

## Nixon/ Green/ Dhu Varren Roads Intersection Improvement Project and Nixon Road Corridor Traffic Study

City of Ann Arbor  
c/o Customer Service  
301 East Huron Street  
P.O. Box 8647  
Ann Arbor, Michigan 48107



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December 3, 2015

Igor Kotlyar, PE  
Project Manager  
City of Ann Arbor  
301 E. Huron Street, P.O. Box 8647  
Ann Arbor, MI 48107

RE: Proposal for Nixon/Green/Dhu Varren Roads Intersection Improvement Project and Nixon Road Corridor Traffic Study – RFP #955

Dear Mr. Kotlyar:

The City of Ann Arbor has a unique challenge with this intersection improvement project and roundabout. Improving the split intersection and fitting a modern roundabout into this location will require close attention to the proposed roundabout geometrics and project area impacts. Also required will be a creative planning and design approach to enhance multimodal access through this corridor while improving vehicle and pedestrian safety.

We understand that enhancing this corridor and intersection will require not only some disruption to the existing natural features, but also a significant short term impact with construction operations and traffic impacts. To address stakeholder concerns, we have engaged Project Innovations to assist us in actively engaging area residents, motorists, bicyclists and pedestrians to create a design that meets both City standards and neighborhood priorities.

The OHM Advisors team brings the technical expertise needed to handle the various components of this project. Besides Project Innovations, G2 Consultants will provide geotechnical insight, which will be critical along the roadway expansion areas and in the wetland area. In addition, Traffic Data Collection will use video data collection to accurately collect multi-modal data to complete the corridor and intersection study.

We have worked directly with our subconsultants on numerous other projects including some for the City of Ann Arbor. Our success on those projects reinforces our excellent working relationships with our team and our team's relationships with City staff.

The City of Ann Arbor will receive the following direct benefits if our team is selected:

- ▶ **Well-balanced technical and public relations team** – This project will require a multi-faceted understanding of road design, safety studies, roundabout design, and non-motorized planning and design, all while effectively communicating the project needs with the public and achieving buy-in. Our team has that balance.
- ▶ **Solid experience and familiarity** – Our team is very experienced with roundabout geometric development and roadway design elements in constrained corridors. We also bring the experience with effective stakeholder engagement and are prepared to leverage that experience to assist the City staff to meet the goals of this project.
- ▶ **Trusted advisors** – We take great pride in our professional reputation and we value our long-term relationship with the City of Ann Arbor.

Sincerely,  
OHM Advisors

A blue ink signature of Jonathan W. Kramer, PE, Vice President. The signature is written in a cursive style and is positioned above a horizontal line.

Jonathan W. Kramer, PE, Vice President

A blue ink signature of Steven M. Loveland, PE, Project Manager. The signature is written in a cursive style and is positioned above a horizontal line.

Steven M. Loveland, PE, Project Manager

**OHM Advisors**  
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**A | PROFESSIONAL QUALIFICATIONS**

## Overview & History | OHM Advisors

### About OHM Advisors

Orchard, Hiltz & McCliment, Inc. (OHM Advisors) is a firm of architects, engineers and planners committed to Advancing Communities. Leaders rely on our proven public and private sector expertise, insightful counsel and forward thinking to create lasting, viable places and communities.

### What We Do Best

One of our long-time clients called OHM Advisors a “one-stop solution.” That’s our goal. We’re great project managers, but we think like advisors. Our clients appreciate our long-term collaboration and holistic approach. This could involve capital improvement planning, strategic workforce restructuring, funding sourcing and administration, and community redevelopment. And our goal is always sustainability.

### Firm Ownership

OHM Advisors is a privately held corporation, governed by a seven member Board of Directors and has 30 employee shareholders.

### Our Clients

- Cities, Villages, Towns, Counties and Townships
- State and Federal Agencies
- County Road Agencies / MDOT
- K-12, Colleges and Universities
- Utility Authorities
- Parks Authorities
- Drain and Water Resource Commissioners

### Partners

OHM Advisors & its partners are all licensed to work in Michigan.

#### OHM Advisors (Corporation)

34000 Plymouth Road • Livonia, MI 48150  
ph. 734.522.6711 • fax. 734.522.6427

#### Traffic Data Collection (TDC) (Corporation)

7504 Sawgrass Drive • Washington, MI 48094  
ph. 586.786.5407

#### G2 Consulting (Corporation)

1866 Woodslee Street • Troy, MI 48083  
ph. 248.680.0400

#### Project Innovations, Inc. (Corporation)

22000 Springbrook Ave, Suite 106 • Farmington Hills, MI 48336  
ph. 248.476.7577





## Service Areas

We perform the following services in-house, and have solid relationships with partners to provide additional needed services.

### Transportation Planning & Engineering

- Roadway & Freeway Design
- Corridor/ Intersection Studies
- Capacity/ Safety Studies
- Traffic Engineering
- Traffic Signal Design
- Value Engineering Reviews
- Road Safety Audits
- Roundabout Design

### Civil Engineering & Surveying

- Site Evaluations, Surveying & Geotechnical
- Sanitary Sewer & Water Systems
- Stormwater Management Design & NPDES permitting
- Site & Parking Design
- Soil Erosion Control Design & Inspection
- Construction Engineering, Site Observation & Contract Administration
- Wetland Identification & Mitigation Planning
- Water Treatment & Wastewater Treatment Plant Design
- Topographic, Right-of-way, Boundary & Geodetic Control Surveys
- Bicycle Path & Sidewalk Design
- Recreational Facilities & Park Development

### Planning & Landscape Architecture

- Planning & Visioning
- Urban Design
- Zoning & Entitlements
- Land Planning
- Parks and Recreation Master Planning
- Trail/Bike Path, Trail Head Design
- Playground & Athletic Field Design
- Site Planning Design

### Mechanical & Electrical Engineering

- Energy Evaluation & Assessments
- Existing Facility Evaluations
- HVAC and Plumbing System Design
- Energy Management Systems Design

### Structural Engineering

- Existing Structure Evaluations
- Dams/Retaining Walls
- Foundation Design
- Bridge Design, Scoping & Safety Inspection

### Architecture

- Full Service Facility Design
- Facility Surveys & Assessments
- Site & Facility Master Planning
- Space Planning
- Design for LEED Certification

## AT A GLANCE

EXPERIENCE

- 10,000+** civil engineering projects
- 500,000+** SF of LEED intended space
- 3 million+** SF of educational space
- 125+** miles of sewer installation and **80** miles of rehabilitation
- 140+** zoning projects and **65+** mixed-use planning projects
- 250+** miles of water main installation and **130** miles of replacement/rehabilitation
- Major road projects, totaling more than **500** miles
- 2,500+** plan reviews and subsequent construction observation services

IN-HOUSE CAPACITY

- 19 Architectural Staff Members
- 13 CADD Technicians
- 48 Civil Engineers
- 89 Construction Inspectors/Managers
- 7 Mechanical / Electrical Engineers
- 3 GIS Specialist
- 22 Surveyors
- 13 Landscape Architects
- 7 Planners
- 14 Project Managers
- 5 Technicians/Analysts
- 28 Transportation Engineers
- 7 Structural Engineers
- 17 Water Resources Engineers/Sanitary Engineers

## Overview & History | Traffic Data Collection (TDC)

### Our Mission

To provide our clients with unrivaled data quality, by providing the most accurate data collection and dependable support in pursuit of their project target goals and completion time-lines.

Our traffic data collection services operate advanced and dependable equipment to conduct traffic studies with over 200 pieces of equipment. Jamar HS Flex Traffic Recorders / ClassificationTDC Ultra Traffic Data Collectors Miovision VCU Scout Video Cameras Omni Bird Video Equipment, Wavetronix

TDC has thorough knowledge of the traffic data industry and utilizes the newest technology in order to provide the utmost accurate results. We specialize in Video Turning Movement Counts providing ability to give our clients verifiable data by archived photo logging. Because of our diversity within the industry we understand that every study is different and may require special tasks. For this reason we have developed our services to pay attention to the needs and details of our clients. We strive to provide the most detailed and reliable data at the most effective cost.

### Project Team Participation

Our firm's credentials include a strong discipline in traffic engineering, with experience of conducting traffic studies for numerous traffic signal optimizations, corridor studies, access management and engineering projects.

Traffic Data Collection has over 26 years of traffic data collection experience and is one of the longest serving traffic data collection firms in Michigan. We utilize the most current technology combined with trained technicians to ensure every traffic study is executed with the highest quality. We specialize in Video and Manual Turning Movement Counts and use the newest video systems developed by Miovision and OmniBird which gives us the ability to provide archived and verifiable video data to our clients. TDC understands the need for accurate traffic data and this cannot be overstated. Since 1996 Traffic Data Collection has conducted over 2200 hundred traffic studies in which traffic data has been used as basis for very important conclusions and safety decisions. Our firm's credentials include a strong discipline in traffic engineering, with experience in conducting traffic studies for numerous traffic signal optimizations, corridor studies, access management and engineering projects.

### Professional & Reliable

TDC provides a wide range of data collection services supporting both public and private clients. TDC applies our experience to ensure successful completion of clients projects in a timely manner and on budget. We have served and assisted multitude of clients throughout Michigan, Ohio and several other states. TDC provides digital file formats of clients' reports and videos. Files can be delivered in Universal Traffic Data Formats of Excel, Adobe, Jamar, ASCII Text, MDOT, Synchro, SEMCOG MS2 TCDS, Peek or any other specified format.

## Overview & History | G2

### About G2

G2 Consulting Group, LLC (G2) is a consulting engineering firm providing geotechnical engineering, environmental, and construction engineering, design and testing services. G2 was established in 1994 and is headquartered in the City of Troy. Since its beginning with three employees, G2 has grown into a multi-service professional firm with three offices (Troy and Ann Arbor, Michigan and Chicago, Illinois) and fifty-five employees, of which forty-nine are degreed or licensed civil/geotechnical engineers, environmental scientists, and certified materials technicians. G2 has provided consulting, design and construction materials testing services on over 16,000 projects throughout Michigan and 34 other states. These successful projects include approximately 7,000 public transportation, facility and utility projects, including new and rehabilitated bridges, culverts, pipelines, flexible and rigid pavements, embankments, slope restoration/stabilization, seawalls, railroads, traffic signals and signs, cable barriers, and temporary and permanent earth retention systems.

G2 has comprehensive knowledge of the subsurface conditions near the project site in Ann Arbor, having previously performed more than 100 geotechnical investigations within a 5-mile radius of the site. G2 also has demonstrated innovative use of many currently available geotechnical tools, materials, and design methodologies to improve performance and/or reduce costs associated with the site-specific geotechnical and structural constraints for numerous transportation projects.

### Project Team Participation

It is our understanding the offset east and west approaches to Nixon Road from Dhu Varren Road and Green Road will be combined by the use of a roundabout intersection for improved traffic flow. The Dhu Varren Road approach will be realigned further to the south and an eastbound-to-southbound bypass will be added. The other three approaches will occupy the same general alignment, but will be widened to accommodate the roundabout layout and

to add mixed use pathways on all sides. The Dhu Varren Road approach will also extend through an existing wetland located within the southwest quadrant of the intersection. It is anticipated that significant dewatering, subgrade stabilization and organic soil/peat undercuts will be required to facilitate embankment construction through this area. Further delineation of the organic deposits may be required if such deposits are encountered in the soil borings.

### Qualifications

A few recent similar projects for which G2 has provided similar geotechnical engineering services include the following:

- Wiard Road and Tyler Road Improvements in Ypsilanti Township, Michigan  
Client – RS Engineering, LLC  
Owner – Washtenaw County Road Commission
- I-75 and University Drive Interchange Design/Build in Auburn Hills, Michigan  
Client – Bergmann Associates & Dan's Excavating  
Owner – Michigan Department of Transportation
- Clyde Road Improvements in Highland Township, Michigan  
Client and Owner – Oakland County Road Commission
- M-125 Improvements in Monroe, Michigan  
Client – RS Engineering, LLC  
Owner – Michigan Department of Transportation
- I-94 and Sargent Road Interchange in Leoni Township, Michigan  
Client – HH Engineering, Ltd.  
Owner – Michigan Department of Transportation

## Overview & History | Project Innovations (PI)

### History

Since 1992, Project Innovations team members have worked alongside community stakeholders to help elected officials, administrators, and agency directors meet the needs of their communities. Having designed, planned and implemented strategic planning, visioning and community involvement projects for over 20 years, our team has a robust how-to “library.” We know how to build citizen-administrator teams. We know how to integrate voices of opposition into the process. We know how to facilitate collaborative solutions. And, we know how to communicate project results in writing and in video.

As a successful management consultant, author, speaker, and trainer for over twenty years, Charles Fleetham has a storehouse of expertise in leadership development, organizational change, and strategic planning. He has helped many public sector clients with strategic planning, public involvement, and leadership development including Bloomfield Hills Schools, City of Farmington, City of Kalamazoo, City of Romulus, Detroit Water and Sewerage Department, Michigan Technological University, and Wayne County.

Charles is the author of *The Search for Unrational Leadership: Using Rational & Irrational Methods To Change Your Life* –Right Brain Books (2005).

### Articles (authored)

- Irrational Secrets to Innovations – HR Magazine
- Michigan at the Crossroads: Five Strategies for Economic Revival – The Michigan Citizen
- Michigan’s Automotive Leadership A Time for “Lobe”- trotting – IndustryWeek.com
- Tapping the Unconscious for Results - Consulting to Management (C2M)
- Unleash the Hidden Potential in Your Business – Business Week
- Unleash the Innovator Within – Entrepreneur.com
- Use Unconscious in Decision Making – Industry US Business Journal Online

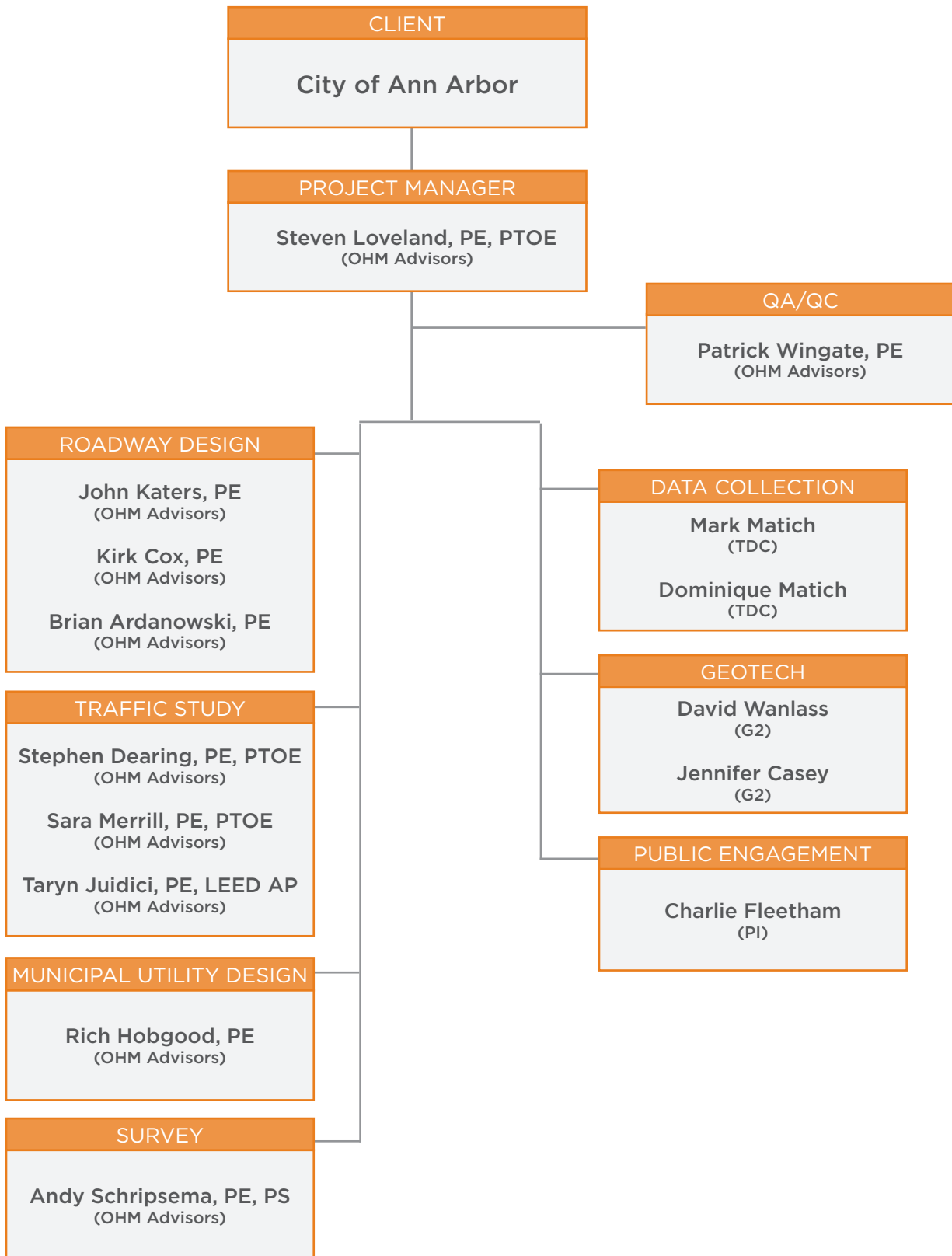
### Articles (contributed)

- Bought, and Waiting for the Ax to Fall - The New York Times
- Consultant Holds Key to Business Potential – Oakland Business Review
- Merger Therapy: Help employees embrace M & A Change – Insight
- Processes Performance Management for Short-term Staff – Workforce Performance Solutions
- Southern Strategy – Crain’s Detroit Business
- Unrational Methods Boost Revenue and Build Leaders – IOMA

### Project Team Participation

We’ll work with the Project Work Team to create meaningful, realistic desired outcomes; facilitate the Public Engagement Process to achieve those outcomes, and summarize the results for the project record. We’ll work with you to make course corrections or overcome unanticipated obstacles. The result – an effective meeting process that achieves your desired outcomes.

## Organizational Chart



## Key Personnel

Steven Loveland, PE,  
PTOE  
Project Manager

As a Project Manager in OHM Advisors' Transportation Group, Steven Loveland has experience managing many different types of transportation projects. He has served as the PM and Senior Engineer for large scale roadway and roundabout studies, signal design projects, freeway and non-freeway signing for MDOT, many signal optimization projects, as well as safety audits around the State of Michigan.

In addition to serving as a PM on many large projects, Steven brings extensive roundabout and transportation engineering knowledge, having performed as the lead engineer for design, studies and modeling of roundabouts.

Patrick Wingate, PE  
QA/ QC

Pat Wingate is familiar with all phases of roadway design with emphasis on transportation planning, geometrics, traffic studies, construction staging and drainage system design. He has extensive experience with roadway/ traffic studies and roundabouts.

Pat has led a number of roundabout projects including the roundabout interchange at 26 Mile and M-53 for MDOT. Recently, Pat led the OHM team in the design and construction of the first roundabout for the Kalamazoo CRC (Texas Dr /Milham Ave / 12th St).

John Katers, PE  
Lead Road Engineer/  
Roundabout Expert

John Katers works with a team of engineers designing roadway, bridge, and traffic projects for municipalities, counties, and state DOT's. Mr. Katers has served multiple roles on projects, including roundabout technical expert, Project Engineer, and Project Manager.

With 15 years of experience, John is a geometrics, roundabout and RODEL expert having studied and modeled dozens of roundabouts and completed numerous single lane and multilane roundabout designs for both MDOT and local agencies.

Kirk Cox, PE  
Roadway Design  
Engineer

Kirk Cox has 23 years of road, utility, and maintaining traffic design and coordination experience in the state of Michigan. Kirk recently joined OHM and led the Wick Road reconstruction design for the City of Romulus and the Riverside Drive / I-94BL intersection improvement design for the MDOT Marshall TSC. He also led numerous transportation design projects during his time at his previous employer, HH Engineering Ltd.

Brian Ardanowski, PE  
Roadway Design Engineer

Brian Ardanowski works with a team of engineers designing roadway, bridge, and traffic projects for municipalities, counties, and state DOTs. Brian is familiar with MDOT, MDOT Local Agency Program (LAP), and numerous county/municipal plan preparation procedures from the project kick-off through the construction phase.

Stephen Dearing, PE,  
PTOE  
Lead Traffic Engineer

Steve Dearing will lead the traffic engineering efforts on this project. He will collaborate on the safety and capacity analysis of the geometrics, related roundabout features, and staging.

As OHM Advisors' Traffic Engineering Group manager, Steve Dearing is responsible for all aspects of transportation planning and traffic engineering services for our clients. With 39 years of experience, he works closely with clients to identify their needs and ensure quality while leveraging his broad safety and multi-modal operational experience.

Sara Merrill, PE,  
PTOE  
Traffic Engineer

Specializing in the development of maintenance of traffic plans, Sarah Merrill will lead that effort on this project. Sara has extensive experience in traffic and safety related design and analyses. This experience includes traffic (mobility) analyses, maintaining traffic, construction staging, signing, pavement markings, safety studies, traffic signals and intersection operations. She is just finishing the MOT plans for the roundabout project for US-41 at 2nd Street, Ishpeming, MI.

Taryn Juidici, PE,  
LEED AP  
Traffic Engineer

Taryn Juidici will lead the traffic modeling on this project. She has 11 years of experience in traffic and operational safety related to design, construction and maintenance operations. Taryn brings operational studies and traffic modeling expertise from various projects.

Taryn Juidici is experienced in providing traffic engineering services for local municipalities, county agencies and MDOT.

Rich Hobgood, PE  
Utilities Engineer

As a Project Engineer and Lead Designer, Rich Hobgood prepares plans and specifications for various site and municipal design projects which include roadway, sidewalk, water main, sanitary sewer, and stormwater run off systems.

Andy Schripsema,  
PE, PS  
Survey

Andy Schripsema'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.





## Key Personnel

### Traffic Data Collection (TDC) Data Collection

Traffic Data Collection's credentials include a strong discipline in traffic engineering, with experience of conducting traffic studies for numerous traffic signal optimizations, corridor studies, access management and engineering projects.

TDC is one of the longest serving traffic data collection firms in Michigan. They utilize the most current technology combined with trained technicians to ensure every traffic study is executed with the highest quality.

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### G2 Consulting Geotech

G2 Consulting Group, LLC (G2) is a consulting engineering firm providing geotechnical engineering, environmental, and construction engineering, design and testing services. Established in 1994 and headquartered in the City of Troy, G2 has provided consulting, design and construction materials testing services on over 16,000 projects throughout Michigan and 34 other states. These projects include approximately 7,000 public transportation, facility and utility projects, including bridges, culverts, pipelines, pavements, embankments, slope restoration/stabilization, railroads, traffic signals and signs, cable barriers, and temporary and permanent earth retention systems.

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### Charlie Fleetham Engagement, Project Innovations

Charlie Fleetham will be the lead public engagement strategist and lead facilitator. As a successful management consultant, author, speaker, and trainer for over twenty years, he has a storehouse of expertise in leadership development, organizational change, and strategic planning.

As the Founder and President of Project Innovations, Charlie's verbal and written communication skills have garnered a reputation of expertise in group dynamics and resolving conflict to create an environment of collaboration. Charlie recently led public engagement efforts in Ann Arbor regarding the Sanitary Sewer Wet Weather Project and the Deer Management Project

Steven Loveland, PE, PTOE  
Project Manager



**Background**

As a Project Manager in OHM Advisors’ Transportation Group, Steven Loveland has experience managing many different types of transportation projects. He has served as the PM and Senior Engineer for large scale roadway and roundabout studies, signal design projects, freeway and non-freeway signing for MDOT, many signal optimization projects, as well as safety audits around the State of Michigan.

