Michigan Department
Of Transportation
5100B (12/14)

# CHECKLIST TO DESIGNATE AREAS OF EVALUATION FOR REQUESTS FOR PROPOSAL (RFP)

| | REQUISITION NUMBER | DUE DATE | TIME DUE |
|---|---|---|---|
| | 2023 | 8/8/2016 | noon est |
| MDOT PROJECT MANAGER<br>Andrea Wilcox, PE | JOB NUMBER (JN)<br>105886C & 105886C | CONTROL SECTION (CS)<br>39022 | |

DESCRIPTION
Roadway widening and reconstruction, bridge widening and reconstruction and interchange reconstruction

| **MDOT PROJECT MANAGER:** Check all items to be included in RFP<br>WHITE = REQUIRED<br>** = OPTIONAL<br>Check the appropriate Tier in the box below | | | **CONSULTANT:** Provide only checked items below in proposal |
|---|---|---|---|
| ☐ **TIER 1 ($50,000 - $150,000)** | ☐ **TIER II ($150,000-$1,000,000)** | ☑ **TIER III (>$1,000,000)** | |
| ☐ | ☐ | ☑ | Understanding of Service ** |
| ☐ | ☐ | ☑ | *Innovations* |
| ☐ | ☐ | ☑ | Organizational Chart |
| ☐ | ☐ | ☑ | Qualifications of Team |
| Not required as part of Official RFP | Not required as part of Official RFP | ☑ | Quality Assurance/Quality Control ** |
| ☐ | ☐ | ☑ | **Location:** The percentage of work performed in Michigan will be used for all selections unless the project is for on-site inspection or survey activities, then location should be scored using the distance from the consultant office to the on-site inspection or survey activity. |
| N/A | N/A | ☐ | Presentation ** |
| N/A | N/A | ☐ | Technical Proposal (if Presentation is required) |
| 3 pages (MDOT Forms not counted) Resumes will only be accepted for Best Value Selections | 7 pages (MDOT Forms not counted) | 14 pages (MDOT forms not counted) | Total maximum pages for RFP **not including key personnel resumes.** Resumes limited to 2 pages per key staff personnel. |

**PROPOSAL AND BID SHEET EMAIL ADDRESS –** mdot-rfp-response@michigan.gov

**GENERAL INFORMATION**

Any questions relative to the scope of services must be submitted by e-mail to the MDOT Project Manager. Questions must be received by the Project Manager at least five (5) working days prior to the due date and time specified above. All questions and answers will be placed on the MDOT website as soon as possible after receipt of the questions, and at least three (3) days prior to the RFP due date deadline. The names of vendors submitting questions will not be disclosed.

MDOT is an equal opportunity employer and MDOT DBE firms are encouraged to apply. The participating DBE firm, as currently certified by MDOT's Office of Equal Opportunity, shall be listed in the Proposal.

**MDOT FORMS REQUIRED AS PART OF PROPOSAL SUBMISSION**

**5100D** – Request for Proposal Cover Sheet
**5100J** – Consultant Data and Signature Sheet (Required for all firms performing non-prequalified services on this project.)

**(These forms are not included in the proposal maximum page count.)**

# REQUEST FOR PROPOSAL



The Michigan Department of Transportation (MDOT) is seeking professional services for the project contained in the attached scope of services.

If your firm is interested in providing services, please indicate your interest by submitting a Proposal, Proposal/Bid Sheet or Bid Sheet as indicated below. The documents must be submitted in accordance with the latest (Consultant/Vendor Selection Guidelines for Services Contracts."

**RFP SPECIFIC INFORMATION**

☑ ENGINEERING SERVICES ☐ BUREAU OF TRANSPORTATION PLANNING ☐ OTHER

THE SERVICE WAS POSTED ON THE ANTICIPATED QUARTERLY REQUESTS FOR PROPOSALS

☐ NO ☑ YES DATED Oct 1, 2015 THROUGH Dec 2015

☑ **Prequalified Services** – See the attached Scope of Services for required Prequalification Classifications.

☐ **Non-Prequalified Services** – If selected, the vendor must make sure that current financial information, including labor rates, overhead computations, and financial statements, is on file with MDOT's Office of Commission Audits
This information must be on file for the prime vendor and all sub vendors so that the contract will not be delayed.
**Form 5100J is required with proposal for all firms performing non-prequalified services on this project.**

☑ **Qualification Based Selection** - Use Consultant/Vendor Selection Guidelines.

**For all Qualifications Based Selections,** the selection team will review the information submitted and will select the firm considered most qualified to perform the services based on the proposals. The selected firm will be asked to prepare a priced proposal. Negotiations will be conducted with the firm selected.

**For a cost plus fixed fee contract,** the selected vendor must have a cost accounting system to support a cost plus fixed fee contract. This type of system has a job-order cost accounting system for the recording and accumulation of costs incurred under its contracts. Each project is assigned a job number so that costs may be segregated and accumulated in the vendor's job-order accounting system.

☐ **Qualification Based Selection / Low Bid** – Use Consultant/Vendor Selection Guidelines. See Bid Sheet instructions for additional information.

For Qualification Review/Low Bid selections, the selection team will review the proposals submitted. The vendor that has met established qualification threshold and with the lowest bid will be selected.

☐ **Best Value** – Use Consultant/Vendor Selection Guidelines, See Bid Sheet Instructions below for additional information. The bid amount is a component of the total proposal score, not the determining factor of the selection.

☐ **Low Bid** (no qualifications review required – no proposal required.)

**BID SHEET INSTRUCTIONS**

Bid Sheet(s) are located at the end of the Scope of Services. Submit bid sheet(s) with the proposal, to the email address: mdot-rfp-response@michigan.gov. Failure to comply with this procedure may result in your bid being rejected from consideration.

**PARTNERSHIP CHARTER AGREEMENT**

MDOT and ACEC created a Partnership Charter Agreement which establishes guidelines to assist MDOT and Consultants in successful partnering. Both the Consultant and MDOT Project Manager are reminded to review the **ACEC-MDOT Partnership Charter Agreement** and are asked to follow all communications, issues resolution and other procedures and guidance's contained therein.

**NOTIFICATION**
**MANDATORY ELECTRONIC SUBMITTAL**

## Proposals submitted for this project must be submitted electronically.

**The following are changes to the Proposal Submittal Requirements:**

- Eliminated the Following Requirements:
  - Safety Program
  - Communication Plan
  - Past Performance as *a separate section*
  - Separate section for DBE Statement of goals. Include information in Qualification of Team section

- Implemented the Following Changes:
  - All proposals require an Organization Chart
  - Resumes must be a maximum of two pages
  - Only Key (lead) staff resumes may be submitted
  - Tier III proposal reduced from 19 to 14 pages
  - Forms 5100D, 5100I, and 5100G combined – 5100D
  - Forms 5100B and 5100H combined – 5100B
  - RFP's will be posted on a weekly basis -- on Mondays

**The following are Requirements for Electronic Submittals:**

- Proposals must be prepared using the most current guidelines
- The proposal must be bookmarked to clearly identify the proposal sections (See Below)
- For any section not required per the RFP, the bookmark must be edited to include "N/A" after the bookmark title.
  **Example**: Understanding of Service – N/A
- Proposals must be assembled and saved as a single PDF file
- PDF file must be 5 megabytes or smaller
- PDF file must be submitted via e-mail to MDOT-RFP-Response@michigan.gov
- MDOT's requisition number and company name must be included in the subject line of the e-mail. The PDF shall be named using the following format:
  - Requisition#XXX_Company Name.PDF
- MDOT will not accept multiple submittals
- Proposals must be *received* by MDOT on or before the due date and time specified in each RFP

**If the submittals do not comply with the requirements, they may be determined unresponsive.**

The Consultant's will receive an e-mail reply/notification from MDOT when the proposal is received. Please retain a copy of this e-mail as proof that the proposal was received on time. **Consultants are responsible for ensuring the MDOT receives the proposal on time.**

****Contact Contract Services Division immediately at 517-373-4680 if you do not get an auto response****

**Required Bookmarking Format:**

I. Request for Proposal Cover Sheet Form 5100D
   A. Consultant Data and Signature Sheet, Form 5100J (if applicable)
II. Understanding of Service
   A. Innovations
III. Qualifications of Team
   A. Structure of Project Team
      1. Role of Firms
      2. Role of Key Personnel
   B. Organization Chart
   C. Location
IV. Quality Assurance / Quality Control Plan
V. Resumes of Key Staff
VI. Pricing Documents/Bid Sheet (if applicable)

**2/14/12**

.

**NOTIFICATION**
**E-VERIFY REQUIREMENTS**

E-Verify is an Internet based system that allows an employer, using information reported on an employee's Form I-9, Employment Eligibility Verification, to determine the eligibility of that employee to work in the United States. There is no charge to employers to use E-Verify. The E-Verify system is operated by the Department of Homeland Security (DHS) in partnership with the Social Security Administration. E-Verify is available in Spanish.

The State of Michigan is requiring, under Public Act 200 of 2012, Section 381, that as a condition of each contract or subcontract for construction, maintenance, or engineering services that the pre-qualified contractor or subcontractor agree to use the E-Verify system to verify that all persons hired during the contract term by the contractor or subcontractor are legally present and authorized to work in the United States.

Information on registration for and use of the E-Verify program can be obtained via the Internet at the DHS Web site: http://www.dhs.gov/E-Verify.

The documentation supporting the usage of the E-Verify system must be maintained by each consultant and be made available to MDOT upon request.

It is the responsibility of the prime consultant to include the E-Verify requirement documented in this NOTIFICATION in all tiers of subcontracts.

