek in order to improve connectivity from the existing Genesee Valley Trail to and throughout the City. The schematic depicted the entire site that was to be developed, natural features, utilities, exiting conditions and a detailed cost estimate. The trail was broken into three segments, and deliverables were provided in a format that could be used in the submittal of grants.

Iron Belle Trail Extension; Gale Road, Genesee County Parks, Atlas Township, MI
Performing oversight of engineering design and construction, along with trail and landscape design services for the Iron Belle Trail from the Hegel non-motorized trailway to the existing sidewalk system in Atlas Township. This design is to AASHTO standards and includes coordination with the County Parks, Road Commission, MDOT and MDNR. The trail design includes trail alignment, specified materials, drainage improvements, tree removals, and right-of-way and utility location.

Master Plan for Rogers City Site, US Steel, Roger City, MI*
Develop a master plan for 6,000 acres of property owned by U.S. Steel Corporation. The property is located six miles south of Rogers City, Michigan and has 3.5 miles of Lake Huron Shoreline. The master planning process included the collection of both social and physical data on and surrounding the property. The data analysis helped define the extent and character of development style.

*Work completed prior to joining OHM Advisors**

Stephen Dearing, PE, PTOE | Manager of Traffic Engineering

Education
Bachelor of Science in Civil Engineering, University of Michigan, 1976

Professional Registration(s)
Professional Engineer
- MI, 1981, #28487
- OH, 2011, #75334
- Professional Traffic Operations Engineer, 2004

Experience
With OHM since 2000
24 years prior experience

Professional Affiliation(s)
- Institute of Transportation Engineers
- ITE Transportation Safety Council
- ITE Traffic Engineering Council
- SEMCOG Transportation Advisory Council

Presentations/Seminars
- Traffic Engineering Fundamentals
- Highway Tort Liability
- Traffic Safety Programs
- Work Zone Traffic Control Measures
- Sight Distance
- Innovative Interchange Design, Incl. Diverging Diamond Interchanges
- Roundabout Planning & Operations
- Traffic Calming
- Innovative Funding for Highway Projects

Background

As OHM's Practice Leader for Traffic Engineering, Steve is responsible for all aspects of offering transportation planning and traffic engineering services. He has led the technical efforts on traffic impact studies, crash analyses, capacity analyses, parking and pedestrian studies, roadway conversion and road diet studies, traffic signal designs, traffic signal optimization, freeway and non-freeway signing, maintenance of traffic planning and design efforts and pedestrian issues. Steve has developed expertise in modeling and design of modern roundabouts. He works with clients to identify their needs, prepares proposals, project scheduling, budget tracking and quality control for all the studies and plans produced by the engineers and technicians of the group.

Prior to joining our team, Steve was a City Traffic Engineer for a total of 13 years, first with Naperville, IL and then at the City of Rochester Hills, MI. For Naperville, the position was created in 1987 and he was its first Manager. In Rochester Hills, the position was created and initially held by another individual. That person left after six months and Steve was brought in to finish organizing the Traffic Safety Division. For both positions, he managed the activities of their Traffic Safety Division, gaining a thorough knowledge of transportation planning, traffic engineering and operations. Planning functions involved working closely with police, the local transit providers, school districts and their bus operators, State Department of Transportation, the County highway department, neighboring cities, and developers. The traffic engineering functions included reviewing traffic impact studies, performing professional surveys and making recommendations on roadway safety, geometry, capacity, operations, and traffic control. Steve also prepared proposals, budgets and schedules, and negotiated contracts and administered contract performance.

Select Relevant Experience

US-41 (Quincy Street), Hancock, MI
Lead Traffic Engineer for the design of a one-mile stretch of several roadways in downtown Hancock. The project included the reconstruction of three roadways, Front Street, Reservation Street and Quincy Street that make up the main route through the old historic downtown area. The old roadway and adjacent sidewalk up to the building fronts was completely removed. New water main, storm sewer and new streetscape enhancements were required. OHM, as the lead consultant, was responsible for developing the plans. Significant coordination was required with the City of Hancock, SHPO, and MDEQ. Both permanent and temporary ROW was also required.

US-10BR Design-Build Reconstruction, Midland, MI
Lead Traffic Engineer providing design and construction engineering services on this Design-Build delivered project. Project included complete reconstruction of 4 to 5 lanes of urban business route, with water main replacement, storm and sanitary sewer replacement, sidewalk and ADA ramps, cold milling and resurfacing portions, MOT, and restoration items. Responsible for TMP, MOT plans, signs, pavement marking and signal plans.

Select Relevant Experience Continued

US-41 / M-28 Roundabouts, Marquette Twp., MI
Lead Traffic Engineer for the project, including TMP, traffic signal, sign, and pavement marking plans. The project extends the 4-lane boulevard section from its current terminus at CR 492 westward to Brickyard Rd, and involves the construction of two multi-lane roundabouts on US-41 at Brickyard Rd and at CR 492 / Walmart Entrance.

M-66 Mill and Overlay from Capital Ave & Division St to Frey Dr, Battle Creek, MI
QC Reviewer for traffic components for the project, including MOT, sign, and pavement marking plans. 2.58 miles were resurfaced, including minor geometric changes near the POB, upgrading sidewalk ramps for ADA compliance.

RCOC Signal Optimization, Oakland County, MI
Project Manager for project to collect data, evaluate the safety and operation, and optimize the signal timing plans for 150 intersections through southern Oakland Co.

Traffic Signal Design for Brewster at No. Fairview, Rochester Hills, MI
Project Manager for the modernization of the traffic signal serving Brewster Elementary School. The box span wire signals were designed to RCOC standards for SCATS.

US-41, Lincoln Street to the Canal Lift Bridge, Hancock, MI
Traffic QC Reviewer for the design of a 1-mile stretch of several roadways in downtown Hancock. The project included the reconstruction of three roadways, Front Street, Reservation Street and Quincy Street that make up the main route through the old historic downtown area. The old roadway and adjacent sidewalk up to the building fronts was to be completely removed. New water main, storm sewer and new streetscape enhancements were required. OHM, as the lead consultant, was responsible for developing the plans. Significant coordination was required with the City of Hancock, SHPO, and MDEQ. ROW, both permanent and temporary was also required.

East / West Corridor Study, Grand Traverse County, MI
Lead Traffic Engineer responsible for delivery of a complex transportation study investigating operations along existing east-west streets and potential new corridors. Numerous studies have assessed traffic congestions along major routes, impacted by unprecedented growth within the study area, however none have resulted in a comprehensive plan where projects may be implemented to address the issues. OHM was responsible for traffic and safety analysis, public engagement, alternatives analysis, website development and maintenance, and preparation of implementable solutions with accurate construction costs.

Road Safety Audit of North Ave at Emmett St, Battle Creek, MI
RSA Team Member for Existing Road Audit of the North Avenue at Emmett Street intersection in Battle Creek, MI. The study reviewed traffic operations and safety, identified problems that may affect safety and suggested mitigating measures. This RSA was requested based on a history of pedestrian crashes, including a fatality at the intersection. This intersection experiences high pedestrian activity due to its proximity to the Bronson Battle Creek Hospital and off-site parking. Many short-term recommendations were provided through the process, including improvements to signs, markings and pedestrian facilities. The long-term recommendation is to modify the existing signal-controlled intersection to a modern roundabout.

Beaumont Oakwood Pedestrian Crossing, Dearborn, MI
Project Manager for the design to install a mid-block pedestrian crossing to facilitate the crossing of staff between Beaumont's Oakwood Hospital and their Medical Office and Education Center buildings. The project also included modifications to the site to allow cross access between the parking lots of the two outbuildings.

Randy Wilson | Lead Signal Design Engineer

Education
Bachelor of Science in Electrical Engineering, Lawrence Technical University, 1986

Experience
With OHM since 2013
25 years prior experience

Professional Affiliation(s)
- IEEE-Institute of Electrical and Electronic Engineers
- ITE-Institute of Transportation Engineers

Professional Development
- Crystalline Concrete Waterproofing, Kryton Chemical

Background

Randy was the Project Manager and Lead Signal Designer for Mansell Associates for 25 years. Until closing its doors in 2013, Mansell Associates was arguably the leading traffic signal design firm in Michigan. Randy was responsible for overseeing the traffic signal design process from the initial field investigations through to plan completion. Responsibilities included client contact to review project scope and design requirements, field investigation oversight disseminating existing field condition information that may influence the signal design, design oversight for all stages of design from base plan to final plans, plan review oversight including meeting coordination and plan revisions, other responsibilities include utility coordination, special provisions and engineers estimate.

Randy is well versed in the standards and practices of MDOT, as well as many traffic signal maintaining agencies including the Genesee County Road Commission. Randy is also well versed in the standards and practices of various power supply companies including Consumers Energy. Randy's 27 years of experience working with these agencies has made him a valuable resource to clients. He is able to see possible design problems early and provide innovative solutions to solve them. His traffic signal design experience includes design of flashing beacons for school zones and fire stations. He has designed many mid block pedestrian crossings using Hawk Signals or Rapid Flashing Beacons. He has thousands of traditional stop n go signal designs under his belt and has designed everything from simple two phase intersections to more complex fully actuated intersections including those interconnected as part of a closed loop system or a part of a larger system communicating with a transportation operation center.

Select Relevant Experience

Nine Mile Road, Hawthorne Street to Middlebelt Road, Farmington Hills, MI
Traffic Signal Engineer for ¾ mile of cold milling and HMA resurfacing, new curb & gutter with enclosed drainage, about ½ mile of new concrete sidewalk, ADA-compliant sidewalk ramps, permanent signing, pavement markings, modernization of the traffic signal at Tuck Road, and maintaining traffic. This project was bid through MDOT's Local Agency Program.

South Boulevard, Crooks to Livernois and John R to Dequindre, Troy, MI
Traffic Signal Engineer for South Boulevard rehabilitation including ¾ mile of cold milling and HMA resurfacing between Crooks Rd and Livernois Rd, and another ¾ mile of the same between John R Rd and Dequindre Rd. The project also included areas of full-depth pavement repairs, cross-slope correction, signing, pavement markings, erosion control, maintaining traffic, ADA-compliant sidewalk ramps, and pedestrian signal upgrades at High Oaks Drive. Construction funding came from the Cities of Troy and Rochester Hills as well as the RCOC, therefore coordination was required with all three governments.

Select Relevant Experience Continued

US-41 (Quincy Street), Hancock, MI
Signal Designer for the design of a one-mile stretch of several roadways in downtown Hancock. The project included the reconstruction of three roadways, Front Street, Reservation Street and Quincy Street that make up the main route through the old historic downtown area. The old roadway and adjacent sidewalk up to the building fronts was completely removed. New water main, storm sewer and new streetscape enhancements were required. OHM, as the lead consultant, was responsible for developing the plans. Significant coordination was required with the City of Hancock, SHPO, and MDEQ. Both permanent and temporary ROW was also required.

South Boulevard, Adams Road to Crooks Road, Troy, MI
Signal Designer for one mile of complete HMA pavement replacement (Adams Rd to Coolidge Hwy), one mile of cold milling and HMA resurfacing (Coolidge Hwy to Crooks Rd), pavement widening for a right turn lane at Adams Rd, replacement of the Borden Drain elliptical culvert, ADA sidewalk ramps, pedestrian signal upgrades, signing, pavement markings, soil erosion control, and maintaining traffic. Construction funding came from the Cities of Troy and Rochester Hills as well as the RCOC, therefore coordination was required with all three governments.

Thirteen Mile Road, Drake Road to Farmington Road, Farmington Hills, MI
Signal Designer for one mile of cold milling and HMA resurfacing, pavement widening for a continuous 3-lane section, new bike lane, new curb & gutter, ADA-compliant sidewalk ramps, enclosed drainage, 1500 feet of new sanitary sewer, signing, pavement markings, pedestrian pushbuttons at the Mayfair Drive traffic signal, and maintaining traffic. The project also included replacement of the Minnow Pond Drain culvert with a new 10-foot by 8-foot precast concrete box culvert. This project was bid through MDOT's Local Agency Program.

As Needed Signal Design for Various M-8 (Davison) intersections, City of Detroit, Wayne County, MI
Lead Signal Designer responsible for the full traffic signal modernization design for 10 intersections on M-8 (Davison Ave). The design involved the upgrade of the existing traffic signals including box span design including tether spans, new steel poles, new controllers, LED signals with back plates for span mounted signals, countdown type pedestrian signals, wireless vehicle detection, cell modems and Ethernet switches. Other responsibilities included utility coordination including coordination with the power utility for electrical service(s), ADA compliant sidewalk ramps and oversight of plan development to ensure all design met MDOT standards. Randall was also responsible for coordination of milestone review meetings, the signal related special provisions and engineers estimate.

PLD to DTE Electrical Service Conversion, Detroit, Wayne County, MI
Lead Design Engineer responsible for the design to convert Public Lighting Department of Detroit electrical service over to Detroit Edison for various MDOT owned traffic signals in the City of Detroit. The design involved the installation of ground mounted service pedestals located near the existing traffic signal controller including the infrastructure to bring DTE electrical service to the new pedestal and the infrastructure to connect the new pedestal to the existing signal controller. Responsibilities included coordination between MDOT, DTE and PLD.

Signal Design and Optimization, Imlay City, Lapeer County, MI
Lead Signal Designer responsible for the modernization design of two intersections on Imlay City Road. The design involved the upgrade of the existing traffic signals including box span design including; tether spans, new steel poles, new controllers, LED signals with backplates for span mounted signals, countdown type pedestrian signals, wireless vehicle detection, and railroad pre-emption. Other responsibilities include utility coordination with the power utility for electrical service(s), oversight of plan development to ensure all design meets all MDOT requirements and standards of practice, coordination of review meetings including contact with local services. Also included was the development of the e-proposal package and engineers estimate.

Lindsey Kerkez, PE | Environmental Engineer

Education
- Master of Science in Environmental Engineering, concentration in Environmental Fluid Mechanics and Hydrology, University of California, Berkeley, 2008
- Bachelor of Science in Agricultural and Biological Engineering, concentration in Soil and Water Resources Engineering, University of Florida, 2007

Professional Registration(s)
- Professional Engineer MI, 2015, #63699

Experience
With OHM since 2013
5 years prior experience

Professional Development
Pressure Pipe Rehabilitation, Lanzo Technologies, attended 12/07/2016

Professional Affiliation(s)
- Michigan Water Environment Association, Asset Management Committee Member
- American Water Works Association, Asset and Infrastructure Management Committee Chair, 2018-present

Background

Lindsey is involved with a variety of projects for sanitary, storm, and drinking water systems. She enjoys opportunities to analyze and manage large data sets, engage the public to increase understanding of complex projects, and use computer programs to make processes more efficient. Lindsey's background provides her with theoretical and practical tools necessary to operate and evaluate environmental models. She is proficient at presenting results and synthesizing information across a wide set of disciplines and to a broad spectrum of individuals.

Lindsey is skilled in various hydraulic and hydrologic modeling programs. She is well-versed in a unique variety of tools specific to Asset Management Planning including Computerized Maintenance and Management Software (CMMS) and Assetic Predictor and RIVA life-cycle modeling tools. Lindsey is skilled in various computer programs, including H20MAP, ArcGIS, MATLAB, Global Climate Modeling, Linux Scripting and Visual Studio.

Select Relevant Experience

Water System Master Plan, Ypsilanti Communities Utility Authority, Ypsilanti, MI
Lindsey was the Project Manager for the Ypsilanti Communities Utility Authority (YCUA) Water System Master Plan. The Water System Master Plan incorporates the components of a Water Reliability Study, General Plan, and Asset Management Plan. Lindsey managed the inventory and condition assessment of the Authority's horizontal and vertical assets. A new InfoWater model was created for this project. This included understanding system demands and operations for 6 storage tanks, 6 booster pumping stations, and 5 contract customers.