Steven’s primary focus area has been Transportation Engineering, where he started his career designing roadways and later transitioned to focus more on traffic operations. He has spent the majority of his time managing and leading the engineering efforts for large scale traffic operations studies, including numerous corridor studies and signal optimization projects. Mr. Loveland also has extensive management and design experience working on large scale freeway and non-freeway signing projects for MDOT. In addition to the large projects, Steven also has experience preparing traffic impact studies, study and site plan reviews for municipalities, crash analyses, traffic data collection, signal warrant analyses, pavement marking and maintaining traffic plans. He is skilled in the use of Synchro/SimTraffic, RODEL, Sidra, Vissim, Paramics, HCS 2010, AutoCAD and MicroStation Software.

**Education**

- Master of Science in Civil Engineering, Michigan Technological University, 2001
- Bachelor of Science in Civil Engineering, Michigan Technological University, 1997

**Professional Registration**

- Professional Engineer:
- MI, 2002, #49187
  - OH, 2010, #75127

Professional Traffic Operations Engineer, Institute of Traffic Engineers, 2006

**Experience**

17 years, 14 with OHM Advisors

**Professional Affiliations**

- Institute of Transportation Engineers, Michigan Section, Board of Directors 2010- 2015
- Custer Complex Parent Teach Organization, Treasurer, 2013-Present

**Relevant Experience**

**Massillon Road Corridor Plan, City of Green, OH, 2011 – 2013**

Lead Engineer for the analysis of the Massillon Road corridor and local network. Developed Synchro models for the existing conditions analysis and multiple alternatives throughout the study. Work also included analyzing multiple roundabouts and interchange configurations; including SPUI and DDI layouts. The goal was to find a combination of intersection and roadway improvements that would alleviate the traffic burden on Massillon Road.

**Road Safety Audits for Four Locations, MDOT, 2014 – Ongoing**

Project Manager, Team Leader and Facilitator for RSA team evaluating four rehabilitation projects. The duties as the Facilitator and Team Leader include compiling data relevant to the project, conducting the project kickoff meeting, giving a presentation on the RSA process and scope of the specific job, leading the field review team and facilitating a debriefing meeting, preparing and giving the findings presentation, and preparing the final report.

**Washtenaw County Signal Optimization, MDOT, 2008 – 2011**

Project Manager and Lead Traffic Engineer for project to evaluate the operation and optimize the signal timing plans for 32 intersections in and around the City of Ypsilanti under the jurisdiction of the Brighton TSC in the University Region.

**36.558 Miles of Non-Freeway Sign Upgrades in Taylor and Detroit TSC, Wayne County, MI, 2014 – 2015**

Project Manager/Lead Traffic Engineer for this project that encompasses signs along 36.558 miles of non-freeway routes: US-12, M-85, M-8, M-10, M-5 and M-1. Responsible for overseeing the development of plans and specifications for the maintenance replacement of all traffic control signs.

**Signing Bridge Connection Inventory, Metro Region, MI, 2014 – 2015**

Project Manager/Lead Traffic Engineer for developing a GIS inventory for all the signing bridge connections on all MDOT trunkline routes in the Metro Region.

**I-696 Freeway Sign Upgrading, Macomb County, MI, 2009 – 2010**

Project Manager for this project that encompasses signs along nine miles of urban depressed-section freeway and 18 miles of service drive. Responsible for overseeing the development of plans and specifications for the maintenance replacement of all traffic control signs and several large sign structures.

**Northwestern Highway Connector, Road Commission for Oakland County, MI, 2003 – 2015**

Traffic Engineer responsible for modeling 3-lane roundabout at Orchard Lake Road/Northwestern Highway intersection in conjunction with traffic signals at the intersections of Orchard Lake Road/Northwestern Highway and 14 Mile Road/Northwestern Highway. This area called “The Triangle” is being modeled using Paramics™ Software.

**M-53/26 Mile Interchange, Macomb County, MDOT, 2007**

Roundabouts were proposed at both the NB and SB ramp termini at the M-53 and 26 Mile Road interchange. As Lead Traffic Engineer performed roundabout analysis using RODEL software and provided assistance in the plan preparation phase.

**Huron Parkway/ Nixon Road Roundabout Ann Arbor, 2007**

Lead Traffic Engineer responsible for roundabout analysis using RODEL software. Prepared the preliminary roundabout layout exhibits utilizing the RODEL output.

**Zeeb Road Corridor Study, Washtenaw County, MI, 2010 – 2012**

Lead Traffic Engineer for the evaluation of Zeeb Road from Jackson Boulevard to Miller Road. This encompassed traffic analysis of existing and forecast conditions. The analysis included the evaluation of alternative roadway network configurations. The project included a roundabout analysis using RODEL software to determine geometric characteristics and roundabout capacity at several intersections in the corridor.

**Textile Road Traffic Study, Ypsilanti Twp, MI, 2012 – 2013**

Lead Traffic Engineer responsible for a study to analyze Textile Road from Stony Creek Road to Hitchingham Road and the Stony Creek Road at Hitchingham Road intersection. Alternatives considered and evaluated included: signalized alternative and roundabout alternative. The signalized alternative was analyzed using Synchro/SimTraffic. The roundabout alternative was analyzed using RODEL to determine geometric characteristics and roundabout capacity.

**North Squirrel Road Traffic Study, City of Auburn Hills, MI, 2009 – 2011**

Lead Traffic Engineer responsible for the evaluation of North Squirrel Road from Walton Boulevard to Dutton Road. This encompassed traffic analysis of existing and forecast conditions. The analysis included the evaluation of alternative roadway network configurations. The project included a roundabout analysis using RODEL software to determine geometric characteristics and roundabout capacity at several intersections in the corridor.

**Geddes Road Corridor Study, Superior Township, MI, 2004 – 2005**

Lead Traffic Engineer for project to evaluate existing and forecast conditions along this 6-mile corridor. Using Synchro/SimTraffic, the study included evaluating alternate improvements and general time-lines for their need.

Patrick Wingate, PE  
QA/ QC



**Background**

Pat Wingate is familiar with all phases of roadway design with emphasis on transportation planning, geometrics, traffic studies, construction staging and drainage system design. He has extensive experience with roadway/ traffic studies and roundabouts. He has directed, supervised and coordinated projects at the local, county and state levels and has performed quality control reviews on a wide range of projects. Pat has a strong background in working with communities and developing infrastructure solutions that match the goals and vision of our clients.

**Relevant Experience**

**University Drive over I-75 Diverging Diamond Interchange, MDOT, 2008 – 2015**

Principal Engineer leading the project oversight and quality reviews for this preliminary engineering study and base plan development. OHM Advisors performed a concept study and preliminary design for Michigan’s first diverging diamond interchange (DDI). OHM Advisors was tapped to develop innovative interchange alternatives as a more cost effective solution to a traditional interchange upgrade. OHM led the operational and capacity studies, and analyses and geometrics development, while incorporating other elements such as preliminary drainage, maintenance of traffic, lighting, streetscape and enhancement features. MDOT then opted to deliver this as a design/build project, so all project issues needed to be investigated and risks assessed prior to RFP development. This included multiple agency review meetings, public meetings and significant coordinating with public and private utilities and resource agencies.

**M-24 Reconstruction, I-69 to Nepessing Street, MDOT, 2012 – 2014**

Project Manager for two miles of multilane, arterial reconstruction. Project replaces old composite pavement with new HMA pavement, improves geometrics, addresses access management, and adds sidewalk segments while updating all ramps to current ADA standards. Also includes water main and sanitary sewer replacement and upgrades, traffic signal upgrades and addressing an intersection sight distance problem at Turrill Road. Project incorporates a new culvert and pedestrian tunnel both designed by MDOT, coordinates a RR crossing upgrade concurrent with construction, involves complex utility coordination, and includes development of complex MOT plans and a Transportation Management Plan.

**Baldwin Road Environmental Assessment, Road Commission for Oakland County (RCOC), 2010 – 2013**

Project Manager for the development of the federally funded Environmental Assessment document for Baldwin Road between Morgan and Waldon Roads in Orion Township. This 2 mile corridor study will determine the impacts of various alignment alternatives and will select a preferred alternative that will become the basis of a future design project. Baldwin is a congested, key arterial servicing a growing commercial and residential area north of I-75 in Orion Township. Several key elements are the historical district in Gingellville, congestion mitigation, pedestrian access, stakeholder acceptance of boulevards and roundabouts as viable options. Public involvement and stakeholder coordination are critical elements of the study and have been coordinated by our team including three stakeholder meetings and two public meetings to date.

**Education**

- Master of Business Administration, Davenport University, 2003
- Bachelor of Science in Civil Engineering, University of Michigan, 1990

**Professional Registration**

- Professional Engineer:
- IL, 1995, #049745
  - MI, 1997, #43546
  - OH, 2011, #75403
  - TN, 2011, #114602

**Experience**

25 years, 18 with OHM Advisors, 7 with Illinois Department of Transportation

**Professional Affiliations**

American Society of Civil Engineers

**Professional Development**

- Oakland County, Road Commission for Oakland County and PB, Context Sensitive Solutions Workshop, 2011

### **Old M-14 (Ann Arbor Road) Feasibility Study, 2013**

Project Manager on this multi-disciplinary study to explore repair options. Includes coordination of a project steering committee, resource agency coordination, utility coordination, mitigation of impacts, and cost estimates. Studies, mitigation and documentation will support the NEPA process and sustain an EA if required, dependent on the preferred alternative. Key study elements include intersection operations, geometrics, pavement and bridge conditions, land use, multi-modal connectivity, environmental and natural features, including, park land, the Middle Rouge River, floodplain, wetland, a weir/dam structure, 4(f), 6(f), and historical properties.

### **Northwestern Highway Connector, Road Commission for Oakland County, 2003 – Ongoing**

Project Manager (2005-2009) and Senior Engineer (2009-2012), and project principal (2012-2015) responsible for the design of 1.5 miles of new boulevard and four multi-lane roundabouts as part of a regional project to address connectivity and congestion. This project includes coordination between RCO, MDOT, FHWA, MDEQ, the communities and other resources and regional agencies. A significant public involvement campaign that involves a project website, educational materials, resident and business owner meetings as well as preparation of an information and instructional video is also part of this project.

### **Texas Drive/ Milham Avenue/ 12th Street Roundabout Project, Kalamazoo County Road Commission, MI, 2010 – 2011**

Project Manager responsible for all aspects of roundabout design and plan development. The project included the reconstruction of the intersection from a skewed 4-way stop to a modern, single-lane roundabout. Also included the following: right-of-way constraints, property acquisitions; several public meetings; coordination with multiple public agencies; significant utility coordination; pedestrian, bus, and bicycle safety improvements; streetscape enhancements; and a complex plan for maintenance of traffic during construction.

### **Huron Parkway/ Nixon Road Roundabout, City of Ann Arbor, MI, 2009**

Principal Engineer and quality manager for this single-lane roundabout at the intersection of Huron Parkway and Nixon Road. Emphasis was placed on maintaining pedestrian traffic as well to address some unique project characteristics at this location.

### **M-13/M-46, Hess to Ezra Rust, MDOT, 2009**

Project Manager for this intersection improvement project involving reconstruction of 0.75 miles of M-13 and 0.25 miles of M-46. Involved topographic survey, roadway reconstruction, utility relocations, drainage study, 4,400 feet combined sewer separation, 3,800 feet water main replacement, ADA ramps and access management. Also, included the removal of two intersection slip ramps and the upgrading of 3 traffic signals. This narrow urban corridor is congested with underground utilities and required complex utility and roadway staging, multiple utility coordination meetings and significant coordination with the City of Saginaw for the water and sewer improvements.

### **Iron Mountain Intersection Study (US-2/M-95, US-2/US-141 and US-141/ Breitung Cutoff Road), MDOT, 2008**

QA/QC Engineer for this operational and safety study at three intersections. Study involved crash analysis, reviewing operations and turning movements and developing recommendations for geometric improvements. Various intersection options including roundabouts were studied and modeled.

John Katers, PE  
Lead Road Engineer/ Roundabout Expert



### Background

John Katers collaborates with a team of engineers to develop transportation projects for municipalities, counties, and state DOT's. Mr. Katers has served multiple roles on projects, including roundabout technical expert, Project Engineer/Lead Designer, and Project Manager. John is familiar with MDOT Local Agency Program (LAP) and numerous county/municipal plan preparation procedures from the project kick-off through the construction phase. His experience in project management, plan preparation and design ranges from 3R rehabilitation projects to major interstate reconstruction projects. He has broad knowledge of MDOT road design procedures, standards, and specifications. He also has extensive experience in complex geometric design, including single and multi-lane roundabouts, as well as roadside safety design, utility coordination, roadway drainage, pedestrian safety and ADA compliance.

### Relevant Experience

#### **Lake Nepessing Road, Davison Road, and Genesee Road Roundabout, Lapeer County Road Commission, MI, 2014 – 2015**

Project Manager responsible for all aspects of road/roundabout design and plan development. The project includes the reconstruction of the intersection from two-adjacent tee intersections to a modern, 4-legged roundabout. The project included right-of-way constraints and property acquisitions; utility coordination; street lighting improvements; storm sewer design; permanent signing and pavement markings and public involvement.

#### **Northwestern Highway Connector, Road Commission for Oakland County, West Bloomfield Township & City of Farmington Hills, MI, 2003 – 2014**

Lead Road Design Engineer, then Project Manager responsible for all aspects of road design for the reconstruction of 4.3 miles and rehabilitation of 0.5 miles of roadway as a part of a \$40 million project to extend M-10 service along Orchard Lake Road, Maple Road and Fourteen Mile Road to M-5. The project consisted of numerous challenges including: major utility conflicts; right-of-way constraints; complex construction staging; geometric constraints; enclosure of a county drain and MDEQ requirements; traffic volume and capacity analysis; pedestrian safety/ADA requirements; public education including several public meetings and a project website. The project culminated in 2015, as the most complex portion of the project, the "Triangle Project" (bordered by Fourteen Mile Road, Orchard Lake Road, and M-10), was opened to traffic.

#### **Geddes Road and Ridge Road Roundabout, Washtenaw County Road Commission, MI, 2012 – 2013**

Lead Road Design Engineer responsible for all aspects of road/roundabout design and plan development. The project included the reconstruction of the intersection from a 4-way stop to a modern, single-lane roundabout adjacent to a charter school. The project included right-of-way constraints and property acquisitions; utility coordination; pedestrian, and bicycle safety improvements; streetscape enhancements; street lighting; storm sewer and a three-sided box culvert; permanent signing and pavement markings.

### Education

Bachelor of Science in Civil Engineering, University of Michigan, 2000

### Professional Registration

- Professional Engineer:
- MI, 2004, #51770
  - OH, 2010, #75120

### Experience

15 years, 14 with OHM  
Advisors

### Professional Affiliations

- City of Livonia Traffic Commission, Citizen Member, 2009-current
- American Society of Civil Engineers, Member
- Institute of Transportation Engineers, Member

### Professional Development

- Michigan ITE Conference (MITEC), Host of Roundtable for Roundabouts
- Right of Way Plan Development Training Course, ODOT Traffic Academy, 03/21/2012

**Massillon Road Corridor Plan, City of Green, OH, 2011 – 2013**

Project Engineer responsible for developing multiple roundabout concepts and geometric layouts of roadway alternatives. This project also included multiple interchange modification alternatives including SPUI, DDI, and traditional layouts. The overall approach was to improve and implement a network of roads and intersection improvements to alleviate the traffic burden on the main arterial (Massillon Road) due to increased development.

**Baldwin Road Environmental Assessment, Morgan Road to Waldon Road, Road Commission for Oakland County, 2010 – 2011**

Road Design Engineer responsible for developing conceptual geometrics for multi-lane roundabouts at up to eight separate intersections within the Baldwin Road corridor, for three different geometric alternatives.

**Texas Drive and Milham Avenue at 12th Street Roundabout Project, Kalamazoo County Road Commission, MI, 2010**

Lead Road Design Engineer responsible for all aspects of road/roundabout design and plan development. The project included the reconstruction of the intersection from a skewed 4-way stop to a modern, single-lane roundabout. The project included right-of-way constraints and property acquisitions; several public meetings; coordination with multiple public agencies; significant utility coordination; pedestrian, bus, and bicycle safety improvements; streetscape enhancements; street lighting improvements; an optimized storm sewer design that minimized discharge; permanent signing and pavement markings; a complex plan for maintenance of traffic during construction

**Huron Parkway-Nixon Road Improvement Project, City of Ann Arbor, MI, 2007 – 2009**

Lead Road Design Engineer responsible for all aspects of road and roundabout design. The project included reconstruction of the intersection at Huron Parkway and Nixon Road from a skewed 4-way stop to a modern, single-lane roundabout. In addition, the project required the implementation of the “Complete Streets” concept to incorporate safe access for all users including pedestrians, bicyclists, and transit users. The intersection is bordered on four corners by: a senior living center, a subdivision, and two major shopping centers. Approximately 100 pedestrians, many of them elderly and college students, cross the intersection per day. The intersection is a major transfer point for 4 different bus routes, including over 200 Buses arriving/ departing per day. Mid-block crossings were added to shorten the crossing distance for pedestrians adjacent to the bus stops. It was critical to provide visual cues to the motorist that the driver should expect the presence of non-motorized users. Visual cues included decorative asphalt within the pedestrian crossings, mast arms with pedestrian crossing case signs and down lights, permanent signs and pavement markings, decorative lights, and landscaping. Also, the project included the reconstruction of Nixon Road from Plymouth Road to Huron Parkway; re-striping of Huron Parkway to reduce the number of traveled lanes from 4 to 2 and the addition of on-street parking; streetscape enhancements; street lighting improvements; storm sewer design; a complex plan for maintenance of traffic during construction; public relations; and right-of-way coordination.

**M-53, 24 Mile Road to 27 Mile Road & 26 Mile Interchange, Macomb County, MI, Michigan Department of Transportation, 2008**

Mr. Katers was responsible for the geometrics and vertical design of two multi-lane roundabouts. The combination of the roundabouts at the interchange ramps and the widening of 26 Mile Road to a multi-lane boulevard alleviated traffic congestion at the M-53 and 26 Mile Road interchange

Kirk Cox, PE  
Road Engineer



**Education**

Bachelor of Science in Civil Engineering, Wayne State University, 1992

**Professional Registration**

Professional Engineer:  

- MI, 1996, #42014

**Experience**

Less than year with OHM Advisors after 22 years with HH Engineering Ltd

**Professional Affiliation**

- American Society of Civil Engineers

**Professional Development**

- Construction Contracting Workshop, HalfMoon, 2015
- GeoPak SS3 Roadway Modeling, MDOT, 2015
- GeoPak SS3 Drainage, MDOT, 2015
- MDOT/ACEC Partnering Conference, 2015
- Designing Pedestrian Facilities for Accessibility, ACEC, 2008

**Background**

Kirk Cox has extensive civil engineering experience in the design and preparation of plans, specifications, and SAPW cost estimate reporting for various transportation projects. He has 23 years of road, utility, and maintaining traffic design and project management experience. His engineering expertise also includes design of water mains, sanitary sewers, and storm sewers. Kirk is extremely knowledgeable of both MDOT and AASHTO guidelines, standards, and specifications. He also has extensive experience in the use of MicroStation and GeoPak as well as AutoCAD software packages.

**Relevant Experience**

**Wick Road Reconstruction & Vining Road Rehabilitation, City of Romulus, MI, 2015**

Lead Road Design Engineer for 0.6 mile of Wick Road HMA reconstruction as a divided roadway with curb & gutter, new storm sewer, traffic signals, permanent signing, and pavement markings. Project also included 0.3 mile of cold milling and HMA resurfacing on Vining Road, along with a concrete bridge approach slab replacement at the Vining Road bridge over I-94. Responsibilities also included maintaining traffic design, and coordination with DWSD’s design consultant for installation of a new 48-inch water transmission main along Wick Road.

**Riverside Drive at I-94BL (Dickman Road), MDOT Marshall TSC, Battle Creek, MI, 2015**

Project Manager for the design of a 0.11-mile roadway improvement including pavement widening to provide a right turn lane from Riverside Drive onto I-94BL (Dickman Road). Responsibilities also included traffic signal modernization, pavement markings, permanent signing, maintaining traffic, municipal utility relocation, right-of-way plans, and the associated surveys.

**I-94BL (Stadium Drive) Reconstruction, Drake Road to Seneca Lane, MDOT Southwest Region, Kalamazoo, MI, 2010 – 2014**

Lead Road Design Engineer for 0.8 mile of I-94BL (Stadium Drive) reconstruction. Work included road design, sidewalk with ADA-compliant ramps, shared use paths, storm sewer, permanent signing, pavement markings, a carpool parking lot, and maintaining traffic. The Drake Road intersection was also widened to provide dual left turn lanes on all four legs. More than 8000 feet of new storm sewer was installed, varying in diameter from 12 to 42 inches. Part-width construction was used with temporary traffic signals and temporary HMA widening.

**M-46 / M-37 Roundabout, MDOT Muskegon TSC, Casnovia Township, MI, 2005 – 2007**

Lead Maintaining Traffic Design Engineer (subconsultant) for construction of a roundabout at M-46 / M-37 intersection. Project consisted of reconstruction on M-46 and M-37 to 1200 feet west, milling and resurfacing on M-37 from M-46 to 1½ miles north, and reconstruction of M-46 / M-37 from the intersection to 635 feet east. Maintaining traffic required three stages, including temporary widening, part-width construction, and detours.



**Sargent Road / I-94 Interchange Reconstruction, MDOT Jackson TSC, Leoni Township, MI, 2007 – 2013**

Lead Road Design Engineer for the reconfigured Sargent Road / I-94 interchange, including removal of the bridge at I-94BL, realignment and reconstruction of 3200 feet of Sargent Road, replacement of the bridge over I-94, construction of new ramps entering and exiting Eastbound I-94, and a new carpool parking lot. Sargent Road passes through a large wetland. Responsibilities also included right-of-way plans, hydraulics, guardrail design, maintaining traffic, signing, and pavement marking plans.

**US-24 (Telegraph Road) Rehabilitation, Stewart Road to Hurd Road, MDOT Brighton TSC, Frenchtown Township, MI, 2009 – 2013**

Lead Road Design Engineer for the widening and rehabilitation of 1.4 miles of US-24, the US-24 / Hurd Road intersection, and 0.2 mile of Hurd Road. The design consisted of cold milling, HMA resurfacing, widening to five lanes, new curb & gutter, ADA-compliant sidewalk ramps, storm sewer, hydraulic analysis and replacement of two county drain culverts, pavement markings, permanent signing, traffic signals, maintaining traffic, replacement of 2100 feet of 12-inch water main, and relocation of sanitary sewer.

**US-131BR (Park Street & Westnedge Avenue) Intersection Improvements, MDOT Kalamazoo TSC, Kalamazoo, MI, 2009 – 2010**

Project Manager for the design of improvements to five intersections on Northbound US-131BR (Park Street) and Southbound US-131BR (Westnedge Avenue) including curb & gutter “bulb-outs”, sidewalk with ADA-compliant ramps, decorative pavers, street lighting, decorative fencing, and pedestrian signal upgrades. The design also included drainage modifications, utility relocation, signing, pavement markings, and maintaining traffic.