9/13/12

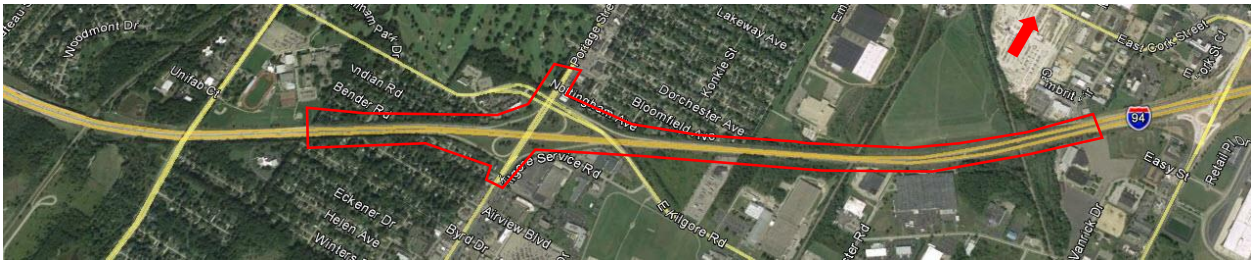
**Michigan Department of Transportation**

**SCOPE OF SERVICE**
**FOR**
**DESIGN SERVICES**

**CONTROL SECTION(S):** 39022

**JOB NUMBER(S):** 105885C and 105886C

**PROJECT LOCATION:**
The project is located on I-94 from east of Lovers Lane to west of Sprinkle Road in the cities of Kalamazoo and Portage, Kalamazoo County. The project length is 2.36 miles.




**PROJECT DESCRIPTION:**
Work involved in the design of the projects consists of the development and preparation of final plans and specifications including, but not limited to the following: roadway widening and reconstruction of I-94, five (5) bridge replacements and one (1) large culvert replacement. The work also includes, survey, geotechnical investigation, utility coordination, noise walls, right-of-way, drainage improvements, development of maintenance of traffic plans and all other work on maintenance of traffic plans and typicals based on the MMUTCD including development of the Transportation Management Plan (TMP), permanent signing, permanent pavement markings, traffic signals, and possible ITS work and noise analysis.

All work shall be in accordance with the approved Environmental Assessment and Finding of No Significant Impact (FONSI) documents.

**ANTICIPATED SERVICE START DATE:** August 1, 2016

**ANTICIPATED SERVICE COMPLETION DATE:** December 22, 2019

**DBE PARTICIPATION REQUIREMENT:** 10%

**PRIMARY PREQUALIFICATION CLASSIFICATION(S):**
Design - Roadway: Complex
Design – Bridges

**SECONDARY PREQUALIFICATION CLASSIFICATION(S):**
Design – Bridges: Load Rating
Design – Geotechnical: Advanced
Design – Hydraulics II
Design – Traffic: Safety Studies
Design – Traffic: Capacity and Geometric Analysis
Design – Traffic: ITS – Design & System Manager *(precautionary)*
Design – Traffic: Pavement Markings
Design – Traffic: Signal
Design – Traffic: Signing – Freeway
Design – Traffic: Work Zone Maintenance of Traffic
Design – Traffic: Work Zone Mobility & Safety
Environmental: Noise Assessment *(precautionary)*
Surveying: Road Design
Surveying: Hydraulics
Surveying: Structure

**PREFERRED QUALIFICATIONS AND CRITERIA (FOR NON-CLASSIFIED SERVICES):**

1) UTILITY COORDINATION

☒ The Consultant shall be responsible for project Utility Coordination. See attached "Scope of Services for Utility Coordination".

**MDOT PROJECT ENGINEER MANAGER:**

Andrea Wilcox, P.E.
Region Design Engineer
Southwest Region
1501 E. Kilgore Road
Kalamazoo, MI 49001
Phone Number: (269) 337-3931
Fax Number: (269) 337-3750
E-mail: wilcoxa2@michigan.gov

All inquiries about this Request for Proposal should be directed to the MDOT Project Manager by e-mail.

**CONSTRUCTION COST:**

A. The estimated cost of construction for JN 105885 (Contract 4) is:

| | | |
|---|---|---|
| 1. | Mainline Pavement | $15,600,000 |
| 2. | Structure (S03 of 39022) | $ 3,600,000 |
| 3. | Structure (S11 of 39022) | $ 4,000,000 |
| 4. | Noise Walls | $ 2,600,000 |
| 5. | Drainage | $ 1,000,000 |
| 6. | Maintaining Traffic | $ 1,000,000 |
| 7. | Geometric Improvements | $ 1,000,000 |
| 8. | Miscellaneous | $ 700,000 |
| | **CONSTRUCTION TOTAL** | **$29,500,000** |

B. The estimated cost of real estate is: $ 50,000

C. The estimated cost of construction for JN 105886 (Contract 5) is:

| | | |
|---|---|---|
| 1. | Mainline Pavement | $12,600,000 |
| 2. | Structure (C01 of 39022) | $ 3,500,000 |
| 3. | Structure (R01 of 39022) | $ 3,500,000 |
| 4. | Structure (R03 of 39022) | $ 3,300,000 |
| 5. | Structure (R04 of 39022) | $ 3,300,000 |
| 6. | Drainage | $ 800,000 |
| 7. | Maintaining Traffic | $ 1,000,000 |
| 8. | Noise Walls | $ 1,500,000 |
| 9. | Geometric Improvements | $ 750,000 |
| 10. | Miscellaneous | $ 750,000 |
| | **CONSTRUCTION TOTAL** | **$ 31,000,000** |

D. The estimated cost of real estate is: $ 50,000

The above construction total is the amount of funding programmed for this project. The Consultant is expected to design the project within the programmed amount.

**If at any time the estimated cost of construction varies by more than 5% of the current programmed amount, then the Consultant will be required to submit a letter to the MDOT Project Manager justifying the changes in the construction cost estimate.**

## REQUIRED MDOT GUIDELINES AND STANDARDS:

Work shall conform to current MDOT, FHWA, and AASHTO practices, guidelines, policies, and standards (i.e., Road Design Manual, Standard Plans, Published MDOT Design Advisories, Drainage Manual, Roadside Design Guide, A Policy on Geometric Design of Highways and Streets, Michigan Manual of Uniform Traffic Control Devices, etc.).

The Consultant is required to use the MDOT Current Version of Bentley MicroStation/GEOPAK or PowerGEOPAK (published at Section 2.2.2 of the Design Submittal Requirements) with the current MDOT workspace (published at Section 2.2.1 of the Design Submittal Requirements). 3D Models are required for all applicable projects. See Chapter 2 of the Design Submittal Requirements for a complete listing of applicable projects. The Consultant shall comply with all MDOT CADD standards and file naming conventions.

## MISCELLANEOUS INFORMATION:

The link to the Environmental Documents on the MDOT website is as follows:
http://www.michigan.gov/mdot/0,4616,7-151-9621_11058-381688--,00.html

The 2003 design plans associated with this project can be found on MDOT's FTP site: ftp://ftpmdot.state.mi.us in the folder _JN_105885 & 105886_I-94.

**1. Background and History:**

- In 2003, a Consultant Team completed the design for the widening and reconstruction of I-94 in the cities of Kalamazoo and Portage. The project was split into six separate contracts. The contracts were staged from west to east, except Contract 6, the replacement of the Lovers Lane structure over I-94 (S02 of 39022) which was constructed first. Contract 1 project limits were I-94 from west of 12th Street to east of US-131, Contract 2 project limits were I-94 from east of US-131 to west of Westnedge Avenue and Contract 3 project limits were I-94 from west of Westnedge Avenue to Lovers Lane were completed between 2006 to 2012. The design for Contracts 4 and 5 was completed and shelved, until funding was secured.

- The design work for Contract 4 was completed in 2003. It consisted of: widening and reconstruction work on I-94, interchange ramp work to facilitate the widening of I-94, removal and construction of noise walls, drainage improvements and proposed detention, and the replacement and widening of the following structures:

    - I-94 structure over Portage Road (S03 of 39022)
    - Kilgore Road over I-94 (S11 of 39022).

- The design work for Contract 5 was completed in 2003. It consisted of: widening and reconstruction work on I-94, interchange ramp work to facilitate the widening, construction of noise walls, and the replacement and widening of the following structures:

- I-94 over NSRR (R01 of 39022)
- I-94 over CNRR (R03 of 39022)
- I-94 over CNRR (R04 of 39022)
- I-94 over Davis Creek (C01 of 39022).

**2. Additional Information:**

- The 2003 design plans, CADD files and all existing data regarding this project will be considered Reference Information Documents (RID) only. The information is being provided by MDOT may not be accurate. MDOT makes no warranties or representation whatsoever regarding the quality, content, completeness, suitability, adequacy, sequence, accuracy or timeliness of the information and data provided in the RID files.
- The selected Consultant will be provided the RID before the Priced Proposal meeting with MDOT.
- Drainage design, including the hydraulic analysis for the Davis Creek culvert, storm sewer design for the project corridor and the detention pond sizing and location are requirements of this RFP. The 2003 design and data will be provided with the RID.
- Due to the Kalamazoo-Battle Creek Airport in the project vicinity, close coordination with the FAA and the airport will be required. This will primarily be performed by the MDOT Project Manager, but the selected Consultant will be required to provide all necessary documentation required.
- Value Engineering (VE) will be performed on this project based on MDOT and FHWA preset criteria. The VE will be performed by one of MDOT's as-needed Consultants. The selected Consultant for this project will be required to provide all necessary documentation, pertinent design details and attend the VE meeting.

**MDOT RESPONSIBILITIES:**

A. Schedule and/or conduct the following:
   1. Project related meetings
   2. Base Plan Review
   3. The Plan Review
   4. Omissions/Errors/Check
   5. Utility Coordination Meeting(s)
   6. Pre-OEC Meeting
   7. OEC Meeting
   6. Final Trns*port item cost estimates

B. Furnish pertinent reference materials.

C. Furnish the E.A. and FONSI.

D. Furnish the RID files for the original Contracts 4 & 5 design.

E. Conduct Value Engineering in collaboration with the MDOT's as-needed Consultant.

F. Furnish the pavement design based on the LCCA analysis.

G. Obtain all permits for the project as outlined in previous section.

H. Coordinate any necessary utility relocation(s).

I. Furnish the use of an FTP site for software download and instructions for the MDOT Stand Alone Proposal Estimator's Worksheet (SAPW).