Water System Master Plan, Lead and Copper Rule Compliance, Saginaw, MI
Deputy Project Manager for several projects assisting the City of Saginaw in its compliance with MDEQ regulations. The Water System Master Plan incorporates the components of a Water Reliability Study, General Plan, and Asset Management Plan. Lindsey assisted with the update of a hydraulic model for the City and over 20 wholesale customer communities. Lindsey has also been working with the City on a comprehensive plan for lead service line replacement, which includes wholesale and city customer outreach, prioritization, and extensive understand of the State's recently updated Lead and Copper Rule.

Willow Lift Station Study, Delta Township, MI
Asset Management Expert on evaluation of the existing sewer system to determine, the most cost effective and sustainable solution, and develop a plan that successfully completes the upgrades. The plan consisted of understanding the hydraulic capacity and performance of the lift station and its impacts on the upstream system performance. A limited flow-metering program with only two (2) temporary flow meters was performed, along with analysis on antecedent moisture effects on wet weather flows to develop design peak flow rates. Hydraulic modeling focused on the interceptors and trunk sewers in the area, without simulating every pipe in the service areas. Utilizing an asset management approach to evaluating the force mains, and developing recommendations for physical conditions assessment on those segments that were the most critical was also performed.

Select Relevant Experience Continued

Utility Funding Feasibility Studies, Various Communities, MI
Lindsey acted as project engineer on stormwater funding feasibility studies for several cities including Ann Arbor, Royal Oak, Auburn Hills, Rochester Hills, and Traverse City. These projects involved presentations and coordination with key local stakeholders to explore the feasibility of community-wide revenue sources for the stormwater system. These studies identified existing O&M, capital, labor, equipment, and debt service costs and developed a long-term cash flow analysis for expanded stormwater programs. Presented at public stakeholder meetings on the existing and desired (future) needs, and helped cities secure local buy-in. All recommendations were defensible under Michigan constitutional funding requirements.

Asset Management (AM) Plans, Various Communities, MI
Lindsey is passionate about the benefits of AM planning. She uses open source data-mining software to find trends in condition data and has developed innovative methods for collection system deterioration forecasting that assimilates data for various infrastructure ages, sizes, and materials. She is familiar with life-cycle modeling to enhance expenditure decision making for both vertical and horizontal asset capital and O&M planning. She is knowledgeable about MACP and PACP condition assessment and field data collection with in criticality evaluations and risk management. She has presented to community stormwater advisory groups about the importance of infrastructure funding.

Drinking Water Asset Management Plans, Various Communities
Project Manager or Technical Advisor for the completion of more than 25 drinking water asset management plans in Michigan and Ohio communities. Plans included updating the asset inventory in GIS, condition assessment for both horizontal and vertical infrastructure, criticality assessment and capital improvement plans.

Water System Master Plan, Milan, MI
Lindsey was the Project Manager for the City's Water System Master Plan. The Water System Master Plan incorporates the components of a Water Reliability Study, General Plan, and Asset Management Plan. This project included field data collection for the creation of a GIS system and InfoWater model. Analyzing system components and demands to determine the adequacy of the system to meet present and future demands. Finding any fire protection, pressure, or infrastructure problems within the system and offering recommendations for improvement.

Sewer Analysis Projects, Various Communities, MI
Lindsey has conducted sanitary sewer studies for which she performed flow metering analysis, I/I studies, and hydrologic and hydraulic models for a number of communities.

Meter-Based Billing System, Ypsilanti Community Utilities Authority, Ypsilanti, MI
Performs quarterly mass flow balance of Ypsilanti Community Utilities Authority (YCUA) flows. Developing meter correlations used for wet weather sanitary sewer flow editing and engaging YCUA's contract customers on the transition to a flow based billing system. Also performs dye test period break analyses, wet weather flow editing, inflow and infiltration analyses, and presentation of quarterly billing results.

Sewer Analysis, Royal Oak, MI
Reviewed flow meter and rain gauge data for quality control. Performed antecedent moisture hydrologic modeling to evaluate future peak flow throughout combined sewer system for incorporation into hydraulic model.

Sewer Capacity Study, Novi, MI
Reviewed flow meter, pump station, and rain gauge data for quality control. Performed antecedent moisture hydrologic modeling to evaluate future peak flow throughout sewer system for incorporation into hydraulic model.

D. SIMILAR MUNICIPAL CLIENTS

General Engineering Experience

We've proudly had an impact on many communities over the past five-plus decades, but are especially honored that our four original clients are still with us today. They tell us it's because we make their challenges our own and embed ourselves deeply in their organizations to deliver innovation. We like to think it's because infused into everything we do is the belief that putting people first makes an impact on a community.

General Engineering Client	Since	Population
Swartz Creek	**2014**	**5,700**
Auburn Hills	1968	22,795
Dexter (formerly Village)	1989	4,067
Dexter Township	2011	6,042
Farmington	1962	10,514
Fenton	2010	11,367
Livonia	1962	94,041
Milford	2011	6,471
Mt. Pleasant	2011	26,313
Novi	2004	59,211
Orion Township	1981	38,401
Rochester Hills	1990	73,422
Romulus	1995	23,281
Scio Township	2002	20,081
Southfield	1993	73,100
Superior Township	1962	13,753
Troy	2005	83,641
Westland	1988	81,545
Ypsilanti	2001	21,018

Services vary based on client need, but often include the following:

- Traffic Engineering
- Non-Motorized Facilities
- Capital Improvement Planning
- Grant Administration
- Utility Master Planning
- Development Plan Review
- Bridge Design & Scoping
- Construction Engineering Services
- GIS Mapping
- Utility Design
- Road Design
- Community Planning
- Parks & Trails
- Pavement Management
- Right-of-Way Acquisition
- Stormwater Compliance
- Water & Wastewater Facility Services
- Site Plan Reviews

Grant Funding Experience

OHM Advisors partners with our clients to navigate the nuances of project funding. Our success rate over the past 10 years? Greater than 95% We've helped secure or administer more than 180 grants in the past 3 years.

Transportation

- Transportation Alternatives Program (TAP)
- Surface Transportation Program (STP)
- Congestion, Mitigation & Air Quality (CMAO)
- Transportation Economic Development Fund (TEDF)
- Special Assessment Districts
- Local Transportation Improvement Program (TIP)
- Scrap Tire Cleanup Grant (MDEO)

Water & Sewer

- Revolving Loan Programs
- MDEO S2 Grant Program
- USDA Rural Development
- Community Development Block Grants (CDBG)

Stormwater & Recreation

- Rouge River National Wet Weather Demonstration Project
- Clean Michigan Initiative (CMI) & Section 319
- EPA Great Lakes Restoration Initiative (GLRI) Revolving
- Loan Programs
- MDNR Parks and Recreation
- MDEQ Coastal Management Program Natureworks
- Recreational Trails Fund
- Land & Water Conservation Fund

Grants Awarded over the Past 5 Years

Type of Grant	Amount Awarded
SAW Grant	$43,597,376
MDOT Transportation Alternatives Program (TAP)	$5,050,000
MDOT Surface Transportation Program (STP)	$25,243,700
MDOT STP Small Urban Program	$1,986,300
MDOT Local Bridge Program	$3,787,000
MDOT Safe Routes to School Program (SRTS)	$200,000
MDOT Safety Enhancement Program (HRRR)	$1,200,000
MDOT Priority Road Improvement Program (PRIP)	$2,950,000
MDOT Transportation Economic Development Fund (TED-F)	$4,200,000
MDOT Congestion Mitigation & Air Quality Improvement Program (CMAQ)	$1,800,000
Community Development Block Grants (CDBG)	$100,000
MDEQ State Revolving Fund (SRF)	$146,968,000
MDEQ Drinking Water Revolving Fund (DWRF)	$65,010,000
Oakland County Tri-Party Funding	$205,000
MDNR Trust Fund	$325,000
TOTAL	$302,622,376

Clientele

We're more than an architecture, engineering and planning firm. We are ***the community advancement firm.***

Engineering Services: Client Listing

	Serving Since	Population or Service Area Population	Traffic Engineering Services	Roundabout Design / Review	Non-Motorized Facilities	Capital Improvement Planning	Other Funding/Grant Administration	Utility Master Plan	Sewer Inflow Analysis	Development Plan Review	Bridge Inspections or Scoping	Bridge Design / Rehabilitation	Construction Engineering	DWRF / SRF Project Plan	GPS / GIS Mapping	Utility Design	Utility Appurtenance Design or Study	Road Design	Community Planning & Parks	Asset Management	Pavement Management	Treatment Facility Services	Right-of-Way / Easement Acquisition	Large Diameter Pipe Design (>16")	Phase II Storm Water Compliance	Footing Drain Disconnection Program	Municipal Facility Site Design	Other Services
Swartz Creek, MI	**2014**	**5,700**	•		•		•			•			•			•		•	•									•
Ann Arbor, MI	2006	114,024		•			•				•		•			•		•					•						
Auburn Hills, MI	1968	19,837	•		•	•	•	•	•	•	•	•	•	•	•	•	•	•	•		•		•	•	•	•	•	•	•
Battle Creek, MI	1994	52,347	•		•	•	•		•		•	•	•			•		•		•					•				
Bay City, MI	2016	34,424	•		•							•	•			•		•	•		•							•	•
Dearborn	2008	98,153				•	•	•	•					•	•	•	•					•			•				
Detroit, MI	2015	672,795	•			•			•				•					•							•	•			•
Dexter, MI	1989	3,495	•		•		•	•	•	•			•	•	•	•	•	•				•	•					•	•
Farmington, MI	1962	10,423	•				•	•	•	•			•	•	•	•		•	•						•	•	•	•	•
Farmington Hills, MI	1992	82,111		•			•			•		•	•			•		•	•										•
Fenton, MI	2011	11,571				•	•			•			•			•		•		•	•							•	•
Gahanna, OH	2004	33,248	•																•										
Kalamazoo, MI	1998	74,262									•	•																	
Livonia, MI	1962	100,545					•	•	•		•	•	•		•	•	•	•			•		•						•
Midland, MI	2010	41,685	•	•	•																								
Millersville, TN	2010	6,555							•	•						•			•									•	•
Northville, MI	2003	6,459	•	•			•	•			•	•	•			•		•							•				•
Novi, MI	2004	55,224	•		•	•	•	•	•			•	•		•	•	•	•											•
Oak Park, MI	2001	29,793	•				•						•			•	•	•						•					•
Owosso, MI	2015	14,784				•	•		•				•		•	•		•		•	•								•
Rochester Hills, MI	1995	68,825	•	•	•		•			•	•	•	•		•	•	•	•						•					•
Romulus, MI	1995	31,500	•		•	•	•	•	•	•	•	•	•	•	•	•	•	•	•		•		•	•	•	•	•	•	•
Royal Oak, MI	2009	57,326	•		•			•	•				•		•			•			•								
Saginaw, MI	2013	51,508	•			•	•	•					•		•	•	•	•		•		•							
Southfield, MI	1993	78,296					•	•	•		•	•	•	•		•		•		•									
Troy, MI	2005	79,481	•		•		•			•								•											
Westland, MI	1988	86,602	•		•		•	•	•	•	•	•	•	•	•	•	•	•	•	•	•		•		•	•	•	•	•
Worthington, OH	2011	14,125					•												•										
Ypsilanti, MI	1998	22,362	•		•	•	•	•		•	•	•	•	•	•	•	•	•		•	•		•		•		•	•	•
Zilwaukee, MI	2006	1,630			•	•	•	•	•		•	•	•	•		•	•	•		•				•					

CITIES

Clientele

TOWNSHIPS (>10,000)	Brownstown, MI	2009	28,041				•	•	•		•			•	•		•	•	•					•				•	•
	Canton, MI	2002	90,173	•			•	•	•	•	•			•		•	•	•	•		•	•					•		•	•
	Hamburg, MI	2010	20,627					•	•		•			•	•		•	•					•							•
	Orion, MI	1981	33,463	•		•	•	•	•	•	•			•		•	•	•	•	•					•	•	•		•	•
	Plymouth, MI	1997	27,798					•						•			•		•											•
	Scio, MI	2002	15,759	•		•	•	•	•	•				•	•	•	•	•					•		•	•				•
	Superior, MI	1962	11,334		•	•	•	•	•	•	•			•	•	•	•	•	•	•	•	•	•	•	•	•	•		•	•
	Ypsilanti, MI	1962	53,362	•		•		•	•		•			•			•		•	•			•	•	•	•			•	•
TOWNSHIPS (<10,000)	Augusta, MI	2004	4,813				•	•	•	•	•			•			•	•												•
	Bridgewater, MI	2008	1,646								•			•																•
	Dexter, MI	2011	5,248								•			•									•							•
	Freedom, MI	2001	1,562								•			•																•
	Groveland, MI	2009	6,150								•			•																•
	Milan, MI	2009	1,670								•	•		•																•
	Northfield, MI	2000	8,245					•			•			•																•
	Raisin, MI	2011	6,705								•										•									•
	Chesaning, MI	2013	2,338	•		•	•	•	•			•		•		•	•	•	•	•	•	•	•	•					•	•
VILLAGES	Milford, MI	2011	6,300			•	•	•				•		•			•	•	•		•	•					•		•	•
	Pinckney, MI	2011	2,141				•	•			•			•	•		•		•				•						•	•
	Urbancrest, OH	2012	868					•		•							•		•		•								•	•
PUBLIC AGENCIES	Ann Arbor Transportation Authority	2012	204,530	•		•		•						•			•		•											
	Detroit Water & Sewerage Department	2005	680,000				•		•	•																				•
	Galesburg Sanitary District (IL)	2013*	N/A							•																				
	Great Lakes Water Authority	2015	4,000,000				•		•												•									•
	Heart of the Valley Sewer District (WI)	2001	N/A							•																				
	Huron-Clinton Metro Parks	2013	4,600,000			•		•				•	•	•						•										
	Livingston Community Water Authority	2009	N/A				•		•					•		•					•		•							•
	Livingston County Road Commission	2006	N/A	•	•			•						•			•		•											•
	Michigan Department of Transportation	1993	8,885,212	•				•				•		•			•	•	•						•	•				•
	Michigan Technological University	2008	N/A											•				•	•										•	•
	Oakland County Water Resources Commissioner	1993	1,232,000					•						•			•	•							•	•				•
	Road Commission for Oakland County,	1988	1,232,000	•	•			•				•	•	•			•		•						•	•				•
	Saginaw County Road Commission	2006	198,000	•			•					•	•	•					•											
	Tennessee Department of Transportation	2013	6,403,353											•					•											•
	University of Michigan	2009	42,000											•			•	•												
	US Army Corps of Engineers)	2013	N/A											•			•		•									•		•	•
	Washtenaw County Parks	2012	322,895			•								•						•										
	Washtenaw County Road Commission	1999	354,000	•				•				•	•	•			•		•						•	•				•
	Washtenaw County Water Resources Commissioner	1990	354,000					•						•			•	•							•	•				•
	Wayne County Department of Public Services	1992	N/A	•		•		•				•	•	•			•	•	•	•						•				•
	Ypsilanti Community Utilities Authority	1983	100,000				•	•	•	•				•	•	•	•	•	•						•	•				•

References

We encourage you to contact the references listed below who can speak to the quality of our work and the effectiveness of our collaborative approach.