**Buckner Drive Extension at Kellogg Airport, City of Battle Creek, MI, 2006 – 2007**

Road Design Engineer involved in the evaluation of alignments and structure options to provide a new access road into the Kellogg Airport. The new road would provide access for airport related industrial developments. The land to be developed is currently inaccessible due to the location of the airport runways, wetlands, and railroad lines. Responsibilities included preliminary plans and profiles, right-of-way impacts, and revised driveway layout for the proposed bridge approach roadway. The project is on hold until a development client is confirmed for the airport land.

**M-49 Reconstruction & Realignment over Sand Creek, MDOT Jackson TSC, Litchfield Township, MI, 2000 – 2002**

Lead Road Design Engineer for reconstruction of ½ mile of M-49 at Sand Creek. The existing road made a sharp turn where two county roads met at M-49. To eliminate the hazardous intersection, an 1150-foot radius curve was constructed to realign M-49. Sand Creek was also realigned, requiring the hydraulic analysis of the creek and two new 3-sided concrete arch culverts. Responsibilities also included right-of-way plans, wetland mitigation, permanent signing, pavement markings, and maintaining traffic.

Brian Ardanowski, PE  
Road Engineer



**Education**

Bachelor of Science in Civil Engineering, Michigan State University, 2007

**Professional Registration**

Professional Engineer: MI, #58471, 2011

**Experience**

8 years, 3 with OHM Advisors

**Professional Affiliations**

American Society of Civil Engineers, Member

**Professional Development**

- Empirical to Mechanistic-Empirical Approaches to Pavement Design, MSU workshop, 3/10/2015
- Long Life Concrete Pavement Joint Performance, LTAP, 3/7/2013
- Design Project Management, ACEC Webinar, 1/15/2013
- Concrete Street Design, LTAP, 9/18/2012

**Background**

Brian Ardanowski works with a team of engineers designing roadway, bridge, and traffic projects for municipalities, counties, and state DOTs. Brian is familiar with MDOT, MDOT Local Agency Program (LAP), and numerous county/municipal plan preparation procedures from the project kick-off through the construction phase. His experience in plan preparation and design ranges from local 3R rehabilitation projects to major reconstruction projects. He has extensive knowledge of the MDOT road design procedures, standards, and specifications. He also has extensive experience in complex geometric design, including single and multi-lane roundabouts, roadside safety design, utility coordination, roadway drainage, pedestrian safety, and ADA compliance.

**Relevant Experience**

**Northwestern Highway (M-10) Connector Triangle Project, Road Commission for Oakland County, West Bloomfield Township & City of Farmington Hills, MI, Ongoing**

Project Engineer responsible for all aspects of road design for the reconstruction for this MDOT LAP / MDOT trunkline permit project. The project involves the reconstruction of 1.3 miles of roadway as a part of a \$13 million project to improve traffic flow and safety at the area known as the “Triangle” bounded by M-10 (Northwestern Highway), Orchard Lake Road, and Fourteen Mile Road in West Bloomfield Township and City of Farmington Hills. The project includes the construction of a multi-lane roundabout at the intersection of Orchard Lake Road and Fourteen Mile Road, plus the re-alignment of 3 major roadways. There are numerous challenges including: major utility conflicts and relocations; right-of-way constraints resulting in several acquisitions; complex construction staging; complex roadway geometry and storm sewer design; enclosure of a county drain and MDEQ requirements; traffic volume and capacity analysis; pedestrian safety issues; public education including several public meetings; balancing the interests of multiple local communities and MDOT.

**Big Beaver Road and Culvert East of M-1 to West of Adams Road, Road Commission for Oakland County, MI, Ongoing**

Project Engineer responsible for major elements of road design, including the development of vertical and horizontal alignment, geometrics, drainage design and typical cross sections. The project involved the reconstruction of 0.86 mile of Big Beaver Road and the replacement of the twin culverts over the Rouge River with a precast concrete box culvert. The proposed improvements include: horizontal and vertical alignment revisions to improve sight distance deficiencies; superelevation upgrades to meet current standards; storm sewer and ditching upgrades; major utility conflicts and relocations. This project also includes MDEQ permitting for wetland impacts, temporary easement acquisitions and public meetings.

**North Squirrel Road Rehabilitation, City of Auburn Hills, MI, Ongoing**

Lead Road Design Engineer and Project engineer responsible for all aspects of road design and plan development. This project involves road rehabilitation from Walton Boulevard to Dutton Road by means of HMA base crushing and shaping, and widening the existing road from a 2 lane section to a 3 lane section. This will allow for a center left turn lane which will improve safety by reducing accidents, while simultaneously improving the level of service of the roadway. Poor sight distance on vertical curves will also be corrected as a part of this project.

This project also includes MDEQ permitting for wetland impacts, utility conflicts and relocations, right-of-way constraints and property acquisitions, and public education including multiple public meetings.

#### **Orchard Lake Road, Road Commission for Oakland County, MI, Ongoing**

Lead Road Design Engineer and Project engineer responsible for all aspects of road design and plan development. This project involves the reconstruction and widening of Orchard Lake Road from north of M-10 to south of Maple Road, from the existing 5-lane section to a 4-lane boulevard, and the realignment of Powers Road to tee-in to Orchard Lake Road. There are many challenges including: right-of-way constraints resulting in several acquisitions, construction staging, storm sewer design, utility conflicts and relocations, and public education including multiple public meetings.

#### **Geddes Road and Ridge Road Roundabout, Washtenaw County Road Commission, MI, 2012 – 2013**

Project Engineer responsible for all aspects of road/roundabout design and plan development. The project included the reconstruction of the intersection from a 4-way stop to a modern, single-lane roundabout adjacent to a charter school. The project required an analysis of the Rodel Roundabout Capacity design software and application of design principles in the FHWA Roundabout Guide. The project included right-of-way constraints and property acquisitions; significant utility coordination; pedestrian, and bicycle safety improvements; streetscape enhancements; street lighting improvements; storm sewer design and a three-sided box culvert; permanent signing and pavement markings.

#### **13 Mile Bridge over the Franklin Branch of the Rouge River, Road Commission for Oakland County, MI, 2012 – 2013**

Project Engineer responsible for major elements of road design, including the development of vertical and horizontal alignment, geometrics, drainage design and typical cross sections. The project involved the reconstruction of 0.22 mile of 13 Mile Road and the bridge over the Franklin Branch of the Rouge River. The proposed improvements include: horizontal and vertical alignment revisions to improve sight distance deficiencies; superelevation upgrades to meet current standards; proposed sidewalk to allow for safe passage from a large neighborhood to a nearby school; storm sewer enclosure; a hydraulic survey and hydraulic analysis; MSE wall design; aesthetic barrier walls and fencing; major utility conflicts and relocations; right-of-way constraints resulting in several acquisitions and permits.

#### **Lansing Community College DTC Parking Lot A, Lansing, MI, 2011 – 2012\***

Project Engineer responsible for the design of a pervious concrete parking lot and underground stormwater detention system for Lansing Community College. This project won the “2012 Award of Excellence, Special Achievement” from the Michigan Concrete Association.

\*Work completed with another firm.

Stephen Dearing, PE, PTOE  
Lead Traffic Engineer



**Education**

Bachelor of Science in Civil Engineering, University of Michigan, 1976

**Professional Registration**

Professional Engineer:

- MI, 1981, #28487
- OH, 2011, #75334

Professional Traffic Operations Engineer, 2004

**Experience**

39 years, 15 with OHM Advisors

**Professional Affiliations**

- Institute of Transportation Engineers
- ITE Transportation Safety Council
- ITE Traffic Engineering Council
- SEMCOG Transportation Advisory Council

**Background**

As OHM Advisors’ Traffic Engineering Group manager, Steve Dearing is responsible for all aspects of transportation planning and traffic engineering services for our clients. In addition to a wealth of experience in operational analysis and safety studies, he is a pioneer in having designed the first roundabouts in Michigan in 1994 and 1996. As a former City Traffic Engineer, Steve understands the need to plan for and coordinate all modes of travel within public rights-of-way.

Prior to joining our team, Steve was a City Traffic Engineer for a total of 13 years and worked for the National Safety Council. He has a thorough knowledge of transportation planning, traffic engineering and operations, having worked 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. He has reviewed traffic impact studies, performing professional surveys and made recommendations on roadway safety, geometry, capacity, operations, and traffic control.

**Relevant Experience**

**Huron Parkway/ Nixon Road Roundabout, City of Ann Arbor, MI, 2006 – 2008**

QA/QC Manager, and responsible for concept design for pedestrian and vehicular interaction for the completed project as well as during 7 phases of construction staging. The project included a comprehensive and inclusive public outreach process for the roundabout component of the project. Focus groups and public meetings were both used, as this was the City’s first roundabout. One public meeting was conducted with Chinese and Russian translators to meet stakeholder needs. Steve was the lead presenter for the project team at all public meetings, and he was responsible for all content and detailed responses to over 100 questions, posted on the City’s web page. Steve’s roundabout expertise was also critical as internal peer review for all technical design issues.

**As Requested Traffic Engineering Services, City of Mt. Pleasant, MI, 2012 – Ongoing, City of Troy, MI, 2008 – Ongoing, City of Midland, MI, 2007 – Ongoing, and City of Rochester Hills, MI, 2000 – 2004**

Project Manager and Lead Traffic Engineer, providing a full spectrum of traffic engineering and transportation planning services to communities. On an as-requested basis, have provided advice, evaluations and recommendations to address numerous and varied issues confronting impacted stakeholders. Examples include reviewing traffic impact studies and site plans for proposed developments, assisting in the preparation of funding applications, undertaking crash and operational analyses, reporting on whether intersection controls (YIELD, STOP or signalization) or other controls (parking, speed limits, etc.) are merited, and reviewing their sign shop operations to make recommendations on modernizing equipment and procedures for sign fabrication, and Inventory and management systems for signs, signals, pavement markings and guardrails.

**Zeeb Road Corridor Study, Washtenaw County MI, 2010 – 2012**

Project Manager for the evaluation of Zeeb Road from Jackson Blvd to Miller Road. This encompassed traffic analysis of existing and forecast conditions. The analysis included the

evaluation of alternative roadway network configurations, and included a roundabout analysis using RODEL software to determine geometric characteristics and roundabout capacity at several intersections in the corridor.

#### **Intersection Study of Plymouth at Cherry Hill Roads, Washtenaw County MI, 2010 – 2011**

Project Manager for the evaluation of the intersection of Plymouth Rd at Cherry Hill Rd in the Hamlet of Dixboro. The analysis focused on the suitability of the location for the construction of a roundabout. The analysis used RODEL software to determine geometric characteristics and roundabout capacity.

#### **Intersection Study of Library at Pioneer Drives, Oakland University, MI, 2010 – 2011**

Our team Project Manager for the evaluation of the intersection. Identified alternative improvement options to address the safety and mobility issues of this location, including two-way and four-way STOP controls, traffic signals and a single-lane roundabout. The roundabout was accepted by the University; developed the geometric alignment for the roundabout design.

#### **Bellows Road Corridor and Roundabout Study, Mt. Pleasant, MI, 2011 – 2012**

Traffic Engineering Expert on this project that included the overall functionality review of the existing mini-roundabout installed at a “T” intersection, and development of recommendations as to modifications at the intersection removal of the mini-roundabout. Project included the door to door gathering of public sentiment, several internal stakeholder meeting. As part of the review, we looked at the overall traffic flow of the entire ½ mile corridor, including 8 intersections. We looked at the interaction of the land uses since this corridor is a natural separation between CMU’s campus and City residential. We developed a conceptual corridor plan that incorporated traffic impacts from a potential new East Campus Connector Road, and the overall desire to calm traffic in this corridor and improve the pedestrian and aesthetic connectivity between the two sides of the roadway. Recommended concepts included a series of single lane modern roundabouts, raised intersections, and streetscape improvements.

#### **Okemos DDA Traffic Study, Meridian Township, MI, 2008**

Traffic QC Reviewer for the traffic analysis of existing and forecast conditions near the intersection of Okemos and Hamilton Roads in Okemos, MI. The analysis included the evaluation of alternative roadway network configurations. The project included a roundabout analysis using RODEL software to determine geometric characteristics and roundabout capacity at the intersection of Okemos and Hamilton Roads.

#### **Geddes Road Corridor Study, Superior Township, MI, 2004 – 2005**

Project Manager for project to evaluate existing and forecast conditions along this six-mile corridor. Using Synchro/ SimTraffic, the study included evaluating alternate improvements and general time-lines for their need.

#### **Fuller/E. Medical/Maiden Lane Intersection, City of Ann Arbor, 2007**

Project Manager for this study to evaluate alternatives for this location. The study compared a roundabout solution with more traditional alternatives, with analysis performed for vehicular and non-motorized traffic. The study required a firm understanding of traffic forecasting for both the University and the City of Ann Arbor, considering local growth projections along with existing SEMCOG data.

#### **Northwestern Highway Connector, Road Commission for Oakland County, MI, 2003 – 2015**

North America’s largest roundabout complex in one of Michigan’s busiest, most congested corridors. Lead Traffic Engineer responsible for MOT, signs, signals, pavement markings, and simulation modeling three-lane roundabout at Orchard Lake and 14 Mile Roads intersection in conjunction with traffic signals at the intersections of Orchard Lake Road at Northwestern Highway and 14 Mile Road at Northwestern Highway. This unique area, called “The Triangle”, is being modeled using Paramics Software.

Sara Merrill, PE, PTOE  
Traffic Engineer



### Background

Sara Merrill is experienced in providing traffic engineering services for rehabilitation and reconstruction projects, including traffic operational and safety studies, signal optimization, and pavement marking and signing. She has completed peer reviews for dozens of site plans, rezoning requests and traffic impact studies on behalf of multiple municipalities. Sara is also experienced in safety reviews using the Highway Safety Manual.

Sara specializes in the development of maintenance of traffic plans. Drawing upon a background that includes a wide variety of field experience, including several years as a construction engineer, she is proficient at balancing traffic mobility with project constructibility while developing plans and specifications.

### Relevant Experience

#### **US-41/ M-28 at 2nd Street, Ishpeming, MI, 2014 – 2015**

Traffic Engineer for project to design a modern multi-lane roundabout at the intersection of US-41/M-28 at 2nd Street. The project includes removal of the existing traffic signal, reconfiguring the intersection for a roundabout constructed with hot mix asphalt, watermain and sanitary sewer relocations, drainage modifications, and significant fill volumes. Responsible for maintenance of traffic and detailed construction staging plans and specifications, including traffic signal staging plans, as well as a mobility analysis. Temporary guardrail and staging of drainage system improvements were included in the staging design. This project also included a specific requirement to maintain an accessible pedestrian route, with pedestrian signals, along the west side of 2nd Street across US-41/M-28 during construction.

#### **Northwestern Highway Connector, Oakland County, MI, 2003 – 2015**

Traffic Engineer on project to construct a three-lane roundabout at Orchard Lake and 14 Mile Roads intersection in conjunction with traffic signals at the intersections of Orchard Lake Road/Northwestern Highway and 14 Mile Road/Northwestern Highway, called “The Triangle.” The total project encompasses 1.5 miles of new boulevard and eight multi-lane roundabouts, and involved extensive coordination between the Road Commission, MDOT, local agencies, utility companies, and stakeholders. Responsible for developing the maintenance of traffic and detour plans and specifications.

#### **Geddes Road and Ridge Road Roundabout, Superior Township, MI, 2012**

Traffic Engineer on project to design a single-lane modern roundabout at the intersection of Geddes and Ridge Roads. The intersection improvements were triggered by a developer building a K-8 charter academy on the southeast corner of the intersection. Responsible for developing maintenance of traffic/ detour plans.

#### **Ann Arbor Street Resurfacing, Village of Dexter, Washtenaw County, MI, 2013**

Traffic Engineer for project to resurface 3-lanes on a local arterial that serves as the main route through the Village, from Baker Street to Kensington Street. The project also includes water main replacement, the removal and replacement of concrete curb and gutter, the installation of stamped colored concrete at crosswalks, and the implementation of shared bicycle/travel lanes. Responsible for preparing maintenance of traffic plan and detour plan. A designated bicycle detour route was utilized for this project.

### Education

Bachelor of Science in  
Civil Engineering, Michigan  
Technological University,  
2005

### Professional Registration

- Professional Engineer,  
State of Michigan,  
2011, License No.  
6201057839
- Professional Traffic  
Operations Engineer,  
2011

### Experience

9 years with OHM Advisors

### Professional Affiliations

Institute of Transportation  
Engineers Member, 2006  
present

### Professional Development

- Traffic Signal EPIC  
Controller Workshop,  
Carrier & Gable, 2009
- Traffic Signal EPAC  
Controller Workshop,  
Carrier & Gable, 2008
- Michigan State  
University, Introduction  
to Sight Distance, 2007

### **West Grand Boulevard at I-94 Bridge Replacement, City of Detroit, MI, 2012**

Traffic Engineer for project to develop design plans for the road portion of the bridge replacement project. MDOT prepared the bridge replacement plans. Because the concept was to raise the bridge elevation by 18 inches, OHM designed about 500' of boulevard roadway, permanent signing and striping plans and full maintenance of traffic plans and specifications along with a project estimate of construction. This accelerated project was completed in about four months. Unique challenges included complex staging due to the location of this project and its proximity to the I-96/I-94 interchange. Responsible for developing maintenance of traffic plans and specifications.

### **Main Street Resurfacing, Village of Dexter, MI, 2012**

Traffic Engineer for log-style project to resurface 3-lanes on a local arterial that serves as the main route through the Village. The project also includes the installation of stamped colored concrete at crosswalks. Responsible for preparing maintenance of traffic plan and detour plan. Specific challenges included limited alternate routes, due to the proximity of the railroad tracks and river along the north and east edges of the Village's downtown area.

### **Squirrel Road Concrete Overlay, City of Auburn Hills, MI, 2009 – 2010**

Traffic Engineer for concrete overlay project on Squirrel Road, a major arterial route through the City of Auburn Hills, from Featherstone to Walton Boulevard. Tasks included preparing staging and detour plans, including at several signalized and unsignalized crossovers. Specific challenges included maintaining traffic at the intersection of Squirrel & University.

### **US-12 Reconstruction (Michigan Avenue), 28th Street to I-75, City of Detroit, MI, 2007 – 2009**

Traffic Engineer responsible for several studies, including: bicycle study, capacity analysis, crash analysis, traffic signal warrant study at all intersections within project limits. Also prepared non-freeway signing and permanent pavement marking plans for this approximately one mile stretch of US-12 (Michigan Avenue) within the City of Detroit. The proposed design reduced what had been a nine-lane section into a five-lane roadway, with on-street parking and bicycle lanes in each direction.

### **Baldwin Road Environmental Assessment, Morgan Road to Waldon Road, Oakland County, MI, 2009 – 2011**

Traffic Engineer for the preparation of the Environmental Assessment (EA) to widen and reconstruct approximately 1¾ miles of Baldwin Road. Concept plan involved evaluating the comparative impacts looking at three alternatives: five-lane, four-lane narrow median (30 feet +/-) boulevard and four-lane standard median (50 feet +/-) boulevard, evaluating modern roundabouts in addition to traditional signalized and unsignalized intersection treatments. Responsible for traffic data collection, capacity and level-of-service analysis of each alternative. Also responsible for preparing the crash analysis and performing crash prediction estimates for each design alternative, in accordance with the Highway Safety Manual.

### **US-24 (Dixie Hwy), Telegraph to I-75, Oakland County, MI, 2010 – NEED**

Traffic Engineer for rehabilitation project of approximately 9 miles of an urban corridor. The project is a mill and overlay of the roadway, and includes miscellaneous curb and gutter replacement, guardrail replacement and traffic signal replacement. Responsible for performing crash/safety analysis for several design exceptions within project limits. A Highway Safety Manual analysis was used to aid in identifying locations and geometric features with a high crash frequency.

### **Village of Grand Traverse Traffic Study, Grand Traverse County, MI, 2009 – 2011**

Traffic Engineer on behalf of Acme Township, Grand Traverse County Road Commission and MDOT for the traffic analysis of the impacts of a proposed 182 acre multi-use development site fronting M-72 and Lautner Road. The development proposal has undergone several revisions in the mix of land uses and development density. The analysis included the evaluation of alternative roadway improvement configurations, including use of roundabouts in place of traffic signals.

Taryn Juidici, PE, LEED AP  
Traffic Engineer



**Background**

Taryn Juidici is experienced in providing traffic engineering services for local municipalities, county agencies and the Michigan Department of Transportation (MDOT). She is experienced in construction staging and the preparation of maintenance of traffic plans and related special provisions. Taryn’s experience also includes pavement marking and signing for freeway, non-freeway and non-motorized pathway projects. She is experienced in the creation of traffic simulation models. In addition, she is responsible for the preparation and review of various traffic-engineering studies including signal warrant studies, parking studies, safety studies and traffic impact studies. Taryn is responsible for the preparation of plans and studies in accordance with MDOT standards such as the MMUTCD and the standard highway signs manual as well as standards from other state and local agencies.

**Relevant Experience**

**Downtown Streetscape and Road Rehabilitation, City of Fenton, MI, Ongoing**

Project Engineer for roadway and streetscape improvements in Downtown Fenton. The project involves complete reconstruction of streets within the Downtown core, streetscape enhancements, utility upgrades, traffic calming, pedestrian facility improvements, and roadway rehabilitation. Responsible for traffic components of the project including maintaining pedestrian and vehicular traffic throughout construction and traffic signs and pavement markings.

**Northwestern Highway Connector, Road Commission for Oakland County, MI, Ongoing**

Traffic Engineer responsible for the preparation of pavement marking and signing plans for a corridor including a multi-lane roundabout and adjacent signalized intersections. Researched and incorporated international recommendations to develop advanced roundabout signs and pavement markings. The complexity of the corridor required substantial coordination to identify locations for large guide signs and overhead sign supports in order to consider vehicular safety, geometric design and right-of-way constraints.

**Shimmons Road, Auburn Hills, MI, 2009 – 2012**

Traffic Engineer for the reconstruction of Shimmons Road for the City of Auburn Hills. Responsibilities included developing pavement marking and signing plans. The project included the realignment of Shimmons Road to provide improved horizontal geometry. The alignment was developed for the future reconstruction of the adjacent intersection of Shimmons Road and Dexter Road to accommodate a roundabout.

**Huron Parkway/ Nixon Road Roundabout, City of Ann Arbor, MI, 2007**

Traffic Engineer for the reconstruction of the intersection of Huron Parkway and Nixon Road for the City of Ann Arbor. This project incorporated the recommendations of an intersection study which recommended the construction of a roundabout to improve traffic flow and reduce high-severity crash rates. Enhanced signing and pavement markings were provided in order to accommodate a large number of pedestrians crossing at the intersection.

**Education**

Bachelor of Science in Civil Engineering, Michigan Technological University, 2004

**Professional Registration**

Professional Engineer, MI, 2009, #56020

**Experience**

11 years, 10 with OHM Advisors

**Certification**

LEED AP, US Green Building Council, 2009  
Certified Playground Safety Inspector, NRPA, 2014

**Professional Affiliations**

American Council of Engineering Companies (ACEC) Emerging Leaders Forum Steering Committee, 2012- present

**Presentations**

Workshops/Seminars on:

- Preparing Your Community for Electric Vehicles

Presentations on:

- Signing and Marking for Electric Vehicles



Taryn also served as the Traffic Engineer for the Intersection Improvement Study. The study addressed concerns of vehicular and pedestrian safety as well as existing congestion at this stop-controlled intersection. The study recommended the construction of a roundabout to improve traffic flow and reduce high-severity crash rates.

