



CITY of NOVI CITY COUNCIL

Agenda Item P
August 11, 2014

SUBJECT: Approval to award an engineering services agreement with URS Corporation for design engineering services related to the Grand River Dual Left Turn at Beck Road project in the amount of \$42,281.

SUBMITTING DEPARTMENT: Department of Public Services, Engineering Division ^{P24} *BK*

CITY MANAGER APPROVAL: *[Signature]*

EXPENDITURE REQUIRED	\$ 42,281
AMOUNT BUDGETED	\$ 54,000
LINE ITEM NUMBER	204-204.00-863.511

BACKGROUND INFORMATION:

The City has been notified by the Michigan Department of Transportation that the grant application submitted by Engineering staff in late 2013 for a Federal Safety Grant to add a dual left turn lane to eastbound Grand River Avenue at Beck Road has been approved for 2015 construction. The construction of a dual left turn at this intersection was identified as a crash mitigation improvement in the 2012 report that evaluated the high crash intersections in the City of Novi (excerpt attached), and was also recommended as an operational improvement in the 2011 I-96 Area Transportation Improvement Plan report. The dual left turn lane project would be in addition to the right turn lane extension project for westbound Grand River at Beck Road that is currently in the bidding phase.

Although, this project is shown in the adopted Capital Improvement Program for engineering in FY16-17 and construction in FY17-18, staff recommends that this project be moved forward to utilize the grant funds that are available. The estimated project cost is \$655,000, of which \$432,000 is eligible for grant funding and \$223,000 would be the local match and engineering fees, which are ineligible for grant funding. The attached memo provides additional information in this regard.

URS' engineering fees are based on the fixed fee schedule established in the Agreement for Professional Engineering Services for Public Projects. The design fees for this project will be \$40,781 (7.75% of the estimated construction cost of \$526,200), plus \$1,500 for the coordination with franchise utilities for the relocation of multiple utility poles. The construction phase engineering fees will be awarded at the time of construction award and will be based on the construction contractor's bid price and the fee percentage established in the Agreement for Professional Engineering Services for Public Projects. A draft of the Supplemental Professional Engineering Services Agreement for this project is enclosed and includes the project scope and schedule.

The project will be designed and right-of-way acquisition will occur over the fall and winter months. Construction of this project is expected to commence in summer 2015, after the start of FY15-16.

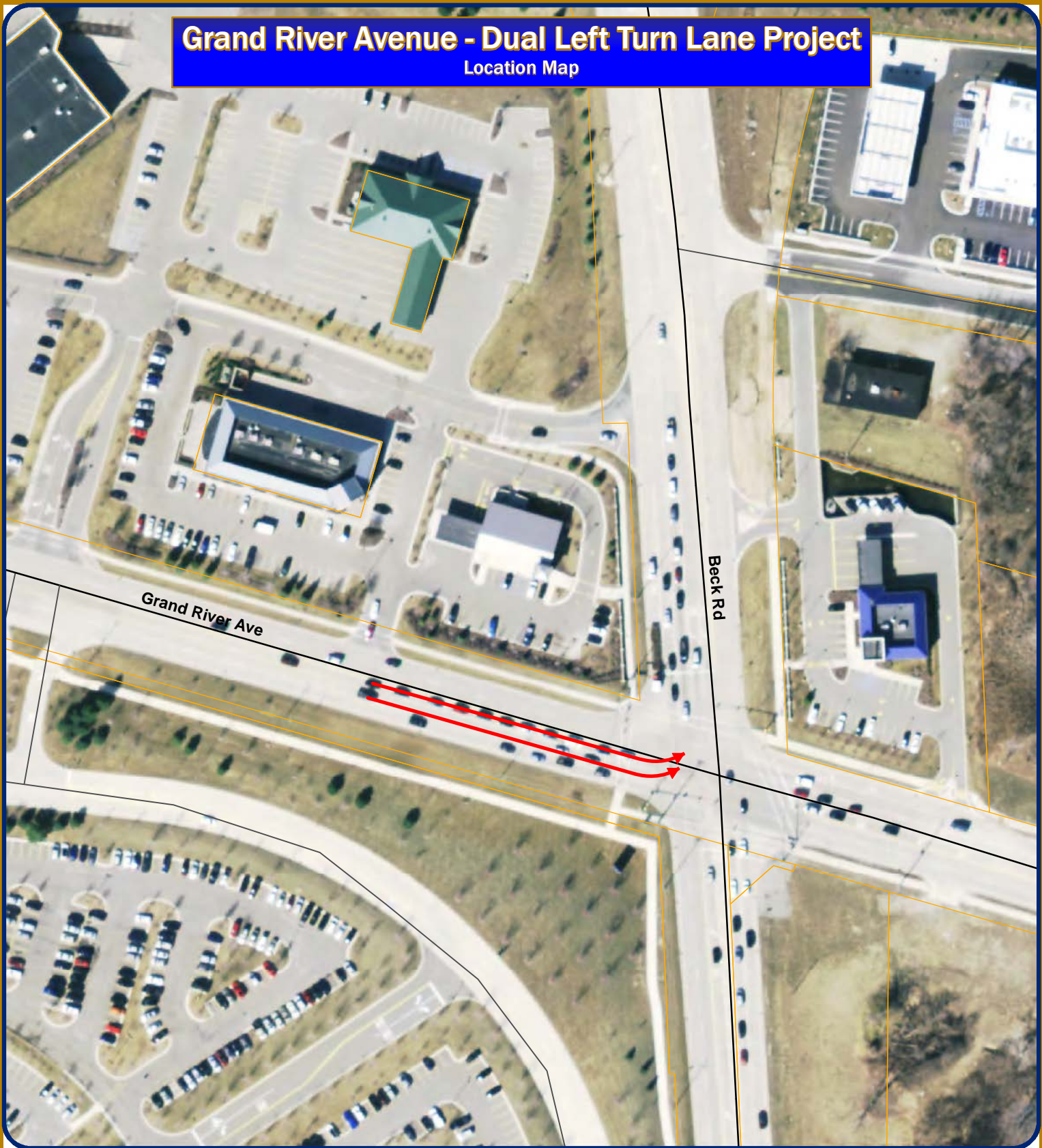
RECOMMENDED ACTION: Approval to award an engineering services agreement with URS Corporation for design engineering services related to the Grand River Dual Left Turn at Beck Road project in the amount of \$42,281.