Milan Public Works Department
Stan Kirton, Director of Public Works
734.439.1780

Lapeer County Road Commission
Destain Gingell, PE, County Engineer
810.664.6272

Saginaw County Road Commission
Dennis Borchard, Managing Director
989.752.6140

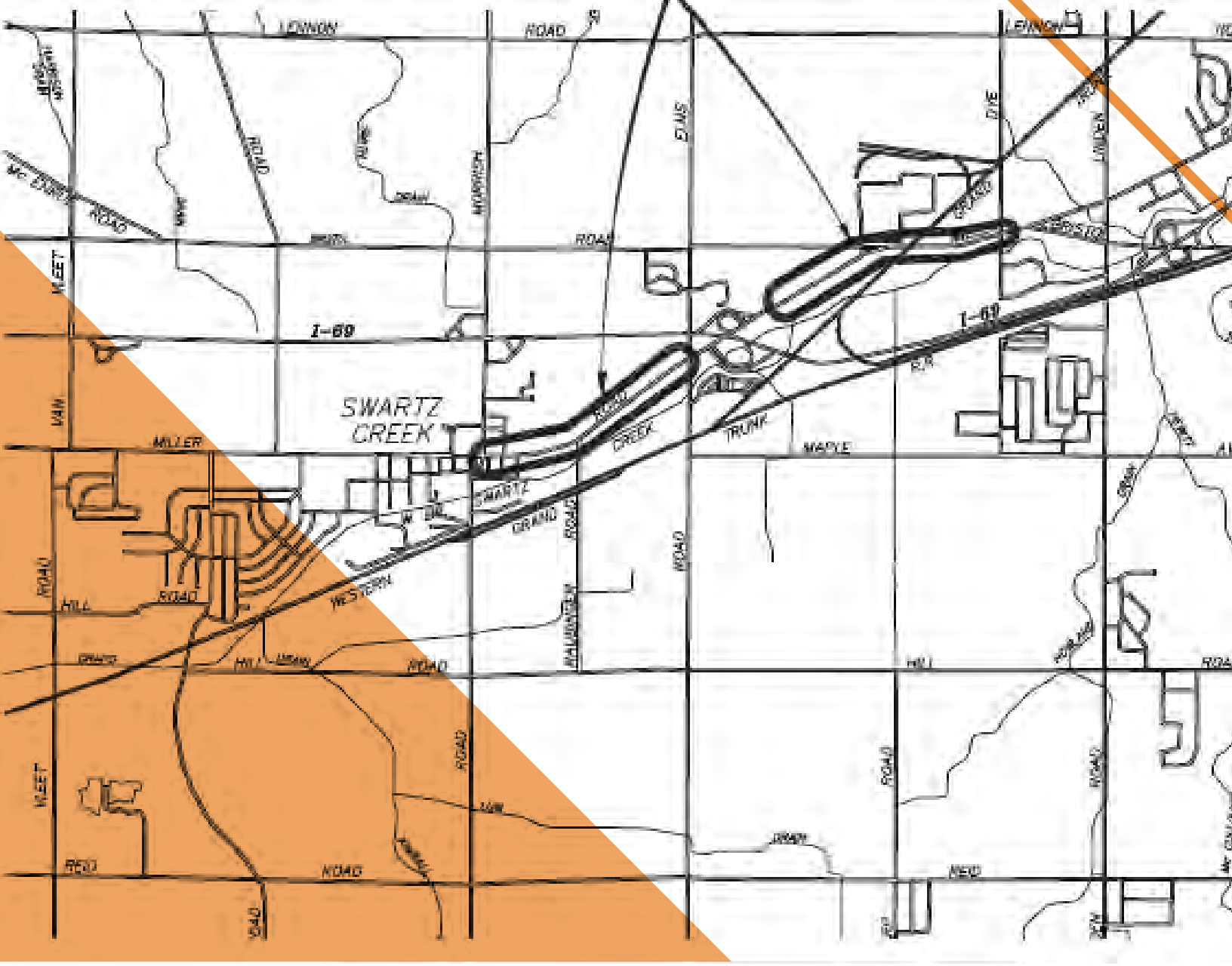
City of Linden
Scott Fairbanks, Director of Public Works
810.735.7980

City of Burton
Robert Slattery, DPW Director
810.742.9230

City of Fenton
Lynn Markland, City Manager
810.629.2261

City of Aurburn Hills
Ron Melchert, Director of Public Works
248.391.3777

Orion Township
Jeff Stout, Director of Public Services
248.391.0304 Ext. 7001



Swartz Creek Miller Road Improvements Illustration

E. PROPOSED CONTRACT

CONTINUING SERVICES AGREEMENT
Between
_____ (CLIENT NAME)
And
Orchard, Hiltz & McCliment, Inc.
For
PROFESSIONAL SERVICES

THIS IS AN AGREEMENT made as of _____, between the _____ _____ with its main office located at _____ (CLIENT) and **Orchard, Hiltz & McCliment, Inc.**, a Michigan corporation with its main office located at 34000 Plymouth Road, Livonia, MI 48150 (CONSULTANT).

From time to time CLIENT intends to engage CONSULTANT to provide professional services. This Agreement sets forth the general terms and conditions which shall govern the relationships and performance of CLIENT and CONSULTANT, if and only if one or more individual Project Supplements are agreed to under this Agreement. Each engagement will be documented by an individual Project Supplement.

CLIENT and CONSULTANT in consideration of their mutual covenants as set forth herein agree as follows:

ARTICLE 1 – SERVICES OF CONSULTANT

1.01 Scope

A. The services to be provided by CONSULTANT will include the Basic and Additional Services set forth in Exhibit A, "Schedule of Consultant Services," as authorized by CLIENT as provided herein. Services for each Specific Project will be detailed in a duly executed individual Project Supplement. Each Project Supplement will indicate the specific tasks and functions to be performed and deliverables to be provided.

B. The general format of a Project Supplement is shown in Attachment 1 to Exhibit A.

C. This Agreement is not a commitment by CLIENT to CONSULTANT to issue any Project Supplements.

D. CONSULTANT shall not be obligated to perform any prospective Project Supplement unless and until CLIENT and CONSULTANT agree as to the particulars of the Specific Project, CONSULTANT'S services, CONSULTANT'S compensation, and all other appropriate matters.

1.02 Project Supplement Procedure

A. CLIENT and CONSULTANT shall agree on the scope, time for performance, and basis of compensation for each Project Supplement.

B. CONSULTANT will commence performance as set forth in the Project Supplement.

ARTICLE 2 – CLIENT'S RESPONSIBILITIES

2.01 General

CLIENT shall have the responsibilities set forth herein, in Exhibit B, "Schedule of Client's Responsibilities," and in each Project Supplement.

ARTICLE 3 – TERM; TIMES FOR RENDERING SERVICES; SUSPENSION

3.01 Term

A. This Agreement shall be effective and applicable to Project Supplements issued hereunder for [four] years from the effective date of the Agreement.

B. This Agreement may be extended or renewed, with or without changes, by written amendment establishing a new term.

3.02 Times for Rendering Services

A. The times for performing services or providing deliverables will be stated in each Project Supplement. If no times are so stated, CONSULTANT will perform services and provide deliverables within a reasonable time.

B. For purposes of this Agreement, the term "day" means a calendar day of 24 hours.

C. The time for a party's performance will be extended to the extent performance was delayed by causes beyond the control and without the fault of the party seeking the extension. That party shall promptly notify the other party in writing when it is being delayed.

3.03 Suspension

A. If CLIENT fails to give prompt written authorization to proceed with any phase of services after completion of the immediately preceding phase under a Project Supplement, or if CONSULTANT'S services are delayed through no fault of CONSULTANT, CONSULTANT may, after giving seven days written notice to CLIENT, suspend services under the individual Project Supplement.

B. If CONSULTANT'S services under a Project Supplement are delayed or suspended in whole or in part by CLIENT, or if

CONSULTANT'S services under an individual Project Supplement are extended by a Contractor's actions or inactions for more than 90 days through no fault of CONSULTANT, CONSULTANT shall be entitled to equitable adjustment of rates and amounts of compensation provided for elsewhere in this Agreement to reflect incremental costs incurred by CONSULTANT in connection with, among other things, such delay or suspension and reactivation and the fact that the time for performance under the individual Project Supplement has been revised.

ARTICLE 4 – PAYMENTS TO CONSULTANT

4.01 Payment for Services and Reimbursable Expenses of CONSULTANT

CLIENT shall pay CONSULTANT as set forth herein and in each individual Project Supplement.

4.02 Other Payment Provisions

A. *Preparation of Invoices.* Invoices for each individual Project Supplement will be prepared in accordance with CONSULTANT'S standard invoicing practices and will be submitted to CLIENT by CONSULTANT monthly, unless otherwise agreed. The amount billed in each invoice will be calculated as set forth in Exhibit C, "Payments to Consultant for Services and Reimbursable Expenses," and each individual Project Supplement.

B. *Payment of Invoices.* Invoices are due and payable within 30 days of receipt. If CLIENT fails to make any payments due CONSULTANT for services and expenses within 30 days after receipt of CONSULTANT'S invoice, the amounts due CONSULTANT will be increased at the rate of 1.0 percent per month (or the maximum rate of interest permitted by law, if less) from said 30th day.

C. *Disputed Invoices.* In the event of a disputed or contested invoice, only that portion so contested may be withheld from payment, and the undisputed portion will be paid.

D. *Payments Upon Termination.*

1. In the event of any termination under paragraph 6.06, CONSULTANT will be entitled to invoice CLIENT and will be paid in accordance with each individual Project Supplement for all services performed or furnished and all reimbursable expenses incurred through the effective date of termination.

2. In the event of termination by CLIENT for convenience or by CONSULTANT for cause, CONSULTANT, in addition to invoicing for those items identified in subparagraph 4.02.D.1, shall be entitled to invoice CLIENT and shall be paid a reasonable amount for services and expenses directly attributable to termination, both before and after the effective date of termination, such as reassignment of personnel, costs of terminating contracts with CONSULTANT'S subconsultants, and other related close-out costs, using methods and rates for additional services as set forth in each individual Project Supplement.

E. Records of CONSULTANT'S Costs. Records of CONSULTANT'S costs pertinent to CONSULTANT'S compensation under this Agreement shall be kept in accordance with generally accepted accounting practices. To the extent necessary to verify CONSULTANT'S charges and upon CLIENT'S timely request, copies of such records will be made available to CLIENT at cost.

F. Legislative Actions. In the event of legislative actions after the Effective Date of the Agreement **(an individual Project Supplement)** by any level of government that impose taxes, fees, or costs on CONSULTANT'S services or other costs in connection with this Project or compensation thereof, such new taxes, fees, or costs shall be invoiced to and paid by CLIENT as a Reimbursable Expense to which a Factor of 1.0 shall be applied. Should such taxes, fees or costs be imposed, they shall be in addition to CONSULTANT'S estimated total compensation.

ARTICLE 5 – OPINIONS OF COST

5.01 Opinions of Probable Construction Cost

CONSULTANT'S opinions of probable Construction Cost (if any) are to be made on the basis of CONSULTANT'S experience and qualifications and represent CONSULTANT'S best judgment as an experienced and qualified professional generally familiar with the industry. However, since the CONSULTANT has no control over the cost of labor, materials, equipment, or services furnished by others, or over a Contractor's methods of determining prices, or over competitive bidding or market conditions, CONSULTANT cannot and does not guarantee that proposals, bids or actual Construction Cost will not vary from opinions of probable Construction Cost prepared by CONSULTANT. If CLIENT wishes greater assurance as to probable Construction Cost, CLIENT shall employ an independent cost estimator as provided in Exhibit B.

5.02 Opinions of Total Project Costs

CONSULTANT assumes no responsibility for the accuracy of opinions of total project costs.

ARTICLE 6 – GENERAL CONSIDERATIONS

6.01 Standards and Parameters of Performance

A. The standard of care for all professional consulting and related services performed or furnished by CONSULTANT in this Agreement will be the care and skill ordinarily used by members of CONSULTANT'S profession practicing under similar circumstances at the same time and in the same locality. CONSULTANT makes no warranties, express or implied, under this Agreement or otherwise, in connection with CONSULTANT'S services.

B. CONSULTANT shall be responsible for the technical accuracy of its services and documents resulting there from,

and CLIENT shall not be responsible for discovering deficiencies therein. CONSULTANT shall correct such deficiencies without additional compensation except to the extent such action is directly attributable to deficiencies in CLIENT-furnished information.

C. CONSULTANT shall serve as CLIENT'S prime professional under each individual Project Supplement. CONSULTANT may employ such subconsultants as CONSULTANT deems necessary to assist in the performance or furnishing of the services. CONSULTANT shall not be required to employ any subconsultant unacceptable to CONSULTANT.

D. CONSULTANT and CLIENT shall comply with applicable laws or regulations and CLIENT-mandated standards. This Agreement is based on these requirements as of the effective date of each individual Project Supplement. Changes to these requirements after the effective date of each individual Project Supplement may be the basis for modifications to CLIENT'S responsibilities or to CONSULTANT'S scope of services, times of performance, or compensation.

E. CLIENT shall be responsible for, and CONSULTANT may rely upon, the accuracy and completeness of all requirements, programs, instructions, reports, data, and other information furnished by CLIENT to CONSULTANT pursuant to this Agreement. CONSULTANT may use such requirements, reports, data, and information in performing or furnishing services under this Agreement.

F. CLIENT shall make decisions and carry out its other responsibilities in a timely manner and shall bear all costs incident thereto so as not to delay the services of the CONSULTANT.

G. Prior to the commencement of the Construction Phase on a Specific Project, CLIENT shall notify CONSULTANT of any variations or any other notice or certification that CONSULTANT will be requested to provide to CLIENT or third parties in connection with a Specific Project. CLIENT and CONSULTANT shall reach agreement on the terms of any such requested notice or certification, and CLIENT shall authorize such Additional Services as are necessary to enable CONSULTANT to provide notices or certifications requested.

H. If a Construction Cost limit for a Specific Project is established between CLIENT and CONSULTANT, such Construction Cost limit and a statement of CONSULTANT'S rights and responsibilities with respect thereto will be specifically as set forth in this Agreement and the individual Project Supplement.

I. CONSULTANT shall not be required to sign any documents, no matter by whom requested, that would result in CONSULTANT having to certify, guarantee or warrant the existence of conditions whose existence CONSULTANT cannot ascertain within its services for that specific project. CLIENT agrees not to make resolution of any dispute with CONSULTANT or payment of any amount due to the CONSULTANT in any way contingent upon CONSULTANT signing any such certification.

J. If CONSULTANT provides services during the construction phase of a specific project, CONSULTANT shall not supervise, direct, or have control over a Contractor's work, nor shall CONSULTANT have authority over or responsibility for the means, methods, techniques, sequences, or procedures of construction selected by a Contractor, for safety precautions and programs incident to a Contractor's work in progress, nor for any failure of a Contractor to comply with laws and regulations applicable to a Contractor's furnishing and performing the work.

K. CONSULTANT neither guarantees the performance of any Contractor nor assumes responsibility for any Contractor's failure to furnish and perform the work in accordance with the contract documents.

L. CONSULTANT shall not be responsible for the acts or omissions of any Contractor(s), subcontractor or supplier, or of any of a Contractor's agents or employees or any other persons (except CONSULTANT'S own employees) at a site or otherwise furnishing or performing any of a Contractor's work; or for any decision made on interpretations or clarifications of the contract documents given by CLIENT without consultation and advice of CONSULTANT.

M. The General Conditions for any construction contract documents prepared hereunder are to be the "Standard General Conditions of the Construction Contract" as prepared by the Engineers Joint Contract Documents Committee (Document No. C700, 2002, unless both parties mutually agree to use other General Conditions.