#### **Superior Region Signal Optimization, MDOT, 2009**

Traffic Engineer responsible for the collection of field data on existing traffic patterns and geometric configuration. Project includes the optimization of 75 signals located on corridors throughout the superior region.

#### **Grand River Road Diet, City of Farmington, MI, 2014**

Traffic Engineer responsible for preparing a road diet and corridor operations study for the Grand River corridor through the city of Farmington. With the potential to expand the limits of the core downtown streetscape the adjacent sections of Grand River were evaluated to determine if a road diet would be feasible for this corridor. Utilized traffic modeling software to evaluate multiple alternatives. The study included a review of available safety data for the study area.

#### **I-75 at University Road, City of Auburn Hills, MI, 2014**

Traffic Engineer responsible for preparing a traffic study at the interchange of I-75 and University Avenue to determine the operational characteristic of a proposed interchange reconstruction project to be completed by MDOT. Utilized traffic modeling software to evaluate the selected diverging diamond interchange configuration for further refinement during the design build process. The study included evaluating the interaction between the reconfigured ramps and ramps at an adjacent interchange.

#### **Old M-14 Feasibility Study, MDOT, 2011 – 2012**

Traffic Engineer for this study to determine the feasibility of reconstructing a less than one mile long four to five lane arterial in the City of Livonia. Traffic modeling and analysis were required to determine LOS values and construction delay times. Responsibilities included preparing a safety analysis for the study area as well as adjacent intersections. Project includes providing multiple geometric options along with estimates to MDOT in a study format.

#### **I-75 at University Road, City of Auburn Hills, MI, 2009**

Traffic Engineer responsible for preparing an interchange study at the interchange of I-75 and University Avenue. Utilized traffic modeling software to evaluate interchange options including diamond interchanges using roundabouts. The study also evaluated the application of a diverging diamond interchange at this location.

#### **North Squirrel Road Geometric Analysis, City of Auburn Hills, MI, 2009**

Traffic Engineer for the geometric and operational study of North Squirrel Road in Auburn Hills. The study evaluated multiple geometric alternatives including narrow median boulevards and traditional 3 lane and 5 lane sections. Intersection control alternatives included traditional applications as well as roundabouts.

#### **Taylor Road Geometric Analysis, City of Auburn Hills, MI, 2009**

Traffic Engineer for the geometric and operational study of the intersection of Lapeer Road and Taylor Road in Auburn Hills. The study evaluated multiple intersection alternatives including traditional applications as well as roundabouts. Intersection realignment and grade separation were key components of many alternatives. Responsible for the evaluation of the alternatives using Synchro and Rodel. Access management concerns and construction implications were evaluated in order to identify the preferred alternative.

Rich Hobgood, PE  
Utilities Engineer



**Education**

Bachelor of Science in Civil Engineering, Wayne State University, 1998

**Professional Registration**

Professional Engineer, MI, 2004, #51376

**Experience**

15 years, 9 with OHM Advisors

**Professional Affiliation**

American Society of Civil Engineers

**Professional Development**

PSMJ | Resources, Inc. Project Management Boot Camp, 2014

**Background**

As a Project Engineer and Lead Designer, Rich Hobgood prepares plans and specifications for various site and municipal design projects which include roadway, sidewalk, water main, sanitary sewer, and stormwater run off systems. He is responsible for project management and design, with thirteen years of postgraduate experience on various site design and utility projects. Rich also has five years of undergraduate experience in construction inspection and material testing on various MDOT and municipal projects.

**Relevant Experience**

**Geddes and LeForge Right-of-Way Improvements, Hyundai, MI, 2007**

Project Engineer responsible for preparing plans, specifications, and permits for this road improvement project, which involved the widening of LeForge and Geddes to 3 lanes, and the addition of right turn lanes for two site entrances. The roadway was designed to AASHTO, MDOT, and Washtenaw County Road Commission Standards. The project also included the design of 3,350 feet of 16-inch water main extension on Geddes and LeForge Roads, replacement of a box culvert crossing on LeForge, and addition of 8-foot wide pathway along both road frontages of the Hyundai America Technical Center, Inc. (HATCI) site.

**Section 12 – Meadowvale Subdivision Water Main and Paving Improvements, City of Southfield, MI, Ongoing**

Lead Project Engineer responsible for preparing plans, specifications, and permits for the replacement of 10,000 feet of 8-inch water main and concrete road rehabilitation. The new water main consisted of new C909 PVC and ductile iron water main installed by open cut trench, and directional drilling methods.

**Section 13 - Cambridge Village Subdivision Water Main and Paving Improvements, City of Southfield, MI, Ongoing**

Lead Project Engineer responsible for preparing plans, specifications, and permits for 2.5 Miles of water main replacement and road reconstruction. The planned improvements consisted of replacing the entire water system, including the pipes, hydrants, valves, and services, as well as replacing the concrete with a new asphalt road. The plans for this project were prepared using extensive GIS data, aerial imagery, city provided record drawings and franchise utility information.

**2015 Drinking Water Revolving Fund (DWRP) Phase II Water Main Replacement Project, City of Livonia, MI, Ongoing**

Lead Project Engineer responsible for preparing plans, specifications, and permits for replacing nearly 9.0 miles of existing 6” water main with 8” water main. The new 8” High Density Polyethylene (HDPE) water main pipe installed by directional drilling and Pipe bursting methods.

**2014 Drinking Water Revolving Fund (DWRF) Water Main Replacement Project, City of Livonia, MI, 2014**

Project Engineer responsible for preparing plans, specifications, and permits for replacing 15,000 feet of existing 6” water main with 8” water main. The new 8” High Density Polyethylene (HDPE) water main pipe installed by directional drilling and open cut trench methods.

**Fenton Downtown Streetscape, City of Fenton, MI, 2015**

Project Engineer responsible for preparing plans, specifications, and permits for this road reconstruction, storm water improvements, and streetscape enhancement project within the City of Fenton. This project consists of reconstructing an existing roadway with a new HMA surface and concrete curb and gutter, new water main, sanitary sewer rehabilitation and detailed grading at intersections, drive approaches, sidewalks, sidewalk ramps in compliance with ADA standards. The project also included preparation of a MDEQ State Revolving Fund project plan to obtain funding for stormwater quality improvements including installation of permeable pavers, stormwater infiltration trenches, and stormwater pretreatment units.

**Section 31 Water Main Project, City of Southfield, MI, 2014**

Project Engineer responsible for preparing plans, specifications, and permits for the replacement of 5 Miles of 8-inch water main and HMA Road rehabilitation. The new water main consisted of new C909 PVC and ductile iron water main installed by open cut trench, and directional drilling methods. The plans for this project were prepared using extensive GIS data, aerial imagery, City provided record drawings and franchise utility information.

**Farmington Hills Water Supply System Improvements, Thirteen Mile Road Water Main, Oakland County Water Resources Commissioner, MI, 2013**

Project Engineer responsible for preparing plans, specifications, and permits for the installation of a new 2,400 foot long 20” diameter transmission water main. This project included installation of new HDPE and ductile iron water main by open cut trench, and directional drilling methods.

**De-icing Fluid Force Main, Wayne County Airport Authority, MI, 2011**

Project Engineer responsible for designing plan and profile for approximately five miles of force main to carry spent aircraft de icing fluid from Detroit Metro Airport to an existing sanitary sewer. The project also involved the design and construction of a pump station which required coordination with subconsultants. This project involved the preparation of detailed cost opinions with design, route, and easement alternatives to determine the most cost effective project for the owner. The route of the force main crossed several county drains, railroad, MDOT highway (I-94), wetlands, City of Romulus right-of-way, Wayne County right-of-way, and the Detroit Metropolitan Wayne County Airport. This involves coordination with numerous jurisdictional elements. Responsibilities on this project also included construction management, construction administration, construction engineering and preparation of record drawings.

**Walton Boulevard, Perry to Squirrel, Road Commission for Oakland County, MI, 2007**

Project Engineer, responsible for preparing plans, specifications, and permits for the replacement of 8,000 feet of 12-inch water main with a new 16-inch ductile iron water main from Perry to Squirrel Road in the City of Auburn Hills. The water main replacement project had to be coordinated with the reconstruction of Walton Boulevard from Perry to Squirrel Road

Andy Schripsema, PE, PS  
Survey



### Background

Andy Schripsema'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.

### Education

- Bachelor of Science in Land Surveying, Michigan Technological University, 2000
- Bachelor of Science in Civil Engineering, Michigan Technological University, 2000

Andy also has project management and design experience pertaining to site developments and road projects.

### Relevant Experience

#### **RCOC SCATS Signalization Upgrades and ADA Ramp Improvements, Various Intersections, Road Commission for Oakland County, MI, 2008 – Ongoing**

Lead Surveyor for this re-design of traffic signals/pedestrian pushbutton systems and design of sidewalk ramps for compliance American with Disabilities Act (ADA) as part of the Road Commission for Oakland County's (RCOC) annual signalization upgrades. As the prime consultant, our team performs all the design associated with the ADA sidewalk improvements and coordinates with the traffic signal subconsultant and RCOC. Survey scope includes full topographic survey, establishing the existing and the preparation of Temporary and Highway Easements for 8 parcels. Over the last seven years, over 60 intersections and almost 300 ADA ramps have been upgraded.

### Professional Registration

- Professional Engineer, State of Michigan, 2005, #52605
- Professional Surveyor, State of Michigan, 2008, #55483
- Professional Surveyor, State of Wisconsin, 2009, #2915-008

#### **I-75 and University Drive Interchange Concepts, City of Auburn Hills, MI, 2014**

Survey Project Manager for the design survey of approximately 2-miles of I-75 and the University Drive Interchange. This project involved mobile scanning and traditional surveying methods in order to obtain a topographic survey of the I-75 corridor and the interchange. The survey scope included the horizontal and vertical control establishment, supplemental mapping of the surface streets and areas surrounding the I-75 and University Drive Interchange, as well as the alignment and right of way determination.

### Experience

15 years, 9 with OHM  
Advisors

#### **Design Survey of Various Intersections for the Design of ADA Ramps Along M-1 (Woodward) and US-24 (Telegraph), Oakland County, MI, 2013**

Deputy Project Manager responsible for all survey tasks required for this project. Survey scope requires the Road Design Surveys of 12 intersections located throughout the M-1 (Woodward) and US-24 (Telegraph) corridor in Oakland County, Michigan. Work includes establishing horizontal, vertical control, providing a topographic survey and determining existing ROW. Horizontal datum is based on Michigan State Plane Coordinates (Michigan South Zone, NAD83). Vertical datum is based on NAVD88. Horizontal and vertical control was established using RTK GPS along with the MDOT CORS Network. The existing ROW was

### Certifications

- 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, 2014

established using Certified Surveys, MDOT ROW Plans, recorded plats and condominiums, tax maps and physical location of property controlling corners.

**Lake Nepessing Road/ Davison Road/ Genesee Road Roundabout, Lapeer County Road Commission, MI, 2014 – 2015**

Survey Project Manager responsible for all aspects of the design and right of way surveys and construction staking required for this road/roundabout design and plan development. The project includes the reconstruction of the intersection from two-adjacent tee intersections to a modern, 4-legged roundabout. The project included right-of-way constraints and property acquisitions; utility coordination; street lighting improvements; storm sewer design; permanent signing and pavement markings and public involvement.

**Northwestern Highway Connector, Orchard Lake Road to Haggerty, Road Commission for Oakland County, Farmington Hills, MI, 2003 – 2014**

The project is one of North America's largest roundabout chains in one of Michigan's busiest, most congested corridors. Andy was Lead Surveyor and responsible for all survey tasks. Survey scope required establishment of the horizontal and vertical control and existing right-of-way for aerial mapping and topographic design of nine modern roundabouts including mitigating wetland areas. Survey scope also required supplemental topographic survey, establishing the existing and the preparation of Temporary Easements, Highway Easements and Right of Way Acquisitions documents for 120 parcels.

**Geddes Road and Ridge Road Roundabout, Washtenaw County Road Commission, MI, 2012 – 2013**

Survey Project Manager responsible for all aspects of the design and right of way surveys and construction staking required for this road/roundabout design and plan development. The project included the reconstruction of the intersection from a 4-way stop to a modern, single-lane roundabout adjacent to a charter school. The project included right-of-way constraints and property acquisitions; significant utility coordination; pedestrian, and bicycle safety improvements; streetscape enhancements; street lighting improvements; storm sewer design and a three-sided box culvert; permanent signing and pavement markings.

**Huron Parkway/ Nixon Road Roundabout, City of Ann Arbor, MI, 2008**

Survey Project Manager on this project, which included the reconstruction of the intersection at Huron Parkway and Nixon Road from a skewed 4-way stop to a modern, single-lane roundabout. The project included the reconstruction of Nixon Road from Plymouth Road to Huron Parkway; pedestrian, bus, and bicycle safety improvements; re-striping of Huron Parkway to reduce the number of traveled lanes from 4 to 2 and the addition of on-street parking; streetscape enhancements; and street lighting improvements. The project also included all elements of a road reconstruction design, including storm sewer design, permanent signing and pavement markings, a complex plan for maintenance of traffic during construction, public relations, and impacts to the existing right-of-way resulting in temporary easements and a partial right-of-way purchase.

Mark Matich  
 Traffic Data Collection (TDC)  
 Data Collection

**Education**

- Coursework Business Administration, Central Michigan University, 1990-93
- Course Work Civil Technology Degree, Macomb Community College, A.A.S., 1978-80

**Experience**

19 with TDC, 26 with other firms

**Seminars, Workshops and Short Courses**

- Synchro & SimTraffic Training Course for Signal Timing, Trafficware
- Traffic Modeling For Managers, MSU
- Jamar Traffic Counting Course, Jamar Technologies, Inc
- MDOT Traffic Signal Specifications Course, IMSA
- Safety Management System, OHS

**Background**

**Traffic Data Collection, Inc. Principal, 1996 – Present**

Manage and organize daily traffic operations of company. Traffic services involve gathering, recording and processing traffic data information for manual and mechanical studies for traffic engineers, governments & businesses. Various types of traffic studies include vehicle classifications, speed surveys, parking & license plate studies, turning movements, conflict studies, travel time & delay studies, gap studies, driver observance studies (stop signs, traffic signals, pedestrian signals), saturation flow, pedestrian counts and traffic inventories (sign, intersection geometrics, digital photos & video logs) of various highway features. Credentials include a strong discipline in traffic engineering, with experience of conducting traffic studies for numerous state highway corridor studies, county traffic signal optimization projects and municipal traffic impact studies. Have been involved in conducting thousands of studies.

**City of Rochester Hills, Department of Public Service Transportation Technician, 1989 – 2014**

Schedule and organize traffic studies, operation activities and sign inventory software, contracted pavement marking and legends. Review concept plans for residential, commercial and industrial projects. Assemble traffic data for preparation of traffic analysis, diagrams and traffic reports and GIS database. Reviewed construction phases for compliance with permit conditions. Prepare and monitor work orders for new installations, pavement markings and guard rail installation. Prepare and maintain sign, street, permit and traffic crash records including inventories, develops construction signing diagrams, detour routes, staging plans. Issue, monitor and maintain records of road use permits and permit activities by private developers, utilities companies related to road, pathway construction within public rights-of-way. Review roads for public safety, identifies traffic hazards and prepares recommendations for resolutions of under immediate supervision.

**Relevant Experience**

**Traffic Counts for U of M Multi-Modal Transit Center Study City of Ann Arbor, Washtenaw County, MI., 2015**

Traffic Data Collection, with Parsons Brinkerhoff, performed, supervised and provided oversight for the full field traffic data collection services. TDC conducted 6 Hour Turning Movement Counts for fifteen intersections within the University Area of downtown City of Ann Arbor.

**Traffic Counts for City of Ann Arbor S. State Street Corridor Transportation Study, 2014**

Traffic Data Collection, with Parsons Brinkerhoff, performed, supervised and provided oversight for the full field traffic data collection services. TDC collected traffic data and teamed with PB for eleven major project intersections. Traffic reports were processed into 15 & 60 minute aggregate summaries with peak hours and exported into Universal Traffic Data Format (UTDF). All turning movement counts were recorded and logged with Miovision scout cameras for all locations and then provided to client. TDC collected all pedestrian and bicycle data along the corridor. By using video, TDC was able to collect data, and observe and record multi-modal activity and how its interaction at intersections and mid-blocks and then apply this additional insight into the transportation project.

Dominique Matich  
Traffic Data Collection (TDC)  
Data Collection

#### Education

- 1985 CIGNA – Negotiating Successfully Course
- 1983 CIGNA - Time Management Course
- 1982 CIGNA - Labor Relations Seminar
- 1981 CIGNA – Human Resource Management/ Interpersonal Skills
- 1980-1983 AICPCU – Insurance 21, 22, and 23
- 1975-1977 Oakland Community College – Course work in Business and Computer Science

#### Experience

19 years with TDC, 12 with other firms

#### Background

##### **Traffic Data Collection, Associate , 1996 – Present**

Assist in managing and organizing daily operations of company. Collect and process traffic data for manual and mechanical studies for traffic engineers, governments and businesses. Schedule, organize count locations and provide necessary training for employees. Familiar with vehicle classification, spot or binned speed surveys, parking and license plate studies, turning movement counts, conflict studies, travel time and delay studies, gap studies, driver observance studies (stop signs, traffic signals, pedestrian signals) safety belt surveys, saturation flow and pedestrian counts. Perform administrative duties such as location assignments, work schedules, payroll, invoicing and accounting.

##### **Traffic Improvement Association, Traffic Safety Specialist, 2002 – 2014**

Provide information, assistance and training to clients in regards to TCAT-Traffic Crash Analysis Tool. Maintain and update TCAT with new framework data verifying road links and intersections within Oakland, Macomb and Wayne Counties. Obtain and provide crash data for various cities, townships and law enforcement agencies through software programs. Upload traffic volume counts for various communities to the TCDS program. Assist Traffic Engineer with studies that arise in the field, include but not limited to data collection, stop signs, signals and road evaluation reviews. Maintain and update sign inventory data for various communities. . Assist in employee benefits, employer insurances and other administrative duties.

#### Relevant Experience

##### **Traffic Counts for U of M Multi-Modal Transit Center Study City of Ann Arbor, Washtenaw County, MI., 2015**

Traffic Data Collection, with Parsons Brinkerhoff, performed, supervised and provided oversight for the full field traffic data collection services. TDC conducted 6 Hour Turning Movement Counts for fifteen intersections within the University Area of downtown City of Ann Arbor.

##### **Traffic Counts for City of Ann Arbor S. State Street Corridor Transportation Study, 2014**

Traffic Data Collection, with Parsons Brinkerhoff, performed, supervised and provided oversight for the full field traffic data collection services. TDC collected traffic data and teamed with PB for eleven major project intersections. Traffic reports were processed into 15 & 60 minute aggregate summaries with peak hours and exported into Universal Traffic Data Format (UTDF). All turning movement counts were recorded and logged with Miovision scout cameras for all locations and then provided to client. TDC collected all pedestrian and bicycle data along the corridor. By using video, TDC was able to collect data, and observe and record multi-modal activity and how its interaction at intersections and mid-blocks and then apply this additional insight into the transportation project.

David Wanlass  
G2 Consulting Group (G2)  
Geotech

#### Education

Bachelor of Science,  
Engineering Geology,  
University of Utah, 1985

#### Experience

30 years

#### Licenses and Registrations

- Registered Civil Engineer – 1990 – California – No. 46320
- Registered Geotechnical Engineer – 1995 – California – No. 2307
- Registered Civil Engineer – 1996 – Colorado – No. 31451
- Registered Civil Engineer – 2000 – Michigan – No. 46584
- Special Inspector, Deep Foundations – City of San Diego – No. 532

#### Background

Mr. Wanlass has 30 years of professional engineering experience in all aspects of geotechnical engineering, construction materials engineering, pavement engineering, construction and resident engineering, forensic analyses and hydrogeology. Projects include high-rise buildings, hospitals, schools, prisons, refineries, manufacturing complexes, port facilities, tunnels, pipelines, bridges, roadways, airports, dams, reservoirs, government and commercial business complexes and distressed structures.

#### Relevant Experience

##### **I-75 & University Drive Interchange in Oakland County (D/B Project), 2014 – 2015**

Structure Foundation and Roadway Geotechnical Design Investigations, Temporary Earth Retention Design, and Pile Dynamic Analyses (PDA) during pile foundation installation for reconstruction of the I-75 and University Drive Interchange. Included realignment of University Drive Bridge and freeway ramps incorporating a Double Diverging Diamond layout. Soil borings and geotechnical LRFD analyses performed for driven pile foundations, MSE walls, embankments, traffic signals and signs, peat removal, and temporary earth retention. Also provided PDA testing during construction to confirm driven pile vertical capacity.

Role – Geotechnical Project Manager (32% of project time)

Client: Bergmann Associates Budget - \$134,000

MDOT PM: Lori Swanson, P.E. (248) 451-2456

##### **M-20 over Tittabawassee River in Midland County (EPE Design), 2013 – 2014**

Structure Foundation Investigation and Roadway Geotechnical Investigation for replacement of M-20 bridge and realignment of approach roadway. Evaluated typical driven pile foundations, plus alternative foundation systems, such as drilled piers and micropiles, that would allow foundation construction while existing bridge remains in service. Several of the existing substructures are supported on shallow spread foundations that could be adversely affected by pile driving vibration. Drilled piers identified as feasible and economical option given subsurface conditions.

Role – Geotechnical Project Manager (28% of project time)

Client – TranSystems Budget - \$93,440

MDOT PM – Jason Garza, P.E., Mt Pleasant TSC - (989) 775-6104

##### **I-94 Median Cable Barrier, Puetz Road to I-196 in Berrien County, 2012 – 2013**

Geotechnical investigation for 11.86 miles of median cable barrier, median grading and median drainage improvements. Investigation included -one (61) soil borings at end terminal locations along the alignment.

Role – Geotechnical Project Manager (24% of project time)

Client – TranSystems Budget - \$61,350

MDOT PM – Paul South, P.E., Southwest Region - (269) 337-3928



Jennifer Casey  
G2 Consulting Group (G2)  
Geotech

#### Education

- Bachelor of Science, Civil Engineering, Lawrence Technological University, 1999
- Master of Civil Engineering, Lawrence Technological University, 2008

#### Experience

15 years

#### Licenses and Registrations

- Registered Civil Engineer – 2004 – Michigan – No. 6201053624

#### Background

Ms. Casey has 15 years of professional engineering experience in various aspects of geotechnical engineering, geotechnical instrumentation, pavement engineering, and construction engineering. Projects include high-rise buildings, hospitals, schools, pipelines, underground infrastructure improvements, bridges, retaining walls, highway signs, roadways, cable barriers, communication towers, and residential and commercial business developments.

#### Relevant Experience

##### **University Drive over I-75 in Auburn Hills, 2015 – Ongoing**

Design/build reconstruction of existing interchange at I-75 and University Drive for new Diverging Diamond Interchange. Geotechnical investigation, axial and lateral bridge pile foundation design, MSE abutment settlement and global stability evaluation, peat excavation evaluation including temporary excavation support, settlement evaluation, sign and signal foundation design, and detention pond evaluation.

Role – Geotechnical Project Engineer (39% of project time)

Client – Dan's Excavating Budget - \$91,200 to date

MDOT PM – Lori Swanson - (248) 451-2456

##### **I-94/I-69 Interchange Reconstruction in St. Clair County, 2014**

Geotechnical Engineering Design Services for reconstruction of 6 bridges and associated ramps. Performed earth retention system design consisting of interlocking steel sheet piling with internal bracing and grouted tie-back anchors. Performed settlement calculations, global stability analyses, lateral pressure calculations, and vertical pile calculations for bridge abutments and ramps using contractor substitution of Elastizell for contract specified EPS backfill. Performed soil boring and foundation design for temporary falsework towers.