	1	2	Y	N
Mayor Gatt				
Mayor Pro Tem Staudt				
Council Member Casey				
Council Member Fischer				

	1	2	Y	N
Council Member Markham				
Council Member Mutch				
Council Member Wrobel				

Grand River Avenue - Dual Left Turn Lane Project

Location Map



Map Author: Croy
Date: 7/28/14
Project: Grand River Dual Left Turn Lanes
Version #: v1.0

MAP INTERPRETATION NOTICE

Map information depicted is not intended to replace or substitute for any official or primary source. This map was intended to meet National Map Accuracy Standards and use the most recent, accurate sources available to the people of the City of Novi. Boundary measurements and area calculations are approximate and should not be construed as survey measurements performed by a licensed Michigan Surveyor as defined in Michigan Public Act 232 of 1970 as amended. Please contact the City GIS Manager to confirm source and accuracy information related to this map.



1 inch = 125 feet



City of Novi
Engineering Division
Department of Public Services
26300 Lee BeGole Drive
Novi, MI 48375
cityofnovi.org

SUPPLEMENTAL PROFESSIONAL ENGINEERING SERVICES AGREEMENT

GRAND RIVER DUAL LEFT TURN LANES AT BECK ROAD PROJECT

This Agreement shall be considered as made and entered into as of the date of the last signature hereon, and is between the City of Novi, 45175 W. Ten Mile Road, Novi, MI 48375-3024, hereafter, "City," and URS Corporation – Great Lakes., whose address is 27777 Franklin Road, Suite 2000, Southfield, MI 48034, hereafter, "Consultant."

RECITALS:

This Agreement shall be supplemental to, and hereby incorporates the terms and conditions of the AGREEMENT FOR PROFESSIONAL ENGINEERING SERVICES FOR PUBLIC PROJECTS, and attached exhibits, entered into between the City and the Consultant on December 17, 2012.

The project includes the design and the preparation of plans and specifications for the addition of a second eastbound to northbound left turn lane on Grand River at Beck Road. Plans shall be prepared in accordance with MDOT Local Agency Program requirements. This project will include coordination with DTE for the required utility pole relocations.

NOW, THEREFORE, in consideration of the foregoing, the City and Consultant agree as follows:

Section 1. Professional Engineering Services.

For and in consideration of payment by the City as provided under the "Payment for Engineering Services" section of this Agreement, Consultant shall perform the work described in the manner provided or required by the following Scope of Services, which is attached to and made a part of this Agreement as Exhibit A, all of said services to be done in a competent, efficient, timely, good and workmanlike manner and in compliance with all terms and conditions of this Agreement.

Exhibit A Scope of Services

Section 2. Payment for Professional Engineering Services.

1. Basic Fee.

- a. Design Phase Services: The Consultant shall complete the design phase services as described herein for a lump sum fee of \$40,780.50, which is 7.75% of the estimated construction cost (\$526,200) as indicated on the Design and Construction Engineering Fee Curve.

- b. DTE Coordination: The Consultant shall delineate the wetland adjacent to the project for a lump sum fee of \$1,500.
- c. Construction Phase Services will be awarded at the time of construction award, should it occur.

2. Payment Schedule for Professional Engineering Services Fee.

Consultant shall submit monthly statements for professional engineering services rendered. The statements shall be based on Consultant's estimate of the proportion of the total services actually completed for each task at the time of billing. The City shall confirm the correctness of such estimates, and may use the City's own engineer for such purposes. The monthly statements should be accompanied by such properly completed reporting forms and such other evidence of progress as may be required by the City. Upon such confirmation, the City shall pay the amount owed within 30 days.

Final billing under this agreement shall be submitted in a timely manner but not later than three (3) months after completion of the services. Billings for work submitted later than three (3) months after completion of services will not be paid. Final payment will be made upon completion of audit by the City.

3. Payment Schedule for Expenses.

All expenses required to complete the scope of services described herein, including but not limited to costs related to mileage, vehicles, reproduction, computer use, etc., shall be included in the basic fee and shall not be paid separately. However, as compensation for expenses that are not included in the standard scope of services, when incurred in direct connection with the project, and approved by the City, the City shall pay the Consultant its actual cost times a factor of 1.15.

Section 4. Ownership of Plans and Documents; Records.

1. Upon completion or termination of this agreement, all documents prepared by the Consultant, including tracings, drawings, estimates, specifications, field notes, investigations, studies, etc., as instruments of service shall become the property of the City.

2. The City shall make copies, for the use of the Consultant, of all of its maps, records, laboratory tests, or other data pertinent to the work to be performed by the Consultant under this Agreement, and also make available any other maps, records, or other materials available to the City from any other public agency or body.

3. The Consultant shall furnish to the City, copies of all maps, records, field notes, and soil tests that were developed in the course of work for the City and for which compensation has been received by the Consultant.

Section 5. Termination.

1. This Agreement may be terminated by either party upon 7- days' prior written notice to the other party in the event of substantial failure by the other party to fulfill its obligations under this agreement through no fault of the terminating party.

2. This Agreement may be terminated by the City for its convenience upon 90 days' prior written notice to the Consultant.

3. In the event of termination, as provided in this Article, the Consultant shall be paid as compensation in full for services performed to the date of that termination, an amount calculated in accordance with Section 2 of this Agreement. Such amount shall be paid by the City upon the Consultant's delivering or otherwise making available to the City, all data, drawings, specifications, reports, estimates, summaries, and that other information and materials as may have been accumulated by the Consultant in performing the services included in this Agreement, whether completed or in progress.

Section 6. Disclosure.

The Consultant affirms that it has not made or agreed to make any valuable gift whether in the form of service, loan, thing, or promise to any person or any of the person's immediate family, having the duty to recommend, the right to vote upon, or any other direct influence on the selection of consultants to provide professional engineering services to the City within the two years preceding the execution of this Agreement. A campaign contribution, as defined by Michigan law shall not be considered as a valuable gift for the purposes of this Agreement.

Section 7. Insurance Requirements.