6.02 Authorized Project Representatives

Contemporaneous with the execution of each individual Project Supplement, CONSULTANT and CLIENT shall designate specific individuals to act as CONSULTANT'S and CLIENT'S representatives with respect to the services to be performed or furnished by CONSULTANT and responsibilities of CLIENT under the individual Project Supplement. Such individuals shall have authority to transmit instructions, receive information, and render decisions relative to a specific project on behalf of each respective party.

6.03 Design without Construction Phase Services

It is understood and agreed that if CONSULTANT'S basic services under an individual Project Supplement do not include project observation, or a review of a Contractor's performance, or any other Construction Phase services, and that such services will be provided by CLIENT or others, then CLIENT assumes all responsibility for interpretation of the contract documents and for construction observation or review and waives any claims against CONSULTANT that may be in any way connected thereto. In such a case, CONSULTANT'S basic services under the applicable individual Project Supplement will be considered completed upon completion of the Final Design Phase or Bidding Phase

as outlined in Exhibit A and the individual Project Supplement.

6.04 Use of Documents

A. Upon completion or termination of this Agreement, all documents prepared by the CONSULTANT, including tracings, drawings, estimates, specification, field notes, investigations, copies of computer files and drawings, studies and reports shall become the property of and be delivered to the CLIENT. Copies of CLIENT-furnished data that may be relied upon by CONSULTANT are limited to the printed copies (also known as hard copies) that are delivered to CONSULTANT pursuant to Exhibit B. Files in electronic media format of text, data, graphics, or of other types that are furnished by CLIENT to CONSULTANT are only for convenience of CONSULTANT. Any conclusion or information obtained or derived from such electronic files will be at the user's sole risk. Copies of Documents that may be relied upon by CLIENT are limited to the printed copies (also known as hard copies) that are signed or sealed by CONSULTANT. Files in electronic media format of text, data, graphics, or of other types that are furnished by CONSULTANT to CLIENT are only for convenience of CLIENT. Any conclusion or information obtained or derived from such electronic files will be at the user's sole risk.

B. Because data stored in electronic media format can deteriorate or be modified inadvertently or otherwise without authorization of the data's creator, the party receiving electronic files agrees that it will perform acceptance tests or procedures within 30 days, after which the receiving party shall be deemed to have accepted the data thus transferred. Any errors detected within the 30-day acceptance period will be corrected by the party delivering the electronic files. CONSULTANT shall not be responsible to maintain documents stored in electronic media format after acceptance by CLIENT.

C. When transferring documents in electronic media format, CONSULTANT makes no representations as to compatibility, usability, or readability of documents resulting from the use of software application packages, operating systems, or computer hardware differing from those used by CONSULTANT at the beginning of a Specific Project.

D. CLIENT may make and retain copies of Documents for information and reference in connection with use on a Specific Project by CLIENT. Such Documents are not intended or represented to be suitable for reuse by CLIENT or others on extensions of the Specific Project for which they were prepared or on any other project. Any such reuse or modification without written verification or adaptation by CONSULTANT, as appropriate for the specific purpose intended, will be at CLIENT'S sole risk and without liability or legal exposure to CONSULTANT or to CONSULTANT'S subconsultants. CLIENT shall indemnify and hold harmless CONSULTANT and CONSULTANT'S subconsultants from all claims, damages, losses, and expenses, including attorneys' fees arising out of or resulting there from.

E. If there is a discrepancy between the electronic files and the hard copies, the hard copies govern.

F. Any verification of adaptation of the Documents for extensions of the Specific Project for which they were prepared or for any other project will entitle the CONSULTANT to further compensation at rates to be agreed upon by CLIENT and CONSULTANT.

6.05 Insurance

A. CONSULTANT shall procure and maintain insurance as set forth in Exhibit D, "Insurance."

B. CLIENT shall require Contractors to purchase and maintain general liability and other insurance as specified in the Contract Documents and to cause CONSULTANT and CONSULTANT'S subconsultants to be listed as additional insureds with respect to such liability and other insurance purchased and maintained by Contractor for a Specific Project.

C. All policies of property insurance shall contain provisions to the effect that CONSULTANT and CONSULTANT'S subconsultants interests are covered and that in the event of payment of any loss or damage the insurers will have no rights of recovery against any of the insureds or additional insureds thereunder.

D. At any time, CLIENT may request that CONSULTANT, at CLIENT'S sole expense, provide additional insurance coverage, increased limits, or revised deductibles that are more protective than those specified in Exhibit D. If so requested by CLIENT, with the concurrence of CONSULTANT, and if commercially available, CONSULTANT shall obtain and shall require CONSULTANT'S subconsultants to obtain such additional insurance coverage, different limits, or revised deductibles for such periods of time as requested by CLIENT, and Exhibit D will be amended to incorporate these requirements.

6.06 Termination

The obligation to provide further services under this Agreement or any individual Project Supplement may be terminated:

1. *For cause,*

   a. By either party upon 30 days written notice in the event of substantial failure by the other party to perform in accordance with the terms of this Agreement or any individual Project Supplement here under through no fault of the terminating party.

   b. By CONSULTANT:

      1) upon seven days written notice if CONSULTANT believes that CONSULTANT is being requested by CLIENT to furnish or perform services contrary to CONSULTANT'S responsibilities as a licensed professional; or

2) upon seven days written if CONSULTANT'S services under an individual Project Supplement are delayed or suspended for more than 90 days for reasons beyond CONSULTANT'S control.

3) CONSULTANT shall have no liability to CLIENT on account of such termination.

c. Notwithstanding the foregoing, neither this Agreement nor any individual Project Supplement will terminate as a result of such substantial failure if the party receiving such notice begins, within seven days of receipt of such notice, to correct its failure to perform and proceeds diligently to cure such failure within no more than 30 days of receipt thereof; provided, however, that if and to the extent such substantial failure cannot be reasonably cured within such 30 day period, and if such party has diligently attempted to cure the same and thereafter continues diligently to cure the same, then the cure period provided for herein shall extend up to, but in no case more than, 60 days after date of receipt of the notice.

2. *For convenience,*

a. By CLIENT effective upon the receipt of notice by CONSULTANT.

b. The terminating party under paragraphs 6.06.A.1 or 6.06.A.2 may set the effective date of termination of this Agreement or any individual Project Supplement at a time up to 30 days later than otherwise provided to allow CONSULTANT to demobilize personnel and equipment from the Site, to complete tasks whose value would otherwise be lost, to prepare notes as to the status of completed and uncompleted tasks, and to assemble materials in orderly files.

6.07 Controlling Law

This Agreement is to be governed by the law of the State of Michigan.

6.08 Nondiscrimination and Affirmative Action

The CONSULTANT agrees to take affirmative action to assure that applicants are employed and the employees are treated during employment in a manner, which provides equal employment opportunity and eliminates any inequality based upon race, national origin, gender, sexual orientation, religion, disability, height, weight, marital status, or veteran status.

6.09 Successors, Assigns, and Beneficiaries

A. CLIENT and CONSULTANT each is hereby bound and the partners, successors, executors, administrators and legal representatives of CLIENT and CONSULTANT (and to the extent permitted by paragraph 6.09.B the assigns of CLIENT and CONSULTANT) are hereby bound to the other party to this Agreement and to the partners, successors, executors, administrators and legal representatives (and said assigns) of such other party, in respect of all covenants, agreements and obligations of this Agreement.

B. Neither CLIENT nor CONSULTANT may assign, sublet, or transfer any rights under or interest (including, but without limitation, moneys that are due or may become due) in this Agreement without the written consent of the other, except to the extent that any assignment, subletting, or transfer is mandated or restricted by law. Unless specifically stated to the contrary in any written consent to an assignment, no assignment will release or discharge the assignor from any duty or responsibility under this Agreement.

C. Unless expressly provided otherwise in this Agreement:

1) Nothing in this Agreement shall be construed to create, impose, or give rise to any duty owed by CLIENT or CONSULTANT to any Contractor, Contractor's subcontractor, supplier, other individual entity, or to any surety for or employee of any of them.

2) All duties and responsibilities undertaken pursuant to this Agreement will be for the sole and exclusive benefit of CLIENT and CONSULTANT and not for the benefit of any other party. The CLIENT agrees that the substance of the provisions of this paragraph, 6.09.C, shall appear in any Contract Documents prepared for any Specific Project under this Agreement.

6.10 Dispute Resolution

CLIENT and CONSULTANT agree that if a dispute arises out of or relates to this contract, the parties will attempt to settle the dispute through good faith negotiations. If direct negotiations do not resolve the dispute, the parties agree to endeavor to settle the dispute by mediation prior to the initiation of any legal action, unless delay in initiating legal action would irrevocably prejudice one of the parties.

6.11 Hazardous Environmental Condition

A. CLIENT represents to CONSULTANT that to the best of its knowledge a Hazardous Environmental Condition does not exist on a Site for a Specific Project, unless set forth in the individual Project Supplement.

B. CLIENT shall disclose to the best of its knowledge to CONSULTANT the existence of all Asbestos, PCB's, Petroleum, Hazardous Waste, or Radioactive Material located at or near the site of any specific project, including type, quantity and location.

C. If a Hazardous Environmental Condition is encountered or alleged, CONSULTANT shall have the obligation to notify CLIENT and, to the extent of applicable Laws and Regulations, appropriate governmental officials.

D. It is acknowledged by both parties that CONSULTANT'S scope of services in any individual Project Supplement shall not include any services related to Hazardous Environmental Condition unless specifically agreed to in an individual Project Supplement. In the event CONSULTANT or any other party encounters a Hazardous Environmental Condition not specifically identified in the individual Project Supplement, CONSULTANT may, at its option and without liability for

consequential or any other damages, suspend performance of services on the portion of the specific project affected thereby until CLIENT: (i) retains appropriate specialist consultant(s) or contractor(s) to identify and, as appropriate, abate, remediate, or remove the Hazardous Environmental Condition; and (ii) warrants that the site of a specific project is in full compliance with applicable laws and regulations.

E.CLIENT acknowledges that CONSULTANT is performing professional services for CLIENT and that CONSULTANT is not and shall not be required to become an "arranger," "operator," "generator," or "transporter" of hazardous substances, as defined in the Comprehensive Environmental Response, Compensation, and Liability Act of 1990 (CERCLA), which are or may be encountered at or near the site of a specific project in connection with CONSULTANT'S activities under this Agreement.

F. If CONSULTANT'S services under any individual Project Supplement cannot be performed because of a Hazardous Environmental Condition not specifically identified in the individual Project Supplement, the existence of the condition shall justify CONSULTANT'S terminating that individual Project Supplement for cause on 30 days notice.

6.12 Allocation of Risks

A. Indemnification

1. To the fullest extent permitted by law, CONSULTANT shall indemnify and hold harmless CLIENT, CLIENT'S officers, directors, partners and employees from and against any and all costs, losses and damages (including, but not limited to all fees and charges of CONSULTANT'S, architects, attorneys and other professionals, and all court or arbitration or other dispute resolution costs) caused solely by the negligent acts or omissions of CONSULTANT or CONSULTANT'S officers, directors, partners, employees, and CONSULTANT'S consultants in the performance and furnishing of CONSULTANT'S services under this Agreement.

2. To the fullest extent permitted by law, CLIENT shall indemnify and hold harmless CONSULTANT, consultants officers, directors, partners, employees, and CONSULTANT'S consultants from and against any and all costs, losses, and damages (including, but not limited to all fees and charges of CONSULTANT'S, architects, attorneys and other professionals and all court or arbitration or other dispute resolution costs) caused solely by the negligent acts or omissions of CLIENT or CLIENT'S officers, directors, partners, employees and CLIENT'S other consultants with respect to this Agreement.

3. To the fullest extent permitted by law, CONSULTANT'S total liability to CLIENT and anyone claiming by, through, or under CLIENT for any cost, loss or damages caused in part by the negligence of CONSULTANT and in part by the negligence of CLIENT or any other negligent entity or individual, shall not exceed the percentage share that CONSULTANT'S negligence bears to the total negligence of CLIENT, CONSULTANT, and all other negligent entities and individuals.

4. In addition to the indemnity provided under paragraph 6.12.A.2. of this Agreement, and to the fullest extent permitted by law, CLIENT shall indemnify and hold harmless CONSULTANT and its officers, directors, partners, employees, and CONSULTANT'S subconsultants from and against all costs, losses and damages (including, but not limited to all fees and charges of CONSULTANT'S attorneys, and other professionals, and all court or arbitration or other dispute resolution costs) cause by, arising out of or resulting from a hazardous environmental condition, provided that (i) any such cost, loss, or damage is attributable to bodily injury, sickness, disease, or death, or to injury to or destruction of tangible property (other than completed work), including the loss of use resulting there from, and (ii) nothing in this paragraph 6.12.A.4. shall obligate CLIENT to indemnify any individual or entity from and against the consequences of that individual or entity's own negligence or willful misconduct.

B. Limitation of Consultant's Liability

1. To the fullest extent permitted by law, and notwithstanding any other provision of this Agreement, the total liability, in the aggregate, of CONSULTANT and CONSULTANT'S officers, directors, partners, employees, agents, and consultants, and any of them to CLIENT and anyone claiming by, through, or under CLIENT for any and all claims, losses, costs, or damages whatsoever arising out of, resulting from or in any way related to specific project from any cause or causes, including but not limited to the negligence, professional errors or omissions, strict liability or breach of contract, or warranty express or implied of CONSULTANT or CONSULTANT'S officers, directors, partners, employees, agents or consultants, or any of them, shall not exceed the total compensation received by CONSULTANT for the individual Project Supplement or the sum of $25,000, whichever is greater.

6.13 Notices

Any notice required under this Agreement will be in writing, addressed to the appropriate party at its address on the signature page and given personally, or by registered or certified mail postage prepaid, or by a commercial courier service. All notices shall be effective upon the date of receipt.

6.14 Applicability of Continuing Services Agreement to individual Project Supplement

The terms and conditions set forth in this Agreement apply to each individual Project Supplement as if set forth in the individual Project Supplement, unless specifically modified. In the event of conflicts between this Agreement and an individual Project Supplement, the conflicting provisions of the individual Project Supplement shall take precedence for the individual Project Supplement. The provisions of this Agreement shall be modified only by a written amendment. Such amendments shall be applicable to all individual Project Supplements issued after the effective date of the amendment if not otherwise set forth in the amendment.

6.15 Survival

All express representations, indemnifications, or limitations of liability included in this Agreement will survive its completion or termination for any reason.

6.16 Severability

Any provision or part of this Agreement held to be void or unenforceable under any Laws or Regulations shall be deemed stricken, and all remaining provisions shall continue to be valid and binding upon CLIENT and CONSULTANT, who agree that this Agreement shall be reformed to replace such stricken provision or part thereof with a valid and enforceable provision that comes as close as possible to expressing the intention of the stricken provision.

6.17 Waiver

Non-enforcement of any provision by either party shall not constitute a waiver of that provision, nor shall it affect the enforceability of that provision or of the remainder of this Agreement.

6.18 Headings

The headings used in this Agreement are for general reference only and do not have special significance.

6.19 Non-Exclusive and Non-Limiting Agreement

A. Nothing herein shall establish an exclusive relationship between CLIENT and CONSULTANT. CLIENT may enter into similar agreements with other professionals for the same or different types of services contemplated hereunder, and CONSULTANT may enter into similar or different agreements with other Clients for the same or different services as contemplated hereunder.

B. The cumulative scope of CONSULTANT'S services and CONSULTANT'S compensation as agreed to in Individual Project Supplements hereunder shall not be limited by this Agreement.