Role – Geotechnical Project Engineer (21% of project time)

Client – Walter Toebe Construction Budget - \$303,583

Contact – Dave Fischer (248) 349-7500

##### **M-20 over Tittabawassee River in Midland County (EPE Design), 2013 – 2014**

Foundation Structure Investigation and Roadway Geotechnical Investigation for replacement of M-20 bridge and realignment of approach roadway. Evaluating typical driven pile foundations, plus alternative foundation systems, such as drilled piers and micropiles, that would allow foundation construction while existing bridge remains in service. Several of the existing substructures are supported on shallow spread foundations that could be adversely affected by pile driving vibration. The drilled pier option is feasible and economical given the subsurface conditions.

Role – Geotechnical Project Engineer (23% of project time)

Client – TranSystems Budget - \$93,440

MDOT PM – Jason Garza, P.E., Mt Pleasant TSC - (989) 775-6104

Charles B. Fleetham  
Public Planning



**Education**  
BA in English, Michigan  
State University

### Background

As a successful management consultant, author, speaker, and trainer, Charlie has a storehouse of expertise in assisting government and corporate leaders work through the obstacles that often block change and growth. His communication skills, both verbal and written, have garnered a reputation of expertise in group dynamics and resolving large-scale organizational conflict to create an environment of collaboration.

Charlie has invested the past twenty-five years in assisting clients in the areas of Conflict Resolution, Community Collaboration, Leadership Development, Strategic Planning, and Team Building. Clients that rely on Charlie's expertise include: Abonmarche, Bloomfield Hills School District, City of Chicago Department of Water Management, City of Farmington, City of Kalamazoo, City of Romulus, City of Westland, Detroit Water and Sewerage Department, Ford Motor Company, Michigan Technological University, Next Link, OHM Advisors, Canton Township, Redford Township, and Wayne County Department of Environment.

In 2005, Charlie published his first book, *The Search for Unrational Leadership*, and has since broadly implemented the concepts of Unrational Leadership™ in projects that Project Innovations has undertaken with business and government clients.

### Select Relevant Experience

#### **Bloomfield Hills School District, 2011 – 2015**

Charlie served as the lead facilitator of the Community Partnership Committee, a group of parents, teachers, and school administrators from the Bloomfield Hills School District. The District retained Charlie to create a collaborative spirit between the community and the District. Key activities included: developing a partnering agreement; facilitating individual committees dealing with district finances, curriculum, legislation, and engagement; facilitating 17 town halls meetings regarding a new high school project. Charlie's efforts contributed to passage of a bond to combine two high schools into a single, remodeled school, which opened in the fall of 2015.

#### **Ann Arbor Deer Management Project, Fall 2014 – May 2015**

Charlie served as the public engagement facilitator on the project. Key activities included: interviewing stakeholders, designing and facilitating three public meetings, developing and analyzing a deer management survey (A2 Open City Hall), and drafting sections of the final report to City Council. Charlie's efforts contributed to the passage by Council of the report's recommendation to conduct a cull in 2016.

#### **Great Lakes Water Authority Stand Up, Nov 2014 – June 2015**

Charlie served as lead facilitator and program management consultant in developing and implementing a strategy to involve regional stakeholders in the stand up of the Great Lakes Water Authority. Key activities included: designing a regional outreach strategy, organizing and facilitating several collaborative teams (Finance, Human Resources, Water Regional Assistance Program, Coordinating Group), scripting and producing five public information videos, and designing and facilitating stakeholder meetings throughout the region. Charlie's effort contributed to a June 12, 2015 historic GLWA lease signing with the City of Detroit.



**B | PAST INVOLVEMENT WITH SIMILAR PROJECTS**

## Huron Parkway/ Nixon Road Roundabout

Ann Arbor, Michigan

The project consisted of the construction of a modern roundabout at the Huron Parkway/Nixon Road intersection as well as the reconstruction of Nixon Road from Huron Parkway to Plymouth Road. The City undertook this project to improve the intersection’s safety, aesthetics and its operational efficiency for both motorized and non-motorized users. The design required a sensitive approach in evaluating the overall needs of the traveling public including public bus transportation; bicyclists; pedestrians; visually, hearing or physically impaired users; commercial vehicles; and commuting motorists. For example, the intersection is frequented daily by a significant number of senior citizens who live in the area and commute by foot.

The project included a comprehensive and inclusive public outreach process for the roundabout component of the project. Focus groups and public meetings were both used, as this was the City’s first roundabout. One public meeting was conducted with Chinese and Russian translators to meet stakeholder needs. OHM Advisors was the lead for the project team at all public meetings, and was responsible for all content and detailed responses to over 100 questions, posted on the City’s web page. Our team’s roundabout expertise was also critical as internal peer review for all technical design issues.

Construction was completed in 2009 and was bid through the Michigan Department of Transportation (MDOT) Local Agency Programs. During the construction phase, The team provided full construction engineering services, meeting all

project specifications and an eligible funding reimbursement from the Federal Highway Administration. Upon completion, the project included reconstruction of approximately 1,000 feet of 3 lane collector road, asphalt mill and overlay of approximately 1,500 feet of 3 lane minor arterial roadway and addition of on-street parking and bike lanes.

This project was funded through the Federal Congestion Mitigation and Air Quality program. Services also included contract administration consisting of full project documentation to meet MDOT and City of Ann Arbor requirements. This documentation entailed the recording of all tested materials used in the construction to assure they met project requirements, preparation of pay estimates, contract modifications for increases to existing contract quantities and agreed upon extras to the contract, extension of time requests, from the contractor and preparation of the appropriate paperwork, and preparation of project closeout documents once the project had been reviewed by MDOT for project administrative compliance. This documentation was completed using the MDOT’s Field Manager software system for tracking of all project documentation. Material testing and sampling for the project was provided under separate contract to the City of Ann Arbor by an independent materials consultant. Our team worked closely with this consultant to assure that the project materials documentation was completed and on file to meet project requirements.



<p><b>Client Information:</b>          City of Ann Arbor          Igor Kotlyar, PE          Senior Project Engineer          P.O. Box 8647          Ann Arbor, MI 48107 8647          734.994.6087</p> <p><b>Original Cost:</b>          Design: \$252,500          CE: \$185,000          Construction: \$1,400,000</p> <p><b>Actual Cost:</b>          Design: \$252,500          CE: \$185,000          Construction: \$1,400,000</p>	<p><b>Original End Date:</b>          Design: 12/2008          CE: 07/2009          Construction: 07/2009</p> <p><b>Actual Completion:</b>          Design: 12/2008          CE: 07/2009          Construction: 07/2009</p> <p><b>Awards:</b>          2010 APWA Detroit Metro          Branch Project of the Year          Award: Transportation \$1-2          million</p>
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# Geddes Road and Ridge Road Roundabout

Washtenaw County, Michigan

**Client Information:**

Washtenaw County Road Commission  
 Matt MacDonell  
 Senior Project Manager  
 555 N. Zeeb Road  
 Ann Arbor, MI 48103  
 734.327.6688

**Original Cost:**

Design: \$121,400  
 Construction: \$950,000

**Actual Cost:**

Design: \$121,400  
 Construction: \$950,000

**Original End Date:**

09/2013

**Actual Completion:**

Design: 12/2012  
 Construction: 09/2013



**2014 MICHIGAN CONCRETE  
 AWARD OF EXCELLENCE,  
 INTERSECTIONS CATEGORY**

The Geddes and Ridge Road intersection project was planned and constructed in coordination with the opening of a new K-8 charter school located near the intersection. The schedule for construction was expedited and coincided with the opening of the school in Fall 2013. A single-lane modern roundabout intersection design was chosen to mitigate traffic generated from the new school. The Washtenaw County Road Commission (WCRC) bid the project with an alternate concrete or asphalt design. The concrete option was chosen.

An additional aspect of the project was to construct a new 20' x 7' box culvert on the south leg of the intersection, replacing a narrow culvert that was in poor condition. This portion of the project was also creatively bid, with the WCRC purchasing the culvert prior to construction letting so the lead time on manufacturing this item would not be an issue with the tight time frame. The project required a new storm sewer system to be constructed and some existing water main relocation. The project was dense in water main utilities below the intersection, with DWSD, Superior Twp. and YCUA all having facilities within the project limits. The end result is a functional, aesthetically pleasing intersection for the new charter school and county. The project was a 2014 Michigan Concrete Associate Award of Excellence.



## Lake Nepessing Road/ Davison Road/ Genesee Road Roundabout Lapeer County, Michigan



The project consisted of design and preparation of the necessary contract documents for procurement and construction of a modern roundabout at Lake Nepessing, Davison and Genesee Roads in Elba Township, Lapeer County. LCRC undertook this project to safely accommodate traffic at the intersection, despite the challenges posed by the existing skewed geometry and proximity of the Genesee / Lake Nepessing and Davison / Lake Nepessing intersections. Careful consideration to access management, right-of-way limitations, and avoidance of the wetland in the southeast corner were critical for the optimum placement of a roundabout. There were significant utilities in the area, some to be avoided while others required relocation. The following goals were carefully evaluated and incorporated into the project:

1. Providing a safe, efficient roundabout and roadway design, based on our expertise, creativity, and experience. Alternatives were explored to ensure adequate capacity for future operations.
2. Minimizing project costs, to the extent practical.
3. Utilizing our knowledge of roundabout design to ensure minimal impacts to the surrounding area.
4. Meeting the overall schedule (final plans were due in October 2014, construction start in spring 2015). Ensuring that the following did delay the project: utility relocations, right-of-way purchases, and third-party permits.

**CAREFUL CONSIDERATION OF ACCESS MANAGEMENT, RIGHT-OF-WAY LIMITATIONS, AND AVOIDANCE OF WETLAND AREA**

<p><b>Client Information:</b> Lapeer County Road Commission Ryan Doyle, PE County Highway Engineer 3535 Grand Oaks Dr. Howell, MI 48843 810.664.6272</p>	<p><b>Original End Date:</b> Design: 10/2014 CE: 06/2015</p> <p><b>Actual Completion:</b> Design: 10/2014 CE: 06/2015</p>
<p><b>Original Cost:</b> \$500,000</p>	
<p><b>Actual Cost:</b> Design: \$55,000 Construction: \$500,000</p>	

## Texas Drive / Milham Avenue/ 12th Street Roundabout Kalamazoo, Michigan



The project involved the study, design, and construction of an intersection bordering Texas Township and the City of Portage that was experiencing increasing congestion. KCRC obtained CMAQ funding to upgrade this four-way stop controlled intersection to a roundabout. OHM Advisors modeled the roundabout to optimize the size and configuration using the Rodel Roundabout Capacity Software and application of design principles in the FHWA Roundabout Guide. A major goal was to minimize impacts to adjacent businesses and to accommodate private utilities. The existing right-of-way was tight, especially due to one approach having an acute skewed angle compared to the other legs, and there were numerous overhead and underground utilities. The design required significant utility coordination, relocations, and property acquisitions. The project required coordination with multiple public agencies, public coordination meetings, and an educational component on roundabout operations. The project also included pedestrian, bus, and bicycle safety improvements, plus streetscape and street lighting enhancements. A storm water study determined that leaching basins were necessary to limit storm water discharge increases from the project.

Our team also provided full inspection, testing, and overall contract administration on this Modern Roundabout at the intersection of 12th St., Milham Ave, and Texas Dr. The project construction cost was over \$700K and was built under the original budget. One of the obstacles with this project was maintaining access to all of the businesses and traffic being able to flow around this major intersection while the project was constructed. OHM Advisors prepared a maintenance of traffic

plan that constructed the project in stages, thus allowing at least three legs of the intersection to be open at all times. At no time was the pedestrian or vehicle traffic completely shut off. The second obstacle was an inexperienced Prime Contractor selected for the project. This was the first project that they had done for MDOT through the Local Agency Process. This scenario left our field staff performing much of the layout and aiding the Contractor with general construction of the project. Our Office Technician also had to help instruct the Contractor's office on proper paper work and project documentation. The project included deep sanitary sewer, storm sewer, leaching basins, hot mix asphalt paving, concrete curb and gutter, ADA ramps, sidewalk, and restoration.

**RANKED A TOP 10 WINNER IN THE  
2011 PROJECT OF THE YEAR  
COMPETITION, INTERNATIONAL  
RIGHT OF WAY ASSOCIATION**

**Client Information:**

Kalamazoo County Road  
Commission  
Tom Holm, PE  
Highway Engineer  
3801 E. Kilgore Road  
Kalamazoo, MI 49001  
269.207.2559

**Original End Date:**

10/2011

**Actual Completion:**

10/2011\*

\*Contract was completed on time and met KCRC budget.

**Original Cost:**

Design - \$64,300  
Construction - \$700,000

**Actual Cost:**

Design - \$64,300  
Construction - \$700,000

## Northwestern Highway Connector

Road Commission for Oakland County



OHM Advisors is the Project Manager of the Northwestern Connector, leading a diverse team of consultants from detailed design development to construction of modern, multi lane roundabouts and 1.5 miles of new boulevard roadway. The purpose of the over \$40 million project is to increase safety and capacity in the communities of West Bloomfield Township and City of Farmington Hills by extending Northwestern Highway service along Orchard Lake Road, Maple Road and Fourteen Mile Road to the M-5 Connector.

Our team built on the approved Environmental Assessment and refined alignments and profiles as well as environmental, drainage, utility and right of way impacts. Our team used several sophisticated traffic models and simulation tools to determine operational feasibility, particularly in the Orchard Lake, 14 Mile and Northwestern Highway triangle area. One of the largest components of the project involves the identification and coordination of required right of way needs and includes preparing parcel sketches, descriptions as well as obtaining the actual appraisals, negotiations and property acquisition. There are over 130 parcels involved in takings.

Our team has created a number of variable option cost estimates involving design alternatives for RCOC, to give the

agency flexibility to complete the project economically, while still meeting the primary objectives of increased safety and capacity.

In the Fall of 2015, construction was completed on the most complex phase of the project known as the “Triangle”. Bordered by Orchard Lake Road, 14 Mile Road, and Northwestern Highway, the “Triangle” project had a construction cost of \$12.8 million. The defining feature of the “Triangle” a multi-lane roundabout within 300 feet of two signalized intersections. Complex modeling and geometric analysis were critical for successful completion of this landmark project. The next phase (currently in design), includes the reconstruction of Orchard Lake Road from a five lane road to a four lane boulevard. Construction is scheduled for 2017.

**Client Information:**

Road Commission for  
Oakland County  
Dennis Kolar, PE,  
Managing Director  
248.645.2000  
31001 Lahser Road  
Beverly Hills, MI 48025

**Original End Date:**

11/2017

**Actual Completion:**

ongoing

**Original Cost:**

\$40,000,000

**Actual Cost:**

\$40,000,000



# Massillon Road Corridor Plan

Green, Ohio

**Client Information:**  
 The City of Green  
 Wayne Wiethe, Director  
 of Planning  
 and Development  
 1755 Town Park Blvd.  
 Green, Ohio 44232  
 330.896.6614

**Original Cost:**  
 \$267,500

**Actual Cost:**  
 \$294,500\*

**Original End Date:**  
 02/2013

**Actual Completion:**  
 02/2013

**Services Provided:**  
 Planning  
 Urban Design  
 Landscape Architecture  
 Transportation Planning  
 \*Project included a  
 \$27,000 amendment.

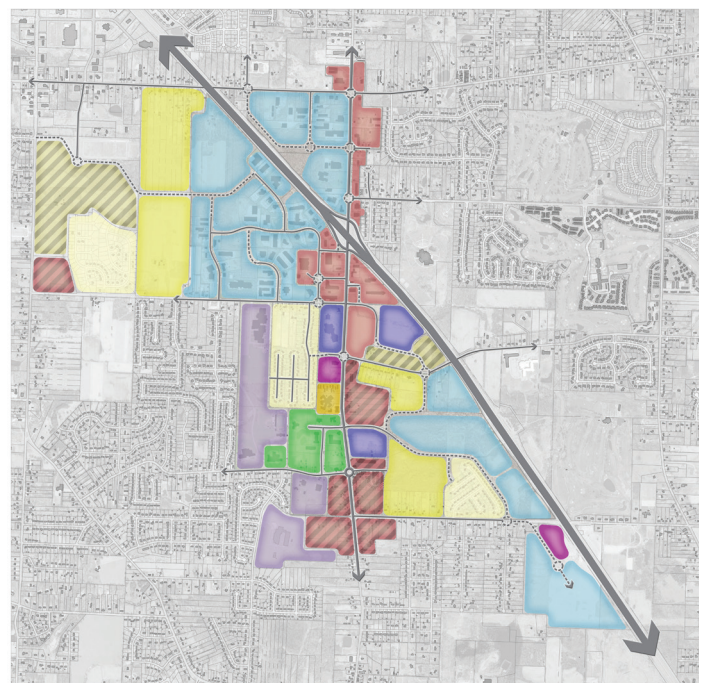


Our team assisted the City of Green, Ohio to create a corridor plan for Massillon Road, a primary corridor within the community and region. The plan created a variety of economic development and placemaking strategies aimed at attracting investment to the corridor, grounded in transformational ideas of what the corridor could be in the future.

The plan was initiated by the city in response to tremendous growth within the Massillon Road Corridor. Three new health care businesses and a large Fortune 500 company were considering moving to the corridor. The corridor plan served as a tool to attract these economic opportunities by illustrating a clear picture of how the city would guide future development in the corridor, and invest in public projects that will define the character of the community, and contribute to improving the overall quality of life.

Our team was selected to create the corridor plan based on a proven track record of both public and private sector planning, including a long history of planning and designing corporate headquarters, and understanding what it takes to attract and retain high-quality investment in a community through both the public and private sector lens.

The plan resulted in all three health care facilities and the Fortune 500 company selecting Green as their community to expand in and call home.





## Geddes Road Corridor Study

Superior Township, MI

**Client Information:**

Superior Township  
Ken Schwartz,  
Supervisor  
3040 N. Prospect Road  
Ypsilanti, MI 48198  
734.480.6099

**Original Cost:**

\$47,000

**Actual Cost:**

\$47,000

**Original End Date:**

01/2005\*

**Actual Completion:**

09/2005

\*Timeframe was extended due to requested presentations and extended owner comments period.

At the time, Superior Township had been experiencing significant growth, and it had become important to evaluate the existing conditions along the corridor and plan for the changes needed to meet the growth and development.

The goal of the project was to identify the development pressures leading to increases in traffic congestion in the study area; identify and prioritize factors, consistent with community values, which would be used to evaluate potential changes to Geddes Rd; identify alternative improvements and the general time when they might be needed, based on development projections; create a standard model and procedure for analyzing future development proposals in a timely and consistent manner.

The focus of the study was on Geddes Road from the west border with Ann Arbor Township eastwards to the boundary with Canton Township. Major cross roads were evaluated only within the influence of their intersection with Geddes Road.

The OHM team compiled and reviewed the existing information relative to the corridor, and any documentation of significant impacts and constraints.

Geometric features such as lane and sidewalk widths and turning lane storage were measured and verified. Operational considerations, such as speed limits, lane use, marked pedestrian crossings and turning restrictions, were also noted.

The traffic patterns within the study area were analyzed. OHM evaluated, using Synchro/SimTraffic, current and future year traffic conditions of the existing network.

Alternatives were evaluated that would address maintaining the vitality of the area, vehicle safety and congestion relief. Preliminary cost opinions were provided for all recommendations, based on current costs. A roundabout concept was developed and evaluated for the junction of Geddes and Prospect Roads.

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## Textile Road Traffic Study

Washtenaw County Road Commission, MI

**Client Information:**

Washtenaw County Road  
Commission  
Matt MacDonnel, PE,  
Senior Project Manager  
555 N. Zeeb Road  
Ann Arbor, MI 48103  
734.761.1500

**Original Cost:**

\$14,500

**Actual Cost:**

\$14,500

**Original End Date:**

04/2013

**Actual Completion:**

04/2013

OHM conducted a study to analyze Textile Road from Stony Creek Road to Hitchingham Road and the Stony Creek Road at Hitchingham Road intersection. Alternatives considered and evaluated included: signalized alternative and roundabout alternative. The signalized alternative was analyzed using Synchro/SimTraffic. The roundabout alternative was analyzed using RODEL to determine geometric characteristics and roundabout capacity.

## Zeeb Road Corridor Study

Washtenaw County Road Commission, MI

### Client Information:

Washtenaw County  
Road Commission  
Sheryl Soderholm-Siddal,  
Director of Engineering  
555 N. Zeeb Road  
Ann Arbor, MI 48103  
734.327.6687

### Original Cost:

\$61,500

### Actual Cost:

\$80,000\*

### Original End Date:

04/2012

### Actual Completion:

04/2012

\*Project included an  
\$18,500 amendment.

The study evaluated Zeeb Road from Jackson Blvd to Miller Road. The study was to examine the potential effects of land use changes in the corridor and the resultant traffic impacts. There were various traffic analyses of existing and forecast conditions, depending on land use and density modifications, including the evaluations of alternative roadway network configurations. The project included roundabout analysis using RODEL software to determine geometric characteristics and capacity at several intersections in the corridor.

## N. Squirrel Road Traffic Study

Auburn Hills, Michigan

### Client Information:

City of Auburn Hills  
Ron Melchert, Director  
of Public Services  
1500 Brown Road  
Auburn Hills, MI 48326  
248.391.3777

### Original Cost:

\$58,800

### Actual Cost:

\$58,492

### Original End Date:

03/2011

### Actual Completion:

03/2011

The City of Auburn Hills was interested in improvements to N. Squirrel Road between Walton Boulevard and Dutton Road, including widening the roadway. To determine if anticipated traffic volumes would support the need for these roadways improvements, OHM Advisors performed a traffic, right-of-way and geometric study at this location. Alternatives that were also being considered included traditional intersection treatments or roundabouts for major intersections.

A traffic study to identify preferred cross section was completed. This encompassed traffic analysis of existing and forecast conditions. The analysis included the evaluation of alternative roadway network configurations. The project included a

roundabout analysis using RODEL software to determine geometric characteristics and roundabout capacity at several intersections in the corridor.

An alignment study was performed to determine the future roadway alignment and any associated right-of-way concerns. An on-site review of intersections, driveway locations, utility locations, sight distance deficiencies, and drainage features was performed. Alternative roadway alignments were evaluated to determine the impacts of each selected cross section.

A Right-of-Way study was performed to identify impacts. A preliminary study report was presented to the City for review.





**C | PROPOSED WORK PLAN**

## Overall Project Understanding

### BACKGROUND AND SCOPE OF WORK

Nixon Road, Green Road, and Dhu Varren Road are all key components of the transportation system for residents and commuters living in northeastern Ann Arbor. The area could be described as suburban, dominated by existing residential properties. In the Nixon Road corridor, there is some vacant land slated for residential developments in the northwest and southwest quadrants of the intersection with Dhu Varren. In addition, there is an elementary school, a middle school, and a church nearby.

The intersection of Nixon Road at Dhu Varren / Green Roads has been problematic for a number of years. Having the form of two offset tee intersections, this junction is controlled as one location with all-way stop signs. However, there is a significant through movement for east / west travel, making this a confusing location to traverse with a history of collisions.