1. The Consultant shall maintain at its expense during the term of this Agreement, the following insurance:

- A. Worker's Compensation insurance relative to all Personnel engaged in performing services pursuant to this Agreement, with coverage not less than that required by applicable law.
- B. Comprehensive General Liability insurance with maximum bodily injury limits of \$1,000,000 (One Million Dollars) each occurrence and/or aggregate and minimum Property Damage limits of \$1,000,000 (One Million Dollars) each occurrence and/or aggregate.
- C. Automotive Liability insurance covering all owned, hired, and non-owned vehicles with Personal Protection insurance to comply with the provisions of the Michigan No Fault Insurance Law including Residual Liability insurance with minimum bodily injury limits of \$1,000,000 (One Million Dollars) each occurrence and/or aggregate minimum property damage limits of \$1,000,000 (One Million Dollars) each occurrence and/or aggregate.
- D. The Consultant shall provide proof of Professional Liability coverage in the amount of not less than \$1,000,000 (One Million Dollars) per claim and/or aggregate, and Environmental Impairment coverage. The retroactive date indicated on the policy shall either be unlimited, or, shall be the date that the Consultant established its initial coverage.

In the event that Consultant is sold or dissolved, Consultant shall provide purchase, at its expense, a "tail" or extended reporting period for the professional liability coverage for a period not less than 5 years.

2. The Consultant shall be responsible for payment of all deductibles contained in any insurance required hereunder.

3. If during the term of this Agreement changed conditions or other pertinent factors should in the reasonable judgment of the City render inadequate insurance limits, the Consultant will furnish on demand such additional coverage as may reasonably be required under the circumstances. All such insurance shall be effected at the Consultant's expense, under valid and enforceable policies, issued by the insurers of recognized responsibility which are well-rated by national rating organizations and are acceptable to the City.

4. All policies shall name the Consultant as the insured and shall be accompanied by a commitment from the insurer that such policies shall not be canceled or reduced without at least thirty (30) days prior notice to the City.

With the exception of professional liability, all insurance policies shall name the City of Novi, its officers, agents, and employees as additional insured. Certificates of Insurance evidencing such coverage shall be submitted to Sue Morianti, Purchasing Manager, City of Novi, 45175 West Ten Mile Road, Novi, MI 48375-3024 prior to commencement of performance under this Agreement and at least fifteen (15) days prior to the expiration dates of expiring policies.

5. If any work is sublet in connection with this Agreement, the Consultant shall require each subconsultant to effect and maintain at least the same types and limits of insurance as fixed for the Consultant.

6. The provisions requiring the Consultant to carry said insurance shall not be construed in any manner as waiving or restricting the liability of the Consultant under this Agreement.

Section 8. Indemnity and Hold Harmless.

A. The Consultant agrees to hold harmless and indemnify the City, its officers, agents, employees from and against all claims, demands, suits liability, losses, damages or costs (including reasonable attorney fees and costs) arising out, of or resulting from the Consultant's tortious or negligent acts, errors, or omissions in performing this Agreement.

B. The City agrees, to the extent permitted by law, to indemnify and hold harmless the Consultant, its officers, partners, employees, stockholders, and sub-consultants (collectively Consultant) from and against any and all claims, suits, demands, liability, losses, damages or costs, including reasonable attorney's fees and costs arising out of or resulting from the City's tortious or negligent acts or errors in performing this Agreement.

C. Section 8(B) of this Agreement shall not apply to individual design and/or construction management projects.

The Consultant agrees that it is its responsibility and not the responsibility of the City to safeguard the property and materials used in performing this Agreement. Further, this Consultant agrees to hold the City harmless for any loss of such property and materials used pursuant to the Consultant's performance under this Agreement.

Section 9. Nondiscrimination.

The Consultant shall not discriminate against any employee, or applicant for employment because of race, color, sex, age or handicap, religion, ancestry, marital status, national origin, place of birth, or sexual preference. The Consultant further covenants that it will comply with the Civil Rights Act of 1973, as amended; and the Michigan Civil Rights Act of 1976 (78. Stat. 252 and 1976 PA 4563) and will require a similar covenant on the part of any consultant or subconsultant employed in the performance of this Agreement.

Section 10. Applicable Law.

This Agreement is to be governed by the laws of the State of Michigan and the City of Novi Charter and Ordinances.

Section 11. Approval; No Release.

Approval of the City shall not constitute nor be deemed release of the responsibility and liability of Consultant, its employees, associates, agents and subconsultants for the accuracy and competency of their designs, working drawings, and specifications, or other documents and services; nor shall that approval be deemed to be an assumption of that responsibility by the City for any defect in the designs, working drawings and specifications or other documents prepared by Consultant, its employees, subconsultants, and agents.

After acceptance of final plans and special provisions by the City, Consultant agrees, prior to and during the construction of this project, to perform those engineering services as may be required by City to correct errors or omissions on the original plans prepared by Consultant and to change the original design as required.

Section 12. Compliance With Laws.

This Contract and all of Consultants professional services and practices shall be subject to all applicable state, federal and local laws, rules or regulations, including without limitation, those which apply because the City is a public governmental agency or body. Consultant represents that it is in compliance with all such laws and eligible and qualified to enter into this Agreement.

Section 13. Notices.

Written notices under this Agreement shall be given to the parties at their addresses on page one by personal or registered mail delivery to the attention of the following persons:

City: Rob Hayes, P.E., Director of Public Services and Maryanne
Cornelius, Clerk, with a copy to Thomas R. Schultz, City Attorney

Consultant: Jan M. Hauser, P.E., Vice President Water/Wastewater

Section 14. Waivers.

No waiver of any term or condition of this Agreement shall be binding and effective unless in writing and signed by all parties, with any such waiver being limited to that circumstance only and not applicable to subsequent actions or events.

Section 15. Inspections, Notices, and Remedies Regarding Work.

During the performance of the professional services by Consultant, City shall have the right to inspect the services and its progress to assure that it complies with this Agreement. If such inspections reveal a defect in the work performed or other default in this Agreement, City shall provide Consultant with written notice to correct the defect or default within a specified number of days of the notice. Upon receiving such a notice, Consultant shall correct the specified defects or defaults within the time specified. Upon a failure to do so, the City may terminate this Agreement by written notice and finish the work through whatever method it deems appropriate, with the cost in doing so being a valid claim and charge against Consultant; or, the City may preserve the claims of defects or defaults without termination by written notice to Consultant.