ARTICLE 7 – DEFINITIONS

7.01 Defined Terms

Wherever used in this Agreement (including the Exhibits hereto and any Individual Project Supplement) and printed with initial or all capital letters, the terms listed below have the meanings indicated, which are applicable to both the singular and plural thereof:

1. *Addenda*--Written or graphic instruments issued prior to the opening of Bids, which clarify, correct, or change the Bidding Documents.

2. *Additional Services*-- Services to be performed for or furnished to CLIENT by CONSULTANT in accordance with an Individual Project Supplement which are not included in Basic Services for that Individual Project Supplement.

3. *Agreement*--This "Master Agreement between CLIENT and CONSULTANT for Professional Services," including those Exhibits listed in Article 8 hereof.

4. *Application for Payment*--the form acceptable to CONSULTANT and CLIENT which is to be used by a contractor in requesting progress or final payments for the completion of its Work and which is to be accompanied by such supporting documentation as is required by the Contract Documents.

5. *Asbestos*-- Any material that contains more than one percent asbestos and is friable or is releasing asbestos fibers into the air above current action levels established by the United States Occupational Safety and Health Administration.

6. *Basic Services*--Specified services to be performed for or furnished to CLIENT by CONSULTANT in accordance with an Individual Project Supplement.

7. *Bid*--The offer or proposal of a bidder submitted on the prescribed form setting forth the prices for the Work to be performed.

8. *Bidding Documents*--The advertisement or invitation to Bid, instructions to bidders, the Bid form and attachments, the Bid bond, if any, the proposed Contract Documents, and all Addenda, if any.

9. *Change Order*-- document recommended by CONSULTANT, which is signed by a Contractor and CLIENT to authorize an addition, deletion or revision in the Work, or an adjustment in the Contract Price or the Contract Times.

10. *Construction Agreement*--The written instrument, which is evidence of the agreement, contained in the Contract Documents, between CLIENT and a Contractor covering the Work.

11. *Construction Contract*--The entire and integrated written agreement between CLIENT and a Contractor concerning the Work.

12. *Construction Cost*-- The cost to CLIENT of those portions of an entire Specific Project designed or specified by CONSULTANT. Construction Cost does not include costs of services of CONSULTANT or other design professionals and consultants, cost of land, rights-of-way, or compensation for damages to properties, or CLIENT'S costs for legal, accounting, insurance counseling or auditing services, or interest and financing charges incurred in connection with a Specific Project, or the cost of other services to be provided by others to CLIENT pursuant to Exhibit B of this Agreement. Construction Cost is one of the items comprising Total Project Costs.

13. *Contract Documents*-- Documents that establish the rights and obligations of the parties engaged in construction and

include the Construction Agreement between CLIENT and a Contractor, Addenda (which pertain to the Contract Documents), a contractor's Bid (including documentation accompanying the Bid and any post-Bid documentation submitted prior to the notice of award) when attached as an exhibit to the Construction Agreement, the notice to proceed, the bonds, appropriate certifications, the General Conditions, the Supplementary Conditions, the Specifications and the Drawings as the same are more specifically identified in the Construction Agreement, together with all Written Amendments, Change Orders, Work Change Directives, Field Orders, and CONSULTANT'S written interpretations and clarifications issued on or after the Effective Date of the Construction Agreement. Approved Shop Drawings and the reports and drawings of subsurface and physical conditions are not Contract Documents.

14. *Contract Price* --The moneys payable by CLIENT to a Contractor for completion of the Work in accordance with the Contract Documents and as stated in the Construction Agreement.

15. *Contract Times* --The numbers of days or the dates stated in a Construction Agreement to: (i) achieve Substantial Completion, and (ii) complete the Work so that it is ready for final payment as evidenced by CONSULTANT'S written recommendation of final payment.

16. *Contractor*--An individual or entity with whom CLIENT enters into a Construction Agreement for a Specific Project.

17. *Correction Period*--The time after Substantial Completion during which a Contractor must correct, at no cost to CLIENT, any Defective Work, normally one year after the date of Substantial Completion or such longer period of time as may be prescribed by Laws or Regulations or by the terms of any applicable special guarantee or specific provision of the Contract Documents.

18. *Defective*--An adjective which, when modifying the word Work, refers to Work that is unsatisfactory, faulty, or deficient, in that it does not conform to the Contract Documents, or does not meet the requirements of any inspection, reference standard, test, or approval referred to in the Contract documents, or has been damaged prior to CONSULTANT'S recommendation of final payment.

19. *Documents*--Data, reports, Drawings, Specifications, Record Drawings, and other deliverables, whether in printed or electronic media format, provided or furnished in appropriate phases by CONSULTANT to CLIENT pursuant to this Agreement.

20. *Drawings*--That part of the Contract Documents prepared or approved by CONSULTANT, which graphically shows the scope, extent, and character of the Work to be performed by a Contractor. Shop Drawings are not Drawings as so defined.

21. *Effective Date of the Construction Agreement*--The date indicated in a Construction Agreement on which it becomes effective, but if no such date is indicated, it means the date on which the Construction Agreement is signed and delivered by the last of the two parties to sign and deliver.

22. *Effective Date of the Agreement*--The date indicated in this Agreement on which it becomes effective, but if no such date is indicated, it means the date on which the Agreement is signed and delivered by the last of the two parties to sign and deliver.

23. *Effective Date of the Individual Project Supplement*--The date indicated in the Individual Project Supplement on which it becomes effective, but if no such date is indicated, it means the date on which the Individual Project Supplement is signed and delivered by the last of the two parties to sign and deliver.

24. *CONSULTANT'S Consultants*--Individuals or entities having a contract with CONSULTANT to furnish services with respect to a Specific Project as CONSULTANT'S independent professional associates, Consultants, subcontractors, or vendors. The term CONSULTANT includes CONSULTANT'S Consultants.

25. *Field Order*--A written order issued by CONSULTANT, which directs minor changes in the Work but which does not involve a change in the Contract Price or the Contract Times.

26. *General Conditions*--That part of the Contract Documents, which sets forth terms, conditions, and procedures that govern the Work to be performed or furnished by a Contractor with respect to a Specific Project.

27. *Hazardous Environmental Condition*--The presence at the Site of Asbestos, PCB's, Petroleum, Hazardous Waste, or Radioactive Materials in such quantities or circumstances that may present a substantial danger to persons or property exposed thereto in connection with a Specific Project.

28. *Hazardous Waste*--The term Hazardous Waste shall have the meaning provided in Section 1004 of the Solid Waste Disposal Act (42 USC Section 6903) as amended from time to time.

29. *Individual Project Supplement*--A document executed by CLIENT and CONSULTANT, including amendments if any, stating the scope of services, CONSULTANT'S compensation, times for performance of services and other relevant information for a Specific Project.

30. *Laws and Regulations; Laws or Regulations*--Any and all applicable laws, rules, regulations, ordinances, codes, standards, and orders of any and all governmental bodies, agencies, authorities, and courts having jurisdiction.

31. *PCB's*--Polychlorinated biphenyls.

32. *Petroleum*--Petroleum, including crude oil or any fraction thereof which is liquid at 32 degrees Fahrenheit and 14.7 pounds per square inch absolute, such as fuel oil, oil sludge, oil refuse, gasoline, kerosene, and oil mixed with other non-Hazardous Waste and crude oils.

33. *Radioactive Materials*--Source, special nuclear, or byproduct material as defined by the Atomic Energy Act of 1954 (42 USC Section 2001 et seq.) as amended from time to time.

34. *Record Drawings*--The Drawings as issued for construction on which CONSULTANT, upon completion of the Work, has shown changes due to Addenda or Change Orders and other information which CONSULTANT considers significant based on record documents furnished by Contractor to CONSULTANT and which were annotated by Contractor to show changes made during construction.

35. *Reimbursable Expenses*--The expenses incurred directly by CONSULTANT in connection with the performing or furnishing of Basic and Additional Services for a Specific Project for which CLIENT shall pay CONSULTANT as indicated in Exhibit C or an Individual Project Supplement.

36. *Resident Project Representative*--The authorized representative, if any, of CONSULTANT assigned to assist CONSULTANT at the Site of a Specific Project during the Construction Phase. The Resident Project Representative with be CONSULTANT'S agent or employee and under CONSULTANT'S supervision. As used herein, the term Resident Project Representative includes any assistant of Resident Project Representative agreed to by CLIENT. The duties and responsibilities of the Resident Project Representative will be as set forth in each Individual Project Supplement.

37. *Samples*--Physical examples of materials, equipment, or workmanship that are representative of some portion of the Work and which establish the standards by which such portion of the Work will be judged.

38. *Shop Drawings*--All drawings, diagrams, illustrations, schedules, and other data or information, which are specifically prepared or assembled by or for a Contractor and submitted by a Contractor to CONSULTANT to illustrate some portion of the Work.

39. *Site*--Lands or areas indicated in the Contract Documents for a Specific Project as being furnished by CLIENT upon which the Work is to be performed, rights-of-way and easements for access thereto, and such other lands furnished by CLIENT, which are designated for use of a Contractor.

40. *Specifications*--That part of the Contract Documents prepared by CONSULTANT consisting of written technical descriptions of materials, equipment, systems, standards, and workmanship as applied to the Work to be performed by a Contractor and certain administrative details applicable thereto.

41. *Specific Project*--An undertaking of CLIENT as set forth in an Individual Project Supplement.

42. *Substantial Completion*--The time at which the Work (or a specified part thereof) has progressed to the point where, in the opinion of CONSULTANT, the Work (or a specified part thereof) is sufficiently complete, in accordance with the Contract Documents, so that the Work (or a specified part thereof) can be utilized for the purposes for which it is intended. The terms "substantially complete" and "substantially completed" as applied to all or part of the Work refer to Substantial Completion thereof.

43. *Supplementary Conditions*--That part of the Contract documents which amends or supplements the General Conditions.

44. *Total Project Costs*--The sum of the Construction Cost, allowances for contingencies, the total costs of services of CONSULTANT or other design professionals and consultants, cost of land, rights-of-way, or compensation for damages to properties, or CLIENT'S costs for legal, accounting, insurance counseling or auditing services, or interest and financing charges incurred in connection with a Specific Project, or the cost of other services to be provided by others to CLIENT pursuant to Exhibit B of this Agreement.

45. *Work*--The entire completed construction or the various separately identifiable parts thereof required to be provided by a Contractor under Contract Documents for a Specific Project. Work includes and is the result of a Contractor performing or furnishing labor, services, and documentation necessary to produce such construction and furnishing, installing, and incorporating all materials and all equipment into such construction, all as required by the applicable Contract Documents.

46. *Work Change Directive*--A written directive to a Contractor signed by CLIENT upon recommendation of the CONSULTANT, ordering an addition, deletion, or revision in the Work, or responding to differing or unforeseen subsurface or physical conditions under which the Work is to be performed or to emergencies. A Work Change Directive will not change the Contract Price or the Contract Times but is evidence that the parties expect that the change directed or documented by a Work Change Directive will be incorporated in a subsequently issued Change Order following negotiations by the parties as to its effect, if any, on the Contract Price or Contract Times.

47. *Written Amendment*--A written amendment of the Contract Documents signed by CLIENT and a Contractor on or after the Effective Date of a Construction Agreement and normally dealing with the non-consulting or non-technical rather than strictly construction-related aspects of the Contract Documents.

ARTICLE 8 - EXHIBITS AND SPECIAL PROVISIONS

8.01 Exhibits

A. Description of CONSULTANT'S Services
B. Schedule of CLIENT'S Responsibilities
C. Payments to CONSULTANT
D. Insurance

Attachments

Schedule A to Exhibit C
Attachment 1 to Exhibit A

8.02 Total Agreement

A. This Agreement (consisting of pages 1 to 25 inclusive, together with the Exhibits identified as included above) constitutes the entire agreement between CLIENT and CONSULTANT and supersedes all prior written or oral understandings. This Agreement may only be amended, supplemented, modified, or canceled by a duly executed written instrument.

IN WITNESS WHEREOF, the parties hereto have executed this Agreement, the Effective Date of which is indicated on page 1.

_____	**Orchard, Hiltz & McCliment, Inc.**
CLIENT	CONSULTANT
_____	_____
Name	Name
Title	Title
_____	_____
Date	Date

This is **EXHIBIT A**, consisting of ___ pages, referred to in and part of the **Continuing Services Agreement** between **CLIENT** And **CONSULTANT** for **Professional Services** dated _____, 2019.

Schedule of CONSULTANT'S Services

Services to be provided under an individual Project Supplement may include the following:

PART 1 – BASIC SERVICES

A1.01 ***Study and Report Phase***

(Note: On a road or bridge design project this phase may be referred to as the Base Plan or TS&L Phase.)

A. Upon written authorization from CLIENT, CONSULTANT shall:

1. Consult with CLIENT to define and clarify CLIENT'S requirements for a Specific Project and available data.

2. Provide necessary field surveys and topographic and utility mapping for design purposes. Utility mapping will be based upon information obtained from utility companies.

3. Advise CLIENT as to the necessity of CLIENT'S providing data or services of the types described in Exhibit B, which are not part of CONSULTANT'S basic services, and, if requested, assist CLIENT in obtaining such data and services.

4. Identify, consult with, and analyze requirements of governmental authorities having jurisdiction to approve the portions of a Specific Project designed or specified by CONSULTANT, including but not limited to mitigating measures identified in the environmental assessment.

5. Identify and evaluate the number of alternate solutions available to CLIENT listed in the individual Project Supplement for a Specific Project, and, after consultation with CLIENT, recommend to CLIENT those solutions, which in CONSULTANT'S judgment meet CLIENT'S requirements for a Specific Project.

6. Prepare a report (the "Report/Base Plans") which will, as appropriate, contain schematic layouts, sketches and conceptual design criteria with appropriate exhibits to indicate the agreed-to requirements, considerations involved, and those alternate solutions available to CLIENT which CONSULTANT recommends.

7. Furnish the number of review copies of the Report/Base Plans to CLIENT within the time period set forth in the individual Project Supplement and review it with CLIENT.

8. Revise the Report/Base Plans in response to CLIENT'S and other parties' comments, as appropriate, and furnish the number of final copies of the revised Report/Base Plans to the CLIENT within the time period set forth in the individual Project Supplement.

B. CONSULTANT'S services under the Study and Report Phase will be considered complete on the date when the final copies of the revised Report/Base Plans have been delivered to CLIENT.

A1.02 ***Preliminary Design Phase***

A. After determination by CLIENT of the scope, extent, character or design requirements of a Specific Project, including the acceptance with any specific modifications by CLIENT of CONSULTANT'S Report/Base Plans, if any, from a preceding phase or Specific Project, and upon written authorization from CLIENT to provide Preliminary Design Phase Services, CONSULTANT shall:

1. On the basis of the above acceptance, selection and authorization, prepare Preliminary Design Phase documents consisting of final design criteria, preliminary drawings, outline specifications and written descriptions of a Specific Project.

2. Advise CLIENT if additional reports, data, information, or services of the types described in Exhibit B are necessary and assist CLIENT in obtaining such reports, data, information, or services.

3. Based on the information contained in the Preliminary Design Phase documents, submit a current opinion of probable Construction Costs.

4. Furnish the Preliminary Design Phase documents to and review them with CLIENT.

5. Submit to CLIENT the number of final copies of the Preliminary Design Phase documents and revised opinion of probable Construction Costs within the time period set forth in the individual Project Supplement.

6. CONSULTANT'S services under the Preliminary Design Phase will be considered complete on the date when final copies of the Preliminary Design Phase documents have been delivered to CLIENT.