**CONSULTANT RESPONSIBILITIES:**

Complete the design of this project including, but not limited to the following:

The Consultant must adhere to all applicable OSHA and MIOSHA safety standards, including the appropriate traffic signs for the activities and conditions for this job and perform field operations in accordance with the Department's Personal Protective Equipment (PPE) policy as stated in the MDOT Guidance Document #10118.

Meet with the MDOT Project Manager to review the project, location of data sources, contact persons, and review relevant MDOT operations. The Consultant shall review and clarify project issues, data needs and availability, and the sequence of events and team meetings that are essential to complete the design by the project plan completion date. Attention shall be given to critical target dates that may require a large lead time, such as geotechnical requirements, Railroad coordination requirements, utility conflict resolution, local agency meetings, etc.

**The consultant will need to coordinate with the railroad companies for access and any fees that may be incurred for railroad safety training, right of entry permits or railroad flaggers will need to be included in the priced proposal to be reimbursed as a direct expense.**

A. Perform design surveys.

B. Perform soil borings per LRFD design requirements.

C. Prepare required plans, typical cross-sections, details, and specifications required for design and construction.

D. Prepare staging plans and special provisions for maintaining traffic during construction. The consultant shall prepare a Transportation Management Plan per the Work Zone Safety and Mobility Manual which shall include a Temporary Traffic Control Plan, a Transportation Operations Plan and a Public Information Plan. The Consultant shall submit these items prior to the Pre-Final Design Package submittal.

E. Perform drainage design based on the new MS4 permit requirements. This permit maybe applicable for projects let in 2020 and onwards.

F. Perform signal design at the Portage Road and Bender Street intersections.

G. Compare all controlling geometric elements within the project limits with current design criteria. Prepare Design Exception Requests for all controlling elements that do not meet the correct design criteria for road and/or bridge issues (i.e.: superelevation transition rates, SSD, shoulder widths, underclearance, etc.). A list of possible design exceptions will be required at the Base Plan Review submittal, with final drafts being submitted at the Plan Review Meeting.

H. Analyze crash data and prepare a crash analysis for the project as a whole as well as for any Design Exception Requests for the project and submit them for review by the MDOT Kalamazoo TSC Traffic and Safety Engineer.

I. Compute and verify all plan quantities.

J. Provide solutions to any unique problems that may arise during the design of this project.

K. The Consultant may be required to provide Design Services during the construction phase of this project. If Construction Assistance is required, then a separate authorization for those services will be issued.

L. Attend any project related meetings as requested by the MDOT Project Manager including public meetings.

M. Maintain a Design Project Record in ProjectWise, which includes a history of significant events (changes, comments, etc.) which influenced the development of the plans, dates of submittals and receipt of information.

N. If excavation is required, submit the excavation locations which may contain contamination. The MDOT Project Manager then can proceed in requesting a Project Area Contamination Survey (PACS).

O. The Consultant shall prepare and submit in ProjectWise (in PDF format) a CPM network for the construction of this project.

P. The Consultant representative shall record the minutes and submit in ProjectWise (in PDF format), for all project related meetings to the MDOT Project Manager within two weeks of the meeting. The Consultant shall also distribute the minutes to all meeting attendees. MDOT will provide and distribute official meeting minutes for The Plan Review Meeting.

Q. The Consultant will provide to MDOT, by entering into MDOT ProjectWise at the scheduled submittal dates, electronic documents (in PDF format) of the

required specifications and plan set materials for distribution by MDOT for all reviews for this project.

R. Prepare and submit electronically (native format or PDF) into MDOT ProjectWise, any information, calculations, hydraulic studies, or drawings required by MDOT for acquiring any permit (i.e. NPDES, DEQ, etc), approvals (i.e. county drain commission) and related mitigation. MDOT will submit permit requests.

S. Attend any project-related meetings as directed by the MDOT Project Manager.

T. Attend information meetings (i.e., public hearings, open houses, etc.) with the public and public officials to assist in responding to concerns and questions. May require the preparation of displays such as maps, marked-up plans, etc.

U. The MDOT Project Manager shall be the official MDOT contact person for the Consultant **and shall be made aware of all communications regarding this project**. The Consultant must either address or send a copy of all correspondence to the MDOT Project Manager. This includes all Subcontractor correspondence and verbal contact records.

V. The Consultant shall contact the MDOT Project Manager whenever discoveries or design alternatives have the potential to require changes in the scope, limits, quantities, costs, or right-of-way of the project.

W. The Consultant shall be responsible for obtaining and showing on the plans the location and names of all existing utilities within the limits of the project. In the course of resolving utility conflicts, the Consultant shall make modifications to the plans or design details and provide assistance as directed by the MDOT Utility Coordinator and/or MDOT Project Manager. The Consultant shall attend any utility meetings called to ensure that the concerns are addressed on the plans involving utilities. The Consultant shall assist in the review of utility permit requests to ensure compatibility with the project.

X. The Consultant shall be responsible for all traffic control required to perform the tasks as outlined in this Scope of Design Services.

Y. The Consultant shall be responsible for obtaining up to date access permits and pertinent information for tasks in MDOT Right of Way (ROW). This information can be obtained through Joe Rios, Utilities/Permits Section, Development Services Division at (517) 241-2103.

Z. On the first of each month, the Consultant Project Manager shall submit in ProjectWise a monthly project progress report to the MDOT Project Manager.

AA. Consider other alternatives, at the study phase that may deviate from the "Description of Work" to determine the most cost effective option. A detailed

cost estimate is required for each option. A cost per square foot estimate is not acceptable. The vertical clearance must be considered. A design exception, if required, should be submitted to MDOT with the structure study.

BB. Prior to submitting the proposal, inspect the job site to determine the need for any additional work not included in the "Description of Work". If possible changes to the description of work are required, submit a letter with the proposal detailing the changes that are recommended. (MDOT will not reimburse the Consultant for the initial site visit, as the Consultant is not yet authorized to complete any work).

CC. Consider Accelerated Bridge Construction (ABC) techniques at the study phase, including Precast Bridge Elements and Systems (PBES).

DD. Plan Submittals are as follows:

1. Base Plans
2. Preliminary Plans (Plan Review Meeting) shall be accompanied by an estimate of cost based on the quantities of major pay items shown in the plans.
3. Pre-Final plans (Pre-OEC) consisting of final plans that are approximately 90% complete and any special provisions and supplemental specifications that may be required and an updated cost estimate. All plan review comments should be reflected on all sheets. Slab and Screed sheets and Bar schedule sheets are <u>not</u> required. The Pre-Final Design Package submittal will be six weeks prior to Plan Completion.
4. Final Plans (OEC), contract quantities, updated cost estimate, and any special provisions and supplemental specifications that may be required. Plan review comments should be reflected on all sheets. Slab and Screed sheets and Bar schedule sheets are not required.
5. Final Plan Turn In

EE. The Consultant is not authorized to proceed with the final structure plans until notified the FHWA has approved the preliminary structure plans.

FF. All work shall conform to AASHTO specifications, MDOT specifications, and MDOT design and detailing practices. All submittals to MDOT shall require quality assurance reviews and meet the attached quality assurance document. The Consultant shall maintain office records, submit monthly progress reports and vouchers with their billings. The Consultant is advised the MDOT considers bridge plans 30% complete when the preliminary plans are distributed, and 100% complete when final plans are submitted for review.

GG. All submittals to MDOT shall be dated and identified by structure number (if applicable), control section, MDOT project number including the phase, route and location.

HH. A file containing project related correspondence, design, and any information resulting from research shall be submitted to MDOT with the final deliverables.

**DELIVERABLES:**

The Consultant shall enter in MDOT ProjectWise, in the appropriate folders all electronic files associated with the project in their native format (spreadsheets, CADD files, GEOPAK files, Roadway Designer Templates etc.) as directed by the MDOT Project Manager. All CADD/GEOPAK files shall be created and identified with standard MDOT file names. It is the Consultant's responsibility to obtain up to date MicroStation and GEOPAK seed/configuration files necessary to comply with MDOT's CADD standards which are published monthly to the MDOT website. Any CADD/GEOPAK files that do not conform to MDOT standards will be returned to the Consultant for correction at the Consultant's expense.

Proposal documents shall be submitted, to MDOT ProjectWise, in the appropriate folders, in their native format with standard naming conventions as well as combined into one PDF file in the sequence specified by MDOT. To provide text search capabilities the combined proposal shall be created by converting native electronic files to PDF. Scanning to PDF is discouraged except in instances where it is necessary to capture a legally signed document or a hard copy version of a document is all that exists.

Plan sheets shall be submitted to MDOT ProjectWise in the appropriate folders in a set in PDF 11" x 17" format. For final Plan Turn-In, a title sheet shall be printed, signed, sealed, and then scanned for inclusion with the PDF set. The original title sheet shall be sent to the MDOT Project Manager.

Reference Information Documents (RID) shall be entered into MDOT ProjectWise in the appropriate folder with standard naming conventions and content at milestone submittals as defined by Chapter 4 of the Design Submittal Requirements. The RID files included will depend on the design survey deliverables and project template (See Chapter 2 of the Design Submittal Requirements). These files range from CADD, existing terrain, proposed cross sections, 3D models and files generated for Automated Machine Guidance (AMG) and automated inspection/stakeout activities.

Stand Alone Proposal Estimator's Worksheet (SAPW) shall be used to generate the txt and xml files necessary for import into the Trns*port bid letting software. The SAPW files shall be entered into MDOT ProjectWise in the appropriate folder.

The project removal, construction, and profile sheets will require a scale of **1"=80' or as approved by the Project Manager.** See Section 1.02.12 of the Road Design Manual for further direction.

All plans, special provisions, estimates, and other project related items shall meet all MDOT requirements and detailing practices (i.e., format, materials, symbols, patterns, and layout) or as otherwise directed by the Project Manager. All plans, specifications, and other project related items are subject to review and approval by MDOT.