All questions which may arise as to the quality and acceptability of work, the manner of performance and rate of progress of the work, and the interpretation of plans and specifications shall be decided by the City. All questions as to the satisfactory and acceptable fulfillment of the terms of this agreement shall be decided by the City.

Section 16. Delays.

No charges or claims for damages shall be made by the Consultant for delays or hindrances from any cause whatsoever during the progress of any portions of the services specified in this agreement, except as hereinafter provided.

In case of a substantial delay on the part of the City in providing to the Consultant either the necessary information or approval to proceed with the work, resulting, through no fault of the Consultant, in delays of such extent as to require the Consultant to perform its work under changed conditions not contemplated by the parties, the City will consider supplemental compensation limited to increased costs incurred as a direct result of such delays. Any claim for supplemental compensation must be in writing and accompanied by substantiating data.

When delays are caused by circumstances or conditions beyond the control of the Consultant as determined by the City, the Consultant shall be granted an extension of time for such reasonable period as may be mutually agreed upon between the parties, it being understood, however, that the permitting of the Consultant to proceed to complete the services, or any part of them, after the date to which the time of completion may have been extended, shall in no way operate as a waiver on the part of the City of any of its rights herein set forth.

Section 17. Assignment.

No portion of the project work, heretofore defined, shall be sublet, assigned, or otherwise disposed of except as herein provided or with the prior written consent of the City. Consent to sublet, assign, or otherwise dispose of any portion of the services shall not be construed to relieve the Consultant of any responsibility for the fulfillment of this agreement.

Section 18. Dispute Resolution.

The parties agree to try to resolve any disputes as to professional engineering services or otherwise in good faith. In the event that the parties cannot resolve any reasonable dispute, the parties agree to seek alternative dispute resolution methods agreeable to both parties and which are legally permissive at the time of the dispute. The parties agree to use their best efforts to resolve any good faith dispute within 90 (ninety) days notice to the other party. In the event the parties cannot resolve that dispute as set forth above, they may seek such remedies as may be permitted by law.

WITNESSES

URS Corporation – Great Lakes

By:
Its:

The foregoing _____ was acknowledged before me this ____ day of _____,
20____, by _____ on behalf of _____
_____.

Notary Public

_____ County, Michigan

My Commission Expires: _____

WITNESSES

CITY OF NOVI

By:
Its:

The foregoing _____ was acknowledged before me this ____ day of _____, 20____,
by _____ on behalf of the City of Novi.

Notary Public
Oakland County, Michigan
My Commission Expires: _____

DRAFT

EXHIBIT A - SCOPE OF SERVICES

Consultant shall provide the City professional engineering services in all phases of the Project to which this Agreement applies as hereinafter provided. These services will include serving as the City's professional engineering representative for the Project, providing professional engineering consultation and advice and furnishing customary civil, structural, mechanical and electrical engineering services and customary engineering services incidental thereto, as described below.

A. Basic Services.

1. See attached.

B. Performance.

1. The Consultant agrees that, immediately upon the execution of this Agreement, it will enter upon the duties prescribed in this agreement, proceed with the work continuously, and make the various submittals on or before the dates specified in the attached schedule. The City is not liable and will not pay the Consultant for any services rendered before written authorization is received by the Consultant.
2. The Consultant shall submit, and the City shall review and approve a timeline for submission of plans and/or the completion of any other work required pursuant to this Scope of Services. The Consultant shall use its best efforts to comply with the schedule approved by the City.
3. If any delay is caused to the Consultant by order of the City to change the design or plans; or by failure of the city to designate right-of-way, or to supply or cause to be supplied any data not otherwise available to the Consultant that is required in performing the work described; or by other delays due to causes entirely beyond the control of the Consultant; then, in that event, the time schedules will be adjusted equitably in writing, as mutually agreed between the City and the Consultant at the moment a cause for delay occurs.
4. Since the work of the Consultant must be coordinated with the activities of the City (including firms employed by and governmental agencies and subdivisions working with the City), the Consultant shall advise the City in advance, of all meetings and conferences between the Consultant and any party, governmental agency, political subdivision, or third party which is necessary to the performance of the work of the Consultant.



July 31, 2014

Mr. Ben Croy, PE
City of Novi
Field Services Complex
26300 Delwal Drive
Novi, MI 48375

Reference: Grand River Ave. Dual Left Turn Lane at Beck Rd.

Dear Mr. Croy,

As requested, URS is pleased to submit this proposal for the above referenced project. The following tasks will be completed for the project:

Initial Meeting and Scope Verification

The intent of this task is to meet with the City and verify the limits and scope of work for the project. The need for and location of soil borings and pavement cores will also be discussed and determined at the scope verification meeting.

Upon completion of this task, the URS team will move forward with the surveying and preliminary design.

Survey and Base Plans

The intent of this task is to provide topographic survey and base mapping as needed for the proposed design work. A full topographic survey will be completed for the project area.

After completion of the surveying work, URS will prepare base plans (30%-40% complete) to identify the major design features. These plans will also be used to further the utility investigation and resolution of potential conflicts and geotechnical investigations.

The base plans submittal will include the results of the survey information, utility information received as a result of our solicitations, and a preliminary estimate.

URS will distribute the base plan design set to the utility companies that have indicated that they have facilities in the project area. URS will incorporate the additional information that utility companies provide into the plan set. On-site meetings may be necessary to further clarify coordination and clearance of particular underground and overhead utility facilities. The base plans will also be submitted to the Geotechnical firm selected by the City with proposed soil boring locations marked.

Preliminary Plans

Incorporating the information obtained from the above tasks, URS will prepare the preliminary plan set (90%) in accordance with City, Road Commission, and MDOT requirements. This submittal will include items such as the typical cross sections, materials/quantities and details. Required MDOT documentation, including the Program Application form, will also be prepared and submitted. Soil boring logs will be included and the results of the Geotechnical Investigation incorporated into the design. After review by the City, the preliminary plans will be forwarded to MDOT Local Agency Programs and scheduling of a Grade Inspection meeting requested. The



Mr. Ben Croy
 July 31, 2014
 Page 2

preliminary plan submittal will also include required Special Provisions and an estimate of cost. An MDEQ Permit will be prepared and submitted at this stage of work, if required.

Plans and a permit application will be forwarded to the Road Commission for Oakland County.

Legal descriptions and sketches for the additional right of way required for the project will also be prepared and submitted with the Preliminary Plans submittal.