A1.03 ***Final Design Phase***

A. After determination by CLIENT of the scope, extent, character, or design requirements of a Specific Project, including the acceptance of any specific modifications by CLIENT of a preceding phase or Specific Project, and upon written authorization from CLIENT to provide Final Design Phase Services, CONSULTANT shall:

1. On the basis of the above acceptance, direction, and authorization, prepare final drawings indicating the scope, extent, and character of work to be performed and furnished by Contractor. Specifications and special provisions will be prepared, where appropriate, in general conformance with the [Michigan Department of Transportation Standard Specifications for Construction].

2. Provide technical criteria, written descriptions, and design data for CLIENT'S use in filing applications for permits from or approvals of governmental authorities having jurisdiction to review or approve the final design of a Specific Project and assist CLIENT in consultations with appropriate authorities.

3. Provide CLIENT a current opinion of probable Construction Costs.

4. Prepare and furnish Bidding Documents for review and approval by CLIENT, its legal counsel, and other advisors, as appropriate, and assist CLIENT in the preparation of other related documents.

5. Submit the number of final copies of the Bidding Documents and a current opinion of probable Construction Cost to CLIENT with the time period set forth in the individual Project Supplement.

B. CONSULTANT'S services under the Final Design Phase will be considered complete on the date when the submittals required by paragraph A1.03.A.5. have been delivered to CLIENT.

A1.04 ***Bidding Phase***

A. Upon written authorization from CLIENT to provide Bidding Phase Services, CONSULTANT shall:

1. Assist CLIENT in advertising for and obtaining bids or negotiating proposals for the work and, where applicable, maintain a record of prospective bidders to whom Bidding Documents have been issued, attend pre-Bid conferences, if any, and receive and process Contractor deposits or charges for the Bidding Documents.

2. Issue addenda as appropriate to clarify, correct, or change the Bidding Documents.

B. The Bidding Phase will be considered complete upon commencement of the construction phase or upon cessation of negotiations with prospective Contractors (except as may be required) if Exhibit E (Notice of Acceptability of Work) is a part of the individual Project Supplement.

A1.05. ***Construction Phase***

A. Upon written authorization from CLIENT to provide Construction Phase Services, CONSULTANT shall:

1. *General Administration of Construction Contract*. Consult with CLIENT and act as CLIENT'S representative as provided in the General Conditions. The extent and limitations of the duties, responsibilities and authority of CONSULTANT as assigned in said General Conditions shall not be modified, except as CONSULTANT may otherwise agree in writing. All of CLIENT'S instructions to Contractor will be issued through CONSULTANT, who shall have authority to act on behalf of CLIENT in dealings with Contractor to the extent provided in this Agreement and said General Conditions except as otherwise provided in writing.

2. *Resident Project Representative (RPR).* Provide the services of an RPR at the site of the Specific Project to assist the CONSULTANT and to provide more extensive observation of Contractor's work. Duties, responsibilities, and authority of the RPR are as set forth in the individual Project Supplement. Exhibit D "Duties, Responsibilities and Limitations of Authority of Resident Project Representative," shall be modified for the individual Project Supplement. The furnishing of such RPR's services will not extend CONSULTANT'S responsibilities or authority beyond the specific limits set forth elsewhere in this Agreement.

3. Selecting Independent Testing Laboratory. Assist CLIENT in the selection of an independent testing laboratory perform the services identified in paragraph B2.01.0.

4. Pre-Construction Conference. Participate in a pre-construction conference prior to commencement of work at the site.

5. Baselines and Benchmarks. As appropriate, establish baselines and benchmarks for locating the work, which in CONSULTANT'S judgment are necessary to enable Contractor to proceed, unless Contractor staking is included in Contractor's contract.

6. Visits to Site and Observation of Construction. In connection with observations of work in progress:

a. Make visits to the site at intervals appropriate to the various stages of construction, as CONSULTANT deems necessary, in order to observe as an experienced and qualified design professional the progress and quality of the work. Such visits and observations by CONSULTANT, and the Resident Project Representative, if any, are not intended to be exhaustive or to extend to every aspect of the work in progress or to involve detailed inspections of the work in progress beyond the responsibilities specifically assigned to CONSULTANT in the individual Project Supplement and the contract documents, but rather are to be limited to spot checking, selective sampling, and similar methods of general observation of the work based on CONSULTANT'S exercise of professional judgment as assisted by the Resident Project Representative, if any. Based on information obtained during such visits and such observations, CONSULTANT will determine in general if Contractor's work is proceeding in accordance with the contract documents, and CONSULTANT shall keep the CLIENT informed of the progress of the work.

b. The purpose of CONSULTANT'S visits to, and representation by the Resident Project Representative, if any, at the site of the Specific Project, will be to enable CONSULTANT to better carry out the duties and responsibilities assigned to and undertaken by CONSULTANT during the construction phase, and, in addition, by the exercise of CONSULTANT'S efforts as an experienced and qualified design professional, to provide for CLIENT a greater degree of confidence that the completed work will conform in general to the contract documents and that the integrity of the design concept of the completed project as a functioning whole as indicated in the contract documents has been implemented and preserved by Contractor. CONSULTANT shall not, during such visits or as a result of such observations of Contractor's work in progress, supervise, direct or have control over the work, nor shall CONSULTANT have authority over or responsibility for the means, methods, techniques, sequences, or procedures of construction selected by Contractor, for safety precautions and programs incident to the work, or for any failure of Contractor to comply with Laws and Regulations applicable to Contractor's furnishing and performing the work. Accordingly, CONSULTANT neither guarantees the performance of any Contractor nor assumes responsibility for any Contractor's failure to furnish and perform its work in accordance with the contract documents.

7. Defective Work. Have authority to disapprove or reject Contractor's work while it is in progress if, on the basis of such observations, CONSULTANT believes that such work will not produce a completed project that conforms generally to the contract document or that it will prejudice the integrity of the design concept of the completed project as a functioning whole as indicated in the contract documents.

8. Clarifications and Interpretations; Field Orders. Issue necessary clarifications and interpretations of the contract documents as appropriate to the orderly completion of the work. Such clarifications and interpretations will be consistent with the intent of and reasonably inferable from the contract documents. CONSULTANT may issue field orders authorizing minor variations from the requirements of the contract documents.

9. Change Orders and Work Change Directives. Recommend change orders and work change directives to CLIENT, as appropriate, and prepare change orders and work change directives as required.

10. Shop Drawings and Samples. Review and approve or take other appropriate action in respect to shop drawings and samples and other data which Contractor is required to submit, but only for conformance with the information given in the contract documents and compatibility with the design concept of the completed project as a functioning whole as indicated in the contract documents. Such reviews and approvals or other action will not extend to means, methods, techniques, sequences or procedures of construction or to safety precautions and programs incident thereto. CONSULTANT has an obligation to meet any Contractor's submittal schedule that has earlier been acceptable to CONSULTANT.

11. Inspections and Tests. Require such special inspections or tests of the work as deemed reasonably necessary, and receive and review all certificates of inspections, tests, and approvals required by Laws and Regulations or the contract documents. CONSULTANT'S review of such certificates will be for the purpose of determining that the results certified indicate compliance with the contract documents and will not constitute an independent evaluation that the content or procedures of such inspections, tests, or approvals comply with the requirements of the contract documents. CONSULTANT shall be entitled to rely on the results of such tests.

12. Disagreements between CLIENT and Contractor. Render formal written decisions on all claims of

CLIENT and Contractor relating to the acceptability of Contractor's work or the interpretation of the requirements of the Contract Documents pertaining to the execution and progress of Contractor's work. In rendering such decisions, CONSULTANT shall be fair and not show partiality to CLIENT or Contractor and shall not be liable in connection with any decision rendered in good faith in such capacity.

13. Applications for Payment. Based on CONSULTANT'S observations as an experienced and qualified design professional and on review of Applications for Payment and accompanying supporting documentation:
    a. Determine the amounts that CONSULTANT recommends Contractor be paid. Such recommendations of payment will be in writing and will constitute CONSULTANT'S representation to CLIENT, based on such observations and review, that, to the best of CONSULTANT'S knowledge, information and belief, the work has progressed to the point indicated, the quality of such is generally in accordance with the contract documents (subject to an evaluation of the work as a functioning whole prior to or upon substantial completion, to the results of any subsequent tests called for in the contract documents and to any other qualifications stated in the recommendation), and the conditions precedent to Contractor's being entitled to such payment appear to have been fulfilled in so far as it is CONSULTANT'S responsibility to observe the work. In the case of unit price work, CONSULTANT'S recommendations of payment will include final determinations of quantities and classifications of the work (subject to any subsequent adjustments allowed by the contract documents). The responsibilities of CONSULTANT contained in paragraph A1.05.A.6.a. are expressly subject to the limitations set forth in paragraph A1.05.A.6.b and other express or general limitations in this Agreement and elsewhere.
    b. By recommending any payment, CONSULTANT shall not thereby be deemed to have represented that observations made by CONSULTANT to check the quality or quantity of the work as it is performed and furnished have been exhaustive, extended to every aspect of the work in progress, or involved detailed inspections of the work beyond the responsibilities specifically assigned to CONSULTANT in this Agreement and the contract documents. Neither CONSULTANT'S review of the work for the purposes of recommending payments nor CONSULTANT'S recommendations of any payment including final payment will impose on CONSULTANT responsibility to supervise, direct, or control the work in progress or for the means, methods, techniques, sequences, or procedures of construction or safety precautions or programs incident thereto, or Contractor's compliance with laws and regulations applicable to the work. It will also not impose responsibility on CONSULTANT to make any examination to ascertain how or for what purposes Contractor has used the moneys paid on account of the contract price, or to determine that title to any portion of the work in progress, materials, or equipment has passed to CLIENT free and clear of any liens, claims, security interests, or encumbrances, or that there may not be other matters at issue between CLIENT and Contractor that might affect the amount that should be paid.

14. Contractor's Completion Documents.

    a. Receive and review maintenance and operating instructions, schedules, and guarantees.

    b. Receive bonds, certificates, or other evidence of insurance not previously submitted and required by the contract documents, certificates of inspection, tests and approvals, shop drawings, samples and other data approved as provided under paragraph A1.05.A.10, and the annotated record documents which are to be assembled by Contractor in accordance with the contract documents to obtain final payment. The extent of such CONSULTANT'S review will be limited as provided in paragraph A1.05.A.10.

    c. CONSULTANT shall transmit these documents to CLIENT.

15. Substantial Completion. Promptly after notice from Contractor that Contractor considers the entire work ready for its intended use, in company with CLIENT and Contractor, conduct an inspection to determine if the work is substantially complete. If after considering any objectives of CLIENT, CONSULTANT considers the work substantially complete, CONSULTANT shall deliver a certificate of Substantial Completion to CLIENT and Contractor.

16. Final Notice of Acceptability of the Work. Conduct a final payment inspection to determine if the completed work of contract is acceptable so that CONSULTANT may recommend, in writing, final payment to Contractor. Accompanying the recommendation for final payment, CONSULTANT shall also provide a notice in the form attached hereto as Exhibit E ("Notice of Acceptability of Work") that the work is acceptable (subject to the provisions of paragraph A1.05.A.14.b.) to the best of CONSULTANT'S knowledge, information, and belief

and based on the extent of the services provided by CONSULTANT under this Agreement.

B. Duration of Construction Phase. The construction phase will commence with the execution of the first Construction Agreement for a Specific Project or any part thereof and will terminate upon written recommendation by CONSULTANT for final payment to Contractors. If a Specific Project involves more than one prime contract as indicated in the individual Project Supplement. Construction Phase services may be rendered at different times in respect to the separate contracts.

C. Limitation of Responsibilities. CONSULTANT shall not be responsible for the acts of omissions of any Contractor, or of any of their subcontractors, suppliers, or of any other individual or entity performing or furnishing any of the work. CONSULTANT shall not be responsible for failure of any Contractor to perform or furnish the work in accordance with the contract documents.

A1.06 ***Post-Construction Phase***

A. Upon written authorization from CLIENT to begin post-construction phase services, CONSULTANT shall:

1. Together with CLIENT, visit the Specific Project to observe any apparent defects in the Work, assist CLIENT in consultations and discussions with Contractor concerning correction of any such defects, and make recommendations as to replacement or correction of Defective Work, if present.

2. In company with CLIENT or CLIENT'S representative, provide an inspection of the Specific Project within one month before the end of the Correction Period to ascertain whether any portion of the Work is subject to correction.

B. The Post-Construction Phase services may commence during the Construction Phase and, if not otherwise modified in the individual Project Supplement, will terminate at the end of the Correction Period.

Part 2 – Additional Services

A2.01 ***Additional Services Requiring CLIENT'S Authorization in Advance***

A. If authorized in writing by CLIENT, CONSULTANT shall furnish or obtain from others Additional Services of the types listed below. These services will be paid for by CLIENT as indicated in an individual Project Supplement.

1. Preparation of applications and supporting documents (in addition to those furnished under Basic Services) for private or governmental grants, loans or advances in connection with a Specific Project; preparation or review of environmental assessments and impact statements; review and evaluation of the effects on the design requirements for a Specific Project of any such statements and documents prepared by others; and assistance in obtaining approvals of authorities having jurisdiction over the anticipated environmental impact of a Specific Project.

2. Services to make measured drawings of or to investigate existing conditions or facilities, or to verify the accuracy of drawings or other information furnished by CLIENT.

3. Services resulting from significant changes in the scope, extent, or character of the portions of a Specific Project designed or specified by CONSULTANT or its design requirements including, but not limited to, changes in size, complexity, CLIENT'S schedule, character of construction, or method of financing; and revising previously accepted studies, reports, Drawings, Specifications, or Contract Documents when such revisions are required by changes in Laws and Regulations enacted subsequent to the Effective Date of the individual Project Supplement or are due to any other causes beyond CONSULTANT'S control.

4. Services resulting from CLIENT'S request to evaluate additional Study and Report Phase alternative solutions beyond those identified in paragraph A1.01.A.4.

5. Services required as a result of CLIENT'S providing incomplete or incorrect project information with respect to Exhibit B.

6. Providing renderings or models for CLIENT'S use.

7. Providing construction surveys and staking to enable a Contractor to perform its work other than as required under paragraph A1.05.A.5, and any type of property surveys or related Consulting services needed for the transfer of interests in real property; and providing other special field surveys.

8. Providing Construction Phase services beyond the Contract Times set forth in the individual Project Supplement.

9. Providing assistance in resolving any Hazardous Environmental Condition in compliance with current Laws and Regulations.

10. Preparing and furnishing to CLIENT, in the format agreed to, Record Drawings showing appropriate record information based on project annotated record documents received from Contractor.

11. Preparing to serve or serving as a CONSULTANT or witness for CLIENT in any litigation, arbitration or other dispute resolution process related to a Specific Project.

12. Services in connection with Work Change Directives and Change Orders to reflect changes requested by CLIENT so as to make the compensation commensurate with the extent of the Additional Services rendered.
13. Services resulting from significant delays, changes, or price increases occurring as a direct or indirect result of materials, equipment, or energy shortages.

14. Additional or extended services during construction made necessary by (a) a significant amount of defective, neglected or delayed Work by a Contractor, or (b) default by a Contractor.

15. Services (other than Basic Services during the Post-Construction Phase) in connection with any partial utilization of any part of the Work on a Specific Project by CLIENT prior to its Substantial Completion.

16. Evaluating an unreasonable claim or an excessive number of claims or requests for information submitted by a Contractor or others in connection with the Work on a Specific Project.

17. Other services performed or furnished by CONSULTANT not otherwise provided for in this Agreement or an individual Project Supplement.