To address the safety and operational problems at this intersection, the City commissioned a study to explore improvement options. Conducted by Opus International, the report evaluated a series of alternatives. It concluded that there were two viable options that would significantly improve safety and mobility: realigning Dhu Varren to align with Green and installing either a roundabout or traffic signal.

When the study alternatives were presented to the area residents in a meeting held in December 2014, it became evident that many thought that a broader review of the



Narrow pavement lanes and lack of paved shoulders inhibit on-street travel by bicyclists. Also, the vertical terrain poses sight distance concerns when exiting some subdivisions.

entire Nixon Rd corridor was needed. Subsequently, City staff engaged in a process to weigh the alternatives in light of the various evaluation criteria, and determined that the roundabout was the preferred option.

### EXISTING CONDITIONS

The posted speed limit for Nixon Road is 30 mph from Plymouth Rd to the Dhu Varren / Green Rd intersection. It then changes to 35 mph for the balance of the segment north to the City limits. Nixon generally has one traveled lane in each direction. There are auxiliary turn lanes provided at a limited number of locations:

- A center lane for left turns between Traver Blvd. and Bluett Dr.
- A SB right turn taper for Sandalwood Circle
- A center lane of left turns between the roundabout at Huron Pkwy and Plymouth Rd.

There is a pedestrian facility along both sides of Nixon Rd from Plymouth Rd to the driveway for Clague Middle School. The east side walk ends there and the west side continues the short distance to Traver Blvd. There is no sidewalk or safety path along the west side of Nixon north of Traver Blvd to the City limit. On the east side, a pedestrian facility resumes at the intersection with Haverhill Ct and continues to about 1,380 ft. north of Green Road.

By way of either a marked bike lane, where the road is curbed, or a paved shoulder, Nixon Road has bike lanes



Enhanced signs, lighting and pavement markings can improve pedestrian safety at key crossing locations.

along both sides from Plymouth Rd to Huron Pkwy, and from Bluett Dr north to the City limits. The gap in bike lanes from Huron Pkwy to Bluett Dr is due to a narrow road pavement and shoulders that are gravel.

Dhu Varren Rd is a 35 mph, two lane roadway for its entire length within the study area. It does not have any pedestrian or bike facilities. Green Rd is also posted 35 mph. It has a 3-lane cross section and there is a marked bike lane, but only along the north side for westbound bike travel. It has continuous pedestrian walks along both sides of the street.

The Nixon Road corridor is also used by transit. AATA runs Routes 1 and 2 in the corridor, so there are various bus stops present along this roadway.

### ISSUES AND CONCERNS

From the dialog noted in the public meetings, there are a variety of issues and concerns held by the area residents. Some involve development issues that are peripheral to this project. The trip generation facet to those concerns will require that any review of the 2035 horizon year traffic projections account for the known development proposals currently being considered.

It is abundantly clear that the City wants potential improvements along the corridor to further the City’s policy goal of ‘complete streets’; multi-modal facilities to allow and encourage non-vehicle mobility for the area residents. Thus, we will be looking at improvements that would fill in the gaps to pedestrian facilities and on-street bike lanes. But this does not mean that vehicle-related problems are to be ignored, but rather that they be balanced with the concerns for other users. This is exemplified by the need to make a targeted improvement to the intersection of Nixon Road at Dhu Varren / Green Roads for vehicle safety and mobility, while addressing the needs of pedestrians and cyclists.

There appears to be safety concerns related to a special subset of pedestrians and bicyclists – the students attending Logan Elementary School or Clague Middle School. School crossings of Nixon Rd will come under extra scrutiny in our work.

The other set of concerns voiced involved the increasing difficulty of residents commuting to work leaving their neighborhood by way of Argonne Dr and Nixon. The relative lack of gaps is compounded by the limited sight distance for SB traffic due to a crest vertical curve north of this intersection.

### INTERSECTION IMPROVEMENT PROJECT AND CORRIDOR TRAFFIC STUDY

In order to address the issues and concerns identified above, the City of Ann Arbor intends to redesign the intersection of Nixon / Green / Dhu Varren Road to a roundabout and also prepare a Corridor Traffic Study for the Nixon Road Corridor. Within this project there are three discrete tasks to be completed:

**Task 1:** Nixon / Green/ Dhu Varren Intersection Improvement Design

**Task 2:** Nixon Road Corridor Study

**Task 3:** Communication and Community Engagement

The following sections delve into each of these Tasks and outline the anticipated scopes of work.

## Task 1 Description: Intersection Improvement Design

### EXISTING CONDITIONS

Dhu Varren Road and Green Road intersect Nixon Road about 90 feet apart from each other, creating two separate T-intersections. The existing asphalt pavement surface is deteriorating at the intersection, and concrete curb & gutter is only present on the east side. We understand that Nixon Road was originally laid out as a “commercial” corridor, with the purpose of bringing goods from farm to market. The northwest and southwest quadrants are currently vacant, with development pending. The corridor’s character has changed over the years, with more change on the way.



Dhu Varren Rd and Green Rd are offset, creating two T-intersections.

We believe this roundabout project will improve the capacity, operational efficiency, and safety for all users of the intersection. The setting also presents a good candidate for a modern roundabout solution, with opportunities to improve non-motorized mobility in the area. AATA bus stops for “The Ride” exist on the southwest and southeast corners of the intersection, and there is another bus stop approximately 300 feet to the east on Green Road at Windwood Drive. Intersection operations are impacted when motorists pass stopped Buses illegally. Our roundabout design will address vehicles, transit, bicycles, and pedestrians. We expect the public to be interested in multi-modal transportation on the four approaches as well as within the intersection.

### OBSERVATIONS ON THE “INTERSECTION IMPROVEMENT STUDY” (MARCH 2015)

Our Work Plan generally describes the key phases of design necessary for a modern roundabout. **We list below several key elements of the conceptual design shown in the**

**“Intersection Improvement Study” that we would like to revisit and address more thoroughly.** These were identified during our review of the results of the Study of the Nixon / Green / Dhu Varren Roads intersection performed by another consultant for the City of Ann Arbor. These items offer room for an improved design in areas that, based on our team’s experience, will be very important to the City. We will not dwell on these key elements in our Work Plan, and we recognize that the Study may have had a limited scope. If selected for an interview, our team can provide additional details about our approach to these issues.

Our Work Plan and associated estimate include the work necessary to refine the conceptual design of the intersection to one that will provide the same or better level of service as the preliminary concept. Our design will meet more goals of the City’s master planning documents at the intersection, as well as on the approach roads. We have considered the City’s Comprehensive Non-Motorized Transportation Plan (Non-Motorized Plan), Capital Improvement Plan (CIP), Northeast Area Plan (NEAP), and Northeast Area Transportation Plan (NEATP). As a part of our design, we will coordinate with the City to refine the following key issues that we have identified after our review of the Study:

- 1. Bicycles:** We feel that non-motorized users should be provided with the option of either remaining in the roadway or using off-street facilities. This is consistent with City practices, especially at the Huron Parkway / Nixon Road roundabout.
- 2. Construction Staging** was not considered in the Study. A one-lane roundabout is more difficult to stage, but we have successfully managed construction on recent projects that maintains traffic for heavy movements or fully closes and detours an intersection during construction. Our Work Plan includes preparation of maintaining traffic concepts and cost estimates to compare these alternatives.
- 3. Cost Estimate:** Depending on the chosen option, staging could increase the construction cost, particularly if that option requires temporary pavement. While we understand that maintaining traffic is City practice, this location may have detour route possibilities at certain legs that could reduce project cost and shorten the duration of



the project. If the City deems it appropriate, residents could have an opportunity to voice an opinion on construction staging options.

**4. Buses:** As frequent users of this intersection, we are familiar with driver behavior related to these bus stops, which probably would not change with the current recommended Study concept geometry. We believe the bus stops should be more appropriately incorporated into the final design. Bus pullouts could be considered.

**5. West Leg Bypass Lane:** A free-flow eastbound-to-southbound right turn bypass lane results in the need for a southbound lane drop, which adds a potentially high-speed conflict point for vehicles, bicyclists, and pedestrians. In addition, the bypass lane would likely increase construction costs, ROW impacts, and environmental features impacts.



Bus stops will be incorporated into the final design, potentially adding bus pullouts to improve safety.

As an alternative, a “snagged”, or partial right-turn bypass lane could be provided. At an initial glance, the 2035 peak hour turning movements are less than 500 vehicles per hour, which is a commonly used maximum value for a partial right-turn bypass lane.

### SCOPE OF WORK FOR TASK 1 (INTERSECTION IMPROVEMENT DESIGN)

The project will consist of completing the design and preparing the necessary contract documents for the City of Ann Arbor to competitively bid the 2017 construction of a modern roundabout at the intersection of Nixon Road, Green Road, and Dhu Varren Road. The City of Ann Arbor is undertaking this project to improve the intersection’s operational efficiency for both motorized and non-motorized users. The City has selected a modern roundabout as its preferred design. The roundabout footprint will generally be centered at the intersection of Nixon Road and Green Road, while Dhu Varren Road will be realigned to meet the roundabout. Significant additional right-of-way will be required in the southwest quadrant to accommodate this realignment. Lesser amounts of right-of-way and/or Consents to Grade will be necessary in the other three quadrants.

Our design will be sensitive to the overall needs of the traveling public, including public bus transportation, bicyclists, pedestrians, visually or hearing impaired users, commercial vehicles, and commuting motorists. We will design an aesthetically pleasing roundabout, to preserve the residential character of the area.

In completing the design, the following goals will be carefully evaluated and incorporated into the project:

- 1. Improve** pedestrian, bicycle, and vehicle safety in the project area, along with accommodating the long-term goals of the City’s Non-Motorized Plan.
- 2. Create** a pedestrian-friendly environment, which will include construction of pedestrian refuge islands on each leg of the intersection.
- 3. Accommodate** bicycle traffic in and around the roundabout, including bike lanes within the project limits.



Our design will incorporate non-motorized users on bike lanes and shared use paths.

**4. Provide** accessibility for the disabled in accordance with the applicable ADA and City requirements.

**5. Address** storm water management and increase infiltration within the project area in accordance with the City’s Green Streets Stormwater Guidelines and the Rules of the Washtenaw County Water Resources Commissioner.

**6. Determine** the extent of the proposed fee right-of-way and Consents to Grade. Produce parcel exhibits for right-of-way acquisition.

**7. Review** the proposed site plans for the Nixon Farms North and South developments to identify any conflicts or coordination issues related to this roundabout project.

We anticipate that the City of Ann Arbor will want to maintain two-way traffic in each direction of Nixon Rd, and maintain vehicular and pedestrian access to adjacent properties. We will prepare detailed construction staging plans and maintaining traffic special provisions to accommodate the phased construction. However, during development of the staging concepts, we recommend soliciting public input on the possibility of a full closure with posted detours. If desired by area residents to limit the project duration, this option would be a significant cost savings for the City.

## Task 1 • Intersection Improvement Design • Basis of Design

OHM Advisors will prepare a set of plans including (but not limited to) typical cross sections, alignment, removals, construction sheets, profiles, municipal utilities (if necessary), construction staging, detail grades, wetland mitigation (coordinate purchase of credits at a wetland bank), permanent signing, pavement markings, lighting (coordinate with DTE's design), soil borings, soil erosion and sedimentation control. Our plans and profiles will be drawn at a scale of 1" = 20' horizontally and 1" = 2' vertically. Our detail grade sheets will be enlarged to a scale of 1" = 10'. Plan sheets will conform with the City of Ann Arbor Public Services Area Drafting Standards.

**1. Design Speed.** The roundabout should generally be designed to keep traffic at approximately 15 to 25 MPH.

**2. Design Vehicle.** Our design will accommodate the larger of a WB-40 (per the RFP) or the largest vehicle requested by the City. BUS-45 could be utilized to model the AATA Buses, similar to the Huron Parkway / Nixon Road Roundabout.

**3. Horizontal Alignment.** Our proposed horizontal alignment and geometric design will begin with an evaluation of the conceptual plan in the Study. After identifying a list of key design constraints, and prioritizing these constraints with the City, we will proceed with three geometric iterations. Each iteration will consider impacts to the environment, motorized and non-motorized users, right-of-way, bus stops, signs, and other constraints. RODEL Roundabout Capacity Software will be used to verify the roundabout capacity for each iteration. Once analyzed and discussed with the City, we will proceed with detailed plans.

**4. Vertical Alignment.** Our proposed vertical alignment design will begin with an evaluation of the conceptual profiles in the Study, and will proceed with our recommended geometry. Our design development will consist of at least three iterations of the schematic vertical alignment before continuing with detailed profiles. Each iteration will consider impacts to the environment, motorized and non-motorized users, right-of-way, and bus stops.

**5. Typical Cross-Sections.** The existing and proposed typical cross-sections will follow the City of Ann Arbor Standards, and will be included in the base design plans and modified during the preliminary and final design phases of the project. We anticipate that the proposed pavement section will resemble the existing pavement section; however, the final pavement design will be selected based on our geotechnical investigation (with City review and input) to ensure an acceptable design life.

**6. Drainage.** The existing drainage system will be augmented and expanded to manage storm water runoff from the new roundabout and realigned roadways. We will design for positive drainage with increased infiltration for up to the 10-year design storm event per the City's Green Streets Stormwater Guidelines. We will also address the Washtenaw County Water Resources Commissioner's requirements by infiltrating either the first flush volume or the "bankfull volume difference" (whichever is larger). If the existing soils prove unable to provide the desired infiltration rate, a detention basin will be provided (most likely in the northwest quadrant).

**7. Wetland Mitigation.** Wetlands exist in the northwest and southwest quadrants, and have been delineated by the private property developer. It is our understanding that the wetland limits were reviewed and approved by the MDEQ. The realignment of Dhu Varren Road will impact one of the regulated wetlands, and a permit application and mitigation will be required for this project.

**8. General Design Standards.** The current edition of the following guidelines will be used as resources for our design team:

- AASHTO Policy on Geometric Design of Highways and Streets.
- AASHTO Guide for the Development of Bicycle Facilities.
- ADA Accessibility Standards.
- City of Ann Arbor Code of Ordinances.
- City of Ann Arbor Public Services Department Standard Specifications.
- City of Ann Arbor Consent Decree for ADA Compliance.
- FHWA Roundabouts: An Informational Guide

(NCHRP 672)

- MDOT Road Design Manual.
- MDOT Geometric Design Guide.
- MDOT Standard Specifications for Construction.
- Michigan Manual on Uniform Traffic Control Devices (MMUTCD)

**9. Intersection Improvement Plans.** Detailed roundabout enlargement plans will be prepared at a scale of 1" = 10'; and will include horizontal and vertical curve data; detailed grades at lane lines, edge-of-pavement, ADA sidewalk ramps, and the limits of construction in each direction. Given the critical nature of roundabout geometry and its effect on traffic operations and safety, we have found that detailed alignment data is essential. Construction layout will be dictated by a table of coordinates (Northing, Easting, & Elevation) for critical points to thoroughly describe the central island, splitter islands, and the outer curb & gutter for the circulating roadway in the roundabout.

**10. Soil Erosion, Natural Features Protection, & Miscellaneous Plans.** We will prepare all plans as required by the applicable chapters of the City of Ann Arbor Code of Ordinances. Soil erosion and sedimentation control items will be shown on the plans. Also, the existing landmark bur oak will be protected during construction, and our proposed geometry will avoid any impact to this particular tree.

**11. Temporary Traffic Control Plan.** We will develop plans and special provisions to maintain traffic while staging

the construction of the roundabout and approach roads. Temporary traffic control will meet the requirements of the MMUTCD and the City of Ann Arbor Design Standards. We will design the staging to maintain pedestrian, bicycle, and two-way vehicular traffic in each direction wherever and whenever possible. As an alternative, we will also offer crossroad closure concepts with posted detours for consideration by the City before proceeding to final design. See Task 1J.

**12. Permanent Signing and Pavement Markings.** The project will require modification of the permanent traffic controls at the intersection to reflect the new roundabout. These signs and markings will meet the requirements of the MMUTCD and best practices for guidance and wayfinding. The pavement marking plans will include the approach markings that may have been disturbed as part of the maintaining traffic plans.

**13. Right-of-Way Investigation and Document Preparation.** Our design will include preliminary and final right-of-way plans depicting the real estate needs of the project. Significant right-of-way acquisition is anticipated in the southwest quadrant, with lesser amounts and/or Consents to Grade in the other three quadrants. We will also assist the City, as needed, during right-of-way acquisition by preparing exhibits and explaining the project design to property owners.



Wetlands exist in the northwest and southwest quadrants. Realignment of Dhu Varren road is anticipated to impact the southwest quadrant wetlands, requiring permit application and mitigation.

## Task 1 • Intersection Improvement Design • Work Plan

The work plan consists of completing the following tasks:

### Task 1A – DATA RESEARCH AND UTILITY COORDINATION

Available background information concerning the location and condition of existing utility will be reviewed, including aerial and underground. Beginning with the Miss Dig system and City as-built drawings, we will research available records and depict the existing utilities on our plans. As the design continues, utility conflicts will be identified. Where the proposed design cannot be modified to avoid conflicts, OHM Advisors will coordinate with the utility owners to facilitate their relocation prior to construction. We will develop and update a utility conflict matrix throughout the design process, and meet with utility owners to discuss and resolve each issue. In past experience, we have found that a collaborative, proactive, and detailed-oriented process is the most successful for utility coordination.

As mentioned in the RFP, a 20-inch water transmission main exists in the Dhu Varren Road right-of-way. As instructed, our proposal includes design and plan preparation for this water main relocation (refer to Task 1R). Early in the design process, we will evaluate options and their effect on the existing utilities. Based on our initial proposal, we believe this project can potentially be designed without relocating this water main, resulting in a significant cost savings. Although Dhu Varren Road will be realigned and the old road will be obliterated, we believe it can be re-graded such that the existing utilities are unaffected. However, if relocation is necessary, we have engineers who have vast experience in municipal utility design and plan preparation.

The DTE pole in the northwest corner of Nixon and Dhu Varren will likely have limited options for relocation due to the wetlands to the west and the long pole span (~270 feet) to the west. Avoidance of this pole will be critical to the design. The pole also carries numerous secondary service providers, which likely includes AT&T.

### Task 1B – TOPOGRAPHIC SURVEY & RIGHT-OF-WAY

Our proposal includes collection of full topographic information for the construction influence area. We will collect base topographic survey for the preparation of base sheets. In addition, survey will verify the existing right-of-

way limits. This information will be obtained by a survey crew using RTK GPS and a Robotic Total Station. Base sheets will be prepared in Civil3D 2015 to a 1" = 20' (horizontal) and 1" = 2' (vertical) scale.

The survey will include the following:

1. Location, genus, and species of all trees 6-inch diameter and greater.
2. Location of all cultural features within the construction influence area.
3. One-foot contours.
4. Right-of-way will be certified and property boundaries will be located.
5. Detailed existing spot elevations on all sidewalk ramps, and at critical sidewalk, road centerline, and curb locations.
6. Location of property controlling corners.
7. Location of existing utility structures and full structure inventories.
8. Location of Benchmark 1025 of the Ann Arbor Geodetic Reference System.

The project limits will extend approximately 500 feet to the north, south, and east; and 1000 feet to the west (as measured from the intersections). A triangular area of topographic survey will also be obtained in the southwest quadrant of the intersections to facilitate the realignment of Dhu Varren Road to the south. The topographic survey will also include a strip of lane 100 feet west of the western right-of-way line for Nixon Road for a length of 500 feet north of Dhu Varren Road (for our anticipated construction staging needs).

All survey procedures will conform to Michigan Law relative to land surveying and will be performed under the direct supervision of a Professional Surveyor licensed to practice in the State of Michigan.

### Control

OHM will recover and/or re-establish the horizontal and vertical control if possible. We anticipate that the coordinate system will be based on the City of Ann Arbor Geodetic Control Network (Horizontal: North American Datum of 1983, 1997 Adjustment (NAD83/97) and Vertical: North American Vertical Datum of 1988 (NAVD88).

### Topography

OHM will develop the survey work order and assign it to appropriate personnel, collect/annotate topography, investigate and describe underground utilities, locate and identify trees 6-inch diameter and larger per City requirements, establish existing alignments, and compile field notes, government corner witnesses, and project report.

### Right-of-Way

Establishment of the existing right-of-way will be necessary for this project. Parcel exhibits will be provided so that the necessary property interests can be acquired. OHM will prepare up to four (4) right-of-way acquisition documents, using the City of Ann Arbor format.

### Task 1C - GEOTECHNICAL INVESTIGATION

The purpose of the Geotechnical Investigation is to determine and evaluate general subsurface conditions along the proposed roadway and intersection alignment in order to develop related earthwork and pavement design recommendations and construction considerations. The purpose of the Infiltration Testing is to determine the approximate rate of ground infiltration of collected storm water runoff from areas where new impermeable pavement is being constructed. A licensed professional engineer acting as a Project Manager will direct the geotechnical exploration and infiltration testing. Our proposed scope of work will consist of the following items:

1. G2 Consulting Group, LLC (G2) will visit the site and mark the approximate soil boring and locations. Conflicts with existing structures, utilities, or other site conditions may require local variations in location.
2. G2 will contact the local utility locating company MISS DIG. It should be noted that MISS DIG requires a minimum of 72 hours to locate utilities.
3. G2 will provide traffic control in accordance with MMUTCD standards while performing the field investigation. Traffic control is expected to consist of an arrow board, hazard cones and signs, as necessary.
4. G2 will drill a total of ten (10) soil borings within the shoulder and accessible right-of-way areas adjacent to the roadways. Three (3) of the soil borings in the vicinity of the existing wetland in the southwest quadrant will

be extended to a depth of 30 feet below the existing ground surface. The remaining seven (7) soil borings will each be extended to a depth of 20 feet. Our proposal fee is based on a total soil boring drilling depth of 230 vertical feet. Standard borings will be extended to their proposed depths using hollow-stem drilling methods by means of either an all-terrain vehicle-mounted drilling rig, or a truck-mounted drill rig where access is feasible. We will obtain soil samples by the Standard Penetration Test Method every 2½ feet within the upper 10 feet, and every 5 feet thereafter. More frequent sampling will be performed where organic soils, peat or marl are encountered. All of the borings will be backfilled with the drill cuttings. It should be understood that some settlement of the borehole fill may occur and no future maintenance of the holes is included. G2 will not be responsible for landscape restoration associated with the drilling operations.

5. G2 will perform a total of six (6) hand-auger soil borings in areas where an ATV drill rig cannot access. Hand-auger borings will be extended to a depth of 10 feet below the existing ground surface, but may be terminated at a shallower depth if the borehole caves or auger refusal is experienced. Our proposal is based on a total hand-auger drilling footage of 60 vertical feet. Samples of the underlying subgrade soils will be obtained where soil conditions or soil layers change during hand-auger operations. In addition, pocket penetrometer (PP) and dynamic cone penetrometer (DCP) tests will be performed periodically to estimate the strength characteristics of the subgrade soils. The boreholes will be backfilled with on-site soils after completion of drilling. It should be understood that some settlement of the borehole fill may occur and no future maintenance of the holes is included.

6. G2 will perform laboratory testing to determine the physical characteristics of the subsurface soils. The testing program may include determination of the unconfined compressive strength, dry density, natural moisture content, organic matter content, particle-size distribution, Atterberg limits, and soil classification in accordance with the Unified Soil Classification System.