Coordination with utility companies, including DTE, will be maintained and any needed utility relocation work will be reviewed and coordinated with the proposed design.

Final Plans and Proposal

Incorporating comments from the City, MDOT, and the Road Commission, URS will develop the final plans submittal, including the plan set, special provisions, and cost estimate.

Final Submittal

URS will respond to any final comments received from the City, Road Commission, and MDOT and submit the final package to MDOT for advertising. URS will also respond to any inquires received from MDOT during the advertising phase.

Construction

URS will provide full time inspection, contract administration, and staking as required for the project and will coordinate the efforts of the Materials Testing firm hired for the construction phase.

Schedule

Upon notification to proceed, it is estimated that the following schedule could be maintained:

Scope Verification Meeting	August 22, 2014,
Survey & Base Plans Submittal	October 24, 2014
Preliminary Plans/Easements for City Review	November 26, 2014
Preliminary Plans Submittal to MDOT	December 12, 2014
Grade Inspection Meeting	January 9, 2015
Final Plans Submittal to MDOT	February 13, 2015
Advertise for Bids	Late March, 2015 (By MDOT)
Bid Letting (MDOT)	May 1, 2015
Begin Construction	Mid June, 2015
End Construction	Late July, 2015

Estimated Design Fees

The estimate of cost included in the grant application approved for the project is \$526,200 and is used to calculate design fees for the work.

DESIGN FEE (7.75% of \$526,200)	\$40,780.50
ADDITIONAL UTILITY COORDINATION WORK	\$ 1,500
TOTAL DESIGN FEE	\$42,280.50



Mr. Ben Croy
July 31, 2014
Page 3

The fee for construction phase services will be determined based upon the awarded contract cost.

The following assumptions were made in determining the design fee for the project.

- Drainage improvements will be incorporated into the design as required to maintain existing drainage patterns. Detention ponds, if required or desired to improve drainage, are not included in the scope of services but could be added if desired.

Please contact our project manager Sean Kelsch if you have any questions or wish to discuss this submittal. .

Sincerely

URS Corporation -- Great Lakes

A handwritten signature in blue ink, appearing to read "Jan M. Hauser".

Jan Hauser, PE
Vice President

A handwritten signature in blue ink, appearing to read "Sean Kelsch".

Sean Kelsch, PE
Manager, Highway Engineering Services

MEMORANDUM



TO: VICTOR CARDENAS, INTERIM CITY MANAGER
FROM: ROB HAYES, DIRECTOR OF PUBLIC SERVICES/CITY ENGINEER
SUBJECT: SAFETY GRANT AWARD FOR BECK/GRAND RIVER LEFT TURNS
DATE: JULY 23, 2014

*Mayor & Council -
Proposed changes to the
CIP per new/realized grant
award*

The City has been notified by the Michigan Department of Transportation that the grant application submitted by Engineering staff in late 2013 for a Federal Safety Grant to add a dual left turn lane to eastbound Grand River Avenue at Beck Road has been approved for 2015 construction. The construction of a dual left turn at this intersection was identified as a crash mitigation improvement in the 2012 report that evaluated the high crash intersections in the City of Novi (excerpt attached), and was also recommended as an operational improvement in the 2011 I-96 Area Transportation Improvement Plan report. The dual left turn lane project would be in addition to the right turn lane extension project for westbound Grand River at Beck Road that is currently in the bidding phase.

This project is shown in the adapted Capital Improvement Program for engineering in FY16-17 and construction in FY17-18; however, the grant requires construction in 2015. The estimated project cost is \$655,000, of which \$432,000 is eligible for grant funding and \$223,000 would be the local match and engineering fees, which are ineligible for grant funding. The notification of the award was received after the Capital Improvement Program was adopted and shortly after the proposed budget was presented to City Council. As such, this project is not funded for engineering or construction in the current fiscal year. The grant stipulates that the project must be obligated (i.e. ready to bid) by August 24, 2015. Therefore, the design engineering could be awarded in FY14-15 (estimated to be \$54,000) and the construction and construction phase engineering could be awarded early in FY15-16.

Since the project was not included in the adopted Capital Improvement Program or budget, we waited to provide notification of the grant award until staff had the opportunity to identify potential funding for the local share of the project. The cost savings from some recently awarded construction projects could be used this fiscal year to fund the design engineering for the project. Also, we reviewed the approved Capital Improvement Program to identify potential projects that could be deferred a year to fund the construction phase of the project. The Road Commission for Oakland County has informed us that the work on Napier Road and at the intersection with Ten Mile Road will not occur until the project's full Federal funding allocation is received in 2017, therefore City funding for the project could be moved from FY15-16 to FY16-17. If the 11 Mile and Wixom Road roundabout were moved from FY16-17 to FY 17-18, this would allow the Grand River and Beck project to be constructed in FY15-16. The table below provides a summary of these proposed changes, which would have no net impact on fund balance.

Approved Capital Improvement Program				
Project	FY14-15 (City Share)	FY15-16 (City Share)	FY16-17 (City Share)	FY17-18 (City Share)
Napier Road and 10 Mile Intersection Improvements		\$350,000		
11 Mile and Wixom Roundabout			\$875,750	
Dual Left Turn—Grand River and Beck			\$54,000	\$222,900
Proposed Revisions to Capital Improvement Program				
Dual Left Turn—Grand River and Beck	\$54,000*	\$222,900		
Napier Road and 10 Mile Intersection Improvements			\$350,000	
11 Mile and Wixom Roundabout				\$875,750**

* Proposed funding via savings from recently awarded construction projects.

**This project may receive grant funding, which could allow the project to be moved forward.

Staff plans to prepare the engineering design award for consideration by City Council on an upcoming agenda.