**PROJECT SCHEDULE:**

The Consultant shall use the following events to prepare the proposed implementation schedule as required in the Guidelines for the Preparation of Responses on Assigned Design Services Contracts. These dates shall be used in preparing the Consultant's Monthly Progress Reports.

MDOT
Preconstruction Tasks
Consultant Checklist
P/PMS Form Only

# MDOT PRECONSTRUCTION TASKS CONSULTANT CHECKLIST

Version 13
Updated
03-02-2015

*For questions on specific tasks, refer to the P/PMS Task Manual located on the MDOT Website.*
*For assistance in accessing this manual, please contact:*
***Dennis Kelley: (517) 373-4614***

Please indicate with a check in the box next to each task number whether you believe that task will require consultant involvement on the job. Milestones (a specific event at a point in time) are italicized and underlined. See the P/PMS Task Manual for more details. Scheduling assistance may be accomplished with estimated completion dates. While not part of P/PMS, an Authorization Milestone and Post-Design Tasks have been included for your reference.

## STUDY (EARLY PRELIMINARY ENGINEERING)

| YES | NO | P/PMS TASK NUMBER AND DESCRIPTION | | DATE TO BE COMPLETED BY (mm/dd/yyyy) |
|---|---|---|---|---|
| | | **CONSULTANT CONTRACT AUTHORIZATION/EXECUTION** | | / / |
| | | **INFORMATION GATHERING/STUDIES** | | |
| ☒ | ☐ | 1115 | Traffic Data Collection for Studies | / / |
| ☐ | ☒ | 1120 | Prepare Traffic Analysis Report for Studies | / / |
| ☐ | ☒ | 1125 | Traffic Capacity Analysis for Studies | / / |
| ☐ | ☒ | 1155 | Request/Perform Safety Analysis for Studies | / / |
| ☐ | ☒ | 1300 | Traffic Impact Study | / / |
| ☐ | ☒ | 1350 | Determine Need for Interstate Access Change Request | / / |
| ☐ | ☒ | 1400 | Feasibility Study | / / |
| ☐ | ☒ | 1500 | Corridor Study | / / |
| ☐ | ☒ | 1555 | Interstate Access Change Request | / / |
| ☐ | ☒ | *155M* | *FHWA Approval of Interstate Access Change Request* | / / |
| ☐ | ☒ | 1600 | Access Management Study Plan | / / |
| ☐ | ☒ | 1700 | Other Miscellaneous Studies | / / |
| | | **EPE SCOPING ANALYSIS** | | |
| ☐ | ☒ | 2100 | Scope Verification and Initiation of EPE Activities | / / |
| ☐ | ☒ | 2115 | Prepare Traffic Analysis Report for EPE/Design | / / |
| ☐ | ☒ | 2120 | Traffic Data Collection for EPE/Design | / / |

| | | | | | |
|---|---|---|---|---|---|
| ☐ | ☒ | 2125 | Traffic Capacity Analysis for EPE/Design | / | / |
| ☐ | ☒ | 2130 | Prepare Project Purpose and Need | / | / |
| ☐ | ☒ | *213M* | *Concurrence by Regulatory Agencies with the Purpose and Need* | / | / |
| ☐ | ☒ | 2140 | Develop and Review Illustrative Alternatives | / | / |
| ☐ | ☒ | 2155 | Request/Perform Safety Analysis for EPE/Design | / | / |
| ☐ | ☒ | 2160 | Prepare and Review EIS Scoping Document | / | / |
| ☐ | ☒ | *216M* | *Public Information Meeting* | / | / |

# MDOT PRECONSTRUCTION TASKS CONSULTANT CHECKLIST

## STUDY (EARLY PRELIMINARY ENGINEERING) (cont'd)

| YES | NO | P/PMS TASK NUMBER AND DESCRIPTION | | DATE TO BE COMPLETED BY (mm/dd/yyyy) | |
|---|---|---|---|---|---|
| | | **EPE DRAFT ANALYSIS** | | | |
| ☐ | ☒ | 2310 | Conduct Technical SEE Studies | / | / |
| ☐ | ☒ | 2311 | Cultural Resources Survey | / | / |
| ☐ | ☒ | 2312 | Recreational Survey – Section 4(f)/6(f) | / | / |
| | | **EPE DRAFT ANALYSIS (cont'd)** | | | |
| ☐ | ☒ | 2313 | Endangered Species Survey | / | / |
| ☐ | ☒ | 2314 | Wetland Assessment | / | / |
| ☐ | ☒ | 2315 | Wetland Mitigation | / | / |
| ☐ | ☒ | 2316 | Other Technical Reports | / | / |
| ☐ | ☒ | 2321 | Prepare for Aerial Photography | / | / |
| ☐ | ☒ | 2322 | Finish/Print Aerial Photography | / | / |
| ☐ | ☒ | 2330 | Collect EPE Geotechnical Data | / | / |
| ☐ | ☒ | 2340 | Develop and Review Practical Alternatives | / | / |
| ☐ | ☒ | *233M* | *Aerial Photography Flight* | / | / |
| ☐ | ☒ | 2360 | Prepare and Review EA | / | / |
| ☐ | ☒ | *236M* | *Approval of EA by FHWA* | / | / |
| ☐ | ☒ | 2370 | Prepare and Review Draft EIS | / | / |
| ☐ | ☒ | *237M* | *Approval of Draft EIS by FHWA* | / | / |
| ☐ | ☒ | 2380 | Distribute EA | / | / |
| ☐ | ☒ | *238M* | *Public Hearing for EA* | / | / |
| ☐ | ☒ | 2390 | Distribute DEIS | / | / |
| ☐ | ☒ | *239M* | *Public Hearing for DEIS* | / | / |
| | | **EPE FINAL ANALYSIS** | | | |
| ☐ | ☒ | 2510 | Determine and Review Recommended Alternative | / | / |
| ☐ | ☒ | *250M* | *Concurrence by Reg Agencies with Recom Alternatives* | / | / |
| ☐ | ☒ | 2525 | Prepare and Review Engineering Report | / | / |
| ☐ | ☒ | 2530 | Prepare and Review Request for FONSI | / | / |
| ☐ | ☒ | *252M* | *Approval of FONSI by FHWA* | / | / |

| | | | | | |
|---|---|---|---|---|---|
| ☐ | ☒ | 2540 | Prepare and Review FEIS | / | / |
| ☐ | ☒ | *254M* | *Approval of FEIS by FHWA* | / | / |
| ☐ | ☒ | 2550 | Obtain ROD | / | / |
| ☐ | ☒ | *255M* | *ROD Issued by FHWA* | / | / |
| ☐ | ☒ | 2570 | ITS Concept of Operations | / | / |
| | | | **CONTAMINATION INVESTIGATION** | | |
| ☐ | ☒ | 2810 | Project Area Contamination Survey (PCS) | / | / |
| ☐ | ☒ | 2820 | Preliminary Site Investigation (PSI) for Contamination | / | / |

# MDOT PRECONSTRUCTION TASKS CONSULTANT CHECKLIST

## PRELIMINARY ENGINEERING - DESIGN

| YES | NO | P/PMS TASK NUMBER AND DESCRIPTION | | DATE TO BE COMPLETED BY (mm/dd/yyyy) | |
|---|---|---|---|---|---|
| | | **DESIGN SCOPE VERIFICATION AND BASE PLAN PREPARATION** | | | |
| ☒ | ☐ | 3130 | Verify Design Scope of Work and Cost | / | / |
| ☐ | ☒ | 3310 | Prepare Aerial Topographic Mapping | / | / |
| ☐ | ☒ | 3320 | Conduct Photogrammetric Control Survey | / | / |
| ☐ | ☒ | 3321 | Set Aerial Photo Targets | / | / |
| ☒ | ☐ | 3325 | Geotechnical Structure Site Characterization | / | / |
| ☒ | ☐ | 3330 | Conduct Design Survey | / | / |
| ☒ | ☐ | 3340 | Conduct Structure Survey | / | / |
| ☒ | ☐ | 3350 | Conduct Hydraulics Survey | / | / |
| ☒ | ☐ | 3360 | Prepare Base Plans | / | / |
| ☒ | ☐ | *311M* | *Utility Notification* | / | / |
| ☐ | ☒ | 3365 | Pre-Conceptual ITS Design and Meeting | / | / |
| ☒ | ☐ | 3370 | Prepare Structure Study | / | / |
| ☒ | ☐ | 3375 | Conduct Value Engineering Study | / | / |
| ☒ | ☐ | 3380 | Review Base Plans | / | / |
| ☒ | ☐ | 3385 | Preliminary Load Rating | / | / |
| ☒ | ☐ | *332M* | *Base Plan Review (Pre-GI Inspection)* | / | / |
| ☒ | ☐ | 3390 | Develop the Maintaining Traffic Concepts | / | / |
| | | **PRELIMINARY PLANS PREPARATION** | | | |
| ☒ | ☐ | 3500 | Develop Transportation Management Plan | / | / |
| ☒ | ☐ | 3510 | Perform Roadway Geotechnical Investigation | / | / |
| ☒ | ☐ | 3520 | Conduct Hydraulic/Hydrologic and Scour Analysis | / | / |
| ☒ | ☐ | 3522 | Conduct Drainage Study, Storm Sewer Design, and use Structural Best Management Practices | / | / |
| ☒ | ☐ | 3530 | Geotechnical Foundation Engineering Report | / | / |
| ☐ | ☒ | 3535 | Conduct Str. Review for Arch. & Aesthetic Improvements | / | / |
| ☒ | ☐ | 3540 | Develop the Maintaining Traffic Plan | / | / |
| ☒ | ☐ | 3551 | Prepare/Review Preliminary Traffic Signal Design Plan | / | / |

| | | | | | |
|---|---|---|---|---|---|
| ☒ | ☐ | 3552 | Develop Preliminary Pavement Marking Plan | / | / |
| ☐ | ☒ | 3553 | Develop Preliminary Non-Freeway Signing Plan | / | / |
| ☒ | ☐ | 3554 | Develop Preliminary Freeway Signing Plan | / | / |
| ☐ | ☐ | 3555 | Prepare/Review Preliminary Traffic Signal Operations | / | / |
| ☒ | ☐ | 3570 | Prepare Preliminary Structure Plans | / | / |
| ☒ | ☐ | 3580 | Develop Preliminary Plans | / | / |
| ☐ | ☒ | 3585 | Final ITS Concept Design and Meeting | / | / |
| ☒ | ☐ | 3590 | Review The Plans | / | / |
| ☒ | ☐ | *352M* | *THE Plan Review Meeting* | / | / |
| ☐ | ☒ | 3595 | Conduct ITS Structure Foundation Investigation | / | / |