A2.02 ***Additional Services Not Requiring CLIENT'S Authorization in Advance***

A. CONSULTANT shall perform or furnish, without requesting or receiving specific advance authorization from CLIENT, the Additional Services of the types listed below. CONSULTANT shall advise CLIENT in writing within seven days after beginning any such Additional Services. If CLIENT does not want CONSULTANT to continue to perform or furnish the services, CLIENT shall notify CONSULTANT in writing to cease, and CONSULTANT shall comply.

1. Additional or extended services during construction made necessary by (a) emergencies endangering the Work, (b) an occurrence of a Hazardous Environmental Condition, (c) Work damaged by fire or other cause during construction, or (d) acceleration of the progress schedule involving services beyond normal working hours.

ATTACHMENT 1 - SAMPLE

This is an individual **PROJECT SUPPLEMENT** consisting of ____ pages, referred to in and part of the **Continuing Services Agreement** between **CLIENT** and **CONSULTANT** for **Professional Services** dated _____, 2019.

Project Supplement No. _____

In accordance with paragraph 1.01 of the Continuing Services Agreement between CONSULTANT and CLIENT for Professional Services dated _____ ("Agreement"), CONSULTANT and CLIENT agree as follows:

Specific Project Data

A. Title:_____

B. Description:_____

_____

1. Services of CONSULTANT

2. CLIENT'S Responsibilities

3. Times for Rendering Services:

Phase	Completion Date/Time
Study and Report	
Preliminary Design	
Final Design	

4. Payments to CONSULTANT

A. Method(s) of Payment by Phases

CLIENT shall pay CONSULTANT for services within each phase as follows:

Phase	Method of Payment	
	Basic Services	Additional Services
Study and Report		
Preliminary Design		
Final Design		
Bidding or Negotiating		
Construction		
Post-Construction		
Other		

B. For Method of Payment A, Lump Sum:

The total compensation for services identified under paragraph 1 of the individual Project Supplement is estimated to be $_____ based on the following assumed distribution:

Phase	Estimated Compensation
Study and Report	
Preliminary Design	
Final Design	
Bidding or Negotiating	
Construction	
Post-Construction	
TOTAL	

C. For Method of Payment B, Standard Hourly Rates:

1. The Standard Hourly Rates shall be as shown on Appendix 1 of Exhibit C of the Continuing Services Agreement.
2. The total compensation for services identified under paragraph 1 of the individual Project Supplement is estimated to be $_____ based on the following assumed distribution:

Phase	Estimated Compensation
Study and Report	
Preliminary Design	
Final Design	
Bidding or Negotiating	
Construction	
Post-Construction	
TOTAL	

D. For method of Payment C, Direct Labor Costs Times a Factor:

1. The Factor shall be [3.0] as stated in Exhibit C of the Continuing Services Agreement.

2. The total compensation for services identified under paragraph 1 of the individual Project Supplement is estimated to be $_____ based on the following assumed distribution:

Phase	Estimated Compensation
Study and Report	
Preliminary Design	
Final Design	
Bidding or Negotiating	
Construction	
Post-Construction	
TOTAL	

E. For method of Payment D, Direct Labor Costs Plus Overhead Plus a Fixed Fee:

1. The Overhead Rate shall be [1.70] as stated in Exhibit C of the Continuing Services Agreement.

2. The total compensation for services identified under paragraph 1 of the individual Project Supplement is estimated to be $_____ based on the following assumed distribution:

Phase	Estimated Compensation
Study and Report	
Preliminary Design	
Final Design	
Bidding or Negotiating	
Construction	
Post-Construction	
TOTAL	

5. Subconsultants:

6. Other Modifications to Continuing Services Agreement:

7. Attachments:

8. Documents Incorporated By Reference:

Approval and Acceptance: Approval and acceptance of this individual Project Supplement No. ____, including the attachments listed above, shall incorporate this document as part of the Continuing Services Agreement. CONSULTANT is authorized to begin performance upon its receipt of a copy of this individual Project Supplement signed by CLIENT.

The effective date of this individual Project Supplement No. ____ is _____, 201__.

[____]	**Orchard, Hiltz & McCliment, Inc.**
CLIENT	CONSULTANT
_____	_____
Name	Name
Title	Title
_____	_____
Date	Date

This is **EXHIBIT B**, consisting of 2 pages, referred to in and part of the **Continuing Services Agreement** between **CLIENT** and **CONSULTANT** for **Professional Services** dated _____, 2019.

Schedule of CLIENT'S Responsibilities

Article 2 of the Agreement is amended and supplemented to include the following responsibilities except as stated in an individual Project Supplement.

B2.01 In addition to other responsibilities of CLIENT as set forth in this Agreement, CLIENT shall:

A. Provide CONSULTANT with all criteria and full information as to CLIENT'S requirements for a Specific Project, including design objectives and constraints, space, capacity and performance requirements, flexibility, and expandability, and any budgetary limitations; and furnish copies of all design and construction standards which CLIENT will require to be included in the Drawings and Specifications; and furnish copies of CLIENT'S standard forms, conditions, and related documents for CONSULTANT to include in the Bidding Documents, when applicable.

B. Furnish to CONSULTANT any other available information pertinent to a Specific Project including reports and data relative to previous designs, or investigation at or adjacent to the Site of a Specific Project.

C. Following CONSULTANT'S assessment of initially-available project information and data and upon CONSULTANT'S request, furnish or otherwise make available such additional project related information and data as is reasonably required to enable CONSULTANT to complete its Basic and Additional Services. Such additional information or data would generally include the following:

1. Property descriptions.

2. Zoning, deed, and other land use restrictions.

3. Property, boundary, easement, right-of-way, and other special surveys or data, including establishing relevant reference points.

4. Explorations and tests of subsurface conditions at or contiguous to the Specific Project Site, drawings of physical conditions in or relating to existing surface or subsurface structures at or contiguous to the Site, or hydrographic surveys, with appropriate professional interpretation thereof.

5. Environmental assessments, audits, investigations and impact statements, and other relevant environmental or cultural studies as to a Specific Project, the Specific Project Site, and adjacent areas.

6. Data or consultations as required for a Specific Project but not otherwise identified in the Agreement, the Exhibits thereto, or the individual Project Supplement.

D. Give prompt written notice to CONSULTANT whenever CLIENT observes or otherwise becomes aware of a Hazardous Environmental Condition of a nature or extent not identified in the individual Project Supplement or of any other development that affects the scope or time of performance of CONSULTANT'S services, or any defect or nonconformance in CONSULTANT'S services or in the work of any Contractor.

E. Authorize CONSULTANT to provide Additional Services as set forth in the individual Project Supplement as required.

F. Arrange for safe access to and make all provisions for CONSULTANT to enter upon public and private property as required for CONSULTANT to perform services under the individual Project Supplement.

G. Examine all alternate solutions, studies, reports, sketches, Drawings, Specifications, proposals and other documents presented by CONSULTANT for a Specific Project (including obtaining advice of an attorney, insurance counselor, and other advisors or consultants as CLIENT deems appropriate with respect to such examination) and render in writing timely decisions pertaining thereto.

H. Provide reviews, approvals, and permits from all governmental authorities having jurisdiction to approve all phases of a Specific Project designed or specified by CONSULTANT and such reviews, approvals, and consents from others as may be necessary for completion of each phase of a Specific Project.

I. Provide, as required for a Specific Project:

1. Accounting, bond and financial advisory, independent cost estimating, and insurance counseling services.

2. Legal services with regard to issues pertaining to a Specific Project as CLIENT requires, a Contractor raises, or CONSULTANT reasonably requests.

3. Such auditing services as CLIENT requires to ascertain how or for what purpose a Contractor has used the moneys paid.

4. Placement and payment for advertisement for Bids in appropriate publications.

J. Advise CONSULTANT of the identity and scope of services of any independent consultant employed by CLIENT to perform or furnish services in regard to a Specific Project, including, but not limited to, cost estimating, project peer review, value engineering, and constructibility review.

K. Advertise for proposals from bidders and pay for all costs incident thereto.

L. Attend the pre-Bid conference, Bid opening (open the proposals at the appointed time and place), pre-construction conferences, construction progress and other job related meetings, and Substantial Completion and final payment inspections.

M. Provide the services of an independent testing laboratory to perform all inspections, tests, and approvals of Samples, materials, and equipment required by the Contract Documents, or to evaluate the performance of materials, equipment and facilities of Owner, prior to their incorporation into the Work for a Specific Project with appropriate professional interpretation thereof.

N. Provide inspection or monitoring services by an individual or entity other than CONSULTANT (and disclose the identity of such individual or entity to CONSULTANT) as CLIENT determines necessary to verify:

1. That a Contractor is complying with any Laws and Regulations applicable to a Contractor's performing and furnishing the Work.

2. That a Contractor is taking all necessary precautions for safety of persons or property and complying with any special provisions of the Contract Documents applicable to safety.

O. Provide CONSULTANT with the findings and reports generated by the entities providing services pursuant to paragraph B2.01.O.

This is **EXHIBIT C**, consisting of ___ pages, referred to in and part of the **Continuing Services Agreement** between **CLIENT** and **CONSULTANT** for **Professional Services** dated _____, 2019.

Payments to CONSULTANT for Services and Reimbursable Expenses

Article 4 of the Agreement is amended and supplemented to include the following agreement of the parties:

ARTICLE 4 – PAYMENTS TO CONSULTANT

C4.01 ***Method of Payment***

Owner shall pay CONSULTANT for services in accordance with one or more of the following methods as identified in each individual Project Supplement:

1. Method A: Lump Sum

2. Method B: Standard Hourly Rates

3. Method C: Direct Labor Costs Times a Factor

4. Method D: Direct Labor Costs Plus Overhead Plus a Fixed Fee

C4.02 ***Explanation of Methods***

A. Method A - - Lump Sum:

1. CLIENT shall pay CONSULTANT a Lump Sum amount. The individual Project Supplement shall state the assumed distribution of the lump sum by phases.

2. The distribution of CONSULTANT'S compensation between phases may be altered with CLIENT'S approval, which shall not be unreasonably withheld. CONSULTANT'S total compensation shall not exceed the total lump sum amount unless approved in writing by CLIENT.

3. The Lump Sum will include compensation for CONSULTANT'S services and services of CONSULTANT'S subconsultants, if any. Appropriate amounts will be incorporated in the Lump Sum to account for labor, overhead, profit, and Reimbursable Expenses.

4. The portion of the Lump Sum amount billed for CONSULTANT'S services will be based upon CONSULTANT'S estimate of the proportion of the total services actually completed during the billing period to the Lump Sum.

B. Method B – Standard Hourly Rates

1. Owner shall pay CONSULTANT an amount equal to the cumulative hours charged to the Specific Project by each class of CONSULTANT'S employees times Standard Hourly Rates for each applicable billing class for all services performed on the Specific Project, plus Reimbursable Expenses and CONSULTANT'S charges, if any.

2. Standard Hourly Rates include salaries and wages paid to personnel in each billing class plus the cost of customary and statutory benefits, general and administrative overhead, non-project operating costs, and operating margin or profit.

3. CONSULTANT'S [current] Standard Hourly Rates are attached to this Exhibit as Appendix 1.

4. The total estimated compensation for CONSULTANT'S services for the individual Project Supplement and the assumed distribution of compensation by phases shall be stated in the individual Project Supplement. This total estimated compensation will incorporate all labor at Standard Hourly Rates, Reimbursable Expenses and CONSULTANT'S charges, if any.

5. The amounts billed for CONSULTANT'S services under each individual Project Supplement will be based on the cumulative hours charged to the Specific Project during the billing period by each class of CONSULTANT'S employees times Standard Hourly Rates for each applicable billing class, plus Reimbursable Expenses and CONSULTANT'S charges, if any.

6. The Standard Hourly Rates and Reimbursable Expenses Schedule shall be adjusted annually (as of the beginning of CONSULTANT'S fiscal year) to reflect equitable changes in the compensation payable to CONSULTANT.

C. Method C – Direct Labor Costs Times a Factor:

1. CLIENT shall pay CONSULTANT an amount equal to CONSULTANT'S Direct Labor Costs times a Factor of [3.0] for the services of CONSULTANT'S employees engaged on the Specific Project, plus Reimbursable Expenses, and subconsultant's charges, if any. Direct Labor Costs means salaries and wages paid to employees but does not include payroll related costs or benefits.

2. The total estimated compensation for CONSULTANT'S services for the individual Project Supplement and the assumed distribution of compensation shall be stated in the individual Project Supplement. This total estimated compensation

incorporates all labor, overhead, profit, Reimbursable Expenses, and subconsultant's charges, if any.

3. The amounts billed for CONSULTANT'S services will be based on the applicable Direct Labor Costs for the cumulative hours charged to the Specific Project during the billing period by the above-designated Factor, plus Reimbursable Expenses and subconsultant's charges, if any.

4. The Direct Labor Costs and the Factor applied to Direct Labor Costs will be adjusted annually (as of the beginning of the CONSULTANT'S fiscal year) to reflect equitable changes in the compensation payable to CONSULTANT.

D. Method D – Direct Labor Costs Plus Overhead Plus a Fixed Fee:

1. CLIENT shall pay CONSULTANT an amount equal to CONSULTANT'S Direct Labor Costs Plus Overhead Plus a Fixed Fee for the services of CONSULTANT'S employees engaged on the Specific Project, plus Reimbursable Expenses, and subconsultant's charges, if any. Direct Labor Costs means salaries and wages paid to employees but does not include payroll related costs or benefits.

2. The total estimated compensation for CONSULTANT'S services for the individual Project Supplement and the assumed distribution of compensation shall be stated in the individual Project Supplement. This total estimated compensation incorporates all labor, overhead, fixed fee, Reimbursable Expenses, and subconsultant's charges, if any.

3. The amounts billed for CONSULTANT'S services will be based on the applicable Direct Labor Costs for the cumulative hours charged to the Specific Project during the billing period, plus overhead, plus Reimbursable Expenses and subconsultant's charges, if any, plus the proportionate portion of the fixed fee.

4. The Direct Labor Costs and Overhead Multiplier applied to Direct Labor Costs will be adjusted annually (as of the beginning of CONSULTANT'S fiscal year) to reflect equitable changes in the compensation payable to subconsultant.

C4.03 *Reimbursable Expenses*

Costs incurred by CONSULTANT in the performance of the individual Project Supplement in the following categories constitute Reimbursable Expenses:

The amounts payable to CONSULTANT for Reimbursable Expenses will be the project-specific internal expenses actually incurred or allocated by CONSULTANT, plus all invoiced external Reimbursable Expenses allocable to a Specific Project, the latter multiplied by a Factor of [1.15].

C4.04 *Serving as a Witness*

A. For services performed by CONSULTANT'S employees as witnesses giving testimony in any litigation, arbitration or other legal or administrative proceeding under paragraph A2.01.A.11, at the rate of $[1,200] per day or any portion thereof (but compensation for time spent in preparing to testify in any such litigation, arbitration or proceeding will be on the basis provided in paragraph C4.02 A, B, C, or D.

B. Compensation for CONSULTANT'S subconsultants for such services will be on the basis provided in paragraph C4.05.

C4.05 *Other Provisions Concerning Payment*

A. Extended Contract Times. Should the Contract Times to complete the Work be extended beyond the period stated in the individual Project Supplement, payment for CONSULTANT'S services shall be continued based on the Standard Hourly Rates Method of Payment.

B. Estimated Compensation Amounts

1. CONSULTANT'S estimate of the amounts that will become payable for services are only estimates for planning purposes, are not binding on the parties, and are not the minimum or maximum amounts payable to CONSULTANT under the Agreement.