Please let me know if you have any questions, comments or concerns regarding this issue.

cc: Brian Coburn, Engineering Senior Manager
 Carl Johnson, Chief Financial Office
 Jessica Dorey, Senior Budget Analyst



RICK SNYDER
GOVERNOR

STATE OF MICHIGAN
DEPARTMENT OF TRANSPORTATION
LANSING

KIRK T. STEUDLE
DIRECTOR

April 2, 2014

Mr. Rob Hayes, P.E., Director of Public Services-City Engineer
City of Novi
45175 Ten Mile Road
Novi, Michigan 48375

Dear Mr. Hayes:

CS STH 63609 – JN 120576
Safety Improvement Project - \$540,200
Federal Participation - \$432,160

Project Name - Grand River Avenue at Beck Road
Project Limits – Grand River Avenue at Beck Road

Construct Additional Left Turn Lane, Street Lighting, Signal Timing, Permanent Signing and Pavement Markings

The Michigan Department of Transportation (MDOT) is pleased to inform you that the subject project has been approved for federal funding in the 2015 fiscal year (FY). All agencies were previously notified by telephone and approved projects have been posted on the MDOT website.

This project will be funded with 80 percent federal funds. Unless otherwise approved in writing by MDOT at the time of obligation, federally participating project costs for the 2015 Surface Transportation Safety Hazard Elimination (STH) Program are limited to the project costs submitted with the application and listed above, plus the lesser of an increase of 20 percent or \$20,000 above the total project cost. The maximum amount of federal funds allowed for this project is \$600,000 for the construction phase let to contract, as long as the above listed limits are not exceeded. Preliminary engineering, construction engineering, and right-of-way costs are not eligible for reimbursement. Nonparticipating construction items of work may be included in the overall project estimate, but are not reimbursable for federal funding. Items such as decorative lighting, brick sidewalks, street pavers, or any items that are not safety related in nature are not eligible for federal aid. These items will be reviewed once the preliminary plans are developed.

Funds for this project must be obligated in FY 2015. In order to accomplish this, the programming application form must be completed and returned to our office when the engineer's estimate is completed. The programming application form is available on MDOT's website at www.michigan.gov/mdot. In the 'Business Links' menu, select 'MDOT Forms.' Form #0258 is to be used for Bridge Projects and Form #0260 is to be used for Road Projects. As plans near completion, a grade inspection (GI) meeting can then be scheduled with our office.

Federal funds cannot be obligated until the following steps have been completed:

- The Program Application has been completed
- GI Meeting has been held
- Environmental/historical clearance is received
- Permits are obtained and included in the project approval

Mr. Rob Hayes, P.E.

Page 2

April 2, 2014

- Right-of-way issues are cleared
- Final plans are submitted

Local Agencies within Metropolitan Planning Organization (MPO) areas must coordinate with their MPO to ensure inclusion of their project in the area's Transportation Improvement Program (TIP) for the fiscal year for which the project was selected. MDOT Local Agency Programs Section will supply a list of selected projects to the MDOT planning group, but it is the local agency's responsibility to ensure these projects are included in the State Transportation Improvement Program (STIP).

Provided MDOT has obligational authority remaining, STH funds will be obligated up through August 31, 2015; therefore, it is imperative that the project's final package is completed and submitted to MDOT by August 24, 2015, to ensure funds are obligated prior to this date. Once posted, the Local Agency Programs FY 2015 Project Planning Guide can be accessed at www.michigan.gov/mdotlap and contains the milestone dates required for a GI submittal in order to obligate your project for the fiscal year. If your local agency wishes to obligate and construct its project prior to the fiscal year for which it was selected, MDOT may begin to obligate FY 2015 projects after April 24, 2014, depending on the availability of FY 2014 funds.

Every effort has been given to maintain a fiscally constrained program and maximize the use of limited available funds. Projects will be handled on a first come, first serve basis, so please make every effort to stay on schedule.

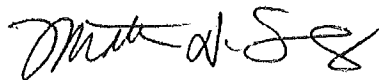
If your project is not obligated in FY 2015, MDOT may elect to retract approved funding and you will be required to resubmit your project under a future call. If a project has received prior written approval to be carried over to FY 2016, the agency will be scored significantly lower on subsequent project submittals for two years. Funding for any 2015 project not obligated in FY 2016 will be rescinded. Any changes in the scope of work or significant changes in project cost which cannot be justified will be denied.

Please send the programming application form, GI and final plans to:

Lynnette Firman, P.E.
Michigan Department of Transportation
Local Agency Programs, B215
425 W. Ottawa Street
P.O. Box 30050
Lansing, Michigan 48909

If you have any questions, please contact Lynnette Firman at (517) 335-2224 or by email at firmant@michigan.gov.

Sincerely,



Matthew W. DeLong, Administrator
Development Services Division

cc: L. Firman

MEMORANDUM

DATE: September 24, 2013

TO: Brian T. Coburn, P.E.
Engineering Manager, City of Novi

FROM: William A. Stimpson, P.E.
Director of Traffic Engineering

SUBJECT: Recommended Improvements at Beck / Grand River Intersection

As you know, the 2006-2010 Citywide Crash Study found that the subject intersection qualified as “high-crash,” meaning that its crash rate was significantly higher than similar intersections in Southeast Michigan. Additionally, a follow-up study of the City’s 12 high-crash intersections found that about 75% of this intersection’s 164 crashes were rear-end in nature, a percentage 1.6 times the regional average.

Due to its proximity to the Beck/I-96 interchange, Beck and Grand River serves high volumes of turning vehicles. For example, October 2011 counts showed 455 westbound right turns and nearly 400 eastbound right turns in the weekday PM peak hour. More recent counts, summarized in Tables 1-2 (below) found eastbound left-turn volumes as high as 485 in the AM peak hour and 559 in the PM peak hour. Such high turning volumes, occurring from the single eastbound left-turn lane, result in very long backups and an increased risk of rear-end crashes. Also, attempting to serve such large volumes from a single lane results in less green time available for other movements, and the entire intersection suffers – in terms of both increased delays and increased crash potential – as a result.

Recommended Capacity Mitigation

To increase intersection operating efficiency, shorten traffic backups, and reduce crashes, Clearzoning recommends a widening of eastbound Grand River to accommodate eastbound dual right-turn lanes. Figures 1-2 (below) show the recommended geometric improvements, which are based on both the Synchro traffic modeling (summarized in Tables 1-2) and the as-built environment.

Other Recommended Improvements

Given the non-right-angle nature of the intersection and the dual left-turn lanes already present on the southbound approach, there are inherent hazards in not having any direct street lighting. Dashed lines are already present to assist southbound and northbound left turns. Clearzoning recommends that state-of-the-art street lighting be added as a safety improvement. At a minimum, lights should be added on the northeast and southwest corners.