# MDOT PRECONSTRUCTION TASKS CONSULTANT CHECKLIST

## PRELIMINARY ENGINEERING - DESIGN (cont'd)

| YES | NO | P/PMS TASK NUMBER AND DESCRIPTION | | DATE TO BE COMPLETED BY (mm/dd/yyyy) | |
|---|---|---|---|---|---|
| | | **UTILITIES** | | | |
| ☒ | ☐ | 3610 | Compile Utility Information | / | / |
| ☐ | ☒ | 3615 | Compile ITS Utility Information | / | / |
| ☐ | ☒ | 3650 | Coordinate RR Involvement for Grade Separations | / | / |
| ☐ | ☒ | 3655 | Coordinate RR Involvement for At-Grade Crossings | / | / |
| ☒ | ☐ | 3660 | Resolve Utility Issues | / | / |
| ☒ | ☐ | *360M* | *Utility Conflict Resolution Plan Distribution* | / | / |
| ☒ | ☐ | *361M* | *Utility Meeting* | / | / |
| ☐ | ☒ | 3670 | Develop Municipal Utility Plans | / | / |
| ☐ | ☒ | 3672 | Develop Special Drainage Structures Plans | / | / |
| ☐ | ☒ | 3675 | Develop Electrical Plans | / | / |
| ☐ | ☒ | 3680 | Preliminary ITS Communication Analysis | / | / |
| ☐ | ☒ | 3690 | Power Design (Power Drop in Field) | / | / |
| | | **MITIGATION/PERMITS** | | | |
| ☐ | ☒ | 3710 | Develop Required Mitigation | / | / |
| ☐ | ☒ | 3720 | Assemble Environmental Permit Applications | / | / |
| ☐ | ☒ | 3730 | Obtain Environmental Permit | / | / |
| | | **FINAL PLAN PREPARATION** | | | |
| ☒ | ☐ | 3815 | Geotechnical Structure Design Review | / | / |
| ☒ | ☐ | 3821 | Prepare/Review Final Traffic Signal Design Plan | / | / |
| ☒ | ☐ | 3822 | Complete Permanent Pavement Marking Plan | / | / |
| ☐ | ☒ | 3823 | Complete Non-Freeway Signing Plan | / | / |
| ☒ | ☐ | 3824 | Complete Freeway Signing Plan | / | / |
| ☐ | ☒ | 3825 | Prepare/Review Final Traffic Signal Operations | / | / |
| ☒ | ☐ | 3830 | Complete the Maintaining Traffic Plan | / | / |
| ☒ | ☐ | 3840 | Develop Final Plans and Specifications | / | / |

| | | | | | |
|---|---|---|---|---|---|
| ☒ | ☐ | *380M* | *Plan Completion* | / | / |
| ☒ | ☐ | 3850 | Develop Structure Final Plans and Specifications | / | / |
| ☒ | ☐ | 3870 | Hold Omissions/Errors Check (OEC) Meeting | / | / |
| ☒ | ☐ | 3875 | Final Load Rating | / | / |
| ☒ | ☐ | *387M* | *Omissions/Errors Checks Meeting* | / | / |
| ☒ | ☐ | *389M* | *Plan Turn-In* | / | / |
| ☐ | ☒ | 3880 | CPM Quality Assurance Review | / | / |
| ☐ | ☒ | 3890 | Final ITS Communication Analysis | / | / |

## MDOT PRECONSTRUCTION TASKS CONSULTANT CHECKLIST

### PRELIMINARY ENGINEERING – RIGHT OF WAY

| YES | NO | P/PMS TASK NUMBER AND DESCRIPTION | | DATE TO BE COMPLETED BY (mm/dd/yyyy) | |
|---|---|---|---|---|---|
| | | **EARLY RIGHT OF WAY WORK** | | | |
| ☐ | ☒ | 4100 | Real Estate Pre-Technical Work (combines 411M, 4120) | / | / |
| ☐ | ☒ | 4150 | Real Estate Technical Work (combines 4130, 4140) | / | / |
| ☐ | ☒ | *413M* | *Approved Marked Final ROW* | / | / |
| | | **ROW APPRAISAL** | | | |
| ☐ | ☒ | 4350 | Real Estate Appraisals (combines 4411, 4412, 4413, 4420) | / | / |
| | | **ROW ACQUISITION** | | | |
| ☐ | ☒ | 4450 | Real Estate Acquisitions (combines 4430, 4710, 4720) | / | / |
| ☐ | ☒ | 4510 | Conduct Right Of Way Survey & Staking | / | / |
| ☐ | ☒ | *442M* | *ROW Certification* | / | / |

## MDOT PRECONSTRUCTION TASKS CONSULTANT CHECKLIST

### POST LETTING/AWARD TASKS (for reference only)

| YES | NO | P/PMS TASK NUMBER AND DESCRIPTION | | DATE TO BE COMPLETED BY (mm/dd/yyyy) | |
|---|---|---|---|---|---|
| ☐ | ☒ | 4810 | Complete Acquisition Process | / | / |
| ☐ | ☒ | 4820 | Manage Excess Real Estate | / | / |
| ☐ | ☒ | 4830 | Provide Post-Certification Relocation Assistance | / | / |
| ☐ | ☒ | 4910 | Conduct ROW Monumentation | / | / |
| ☐ | ☒ | 5010 | Construction Phase Engineering and Assistance | / | / |
| ☐ | ☒ | 5020 | Prepare As-Built Drawings | / | / |

**PAYMENT SCHEDULE**

**CONSULTANT PAYMENT – Actual Cost Plus Fixed Fee:**

Compensation for this project shall be on an **actual cost plus fixed fee** basis. This basis of payment typically includes an estimate of labor hours by classification or employee, hourly labor rates, applied overhead, other direct costs, subconsultant costs, and applied fixed fee. The fixed fee for profit allowed for this project is 11.0% of the cost of direct labor and overhead.

All billings for services must be directed to the Department and follow the current guidelines. Payment may be delayed or decreased if the instructions are not followed.

Payment to the Consultant for services rendered shall not exceed the maximum amount unless an increase is approved in accordance with the contract with the Consultant. Typically, billings must be submitted within 60 days after the completion of services for the current billing. The final billing must be received within 60 days of the completion of services. Refer to your contract for your specific contract terms.

Direct expenses, if applicable, will not be paid in excess of that allowed by the Department for its own employees in accordance with the State of Michigan's Standardized Travel Regulations. Supporting documentation must be submitted with the billing for all eligible expenses on the project in accordance with the Reimbursement Guidelines. The only hours that will be considered allowable charges for this contract are those that are directly attributable to the activities of this project.

MDOT will reimburse the consultant for **vehicle expenses and the costs of travel** to and from project sites in accordance with MDOT's Travel and Vehicle Expense Reimbursement Guidelines, dated May 1, 2013. The guidelines can be found at http://www.michigan.gov/documents/mdot/Final_Travel_Guidelines_05-01-13_420289_7.pdf?20130509082418. MDOT's travel and vehicle expense reimbursement policies are intended primarily for construction engineering work. Reimbursement for travel to and from project sites and for vehicle expenses for all other types of work will be approved on a case by case basis.

MDOT will pay **overtime** in accordance with MDOT's Overtime Reimbursement Guidelines, dated May 1, 2013. The guidelines can be found at http://www.michigan.gov/documents/mdot/Final_Overtime_Guidelines_05-01-13_420286_7.pdf?20130509081848. MDOT's overtime reimbursement policies are intended primarily for construction engineering work. Overtime reimbursement for all other types of work will be approved on a case by case basis.

**ATTACHMENT A**

**SCOPE OF SERVICE**
**FOR**
**DESIGN SURVEYS**
Version: February 2016

Survey Limits: As needed for Design, Right of Way, and Construction. A description of survey limits detailing length, width and cross roads must be included in the Survey Work Plan.

**NOTES**: The Selected Consultant shall discuss the scope of this survey with an MDOT Region Surveyor or an MDOT Lansing Design Surveyor before submitting a priced proposal.

The Selected Consultant surveyor must contact the Region or TSC Traffic and Safety Engineer for work restrictions in the project area prior to submitting a priced proposal.

A **detailed Survey Work Plan must** be included in the project proposal. A **spreadsheet estimate** of hours by specific survey task such as horizontal control, leveling, mapping, alignment determination, etc., **must** be included in the **priced proposal**.

It is the responsibility of the Professional Surveyor to safeguard all corners of the United States Public Land Survey System, published Geodetic Control and any other Property Controlling corners that may be in danger of being destroyed by the proposed construction project.

Any survey related questions should be directed to the MDOT project surveyor Erik Schnepp at 269-327-4499

**GENERAL REQUIREMENTS:**

1. Surveys must comply with **all Michigan law** relative to land surveying.

2. Surveys must be done under the **direct supervision** of a Professional Surveyor licensed to practice in the State of Michigan.

3. Work in any of the following Survey Services Categories: Surveying: Hydraulics, Surveying: Right of Way, Surveying: Road Design, Surveying: Structure and Surveying: Geodetic Control and Leveling must be completed by a survey firm which is pre-qualified by MDOT for that category.

4. Surveys must meet all requirements of the Michigan Department of Transportation

(MDOT) Design Surveys *Standards of Practice* as noted in http://mdotwiki.state.mi.us/design/index.php/Chapter_1_-_Survey_Manual_Introduction.