7. Following completion of the soil borings and laboratory testing, G2 will review the soil boring

and laboratory data and provide preliminary recommendations for possible locations and bottom depths of infiltration (retention) basins. Upon agreement by the design team, G2 will subcontract with a backhoe operator to excavate as many as four (4) test pits at the identified possible infiltration locations. The test pits will be limited to a maximum depth of 10 feet and will terminate at the approximate top surface of the target soil layer based on the soil boring review. Within each test pit, G2 will perform encased falling head infiltration testing in accordance with the Washtenaw County Water Resource Commission (WCWRC) Rules and Guidelines – Procedures & Design Criteria for Stormwater Management Systems (dated August 6, 2014). The test pits will be backfilled with the excavated soils, but the backfill will not be compacted to an engineered level. G2 will not be responsible for landscape restoration associated with the test pit excavations.

8. G2 will prepare an engineering report summarizing our findings and presenting evaluations, conclusions and recommendations about the following items:

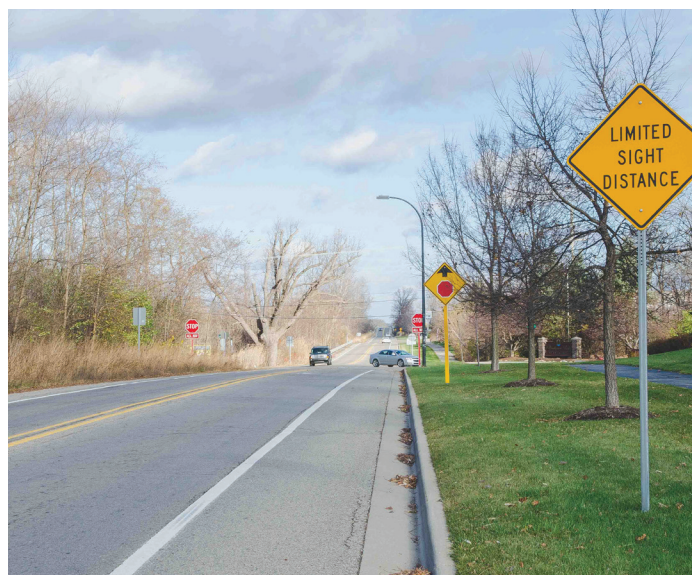
- Subsurface soil and groundwater conditions.
- Suitability of existing subgrade soils for roadway support.
- Approximate limits and organic content of organic, peat, or marl soil deposits.
- Methods to remove and replace, treat in place, or stabilize unsuitable soil, organic, peat, or marl deposits
- Earthwork operations, including subgrade preparation, suitable fill materials, and fill placement and compaction.
- Temporary dewatering methods for construction excavations.
- Allowable temporary open-cut excavation slopes, and temporary earth support requirements for shoring of excavations.
- Lateral earth soil pressures for use in design of temporary earth retention systems.
- Roadway embankment allowable permanent slope inclinations.
- Allowable subgrade soil parameters and bituminous pavement section design based on AASHTO design criteria.
- Estimated infiltration rates at possible retention basin locations.
- Other subsurface conditions which may impact design and construction of the proposed roadway.

### Task 1D – WETLAND MITIGATION

As mentioned above, wooded wetlands exist in the southwest quadrant of the project area, and will be impacted by the proposed realignment of Dhu Varren Road. This wetland and another in the northwest quadrant have been delineated by the Nixon Farms developer, and the limits have been reviewed and approved by the MDEQ. Based on our review of the exhibits in the Study, we anticipate that the wetland impact will be less than 1/3 acre. Our understanding of the latest MDEQ guidance suggests that for wetland impacts this small, the mitigation may be of any type, at any location, and at a 1:1 ratio. Therefore, our proposal assumes that credits will be available for purchase from a wetland bank. OHM will prepare the necessary documentation and MDEQ permit application as part of this proposal. If for some reason the City prefers to mitigate on-site, OHM would be willing to provide wetland mitigation plans and specifications at a negotiated additional fee.

### Task 1E – HORIZONTAL AND VERTICAL ROADWAY ALIGNMENTS

The conceptual plan that was prepared for the Intersection Improvement Study will be evaluated and used as a starting point. Topographic survey information will be added to ensure that the existing conditions in the affected area are accurately represented. The horizontal and vertical alignments will be evaluated for constructibility, positive drainage, avoidance of costly impacts, and adequate roundabout geometry based on site constraints. After



**Our proposed vertical alignment will improve sight distance approaching and within the roundabout.**

identifying a list of key design constraints, and prioritizing these constraints with the City, we will proceed with three geometric iterations. We will consider alignment options to minimize the extent of the right-of-way acquisition. We will also consider the bus stops and non-motorized users in our geometric design. Bus pullouts might be a solution, pending analysis and discussion with the City and the AATA. Starting and ending bicycle lanes and pedestrian facilities will be a key design consideration at the roundabout and within the entire project limits.

OHM will develop three iterations of the schematic horizontal and vertical alignments before continuing with the detailed plans and profiles. During design, we will also review the proposed site plans for the Nixon Farms North and South projects, identify conflicts, and assist the City in coordination between the proposed roundabout and adjacent private developments. The following key design features will be discussed with the City and analyzed as a part of the horizontal and vertical iterations:

**1. Alternate horizontal roundabout geometric options** could include:

- a. A “snagged” (i.e. partial) right-turn bypass lane at the eastbound approach (west leg – Dhu Varren Road). This would avoid a potential downstream merging conflict, reduce speeds for non-motorized safety, reduce construction costs, ROW impacts, and environmental impacts.
- b. A smaller radius curve at the eastbound approach (west leg – Dhu Varren Road), compared to what was presented in the Study. By limiting the length at which the proposed Dhu Varren alignment deviates from the existing alignment, there could be several cost, schedule, and maintenance benefits. This would significantly reduce: right-of-way impacts, wetland impacts, costs to stabilize poor soils, the time to consolidate poor soils using wick drains, and the long-term risk of high maintenance costs due to settlement.
- c. An additional “snagged” right-turn bypass lane at the westbound approach (east leg – Green Road). The concept Study indicated a LOS D for this approach in PM peak in 2035. The addition of this bypass lane could improve the LOS, pending an analysis.

- d. Phasing-in the bypass lanes for future use. Rather than construct one or more bypass lanes as part of the construction in 2017, plan for future bypass lanes by setting up the curb lines, sidewalks, roadside appurtenances, and proposed ROW limits for the future addition of the bypass lanes.



Example of snagged right-turn bypass lanes.

- e. An elliptical-shaped or peanut-shaped roundabout. These options have been successfully implemented in Wisconsin and Indiana.

**2. Entry deflection:** Studies have shown that proper entry deflection is one of the most important considerations for preventing entry/circulating crashes. Proper entry deflection is critical for speed control and gap acceptance. Given suburban/commuter context to the surrounding area, entry deflection is critical to foster speed reduction at the roundabout entry.

**3. Profile / vertical analysis** will explore opportunities to flatten or “table” the intersection within the roundabout and within the deceleration zone approaching the roundabout. A 2.5% to 3% maximum profile is commonly used, although flatter is more preferred. A relatively flat profile is critical to improve sight distance, plus prevent rear end accidents and truck overturns. A raise in profile will have to be carefully analyzed so as to not dramatically impact ROW or environmental features.

**Task 1F – STORM WATER MANAGEMENT**

As with all road reconstruction projects, the City of Ann Arbor is dedicated to improving storm water runoff quality



and providing additional runoff rate and volume controls. We understand that the City's Green Streets Stormwater Guidelines require that the first inch of runoff must be designed to infiltrate first, before being captured by any storm sewer system. The rate of infiltration will depend on the type of soils that we discover below and adjacent to the pavement. Our geotechnical investigation will include percolation tests to determine the infiltration capacity. We will design for a 10-year storm event to meet the City's standards, but we will also address the Rules of the Washtenaw County Water Resources Commissioner (WCWRC). The WCWRC will require the infiltration to be either the first flush volume or the "bankfull volume difference", whichever is greater. The "bankfull volume difference" will be calculated as the difference between the pre- and post-development volume from a 2-year / 24-hour storm event. If the existing soils are unable to infiltrate the required amount of storm water, then we will design a detention basin. The most likely location for detention is in the northwest quadrant, either within the excess existing Dhu Varren Road right-of-way, or between the existing wetland and Nixon Road if additional property must be acquired for this purpose.

The existing storm drainage system will be evaluated to determine its adequacy. The existing enclosed storm sewer within the intersection appears to flow northerly before discharging into the wetland in the northwest quadrant. It is unknown whether these existing storm sewers have capacity for additional flows. Our intersection reconstruction plans will address any drainage problems, and repair or replace any failing pipe or drainage structures. We intend to use the existing drainage system wherever possible, and to expand it where necessary to positively drain the roundabout.

OHM will seek various types of storm water BMP's for this project. For example, we will consider the possibility of using swales in conjunction with an infiltration basin. Other options include rain gardens or bioswale methods. These will depend on the soil types encountered and the source of the runoff. Any plants used in a swale or rain garden adjacent to the roadways will have to be resistant to salt and other contaminants. As with detention, these features would probably have to be located in the northwest quadrant if the excess Dhu Varren Road right-of-way is retained.

### Task 1G – STREET LIGHTING

We understand that Ann Arbor has a moratorium on the number of street lights that may be owned and operated by the City itself. Nevertheless, the OHM team will provide guidelines for the proper illumination of the proposed roundabout and non-motorized pathways, for review and approval by the City. However, our proposal does not include the design or preparation of plans for new street lighting. We anticipate that DTE Energy will design, install, and operate the required street lighting for the intersection improvements. During design, OHM will closely coordinate with DTE with regard to proposed pole locations and other lighting facilities to incorporate them into the overall roundabout configuration.

From the geometric concept in the Study, it appears that the existing streetlight in the southeast corner of Green Road and Nixon Road will require relocation. Other streetlights along Green Road could be impacted, depending on the chosen geometric configuration. For the purpose of this scope, we assume the relocation of these lights can be coordinated with DTE.

### Task 1H – PEDESTRIANS, BICYCLES, & LANDSCAPING

OHM will design improvements to the non-motorized facilities at this intersection, following "Complete Streets" policies and integrating the proposed roundabout with the City's Non-Motorized Plan. As mentioned above, we believe non-motorized users should have access into and around the roundabout. Our design will provide bicyclists with two options, based on their comfort level. For experienced bicyclists, riding through a properly designed roundabout is appropriate. For others, we will provide access to the off-road shared use paths. Pedestrians will also share the path, and we will design ADA-compliant sidewalk ramps at each crosswalk. We will design the splitter islands to provide refuge for pedestrians as they cross each leg of the intersection. In addition, we will discuss the use of raised crosswalks, which have been successfully implemented at other roundabouts across the country.

The geometry of a roundabout presents opportunities for streetscape features, landscaping, or low-maintenance plantings in the splitter islands, center islands, and other disturbed areas. However, these design services were not described in the RFP, and are therefore not included in our proposal. If the City decides to add these features to the

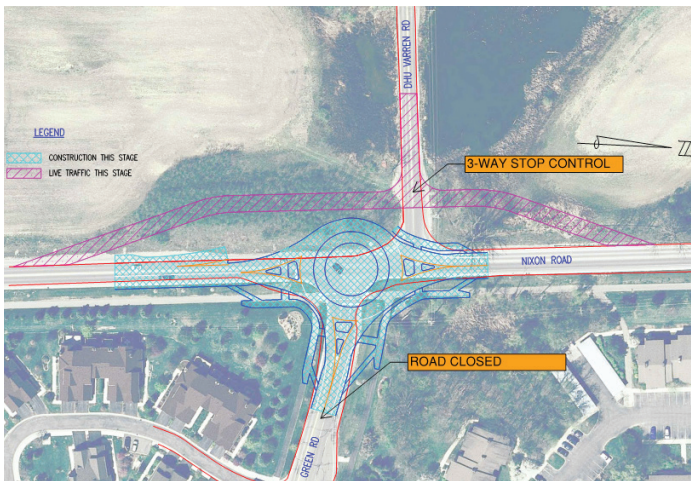


A temporary Nixon Rd “fly-by” would pass behind the landmark tree with ample separation and/or temporary protection.

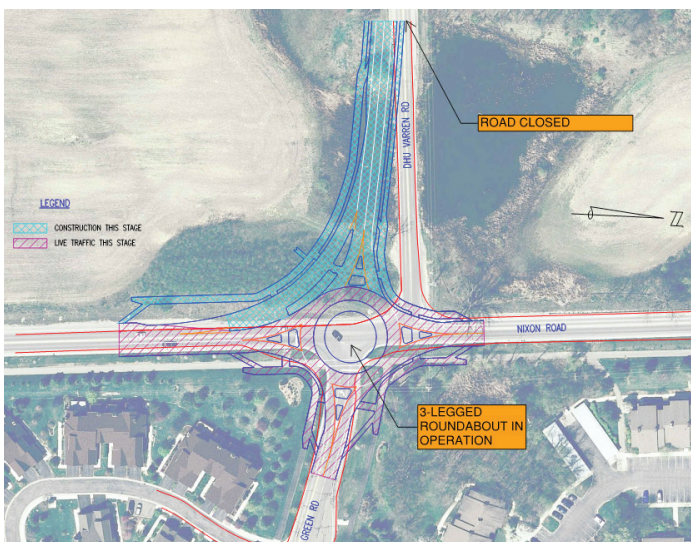
project, OHM would be willing to provide landscaping / streetscape plans and specifications at a negotiated additional fee.

### Task 1J – TEMPORARY TRAFFIC CONTROL

Detailed plans and specifications will be prepared for maintaining traffic during construction, in accordance with MDOT, MMUTCD, and City of Ann Arbor requirements. Generally, the staging plans will be developed with the goal of maintaining one lane of traffic on Nixon Road in each direction. We anticipate that phasing portions of the work will require temporary pavement and part-width construction in order to maintain traffic, including maintaining non-motorized traffic along the shared use path system.



As noted elsewhere, the City might elect to consider alternating full closures of Green Road and Dhu Varren Road, which would result in a significantly shorter project schedule and potential cost savings. See exhibit. If a temporary pavement is constructed to the west of the existing roadway, and if Green Road is closed and detoured, it would be possible to build all of the proposed circulating road, the truck apron, and central island; and all but the west leg of the roundabout. Then, in the next stage, a relatively short-term closure and detour of Dhu Varren Road would allow the completion of the west leg. The feasibility of constructing the temporary pavement would need to be analyzed, in order to avoid impacts to the bur oak tree and/or the DTE pole. The intersection would operate under all-way stop control while the temporary road is in service. Speeds would be reduced to 25 mph.



Temporary pavement allows for two-way traffic along Nixon Road.

### Task 1K – DESIGN MEETINGS

An initial Kick-Off Meeting will be held, once the design contract has been approved. We anticipate that this meeting will be attended by OHM team members and City staff. During the design process, OHM will conduct bi-weekly progress meetings either in person or over the phone. We anticipate that City staff and OHM team members will attend these meetings to collaborate on issues, design options, and alternatives. OHM will prepare an agenda, meeting materials, and a summary.

We anticipate Plan Review Meetings after major milestone submittals (e.g. Base Plans, Preliminary Plans, and Pre-Final Plans). OHM will prepare and distribute meeting summaries. Additional meetings related to the right-of-way acquisition

are not included in this Proposal, but could be provided at a negotiated price. We believe early discussions with the adjacent condominium associations, property owners, and the Nixon Farms developer will greatly reduce the time and cost of City staff when acquiring the right-of-way. Refer to Task 3 for details of the community engagement and public meeting process.

#### Task 1L – BASE PLANS (30% Set)

The OHM team will prepare a 30% set of Base Plans and an engineer's opinion of probable cost for the City's review. The chosen iteration of the proposed horizontal and vertical alignment will be shown, with the corresponding impacts on right-of-way and existing utilities. Proposed drainage improvements and potential storm water management options will be presented for discussion. The initial Maintaining Traffic Concepts will also be submitted.

#### Task 1M – PRELIMINARY PLANS AND SPECIFICATIONS (70%)

OHM will prepare a 70% set of Preliminary Plans, draft contract documents, and updated engineer's opinion of probable cost for the City's review. The proposed roadway and non-motorized alignments will be detailed, and the grading limits will be refined to define the right-of-way impacts. The proposed drainage features will be depicted in plan and profile. The chosen construction staging scheme will be developed.

#### Task 1N – PRE-FINAL PLANS AND SPECIFICATIONS (95% Set)

Based on the comments received from the City at the Preliminary Plans Review Meeting, OHM will prepare detailed Pre-Final Plans, contract documents, and an updated engineer's opinion of probable cost for the City's review. This package will include detailed special provisions and methods of payment for construction items that are not covered by the City's Public Services Department Standard Specifications for Construction. Prior to this submittal, OHM will complete all right-of-way documentation, construction notes, plans, profiles, details, and quantities.

#### Task 1P – INCORPORATE FINAL COMMENTS & PREPARE CONTRACT DOCUMENTS

Upon receipt of final review comments from the City of Ann Arbor, OHM will address outstanding issues, make any final modifications to the plans and specifications, and submit complete sets of biddable contract documents to the City for

advertisement of the project. The submittal will also include the final engineer's estimate of probable cost.

#### Task 1Q – QA/QC, DELIVERABLES, & REVISIONS

Our Lead QA/QC Engineer is an experienced professional engineer with over 25 years of experience working on a wide range of transportation projects for a variety of clients. For quality control (QC), he will lead independent reviews of all milestone plan sets and specifications prior to submitting to the City of Ann Arbor for review. For quality assurance (QA), he will coordinate with our experienced design staff to ensure that all elements of the design have been reviewed by a qualified independent engineer.

All construction plans and specifications will meet the requirements of the City of Ann Arbor, as described in the RFP. Our final plan set will include a title sheet, legend, general notes, typical cross sections, miscellaneous details, survey data, alignments, removal sheets, construction plans, profiles, water main plans (if necessary), construction staging, detail grades, permanent signing, pavement markings, and a log of soil borings. If necessary during the final review or bidding process, OHM will prepare Addenda or make revisions to the final plans, special provisions, and/or cost estimates. Lastly, we will submit AutoCAD files of the plans, and electronic files of all other contract documents to the City for their records.

#### Task 1R – WATER MAIN RELOCATION

If the existing 20-inch water transmission main in the Dhu Varren Road right-of-way must be relocated as a result of this project, OHM will design and prepare plans for a new main and removal or abandonment of the old. As mentioned above, we believe the proposed roadway realignment can be designed without a significant earth cut at the obliterated old road, thereby retaining the cover over the water main and avoiding its relocation. Our municipal utility engineers will evaluate this possibility early in the design. If relocation is deemed necessary, we will prepare the water main plans, profiles, and details to meet City of Ann Arbor standards. OHM will also prepare and submit a permit application to the MDEQ in a timely fashion, to ensure that the water main design is approved before the Letting.

**The Design Fee for Task 1 (Intersection Improvement Design) includes the services outlined in Tasks 1A through 1R.**

## Task 2 • Nixon Road Corridor Study • Work Plan

### Task 2A – REVIEW PROPOSED TRAFFIC PROJECTIONS

As the RFP noted, there are various traffic counts and vehicle volume forecasts available for the project area. Included in the available data are the trip generation and distribution estimates for the proposed developments in the area, Woodbury Club and Nixon Farms North and South. The City is asking that this information be reviewed and validated. However, since a critical objective of the corridor study is to include a multi-modal analysis, we are proposing that all new data, both vehicle and non-vehicle, be collected. Please refer to the data collection and analysis plans below. The previously collected information will be reviewed and treated as a resource to check the new data against.

While the RFP did not note the desired forecast year for the corridor study, we have subsequently learned that the City wishes to use the same horizon year as the Intersection Improvement Study prepared by Opus International Consultants, which is 2035. We will start by placing a Transportation Data Request with WATS to obtain the current and future model information for the study area.

We generally do not use forecast data ‘out of the box’, without an understanding of the social and economic data on which they are based. Our standard practice is to evaluate the Transportation Analysis Zone (TAZ) data to see how it accounts for potential development in the area. Given the possible developments of Woodbury Club and Nixon Farms North and South, we would want to ensure that they are not double counted. We generally exercise our professional judgment to develop adjustments to the forecast numbers for use in studies.

### Task 2B – DEVELOP AND EXECUTE A COMPREHENSIVE, MULTI-MODAL DATA COLLECTION PLAN

OHM has included on our team one of the premiere firms in southeast Michigan for obtaining and processing traffic data. Traffic Data Collection, Inc. (TDC) has decades of experience, including the capture of multi-modal data. They have revolutionized the way to collect traffic data on transportation engineering projects and place a high importance on collecting bike and pedestrian data. By using video, TDC is able to collect data, and observe and record

multi-modal activity and its interaction at intersections and mid-blocks, and apply this additional insight into transportation projects.

We have evaluated the study corridor area and concur with the RFP that the eight key locations to be part of the data collection effort are:

- Nixon Rd and Dhu Varren Rd/ Green Rd [current all-way STOP control, proposed roundabout]
- Nixon Rd and Traver Blvd [minor approach STOP control]
- Nixon Rd and Clauge Middle School drive [minor approach STOP control]
- Nixon Rd and Bluett Rd [minor approach STOP control]
- Nixon Rd and Aurora St [minor approach STOP control]
- Nixon Rd and Huron Pkwy [roundabout]
- Nixon Rd and Plymouth Rd [traffic signal control]
- Huron Pkwy and Plymouth Rd [traffic signal control]

### Video Data Collection

Collecting multi-modal data can be challenging, with the need to capture vehicles, bikes, pedestrians and transit. It’s crucial to capture how all modality is interacting with the environment and infrastructure. TDC utilizes Miovision to record the various mode types at major intersections and provides report summary details & percentages by seven (7) groupings:

1. Light vehicles: Includes FHWA Classes 1-3 (Motorcycles, Cars, Light Goods Vehicles)
2. Buses: Includes FHWA Class 4 (School Buses & Regional Transportation Metro Buses)
3. Single-Unit Trucks: Includes FHWA Classes 5-7 (2-4 Axle SU Medium Trucks)
4. Articulated Trucks: Includes FHWA Classes 8-12 (Heavy Trucks W/Single & Multi Unit Trailers)
5. Bicycles On Road: Includes all bicycles on the roadway
6. Bicycles On Crosswalk: Includes all bicycles using sidewalks
7. Pedestrians: Includes all pedestrians using crosswalks

For this project, TDC will be collecting video for all locations, concurrently, for a minimum of 24-hours. This will allow us to have turning movements at the surveyed

intersections, as well as the pedestrian, bicycle and transit movements. Normally this information would only be available through extensive observation in the field. But with video capture, TDC provides video so the project team can view the sites in the office at any time. TDC utilizes this approach and it's highly beneficial when accessing site during peak hours and off peak periods is difficult. Collecting pedestrian and bike data this way not only shows volume of activity, but allows for additional insight into pedestrian and bicyclist behavior. For example, video can show poor or dangerous pedestrian behavior such as a pedestrian running out to cross the street between gaps in vehicles. Video capture allows for recommendations which address designing for pedestrian safety.

## Task 2C - DEVELOP AND EXECUTE A COMPREHENSIVE, MULTI-MODAL DATA ANALYSIS METHODOLOGY

### Vehicle Analysis

Commiserate with the multi-modal data collection is the need for multi-modal analysis of the users of the Nixon Rd corridor. Evaluating vehicle flows is relatively straightforward, as there is fundamental agreement on the methods and meanings of the standard measures of effectiveness, average delay and level of service (LOS) as defined in the Highway Capacity Manual, 2010 edition (HCM). To evaluate these factors, we proposed to utilize VISSIM software and develop a series of models of the corridor. At a minimum, we will model the a.m. and p.m. commuter peak periods, for the following alternatives:

- Existing traffic and roadway corridor conditions
- Future traffic on existing roadway corridor conditions
- Future traffic on proposed improvements to roadway corridor

We presume it is the City's goal to look at improvements that would represent the least needed to maintain a reasonable mobility for vehicles, while focusing on more significant improvements in mobility and safety for pedestrians and bicyclists. So, we believe it should be possible to achieve this with just one vehicle-focused alternative. This brings the total number of VISSIM models to six.