Table 1. Levels of Service and Queuing for Geometric Alternatives Serving Current Traffic

Approach	Movement	AM Peak Hour				PM Peak Hour			
		Volume	Delay (sec)	LOS	95 th tile Q (ft) ¹	Volume	Delay (sec)	LOS	95 th tile Q (ft) ¹
Existing Intersection									
Overall Intersection		4026	55.1	E	-	4213	88.2	F	-
EB	L	485	85.5	F	#647	559	135.4	F	#791
	T + R	884	35.2	D	441	599	29.1	C	257
WB	L	28	105.6	F	57	105	58.2	E	145
	T	219	58.3	E	#163	648	130.7	F	#437
	R	162	41.5	D	144	413	109.2	F	#468
NB	L	107	64.5	E	153	168	164.9	F	#299
	T + R	850	73.6	E	#515	666	77.4	E	#401
SB	L	331	88.4	F	#223	171	60.4	E	113
	T	566	41.4	D	282	635	72.4	E	#401
	R	394	14.4	B	147	249	18.2	B	155
With Widening to Add Dual Left-Turn Lanes EB									
Overall Intersection		4026	44.7	D	-	4213	54.7	D	-
EB	L	485	51.7	D	261	559	71.1	E	#356
	T + R	884	48.4	D	#505	599	37.1	D	291
WB	L	28	108.4	F	57	105	58.2	E	145
	T	219	47.9	D	137	648	69.3	E	#383
	R	162	35.8	D	153	413	61.1	E	405
NB	L	107	57.1	E	150	168	88.3	F	#263
	T + R	850	45.8	D	#445	666	47.3	D	346
SB	L	331	68.4	E	#211	171	53.2	D	109
	T	566	33.6	C	272	635	48.1	D	337
	R	394	17.2	B	155	249	22.6	C	165

¹ Per Synchro printouts, # signifies "95th percentile volume exceeds capacity, queue may be longer."

Table 2. Levels of Service and Queuing for Geometric Alternatives Serving Current Traffic Increased by 10%

Approach	Movement	AM Peak Hour				PM Peak Hour			
		Volume	Delay (sec)	LOS	95 th tile Q (ft) ¹	Volume	Delay (sec)	LOS	95 th tile Q (ft) ¹
Existing Intersection									
Overall Intersection		4430	69.6	E	-	4636	116.8	F	-
EB	L	534	113.5	F	#735	615	216.7	F	#922
	T + R	973	37.8	D	#504	659	31.6	C	300
WB	L	31	123.2	F	#62	116	58.5	E	154
	T	241	62.5	E	#187	713	180.7	F	#503
	R	178	42.7	D	171	454	144.1	F	#555
NB	L	118	74.8	E	#192	185	208.5	F	#336
	T + R	935	109.2	F	#604	733	93.7	F	#455
SB	L	364	115.2	F	#257	188	64.8	E	#135
	T	623	43.4	D	311	699	84.0	F	#451
	R	433	15.1	B	188	274	19.3	B	179
With Widening to Add Dual Left-Turn Lanes EB									
Overall Intersection		4430	52.3	D	-	4213	67.1	E	-
EB	L	534	58.3	E	#311	559	87.5	F	#404
	T + R	973	58.5	E	#593	599	36.0	D	317
WB	L	31	121.6	F	#62	105	59.3	E	155
	T	241	48.5	D	146	648	82.8	F	#434
	R	178	36.2	D	173	413	70.5	E	458
NB	L	118	61.7	E	164	168	106.8	F	#296
	T + R	935	59.1	E	#551	666	66.5	E	#434
SB	L	364	81.8	F	#242	171	55.3	E	120
	T	623	35.9	D	300	635	69.4	E	#432
	R	433	18.8	B	210	249	25.2	C	200

¹ Per Synchro printouts, # signifies "95th percentile volume exceeds capacity, queue may be longer."



Figure 1. Widening of West Leg of Intersection



Figure 2. Widening of East Leg of Intersection

CRASH-DATA-ASSISTED SAFETY EVALUATION
OF 12 INTERSECTIONS IN THE CITY OF NOVI



Prepared for
CITY OF NOVI, MI

By
BIRCHLER ARROYO ASSOCIATES, INC.
Lathrup Village, MI

June 2012

BECK AND GRAND RIVER

This intersection is shown below in aerial photos at two different scales; see Figures 12a and 12b.

Crash Pattern Identification and Prioritization

Table 12a shows that in 2006-2010, this intersection experienced a total of 164 crashes and had two significant crash patterns: (1) single-vehicle, over-represented by 13%, and (2) rear-end/rear-right & side-swipe/same direction, over-represented by 60%. The Pattern Priority Index for the rear-end class was 44.8.

Identification of Possible Causes of Significant Crash Patterns

The Table 2 worksheet was completed for the Beck / Grand River intersection and can be found in this report as appendix Table B-10. Higher-priority possible causes were extracted from Table B-10 and are summarized in Table 12b (below).

Ad Hoc Cross Tabulations

The 122 crashes in the rear-end class were cross-tabulated by approach direction and hour of the day. Pro-rating crashes coded as having an “unknown” direction among the four cardinal directions in proportion to the crashes already assigned to those directions, the crash percentages by direction of approach were 26% eastbound, 13% westbound, 28% northbound, and 33% southbound. The corresponding ADT volume percentages were 23%, 20%, 23%, and 34%, respectively. Hence, the frequency of rear-end crashes was disproportionately somewhat high eastbound and northbound, proportional to volume southbound, and notably low westbound. There was no apparent relationship between rear-end crashes and low sun angle on Grand River.

Field Observations

1. As can be seen in Figure 12b, the southbound stop bar appears to have been relocated about 30 ft closer to the intersection since the intersection was originally constructed. However, the stacking space in the dual-left turn lanes of that approach is still more limited than necessary, and there remains more than ample room for a large truck to turn from eastbound Grand River to northbound Beck. The limited stacking space likely results in left-turn vehicles backing out into the through lanes more often (such as during peak arrival times for Showplace events), increases the risk of rear-end crashes, and potentially interferes with egress from the shopping center and new collector road. The unnecessarily large intersection also decreases the efficiency of the traffic signal and increases overall delay.
2. The westbound deceleration lane is also too short, but this will soon be addressed by lengthening that lane with the assistance of recently approved Federal funds.
3. The single eastbound left-turn lane has been counted serving as many as 400 vehicles per hour and backing up substantial distances, and a Synchro analysis estimated an associated average delay in excess of 76 sec per vehicle (level of service E). More efficiently accommodating this large turning volume can be expected to reduce delays and backups on all intersection approaches, thus further reducing the over-represented rear-end crashes.