Please contact the MDOT Design Survey office to clarify any specific questions regarding these standards.

5. Consultants must obtain all necessary permits required to perform this survey on any public and/or private property, including an up-to-date permit from the MDOT Utilities Coordination and Permits Section.

6. Prior to performing the survey, the Consultant must contact all landowners upon whose lands they will enter. The contact may be personal, phone or letter, but must be documented. This notice must include the reasons for the survey on private land, the approximate time the survey is to take place, the extent of the survey including potential brush cutting (which must be minimized), and an MDOT contact person (the MDOT Project Manager or designate).

7. The Consultant must contact any and all Railroads prior to commencing field survey on railroad property. The cost for any permit, flaggers and/or training that is required by the Railroad will be considered as a direct cost, but only if included in the Consultant's priced proposal.

8. The Consultant must adhere to all applicable OSHA and MIOSHA safety standards, including the appropriate traffic signs for the activities and conditions for this job.

9. Consultants are responsible for a comprehensive and conscientious research of all records, including MDOT records, essential for the completion of this project.

10. The Horizontal and Vertical datums and coordinate system must be clearly stated in the Survey Work Plan and subsequent submittal. For acceptable datums and coordinate systems refer to the MDOT Design Surveys *Standards of Practice*, which can be found on the MDOT Design Survey ftp site.

12. **Electronic submittal only.** Each structure must be submitted separately.

13. Each Survey Project Folder is divided into six sections. These sections are as follows: **Admin**, **Align & ROW**, **Control**, **Mapping**, **Misc**, and **RID** (Reference Information Documents).

14. To be included in the **Admin** section shall be a copy of the **Survey Project Portfolio QA/QC Check-off list**, WIKI link, available from the MDOT Survey Support Unit. This document shall be signed and certified by the Professional Surveyor responsible for the project QA/QC. It is highly recommended that the consultant become familiar with this document prior to preparing the proposal and again prior to assembling the final portfolio. **Failure to use and include this document may result in the immediate return of the project portfolio for completion.**

15. All submitted files must be scanned and/or converted to one PDF format file. A Table of Contents in PDF format is required that has all PDF files bookmarked/linked so each place in the PDF archive can be accessed with a single click of the computer mouse. Specified format files such as Microsoft Word and MicroStation GEOPAK must have separate access in native format outside of the PDF file.

16. The MDOT Project Manager is the official contact for the Consultant. The Consultant must send a copy of all project correspondence to the MDOT Project Manager. The MDOT Project Manager shall be made aware of all communications regarding this project. Any survey related questions regarding this project should be directed to an MDOT Survey Consultant Project Manager or MDOT Region Surveyor. **The MDOT Project Manager must be copied on any and all correspondence.**

At the completion of this survey for this project, legible copies of all field survey notes, all electronic data, and all research records obtained for this project will be considered the property of MDOT. Please include MDOT's Form 222(5/01) entitled "SURVEY NOTES: RECEIPT AND TRANSMITTAL" for all transmittals. A copy of this transmittal form must be sent to the MDOT Project Manager for Design and the MDOT Supervising Land Surveyor.

**Acceptance of this survey by the MDOT Project Manager and/or the MDOT Supervising Land Surveyor does not relieve the Consultant of any liability for the content of the survey.**

**WORK RESTRICTIONS**

The Selected Consultant, and the Selected Consultant only, is advised to discuss Traffic Control scenarios with the MDOT TSC Traffic and Safety Engineer Michelle O'Neill at 269-998-4044 prior to submitting a priced proposal. Traffic Control costs not included in the priced proposal will not be paid by MDOT.

The Consultant must submit a five (5) day advanced notice through the permit system prior to work.

No work shall be performed or lane closures allowed during the Memorial Day, Independence Day, Thanksgiving, Christmas, New Year or Labor Day holiday periods. The holiday periods will be defined by the local Traffic and Safety Engineer which has jurisdiction over the project area.

All work on the road shall be conducted during daylight hours Monday through Saturday only. Lane closures may only occur between the hours of 9:00 am and 2:00 pm, shoulder closures may only occur between the hours of 9:00 am and 3:00 pm. Weekend work is permitted on Saturdays between the hours of 7:00 am and 5:00 pm. Double lane closures are only permitted on Saturdays. ***This is an Example ONLY – discuss the restrictions with the MDOT Traffic & Safety Engineer.***

All traffic control devices shall conform to the current edition, as revised, of the *Michigan Manual of Uniform Traffic Control Devices* (MMUTCD) available on line at http://mdotcf.state.mi.us/public/tands/Details_Web/mmutcdcompleteinteractive.pdf. All warning

signs for maintenance of traffic used on this project shall be fabricated with prismatic retro-reflective sheeting. Sign covers shall be placed over existing regulatory signs that are not applicable during Survey work.

The Consultant shall use MDOT standard "maintaining traffic" typicals for any and all closures. Typical MDOT traffic control diagrams are available on line at http://mdotcf.state.mi.us/public/tands/plans.cfm

The Consultant may also use MDOT Maintenance Work Zone Traffic Control Guidelines, found on line at http://www.michigan.gov/documents/zonecontrol_112912_7.pdf.

The Consultant must have a vehicle with markings/logo that identifies the company within sight distance of survey activity and must have a 360 degree flashing strobe light on the top of the vehicle whenever they are working on or near the road.

Traffic control on city streets and county roads is under the jurisdiction of the local authorities where the project is located.

## COORDINATION WITH OTHER CONTRACTS IN THE VICINITY

The Consultant shall coordinate operations with contractors performing work on other projects within or adjacent to the Construction Influence Area (CIA).

MDOT maintenance crews and/or Contract Maintenance Agencies may perform maintenance work within or adjacent to the CIA. The Maintenance Division of MDOT and/or Contract Maintenance Agency will coordinate their operations with the MDOT Project Manager or Designate to minimize the interference to the Consultant.

The Consultant must contact the Operations Engineer at the MDOT Kalamazoo TSC for information regarding project coordination.

Other contracts or maintenance operations may occur during the life of the project. The Consultant's attention is called to the requirements of cooperation with others as covered in Article 104.08 of the 2012 Standard Specifications for Construction: http://mdotcf.state.mi.us/public/specbook/2012/.

No claim for extra compensation or adjustment in contract unit prices will be allowed on account of delay or failure of others to complete scheduled work.

## HORIZONTAL CONTROL

A three dimensional coordinate system must be established based on the North American Datum of 1983, NAD83 (CORS96), Michigan State Plane Grid Coordinates - South Zone (2113) in international feet units for this project following current MDOT standards. There will be 2 primary control monuments set for this project. Additional control will be classified as intermediate control. For the placement of the control the interstate scenario shall apply. No

horizontal coordinates from MDOT project JN 54230 will be used for this project. This applies to control, government corners, alignment & ROW.

**VERTICAL CONTOL**

The vertical component of this project must be based upon the North America Vertical Datum of 1988 (NAVD 88). The vertical will be based on the datum from MDOT projects JN 54230 & JN 110524. This information will be given to the selected consultant. In addition to following MDOT standards of placing benchmarks, additional benchmarks must be set outside of the mapping limits. The location of these benchmarks can be discussed with the selected consultant with the MDOT surveyor.

**ALIGNMENT/ROW**

Any alignment needed to compute the ROW of the project will be a legal alignment. A legal alignment for I-94 (from Sta. 537+72.67 to Sprinkle Road), Portage Road (within mapping limits), Kilgore Road (within mapping limits) will need to be determined. Any previous alignment data will be given to the selected consultant. It will be the responsibility of the consultant to verify and certify any previous alignment accurately determines the legal alignment and ROW within the project limits meeting MDOT standards. The ramp alignments for the Portage Road and I-94 interchange will need to be determined. The legal ROW of the side roads along Portage road will need to be determined for the survey. The legal ROW will need to be determined throughout the mapping limits of the project. The alignment/ROW should be discussed with the MDOT project surveyor

**GOVERNMENT CORNERS/PARCEL CORNERS**

Any government corner used to establish the legal alignment / legal ROW lines must meet the MDOT's Design Survey Standards.

Any corner for alignment/ROW determination will be submitted to the Kalamazoo County re-monumentation group for approval by the selected consultant if not already approved by the county re-monumentation board. The list will be verified between MDOT and the selected consultant prior to beginning work. The consultant shall begin this step first to try and avoid delays in having the survey delivery date. There will be approximately 13 government corners. This list will be verified with the MDOT project surveyor. Parcel corners will be located throughout the survey project limits.

Within the project mapping limits parcel lines will be determined/surveyed by the selected consultant. At this time they will not be staked in the field. If no deeds are available the non legal parcels lines can be plotted based on the tax description. Tax maps/descriptions will be obtained for the parcels within the mapping limits. This would include the tax parcel ID, name, address, etc. The tax descriptions maps used must be submitted with the survey portfolio.

**MAPPING**

1. Begin mapping along I-94 500' West of the concrete pavement joint to the East of Lovers Lane (approximately 1000' East of Lovers Lane) and end mapping 500' to the East of the West edge of concrete pavement (approximately 1000' West of Sprinkle Road).

Mapping in this area will be ROW to ROW. In addition to mapping ROW to ROW an additional 10' will be mapped behind the existing noise/screen walls. Notification shall be given to the parcel owners prior to completing the survey. Include the height of the existing noise/sound wall in the survey.

2. For Portage Road begin mapping ½ mile to the North of the I-94 alignment and end mapping ½ mile South of the I-94 alignment. Mapping will be ROW to ROW.
3. For Kilgore Road mapping begin 1000' West of Portage Road and end 1500' East of I-94 ROW. Mapping will be ROW to ROW.
4. Map the complete I-94 and Portage Road interchange from ROW to ROW include all ramps.
5. For the following structures include reference lines and points, underclearance elevations, reference point stationing, piers, abutments, wing walls, and footing elevations.
    i. I-94 structure over Portage Road (S03 of 39022)
    ii. Kilgore Road over I-94 (S11 of 39022).
    b. The elevations of the rail will also need to be obtained for the following structures:
        i. I-94 over NSRR (R01 of 39022)
        ii. I-94 over CNRR (R03 of 39022)
        iii. I-94 over CNRR (R04 of 39022)
6. Include structure details of CB's, MH's, culverts, inclue the type, size, invert elevations in ASCII file or spreadsheet. Include the next structure beyond the mapping limits/ROW. Make a connectivity .dgn file with pipes at the correct elevation.
7. All mapping deliverables will follow MDOT standards.