2. When estimated compensation amounts have been stated in an individual Project Supplement and it subsequently becomes apparent to CONSULTANT that a compensation amount thus estimated will be exceeded, CONSULTANT shall give CLIENT written notice thereof. Promptly thereafter CLIENT and CONSULTANT shall review the matter of services remaining to be performed and compensation for such services. CLIENT shall either agree to such compensation exceeding said estimated amount or CLIENT and CONSULTANT shall agree to a reduction in the remaining services to be rendered by CONSULTANT so that total compensation for such services will not exceed said estimated amount when such services are completed. If CONSULTANT exceeds the estimated amount before CLIENT and CONSULTANT have agreed to an increase in the compensation due CONSULTANT or a reduction in the remaining services, the CONSULTANT shall give written notice thereof to CLIENT and shall be paid for all services rendered thereafter.

This is **EXHIBIT D**, consisting of ___ page, referred to in and part of the **Continuing Services Agreement** between **CLIENT** and **CONSULTANT** for **Professional Services** dated _____, 2019.

Insurance

Paragraph 6.05 of the Agreement is amended and supplemented to include the following agreement of the parties.

G6.05 Insurance

A. The limits of liability for the insurance required by paragraphs 6.0.5.A and 6.05.B of the Agreement are as follows:

1. By CONSULTANT

a.	Workers' Compensation:	$1,000,000
b.	Employer's Liability - -	
	1. Each Accident:	$1,000,000
	2. Disease, Policy Limit:	$1,000,000
	3. Disease, Each Employee:	$1,000,000
c.	General Liability - -	
	1. Each Occurrence (Bodily Injury and Property Damage):	$1,000,000
	2. General Aggregate:	$2,000,000
d.	Excess or Umbrella Liability - -	
	1. Each Occurrence:	$5,000,000
e.	Automobile Liability --	
	1. Combined Single Limit (Bodily Injury and Property Damage): Each Accident	$1,000,000
f.	Professional Liability - -	
	1. Each Claim	$3,000,000
	2. Per Aggregate	$5,000,000

F. COMMUNICATION PLAN & QA/QC

Communication Plan

Our team understands that strong communication between the City and the consultant is essential to a successful project. The key is frequent and clear communications. As information becomes available, we ask ourselves who needs this information to ensure it is distributed accordingly.

Recently, we implemented a password protected, cloud-based, project information center. All those associated with the project have access to all information posted. In addition, project files are available 24/7 and accessible through any device that has internet connection.

Andy Harris, PE will be the Project Manager and the primary point of contact for the City throughout the duration of projects. Andy will be involved every step of the way, using his 19+ years of experience to drive our multidisciplinary team to solutions that are cost effective, context sensitive, and forward-thinking.

Andy will also be responsible for managing OHM Advisors' internal production staff members. He will be involved throughout the evolution of the project.

Lou Fleury, PE will serve as Principal in Charge, providing QA/QC of the project and working closely with Andy to ensure projects stay on track with regards to schedule and budget control. Lou will also be involved with contracts and will provide quality assurance and technical assistance to the team as required.

Nicholas Tanton will serve as Construction Manager. He will be a point of contact with the City during the construction phases. Nick has experience in the bidding and construction phase of work. He will work with contractors to ensure the work being performed is compliant with our construction documents to keep the project on schedule and avoid unnecessary costs during construction. He will work seamlessly with the design team, and will provide constructability reviews during the design phase as additional quality control.

We have found that one of the keys to making sure that everyone is aware of progress, decisions made and who to communicate with, is to schedule an initial Kick-off and Project Visioning meeting. At this initial meeting, we establish the vision for the project, goals to be accomplished, measures of success, and communications protocols. To assist, we prepare a Project Data Sheet that identifies the key players on the design team, Owner team and Construction team, with key people identified, contact information, milestone dates listed, so that all key information is in one place and easy to find. This information is updated regularly as the specifics of the project progress change.

We have recognized that the key to successful projects is active communication with all parties, thereby keeping everyone informed and allowing for effective decision-making. Andy Harris, Adam Zettel, and Tom Svrcek currently meet on a monthly basis to discuss and review all ongoing and upcoming projects. From site plan review specifics to construction project discussions, these meetings assure that all parties are up to date with project happenings. OHM feels that this method of communication is the key to a successful partnership between OHM and Swartz Creek.

QA/QC Plan

QUALITY MANAGEMENT

OHM Advisors has been dedicated to providing quality engineering services for over 55 years. This dedication has been recognized as an important factor in many of our long-term client relationships. The objective of our quality management program is to exceed client expectations. With this objective in mind, our quality management program contains the following elements:

- **Technical Advisors – senior engineers with experience in the proposed service area**
- **Principal in Charge Involvement**
- **Project Management**
- **Cost Control**
- **Project Schedule**
- **Risk Management**
- **Ongoing Checking Procedures**
- **Quality Assurance Reviews**

Several project control tools are available to provide the framework for quality management of project efforts and quality assurance of our deliverables. These tools are designed to place the project manager as the central focus for project success, and the project manager will be responsible for ensuring that overall project quality and project budgets are met.

Quality management is a planned component of each task and will be identified in the overall project schedule. Information collected from the field will be reviewed immediately by office staff to ensure that the data is being collected and evaluated appropriately. The overall findings and deliverables will be prepared in close coordination with the Principal in Charge, Lou Fleury to ensure that final results meet the overall project goals. A key component of the quality management process is the review meetings that occur with the client's project manager and field staff. Detailed results will be reviewed to ensure that the information developed is consistent with available data and personal knowledge that individuals may have.

Project communication will take place through our Project Manager, Andy Harris. Andy will be responsible for coordinating the efforts of the team members, will attend project coordination meetings and presentations and be responsible for deliverables and status reports. Andy will prepare and utilize the advanced project management and tracking tools to effectively manage the project.

QA/QC

Project communications and overall coordination will be a critical component for project success. To assist us in managing the complex array of information that will be generated for this project, we will use several advanced project management and tracking tools. These include:

- A project management plan that is developed at the beginning of the project and summarizes the key items needed for successful project completion, including the work plan, schedule and budget.
- A Cost and Schedule Control tool based on the Professional Services Management Journal (PSMJ) Resources - Integrated Budget and Schedule Method (IBSM).
- Web-based project collaboration tools for more complex projects involving correspondence with multiple agencies and multiple individuals within those organizations.

PROJECT & RISK MANAGEMENT

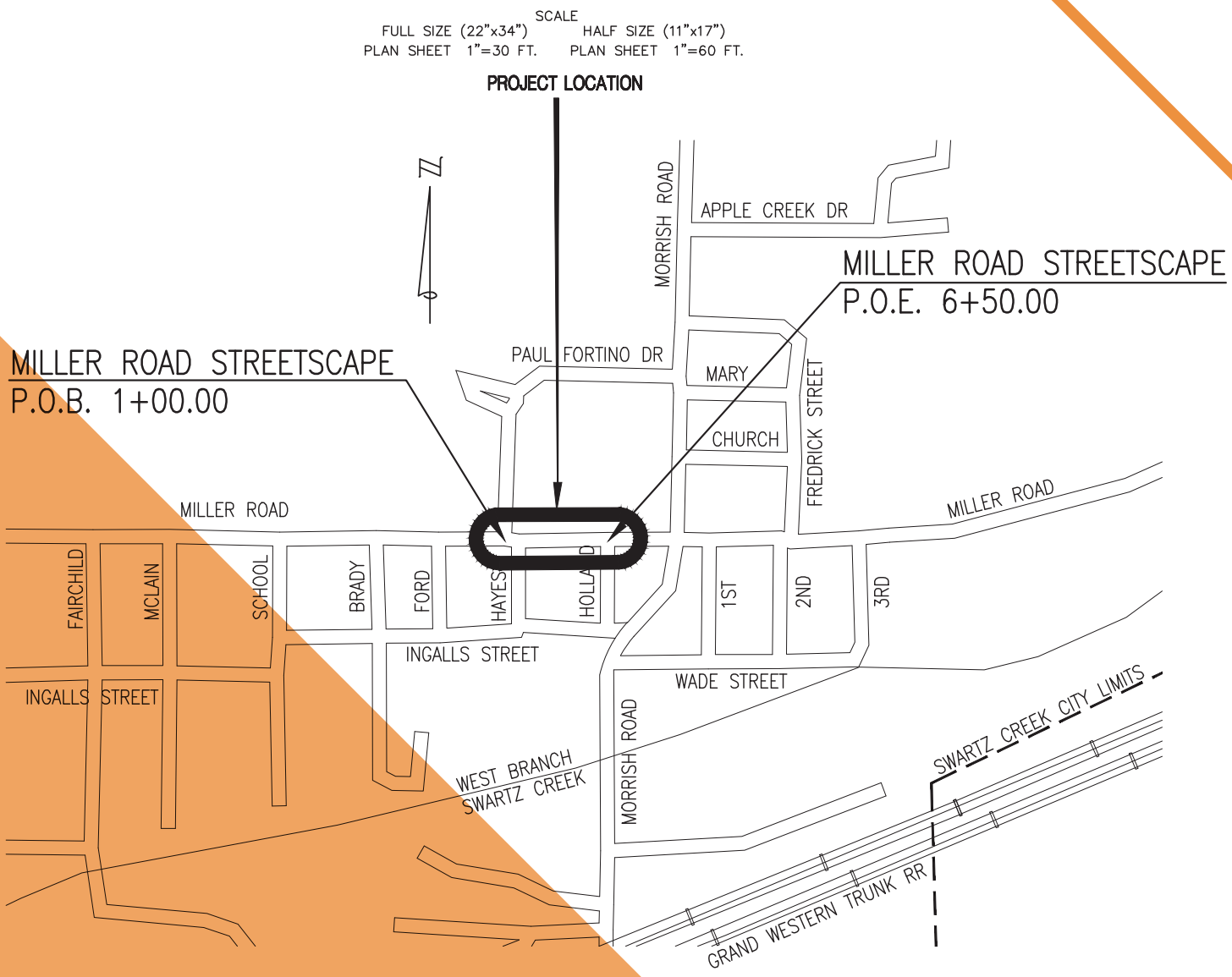
The Project Management Plan (PMP) will be developed to summarize the key items needed for successful project completion. This will include project charter and team member information, project goals and objectives, final work plan including deliverables, project schedule identifying major milestone and overall project budget and projected cumulative costs. Simultaneously, a risk management/risk identification plan will be developed. The PMP and risk management plan is reviewed in detail with the client prior to finalizing.

COMMUNICATION & COORDINATION PLAN

Our communication strategy relies on utilizing a variety of venues. We always start each project with a kick-off meeting. This face-to-face meeting ensures all stakeholders have the same vision and understanding. We then hold regular project progress meetings and supplement communication via phone and email. For some projects with multiple stakeholders, we will utilize an online web-based project coordination tool called Microsoft Teams. This tool greatly simplifies and organizes the collection and sharing of information, summarizes project progress, has a calendar for due dates and deadlines, provides a venue for soliciting input and reviewing recommendations and is a repository for saving project deliverables. We are flexible and create and tailor the communication and coordination plan for each project depending on the desire of the client. Each invoice that the PM submits to the client is accompanied with a progress report. This further helps communicate to the client work that has been completed and current status of the budget.

REGULAR PROGRESS REPORTS & MEETINGS

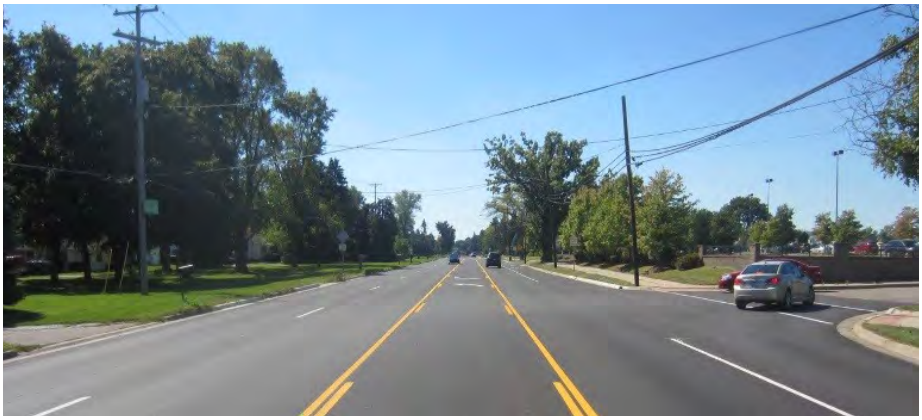
Regular progress reports will be prepared and project update meetings will be held when needed. These efforts are led by our PM and coordinated with the Client's project manager. The progress reports include a summary of the status of each task, the updated Cost and Schedule Control Tool, and an update of the project database. We anticipate conducting regular progress meetings with the client's project manager to review upcoming work, provide updates on completed work, review results and coordinate all efforts. These meetings are expected to be true working meetings, providing opportunities for the client to understand the progress being made, provide input to the tasks, and provide review comments.



Swartz Creek Miller Road Streetscape & Parking Lot Paving Illustration

G. PROJECT EXPERIENCE

Our Portfolio

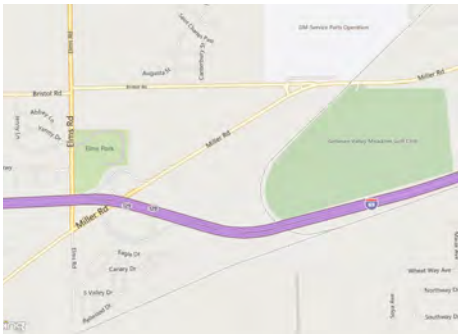


MILLER ROAD; MORRISH TO ELMS ROADS & TALMADGE TO DYE ROADS

CITY OF SWARTZ CREEK

This project included the milling and resurfacing of approximately two miles of roadway located within the City of Swartz Creek. The road's poor aesthetic and driving conditions made this critical for the City to complete. The existing road section consisted of HMA over concrete and the reflective cracking was detrimental to the ride quality.

The city had originally included joint and crack repairs in the funding application however the amount of funding was not enough to cover the volume of joint repairs. OHM Advisors was hired for design and construction engineering worked with the City to control costs by implementing a product called TruPave, which is a geosynthetic reinforcement placed between the leveling and wearing pavement courses. This material provides reinforcement as well as a moisture barrier to prevent water from infiltrating into the existing subsurface joints. The product (shown in the left photo) provides tensile reinforcement which delays the onset of reflective cracking. Construction bids were higher then the funded amount. In an effort to control costs, OHM worked with the City and the Contractor to remove sections of curb and gutter replacement within the project. This allowed the project to be built within the budgetary limits.



TRAFFIC STUDIES

CITY OF SWARTZ CREEK

Intersection and road diet studies consisted of operation analysis, traffic volume forecasting, and data collection. Recommendations were provided for improved traffic flow, signal optimization, left-turn phasing addition and corridor improvements. Synchro/SimTraffic modeling software was utilized.

USDA IMPROVEMENTS

CITY OF SWARTZ CREEK

OHM worked with the City and the USDA Rural Development to secure $5.3M in grant and loan funding for approximately 3.9 miles of water main replacement at several locations throughout the City. Some of the water main replacements will occur in the Winchester Village area and will include local road funds to complete the road improvements.

MILLER ROAD STREETSCAPE & PARKING LOT IMPROVEMENTS

CITY OF SWARTZ CREEK

As a opportunity to create a downtown area the City added streetscape elements to improve Miller Road from just west of Morrish to Paul Fortino. Brick paver features and a decorative wall were installed along with two separate pedestrian refuge islands. Additionally, the Holland Avenue parking lot was paved to provide public parking within the downtown corridor.