Figure 12a. Aerial Photo of Beck and Grand River



Figure 12b. Zoomed Aerial Photo of Beck and Grand River

Table 12a. Crash Pattern Identification and Prioritization at Beck and Grand River

Average Daily Traffic (ADT): [40,514](#)

Evaluation Criteria		Possible Crash Pattern									
		Single-Vehicle		Head-On & SS/OD		Head-Left/Rear-Left		Angle		Rear-End/Rear-Right & SS/SD	
Location's Crashes	No. by Type / Total No.	6	164	6	164	10	164	16	164	122	164
	Location's %	3.7		3.7		6.1		9.8		74.4	
Regional Crash %	Table 4.1. Area Type: Urban	3.2		4.3		10.4		26.5		46.7	
	Table 4.2. Functional Class: Arterial	3.2		4.3		10.4		26.5		46.7	
	Table 4.3. No. of Lanes: 2	3.6		4.3		9.0		28.0		45.4	
	Table 4.4. Signal X / No Signal ___	2.9		4.4		10.7		26.6		46.6	
Significant Pattern?	Enter YES if Location's % Exceeds at Least One of the Above Regional %s	YES								YES	
Pattern Priority ¹	Average Regional % ²	3.2								46.4	
	Over-Representation Ratio (ORR) = Location's % / Average Regional %	1.13								1.60	
	Severity Weighting (SW) = Casualty Ratio	0.167								0.139	
	Pattern Priority Index (PPI) = 10 / (ORR x SW)	52.8								44.8	
Relative Priority		2								1	

¹ Complete this block only for significant patterns.² Highlight, and then average, only those regional %s which are less than the location's %. This is necessary to guarantee an ORR greater than 1.0.

Note: "Other & Uncoded" collision types not listed here, so %s will not add to 100.

Table 12b. Higher-Priority Possible Causes for Crash Patterns at Beck and Grand River

Crash Pattern	Possible Cause	Applicable? (Step 7)		Comments
		Yes	No	
Causes Associated with Highest Priority Pattern (Step 3)				
Rear-End/ Rear-Right & SS/SD	Excessive Speed	?		The expected carry-over effect of higher SB speeds due to vehicles exiting the freeway nearby is not as strong as expected. Although relatively high, SB Beck's share of rear-end crashes is only about 13% higher than its share of ADT volume. The approach speeds on Grand River – on the other hand – may be relatively high for the high level of intersection activity, given the road's 50-mph speed limit (see comments below on EB approach).
	Slippery Surface		X	
	Narrow Lanes		X	
	Turning Vehicles Slowing or Stopping in Through Lanes	X		The EB approach has as many as 400 peak-hour left turns from a single lane, as well as 145 peak-hour right turns without a right-turn lane, and that approach is 14% over-represented with respect to rear-end and related crashes.
	Unexpected Slowing and Lane Changing	?		
	Poor Visibility of Traffic Signal		X	There is no evidence of a problem with low sun angles (very few rear-end crashes EB in AM peak or WB in PM peak). Signals are already mounted on far-side mast arms.
	Unexpected/Unnecessary Stops Due to Signal	?		The limited stacking space in the SB dual-left lanes could be an issue for both safety and signal efficiency.
	Unsafe Right-Turns-on-Red		X	Visibility appears adequate, and both WB and SB left turns are expedited by a green arrow during SB and EB protected left-turn phases.
	Crossing Pedestrians		X	There were no reported pedestrian or bicycle accidents. However, the length and skewed angle of some crosswalks, along with heavy WB & SB right turns & frequently worn crosswalk markings, pose risks to any crossing pedestrians.
Causes Associated with Multiple Crash Patterns (Step 4)				
None				

Note: Step numbers refer to procedural steps described on pages 4-32 and 4-33 of the *SEMCOG Traffic Safety Manual – 2nd Edition, 1997*.

4. The pavement markings at this heavily used intersection have been difficult to maintain in good condition. The transverse markings (especially the crosswalks), and the dotted lines used to help guide the southbound and northbound left-turn movements, have been especially problematic. Also, one of the more difficult movements – the long, acute-angled eastbound to northbound left turn – lacks such a dotted line (Figure 12b).
5. There is no street lighting at this intersection, despite its size, somewhat difficult-to-navigate turning movements, and high traffic volumes. The lack of lighting compounds the driving difficulty in the absence of ideally maintained pavement markings.

Safety Improvement Recommendations

1. The southbound stop bar should be relocated another 20 ft further south, and a dotted line should be placed to aid eastbound to northbound left turns. This would add two vehicles of stacking space to the dual-left-turn lanes (one vehicle per lane), facilitate safer (and potentially quicker) eastbound left turns, and generally increase the efficiency of the intersection.
2. The intersection's transverse pavement markings should be refreshed more often, given the heavy wear they experience from the high volumes of through and turning traffic.
3. Street lighting should be installed in all four quadrants of this very large intersection.
4. A traffic study should be conducted to evaluate the potential benefits of installing dual left-turn lanes and/or a right-turn-only lane on the eastbound approach to the intersection.

BECK AND 8 MILE

An aerial photo of this intersection appears below as Figure 13a.

Crash Pattern Identification and Prioritization

Table 13a shows that in 2006-2010, this intersection experienced a total of 113 crashes, 22.1% generally of the head-on/left-turn type and 60.2% generally of the rear-end type. These two significant crash patterns were over-represented regionally by 91% and 36%, respectively. In addition to the relatively high degree of over-representation (especially for head-on/left-turn), both patterns had relatively high casualty ratios (0.400 and 0.324, respectively). The resulting Pattern Priority Indices – only 13.1 for the head-on/left-turn class and 22.7 for the rear-end class – indicate that addressing both patterns with countermeasures should be a high priority.

Identification of Possible Causes of Significant Crash Patterns

The Table 2 worksheet was completed for the Beck / 8 Mile intersection and can be found in this report as appendix Table B-11. Higher-priority possible causes were extracted from Table B-11 and are summarized in Table 13b (below).