POST SURVEY CLEAN-UP

Once the survey is complete, all stakes must be removed from the MDOT median and ROW to aid the maintenance crews and adjacent property owners. All benchmarks and control points and their witnesses must remain in place.

**FINAL REPORT**: ELECTRONIC SUBMITTAL in ProjectWise
Include Region surveyor in notification of submittal.

The final report for this project will be organized according to the MDOT Design Wiki: http://mdotwiki.state.mi.us/design/index.php/Chapter_10_-_Deliverables

**ATTACHMENT B**

**SCOPE OF SERVICE**
**FOR**
**HYDRAULIC SURVEY**
As of February 2016

**C.S. 39022 Job No. 105886C**
**I-94 over Davis Creek**
**Kalamazoo County**
**Section 36, T02S, R11W**

The Consultant shall perform a hydraulic survey, which provides geometric data on the stream channel upstream and downstream of the structure. **Two weeks** prior to starting the hydraulic survey, the Consultant surveyor shall schedule a site visit with an MDOT Hydraulic Engineer by contacting the MDOT Hydraulics Unit Supervisor at 517-335-1919 or Assistant Hydraulics Unit Leader, Larry Wiggins at 517-373-1713. The purpose of the site visit is to discuss details of the survey and to clarify the intent of the survey. The Consultant must take notes at the site visit and submit them promptly to the MDOT Project Manager, MDOT Project Surveyor and MDOT Hydraulic Engineer.

Prior to performing the survey, the Consultant must contact all landowners upon whose lands they will enter. The contact may be personal, phone or letter, but must be documented. This notice must include the reasons for the survey on private land, the approximate time the survey is to take place, the extent of the survey including potential brush cutting, and an MDOT contact person (the MDOT Project Manager or Consultant Survey Coordinator or Region Surveyor).

The Consultant must make every effort to minimize brush cutting on private property. The use of paint on private property is prohibited.

**Cross-sections shall be taken at the limits and intervals specified by the MDOT Hydraulic Engineer as described in the Deliverables for Hydraulic Survey. Approximate cross section locations and survey limits are shown in Figure 1. Cross section locations, orientation, point spacing, and distance into the floodplain will be finalized during the site meeting between the MDOT Hydraulic Engineer and Consultant Surveyor.** Channel cross-sections shall be taken normal to the direction of ***flood*** *flow* and tied to the project coordinate system so they can be accurately plotted. The sections shall be extended to the edge of the floodplain, to the elevation of the top of the road at the structure, or to a distance beyond the river bank agreed upon with the MDOT Hydraulic Engineer at the site visit. Shots must be taken at intervals through the stream as specified by the Hydraulic Engineer, and at significant break points. Any high water marks and date of occurrence (if available) shall be noted.

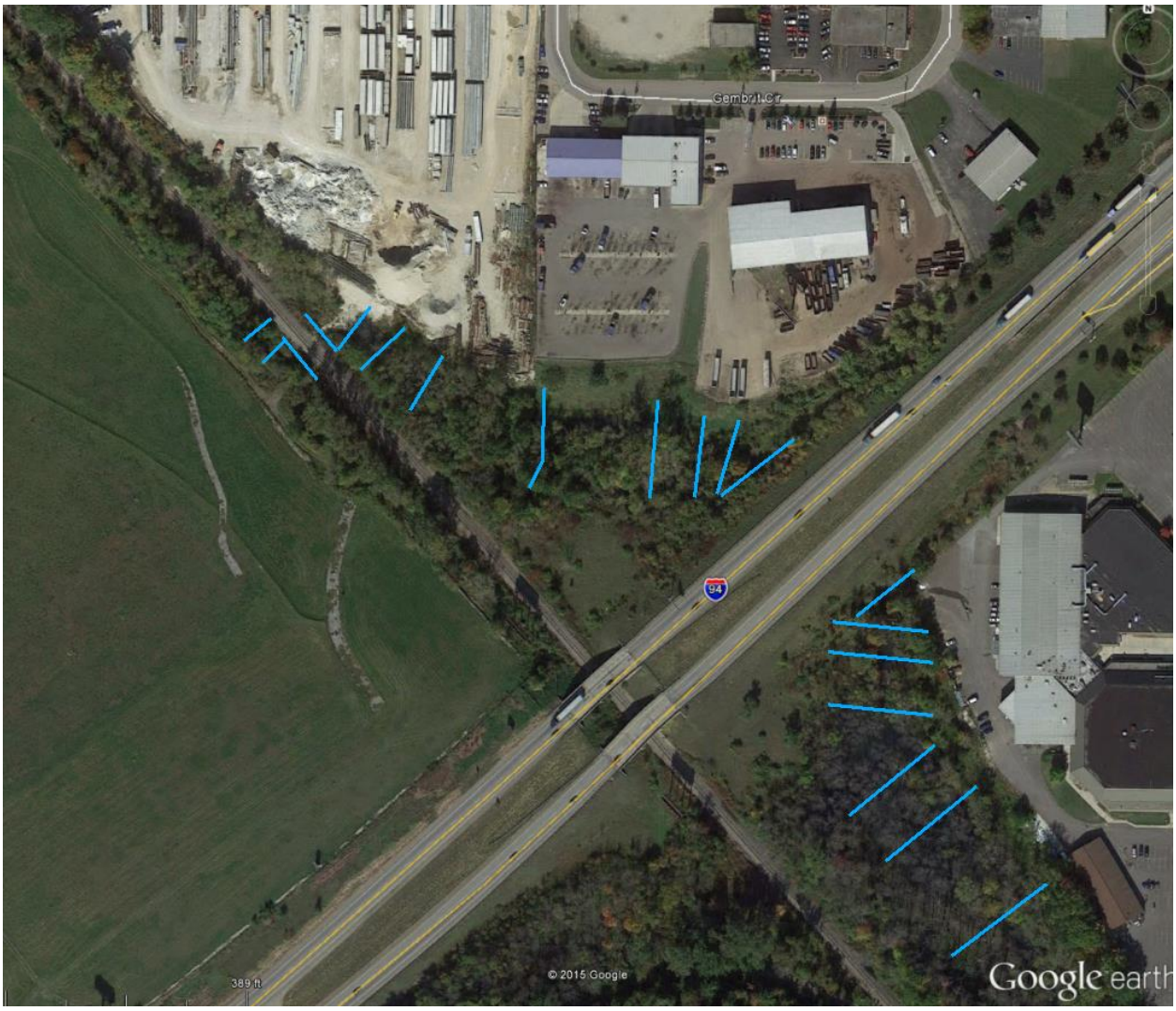



**Figure 1 – Aerial Image showing approximate location of proposed hydro cross sections**

The Consultant shall meet the following requirements for hydraulic cross-sections:

1. Cross-sections shall be submitted electronically in a MicroStation/GEOPAK V8 software file.

2. Each cross-section shall be a separate chain named "HYDRO9, HYDRO2", etc. These **HYDRO** chain numbers need not be in sequence, but each HYDRO chain must have a description, labeled in MicroStation/GEOPAK, of 10, 20, 30, etc., in sequence, starting with 10 at the downstream end. Each individual point should have its own particular identifying MDOT Feature Code and the same alpha prefix, such as RBOT, VEGE, TB.

3. A profile of the **highpoints of all berms** such as roads, railroads, or driveways that cross the stream must be included as a separate chain in MicroStation/GEOPAK, with a Feature Code of "**HIPTC**" and named "HIPTC3, HIPTC1", etc. These HIPTC chain numbers need not be in sequence, but each HIPTC chain must have a description of 10, 20, 30, etc., in sequence, starting with 10 at the downstream end. Each HIPTC chain must also have a description, labeled in MicroStation/GEOPAK, that identifies the type of centerline, such as "railroad berm" or "farm drive." **HIPTC chains must be sequenced separately from the HYDRO Chains.** Each individual point should have its own particular identifying MDOT Feature Code and the same alpha prefix, such as CL, SW, WALLT.

4. Each HYDRO and HIPTC cross-section shall be submitted with the points in the chain running all left to right, looking downstream.

5. The cross-sections generally must extend a minimum of 100 feet into the floodplain from the stream top of bank, unless specified otherwise by the MDOT Hydraulic Engineer during the site meeting.

6. For each cross-section, the vegetation break point (the "friction point" between the natural channel and the surrounding vegetation) shall be shot with an alpha prefix and Feature Code of "**RBK**" or "**LBK**" on the right or left side of the waterway, looking downstream. It should have a description of "break point."

7. Subsequent vegetation break points, if applicable, shall be shot with an alpha prefix and Feature Code of "**VEGE**" with a description such as "friction point – grass to shrub," or "friction point – shrub to trees" as appropriate. The vegetation type closest to the stream shall be listed first.

8. The water surface elevations at each cross section shall have a Feature Code and alpha prefix and of "**LWS**" and "**RWS**", taken at the left edge of water and right edge of water looking downstream. All water surface elevations should be taken on the same day. If this is not possible, note the date taken and any event such as rainfall which may affect the water surface elevation. The Consultant must note if any stream bed cross sections were dry, and LWS/RWS shots were unavailable. The note should be shown on the MicroStation/GEOPAK drawing. **These points are not to be included in the Hydro chains.**

The project surveyor must ensure that all required information is legible and in a form which is easily accessible to the MDOT Hydraulics Unit. A MicroStation/GEOPAK V8 software file, version **08.11.07.566** (as of October 1, 2012), or later, is acceptable. The project surveyor must ensure that all required information is legible and in a form which is easily accessible to the Hydraulics Unit. A HEC-RAS file is acceptable. A comma separated value (.csv), specifically formatted, is recommended. An example is available on the MDOT Design Survey ftp site, or by request of the MDOT Survey Project Manager. Other formats must be discussed in advance with the MDOT Survey Project Manager or MDOT Hydraulics Unit Supervisor.