Although VISSIM is capable of modeling roundabouts, we note that the software is best suitable for planning-level

analysis. We do not feel that it has the rigor to evaluate subtle geometric differences for roundabouts. So as we have noted for Task 1 of this project, we will be relying on RODEL for detailed evaluation and design of the proposed roundabout for Nixon Rd and Dhu Varren Rd/ Green Rd.



While the entire corridor will be modeled in VISSIM, RODEL will be used for detailed analysis and design of roundabouts.

### Pedestrian and Bicycle Analysis

By way of contrast, there is no such general agreement on the appropriate measures of effectiveness for pedestrians and bicyclists. The 2010 version of HCM has chapters on pedestrians and bicycles, but the results of the HCM methodologies have been criticized for failing to best represent the 'quality of service' for these modes. For example, it deals with concepts like the density of pedestrians and its impacts on flow rates and walking speed. These do not really relate to the characteristics of this corridor and how 'friendly' the roadway facility is to pedestrians.

So while our analyses will include performing HCM pedestrian and bicycle LOS calculations, we will discuss with the City the possibility of also using a multi-modal scoring tool developed by the City of Charlotte, NC. Developed as part of their Urban Street Design Guidelines, this tool will allow us to consider physical characteristics in the corridor, existing and proposed, that may better address the quality of the walking and biking experience along Nixon Rd. For example, the tool would look at variables such as pedestrian crossing distances, median refuge islands, corner radius, crosswalk treatments and signal facets such as phasing and right turns on red.

### Safety Analysis

The RFP speaks about wanting a safety review of existing and proposed conditions, based on the Highway Safety Manual (HSM) methodology. We will use the TIA crash tool TCAT to obtain crash data for the study area for a minimum of three years to form the safety baseline. We will use a Safety Predictive Function (SPF) to estimate the expected crash frequency of the existing condition, adjusted for the anticipated future traffic volumes. We will then apply appropriate Crash Modification Factors (CMF) (HSM Vol. 3, Part D) to estimate the expected crash frequency of the proposed conditions.

### Task 2D - REPORT PREPARATION

Generally, the reports will summarize data collected, traffic projections, safety analysis, vehicle, pedestrian and bicycle analysis and recommended improvements for the corridor. Submittals will include a Draft and Final Report.

Specifically, the reports will explain the measures of effectiveness chosen for each mode of travel. It will also note the modeling process, including all assumptions,

operational conditions for all modes of travel including proposed improvements, a safety review for existing and proposed conditions utilizing the Highway Safety Manual methodology and documentation of the community engagement process.

### Task 2E - MEETINGS

Once the study contract has been approved, an initial Kick-Off Meeting will be held. During the study process, OHM plans to conduct an additional (4) study related progress meetings: at the end of Task 2A (Review Proposed Traffic Projections), and Task 2B (Data Collection), which will occur concurrently, after the models of the corridor have been created in Task 2C (Analysis), and after the draft report has been submitted and reviewed by the City and an as-needed meeting. OHM will prepare and distribute minutes of all meetings. Additional participation in meetings for public engagement of the community will be necessary and are covered in Task 3.

## Task 3 • Communication and Community Engagement • Work Plan

### PROPOSED WORK PLAN

Project Innovations' philosophy regarding public engagement is to engage the public early and often. Successful public engagement builds trust on two levels: 1) trust in the project team's technical competence and 2) the project team's willingness to truly listen to the stakeholders. A well-publicized timeline, clearly established milestones, and easily accessible digital records offer transparency. Competently facilitated meetings and fruitful conversations will create a collaborative environment to discuss complex topics in a safe space. The keys to a successful public engagement project in Ann Arbor include:

1. Creating a safe space for the public to raise and discuss the issues relating to the project.
2. Acknowledging feedback and showing how it is being utilized by the Project Team.
3. Preparing for meetings with a relevant agenda and providing facilitation that allows for all voices to be heard.
4. Disseminating information in various methods to be sure that it is reaching a wide audience, including stakeholders such as City Council, Commissions, and Boards.
5. Translating complex technical language into simplified and easy to digest documents.

As an additional complement to our process, we will provide mentoring and coaching in public engagement facilitation to the Ann Arbor staff on the project. During 2015, Project Innovations provided extensive facilitation, public engagement, and public speaking training to city staff. We will leverage and reinforce the training with city staff as appropriate and desired throughout the project.

### Task 3A: DOCUMENTATION REVIEW

Scan/review/absorb existing related City data (documents and video) to assess public engagement challenges and opportunities:

- Dhu Varren-Nixon-Green Intersection Improvement Projects Website
- Intersection Study Final Report (March 2015)
- December 11, 2014 Public Meeting documentation and video
- October 9, 2013 Public Meeting documentation

**Deliverable:** Executive Summary of Key Findings

### Task 3B: SCHEDULE/ATTEND/FACILITATE PROJECT WORK GROUP MEETINGS

**Deliverable:** Project Work Group meeting agendas and summaries

### TASK 3C: PUBLIC ENGAGEMENT STRATEGY DEVELOPMENT

- a. Interview Key City Staff regarding Public Engagement Needs, starting with the Project Manager
- b. Situation Analysis: Identify key issues the Public Engagement Program will address. The issues will vary by project area as will all of the below tasks.
- c. Clarify and Integrate: Clarify objectives of the public engagement efforts for the roundabout design and corridor study. Identify opportunities for integrating the public engagement process for the two efforts
- d. Develop Message Model: Identify the five to seven key messages that must be communicated to build trust in the project team's competence.
- e. Target Audience Lists: Using the City's Toolkit, develop an expanded list of stakeholders, including the RFQ's listed groups and appropriate press contacts (on-line and print, newsletters, business, local, and broadcast), and other influencers.
- f. Engagement Matrix: Create a matrix to be used to determine which stakeholder groups will be targeted for each project area.
- g. Contact Plan: Confirm interview, focus groups, advisory group and public meeting schedule.
- h. Create a Public Engagement strategy, with timeline/milestones for each phase/meeting event.
- i. Document the public engagement strategy using Ann Arbor's Community Action Plan format

**Deliverable:** Community Engagement Plan

### Task 3D: ENGAGE THE PUBLIC

- a. Conduct/document up to 18 stakeholder interviews:
  - 9 for the Roundabout Design
  - 9 for the Corridor Study
- b. Plan, facilitate, and document outcomes of four general public meetings:
  - Project Introduction/Kick-off
  - Concept Design Options
  - Preferred Design Selection
  - Next Steps





- c. Plan, organize and facilitate a Nixon Road Transportation Advisory Task Force (Note – this task was not mentioned in the RFP, but our review of the prior public meetings, indicates a need for more focused interaction with the Nixon Road residential/business community. Six meetings will be conducted - three focusing on the corridor study and three focusing on the roundabout.
- d. Maintain project website throughout the project, providing content as defined by the Project Manager to the City.

**Deliverables:**

- Develop project fact sheets for public distribution.
- Develop infographic show how roundabout and corridor study are integral to each other
- Input into the Task 3C, Final Community Engagement Report with appropriate interview, focus group and meeting documentation.

**Task 3E: POST PROJECT COMMUNICATION:**

Project Innovations will develop a 3 to 5 minute close out video documenting the process and results of the Corridor Study only.

**Deliverable:** 3 to 5 minute project close out video.



## Schedule of Key Dates

### Task 1 • Intersection Improvement Design

<b>01/2016</b>	Kick-Off Meeting
<b>05/2016</b>	MDEQ Pre-Application Meeting
<b>05/2016</b>	Submit Base Plans (30%) and ROW
<b>06/2016</b>	Base Plan Review Meeting
<b>07/2016</b>	Submit Preliminary Plans (70%), Specifications, and Estimates
<b>07/2016</b>	MDEQ Permit Application
<b>08/2016</b>	Preliminary Review (GI) Meeting
<b>09/2016</b>	Submit Pre-Final Plans (95%), Specifications, and Estimates
<b>10/2016</b>	Pre-Final Review Meeting
<b>11/2016</b>	Submit Bid Package of Final Contract Documents
<b>01/2017</b>	Addenda
<b>02/2017</b>	Bid Letting by City of Ann Arbor

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### Task 2 • Corridor Study

<b>01/2016</b>	Kick-Off Meeting
<b>03/2016</b>	Traffic Projections/ Data Review Meeting
<b>05/2016</b>	Modeling and Analysis Meeting
<b>07/2016</b>	Draft Report Review Meeting

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### Task 3 • Engagement

<b>03/2016</b>	Public Meeting- Project Introduction/ Kick-Off
<b>05/2016</b>	Public Meeting- Concept Design Options
<b>08/2016</b>	Public Meeting- Preferred Design Selection
<b>12/2016</b>	Public Meeting- Next Steps

PROJECT TASKS	2016												2017	
	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	JAN	
Task 1A Data Research and Utility Coordination	■	■			■	■			■	■				
Task 1B Topographic Survey & Right-of-Way	■	■	■											
Task 1C Geotechnical Investigation		■	■	■										
Task 1D Wetland Mitigation				■	■	■								
Task 1E Horizontal and Vertical Road Alignments	■	■	■	■	■	■								
Task 1F Storm Water Management				■	■	■	■	■						
Task 1G Street Lighting				■	■	■	■	■						
Task 1H Pedestrians, Bicycles & Landscaping		■	■	■	■	■	■	■						
Task 1J Temporary Traffic Control														
Task 1K Design Meetings	●				●	●		●		●				
Task 1L Base Plans (30% set)				■										
Task 1M Preliminary Plans and Specs (70%)						■	●							
Task 1N Pre-Final Plans and Specs (95%)								■	●					
Task 1P Incorporate Final Comments & Prepare Contract Documents										■	●			
Task 1Q QA/QC. Deliverables & Revisions											■	■	●	●
Task 1R Water Main Relocation		■	■			■		■						
Task 2A Review Proposed Traffic Projections	■	■												
Task 2B Develop & Execute a Comprehensive, Multi-Modal Data Collection Plan	■	■												
Task 2C Develop & Execute a Comprehensive, Multi-Modal Analysis Methodology		■	■	■										
Task 2D Report Preparation					■	■	■							
Task 2E Meetings	●		●		●		●							
Task 3A Documentation Review	■	■												
Task 3B Schedule/Attend/ Facilitate Project Work Group Meetings	■	■	■	■	■	■	■	■	■	■	■	■	■	
Task 3C Public Engagement Strategy Development	■	■	■	■										
Task 3D Engage the Public*			●		●			●				●		
Task 3E Post Project Communication								■	■					

● Key Dates

\* Task 3D includes 18 Stakeholder interviews and 6 Transportation Advisory Force Meetings.



# Personnel Hours

## ALLOCATION OF STAFF RESOURCES

OHM Job Number		PROJECT DESCRIPTION:																
JN: TBD		Nixon / Green / Dhu Varren Roads Intersection Improvement Project and Nixon Road Corridor Traffic Study																
CONSULTANT NAME:		OHM Advisors																
TASKS	Staff Classification:	Prof. Eng. IV	Sr. Associate	Associate	Prof. Eng. IV	Prof. Eng. II	Associate	Prof. Eng. II	Prof. Eng. III	Prof. Surveyor	Prof. Eng. II	Grad Eng. I	Eng. Tech. III	Surveyor III	Surveyor II	President	Admin. Staff	Total Hours For This Task
		OHM Loveland PM	OHM Wingate QA Officer	OHM Katers Lead Road	OHM Cox Road Eng.	OHM Ardanowski Road Eng.	OHM Dearing Lead Traffic	OHM Juidici Merrill Traffic Eng.	OHM Hobgood Municipal	OHM Schripsema Survey	OHM Lighting	OHM Eng.	OHM Technician	OHM Survey	OHM Survey	PI Fleetham Facilitator	PI Admin Staff	
Task 1: Intersection Improvement Design																		
1A	Data Research and Utility Coordination	4		2	8	50							12					76
1B	Topographic / Route Survey	12		1	2					15				209	130			369
1C	Geotechnical Investigation	Subconsultant - See below																
1D	Wetland Mitigation and MDEQ Permitting	4		2	8	32							8					54
1E	Horizontal and Vertical Roadway Alignments	4		16	50	3												73
1F	Storm Water Management	4		4	60	8							16					92
1G	Street Lighting	2		2	4						16							24
1H	Pedestrian, Bicycles and Landscaping	2		4	16	2												24
1J	Temporary Traffic Control (Assume 14 Sheets)	12		4		4	120					40	120					300
1K	Design Meetings	52		12	4	4	2											74
1L	Base Plans (30%)	10		4	20	80	2	26				30	60					232
1M	Preliminary Plans (70%) and Specifications	20		16	40	160	4	36				80	120					476
1N	Pre-Final Plans (95%) and Specifications	8		8	16	60	2	24				30	30					178
1P	Incorporate Final Comments & Prepare Contract Documents	2		2	4	8	2	2				2						22
1Q	QA/QC, Revisions & Final Deliverables	2	4	8	8	2												24
1R	Relocation of Transmission Water Main (If Necessary)	8		1	3				50			75	75					212
Task 2: Nixon Road Corridor Study																		
2A	Review Proposed Traffic Projections	2					4	30				4						40
2B	Develop and Execute a Comprehensive, Multi-Modal Data Collection Plan	2					2	14				2						20
2C	Develop and Execute a Comprehensive, Multi-Modal Analysis Methodology	40					40	320				40						440
2D	Report Preparation	4					8	60				8						80
2E	Meetings	20					20	20										60
Task 3: Communication and Community Engagement																		
3A	Documentation Review	4														8	2	14
3B	Schedule/Attend/Facilitate Project Work Group Meetings															32		32
3C	Public Engagement Strategy Development	6		3			3									16	6	34
3D	Engage the Public	64		48	48	40	48	40								104	80	472
3E	Post Project Communication	2														4		6
Sub	Traffic Data Collection, Inc. - Multi-Modal Data Collection	Hours not calculated- Subconsultant services will be lump sum.																
Sub	G2 Consulting Group - Geotechnical Investigation	Hours not calculated- Subconsultant services will be lump sum.																
Dir. Exp.	Project Innovations - OkRaptor Productions																	
Dir. Exp.	Project Innovations - Expenses																	
<b>Total Hours by Staff Resource - Plan</b>		290	4	137	211	518	150	694	50	15	16	311	441	209	130	164	88	
<b>TOTAL HOURS FOR ALL TASKS</b>																		<b>3428</b>





**D | FEE PROPOSAL (SEPARATELY SEALED)**







E | AUTHORIZED NEGOTIATOR



The following individuals are authorized to negotiate the Professional Services Agreement with the City. This proposal will be valid for 90 days.



**Jon Kramer, PE**  
Vice President of Operations  
734.466.4581  
jon.kramer@ohm-advisors.com  
34000 Plymouth Road  
Livonia, MI 48150



**Ron Cavallaro, PE**  
Operational Manager  
734.466.4467  
ron.cavallaro@ohm-advisors.com  
34000 Plymouth Road  
Livonia, MI 48150



F | APPENDICES



# ATTACHMENT B CITY OF ANN ARBOR DECLARATION OF COMPLIANCE

## Non-Discrimination Ordinance

The “non discrimination by city contractors” provision of the City of Ann Arbor Non-Discrimination Ordinance (Ann Arbor City Code Chapter 112, Section 9:158) requires all contractors proposing to do business with the City to treat employees in a manner which provides equal employment opportunity and does not discriminate against any of their employees, any City employee working with them, or any applicant for employment on the basis of actual or perceived age, arrest record, color, disability, educational association, familial status, family responsibilities, gender expression, gender identity, genetic information, height, HIV status, marital status, national origin, political beliefs, race, religion, sex, sexual orientation, source of income, veteran status, victim of domestic violence or stalking, or weight. It also requires that the contractors include a similar provision in all subcontracts that they execute for City work or programs.

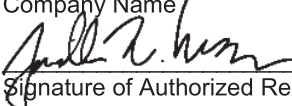
In addition the City Non-Discrimination Ordinance requires that all contractors proposing to do business with the City of Ann Arbor must satisfy the contract compliance administrative policy adopted by the City Administrator. A copy of that policy may be obtained from the Purchasing Manager

The Contractor agrees:

- (a) To comply with the terms of the City of Ann Arbor’s Non-Discrimination Ordinance and contract compliance administrative policy.
- (b) To post the City of Ann Arbor’s Non-Discrimination Ordinance Notice in every work place or other location in which employees or other persons are contracted to provide services under a contract with the City.
- (c) To provide documentation within the specified time frame in connection with any workforce verification, compliance review or complaint investigation.
- (d) To permit access to employees and work sites to City representatives for the purposes of monitoring compliance, or investigating complaints of non-compliance.

The undersigned states that he/she has the requisite authority to act on behalf of his/her employer in these matters and has offered to provide the services in accordance with the terms of the Ann Arbor Non-Discrimination Ordinance. The undersigned certifies that he/she has read and is familiar with the terms of the Non-Discrimination Ordinance, obligates the Contractor to those terms and acknowledges that if his/her employer is found to be in violation of Ordinance it may be subject to civil penalties and termination of the awarded contract.

OHM Advisors

_____ Company Name	
	12/03/2015
Signature of Authorized Representative	Date

Jonathan W. Kramer, PE VP of Engineering  
\_\_\_\_\_  
Print Name and Title

34000 Plymouth Rd. Livonia, MI 48150  
\_\_\_\_\_  
Address, City, State, Zip

734-466-4581 jon.kramer@ohm-advisors.com  
\_\_\_\_\_  
Phone/Email address

**Questions about the Notice or the City Administrative Policy, Please contact:**  
Procurement Office of the City of Ann Arbor  
(734) 794-6500

## ATTACHMENT C CITY OF ANN ARBOR LIVING WAGE ORDINANCE DECLARATION OF COMPLIANCE

The Ann Arbor Living Wage Ordinance (Section 1:811-1:821 of Chapter 23 of Title I of the Code) requires that an employer who is (a) a contractor providing services to or for the City for a value greater than \$10,000 for any twelve-month contract term, or (b) a recipient of federal, state, or local grant funding administered by the City for a value greater than \$10,000, or (c) a recipient of financial assistance awarded by the City for a value greater than \$10,000, shall pay its employees a prescribed minimum level of compensation (i.e., Living Wage) for the time those employees perform work on the contract or in connection with the grant or financial assistance. The Living Wage must be paid to these employees for the length of the contract/program.

*Companies employing fewer than 5 persons and non-profits employing fewer than 10 persons are exempt from compliance with the Living Wage Ordinance. If this exemption applies to your company/non-profit agency please check here [ ] No. of employees \_\_\_\_*  
The Contractor or Grantee agrees:

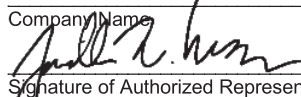
- (a) To pay each of its employees whose wage level is not required to comply with federal, state or local prevailing wage law, for work covered or funded by a contract with or grant from the City, no less than the Living Wage. The current Living Wage is defined as \$12.81/hour for those employers that provide employee health care (as defined in the Ordinance at Section 1:815 Sec. 1 (a)), or no less than \$14.30/hour for those employers that do not provide health care. The Contractor or Grantor understands that the Living Wage is adjusted and established annually on April 30 in accordance with the Ordinance and covered employers shall be required to pay the adjusted amount thereafter to be in compliance (Section 1:815(3)).

*Check the applicable box below which applies to your workforce*

- Employees who are assigned to any covered City contract/grant will be paid at or above the applicable living wage without health benefits
- Employees who are assigned to any covered City contract/grant will be paid at or above the applicable living wage with health benefits
- (b) To post a notice approved by the City regarding the applicability of the Living Wage Ordinance in every work place or other location in which employees or other persons contracting for employment are working.
- (c) To provide to the City payroll records or other documentation within ten (10) business days from the receipt of a request by the City.
- (d) To permit access to work sites to City representatives for the purposes of monitoring compliance, and investigating complaints or non-compliance.
- (e) To take no action that would reduce the compensation, wages, fringe benefits, or leave available to any employee covered by the Living Wage Ordinance or any person contracted for employment and covered by the Living Wage Ordinance in order to pay the living wage required by the Living Wage Ordinance.

The undersigned states that he/she has the requisite authority to act on behalf of his/her employer in these matters and has offered to provide the services or agrees to accept financial assistance in accordance with the terms of the Living Wage Ordinance. The undersigned certifies that he/she has read and is familiar with the terms of the Living Wage Ordinance, obligates the Employer/Grantee to those terms and acknowledges that if his/her employer is found to be in violation of Ordinance it may be subject to civil penalties and termination of the awarded contract or grant of financial assistance.

OHM Advisors

Company Name \_\_\_\_\_  
 \_\_\_\_\_  
 Signature of Authorized Representative Date 12/03/2015

Jonathan W. Kramer, PE VP of Engineering  
 Print Name and Title \_\_\_\_\_  
 34000 Plymouth Rd. Livonia, MI 48150  
 Address, City, State, Zip \_\_\_\_\_  
 734-466-4581 jon.kramer@ohm-advisors.com  
 Phone/Email address \_\_\_\_\_

Questions about this form? Contact Procurement Office City of Ann Arbor Phone: 734/794-6500

Revised 3/31/15 Rev 1

LW-2

ATT-4

**ATTACHMENT D**



**VENDOR CONFLICT OF INTEREST DISCLOSURE FORM**

All vendors interested in conducting business with the City of Ann Arbor must complete and return the Vendor Conflict of Interest Disclosure Form in order to be eligible to be awarded a contract. Please note that all vendors are subject to comply with the City of Ann Arbor's conflict interest policies as stated within the certification section below.

If a vendor has a relationship with a City of Ann Arbor official or employee, an immediate family member of a City of Ann Arbor official or employee, the vendor shall disclose the information required below.


**Certification:** I hereby certify that to my knowledge, there is no conflict of interest involving the vendor named below:

1. No City official or employee or City employee's immediate family member has an ownership interest in vendor's company or is deriving personal financial gain from this contract.
2. No retired or separated City official or employee who has been retired or separated from the City for less than one (1) year has an ownership interest in vendor's Company.
3. No City employee is contemporaneously employed or prospectively to be employed with the vendor.
4. Vendor hereby declares it has not and will not provide gifts or hospitality of any dollar value or any other gratuities to any City employee or elected official to obtain or maintain a contract.
5. Please note any exceptions below:

Vendor Name	Vendor Phone Number
OHM Advisors	734-522-6711
Conflict of Interest Disclosure *	
Name of City of Ann Arbor employees, elected officials, or immediate family members with whom there maybe a potential conflict of interest.	( ) Relationship to employee ( ) Interest in vendor's company ( ) Other
OHM Advisors has no conflicts of interest.	

\*Disclosing a potential conflict of interest does not disqualify vendors. In the event vendors do not disclose potential conflicts of interest and they are detected by the City, vendor will be exempt from doing business with the City.

I certify that the information provided is true and correct by my signature below:


12/03/2015
Jonathan W. Kramer, PE

Signature of Vendor Authorized Representative      Date      Printed Name of Vendor Authorized Representative

**PROCUREMENT USE ONLY**

- Yes, named employee was involved in Bid / Proposal process.
- No, named employee was not involved in procurement process or decision.