Only one MicroStation/GEOPAK file per project is desired. The Consultant should not submit separate MicroStation/GEOPAK files for Hydraulics and Road/Structure, unless the Hydraulic Survey is required to be delivered first, in which case the Road/Structure Survey MicroStation/GEOPAK file would be continued/appended to the Hydraulic Survey file.

All elevations shall be referenced to the North American Vertical Datum of 1988 (NAVD88), unless a previously established project datum is required by the MDOT Hydraulic Engineer. If a project datum is used, the MDOT Hydraulic Engineer may require a reference to the North American Vertical Datum of 1988 (NAVD88), or the National Geodetic Vertical Datum of 1929 (NGVD29), or International Great Lakes Datum (IGLD). Two benchmarks must be established at the stream crossing, one on each side of the stream. All benchmarks must be accurately described. Benchmark leveling shall be a closed loop of at least third-order accuracy, which requires an error of closure between known benchmarks of not more than 0.06 feet times the square root of the distance in miles.

Note: It is not necessary to provide least squares analyses for horizontal and vertical control for a Hydraulic Survey upstream and downstream from the structure. Electronic evidence of horizontal and vertical closure is required. The surveyor must use professional judgment to determine whether the closures are acceptable for use on a Hydraulic Survey. It is necessary to provide accurate elevations for underclearances, road and berm profiles, weirs, and anything that controls flow. It is not necessary to provide extremely accurate closures for vertical and horizontal control used for hydraulic cross-sections.

It is not necessary to provide a witness list of horizontal control points set for hydraulic cross-sections.

A list containing at least two benchmarks, one on either side of the bridge, with descriptions, elevations and datum, must be provided. Since these benchmarks may well be used for road/bridge design and construction, least squares analysis is required.

**THE PORTFOLIO FOR THE HYDRAULIC SURVEY MUST BE DELIVERED ELECTRONICALLY IN PROJECTWISE in the External Partnerships section, in the JN-specific Hydraulics folder.** All field measurements, notes, sketches, and calculations must be included in the final transmission.

**C.S. 39022 Job No. 105886C**
**I-94 over Davis Creek**
**Kalamazoo County**
**Section 36, T02S, R11W**

**DELIVERABLES FOR HYDRAULIC SURVEY**

1. The **riparian owners** and addresses in the four quadrants of the structure and stream, clearly shown. It may be necessary to draw the stream on an Equalization map.

2. **First water access** of all buildings within the survey limits. These shots should use Feature Code **FF** in MicroStation/GEOPAK. A description should be included noting exactly what element is depicted, such as basement window, walkout basement, or first floor.

3. All **pertinent structure data** including water surface elevations, flow lines, invert or footing elevations, opening widths, structure width, pier dimensions, and underclearance elevations, both upstream and downstream, **at the stream structure**. Include an elevation view sketch of both sides of the structure showing this information. Note structure width (measured parallel to stream) across the roadway or railroad.

4. All pertinent **structure data** including water surface elevations, flow lines, invert or footing elevations, opening widths, structure width, pier dimensions, and underclearance elevations, both upstream and downstream, at any **other structures** encountered within the reach of the survey. Include **elevation view sketches** of both sides of **all such structures** showing this information. Note structure width (measured parallel to stream) across the roadway or railroad.

5. Water surface elevations at each section must be provided, with the date taken. The water surface elevations at each cross section shall be taken at the left edge of water and right edge of water. **All water surface elevations should be taken on the same day if possible.** If not, note the date taken and any event such as rainfall which may affect the water surface elevation

6. A **profile of the highpoints of all berms** such as roads, railroads, or driveways that cross the stream must be included as separate chains in MicroStation/GEOPAK, with a Feature Code of "HIPTC" and labeled as "HIPTC3, HIPTC1", etc. These HIPTC chains need not be in sequence, but each HIPTC chain must have a description of 10, 20, 30, etc., in sequence, starting with 10 at the downstream end. Each HIPTC chain must also have a description that identifies the type of berm, such as "railroad berm" or "farm drive." The HIPTC chains are to have descriptions of 10, 20, 30, etc., sequenced separately from the HYDRO chains. Each individual shot in the HIPTC chain should have its own identifying Feature Code and alpha prefix such as CL, SW, or WALLT. Profile shots must be taken at the approximate reference lines of the structure, with an appropriate Feature Code and a description of "approximate reference line."

7. One **road profile** for a minimum of 600 feet along the **highpoints of the state trunkline**, as determined by the MDOT Hydraulic Engineer, with a description or "**I-94 centerline**" if the

actual centerline is used. The chain Feature Code must be HIPTC, with a description of "10", or as sequenced in #6 above if there are berms downstream in the survey area. Each individual shot in the HIPTC chain should have its own identifying Feature Code, such as CL, SW or WALLT. Shots must be taken at the approximate reference lines of a structure, with an appropriate Feature Code and/or point name, such as DECK or SW, and a description of "approx reference line." In the case of a culvert, a road profile shot must be taken at the highpoint at the approximate center of the culvert, with a description of "centerline culvert" and be shown on the MicroStation/GEOPAK file.

8. For the **HYDRO** chains, HEC-RAS format or a comma separated value (.csv) file, in specific MDOT format, must be provided. The CSV must contain columns for River, Reach, X, Y, Z, Feature Code, and Description. The shots for each cross section must be grouped together in the same order that they are in the chain, and the cross section designation (10, 20, 30, etc.) noted. An example is available on the MDOT Design Survey ftp site, or by request of the MDOT Survey Project Manager. Other formats must be discussed in advance with the MDOT Survey Project Manager or MDOT Hydraulics Unit Supervisor.

9. For the **HIPTC** chains, a Microsoft Excel file, in specific MDOT format, must be provided. The Excel file must contain columns for X, Y, Z, Station, and Elevations. Station values must be determined using the Pythagorean equation for the X and Y values between shots. The shots for each chain must be grouped together in the same order that they are in the chain. Examples can be found on the MDOT Design Survey ftp site, or contacting the MDOT Hydraulics Unit, or the MDOT Design Survey Project Manager.

10. A MicroStation/GEOPAK V8 file of the Hydraulics Survey utilizing MDOT Feature Codes and showing the relationship of the cross sections to the structure and the road, and noting the distance between cross sections. The HYDRO and HIPTC chains must show the description numbers of 10, 20, 30, etc. Point numbers must also be shown in small text. RBK and LBK shots, and others (EW) as necessary, must be connected to show the stream footprint. First water access locations and elevations must be shown, along with a notation of what the first water access point is, for example: basement window.

11. A MicroStation/GEOPAK V8 file of the area at the stream crossing, saved to .pdf format, showing a basic map of the bridge including abutments, the road(s), and cross section shots at the upstream and downstream faces of the structure (elevations in small text).

12. **Benchmark list** with descriptions, elevations, and datum; and least squares analysis for benchmarks at the structure.

13. **Two HYDRO cross sections**, one at the **upstream face** and one at the **downstream face** of the structure, excluding roadway embankment.

14. **Upstream** of the structure, hydraulic **cross-sections must be defined by the MDOT Hydraulics Unit.**

15. **Downstream** of the structure, hydraulic **cross-sections must be defined by the MDOT Hydraulics Unit.**

## ATTACHMENT C

## SCOPE OF SERVICE
## FOR
## UTILITY COORDINATION

The Consultant is directly responsible for all aspects of the project's utility coordination. The Consultant is expected to provide technical assistance to MDOT, utilities and other stakeholders regarding utility identification, project utility coordination and utility conflict resolution.

A utility is defined as any privately, publicly, municipal or cooperatively owned line, facility, or system for producing, transmitting, or distributing communication, cable television, power, electricity, light, heat, gas, oil, crude products, water, steam, waste, or any other similar commodity, including any fire or police signal system or street lighting system.

MDOT shall:

- Provide a preliminary list of utilities, with contact information, that may have facilities located within the project limits. This list may not be 100% accurate and/or complete.
- Provide assistance, if necessary, in contacting utilities to obtain facility records.
- Provide the Consultant with utility responses and facility records if utility information solicitation has been performed.
- Organize and host a kick-off meeting with Consultant and MDOT prior to the Consultant beginning utility coordination services.

Consultant shall:

- Maintain a Utility Conflict Matrix spreadsheet and deliver as the bi-weekly status report.
- Distribute form letters, plans, etc. as outlined in sections 14.16 (Request for Utility Information) and 14.26 (Distribution of Preliminary Plans to Utilities and Utility Coordination Meeting) of the MDOT Road Design Manual.
    - Identify existing/proposed utility owners and facilities.
    - Collect and compile utility responses.
    - Follow up with non-responsive utilities.
- Schedule and conduct utility meetings for the resolution of conflicts between utility facilities and proposed construction.
    - Identify conflicts, discuss possible design modifications, develop utility relocation schemes, discuss reimbursable relocations, and discuss project scope and schedule.
    - Identify the utility's design and construction contacts and ensure the plan's note sheet utility contact information is accurate.
    - Record meeting minutes and distribute to all attendees.
- Schedule and conduct field meetings with individual utilities to resolve conflicts.
- Schedule and conduct meetings convened for the purpose of utility betterments.
- Ensure municipal utility relocations, betterments and reimbursements follow Chapter 9 of the MDOT Road Design Manual.
- Identify eligible reimbursable utility relocations, for public/private utilities, as outlined in

23 Code of Federal Regulations (CFR) Part 645 Subparts A and B – Utilities and ensure 23 CFR Part 635.410 - Buy America Requirements are met.
    - Collect documentation to evaluate reimbursable utility relocations.
- Evaluate utility relocation plans for compatibility with the proposed project.
- Ensure utility relocation schedules do not impact the project schedule.
- Confirm utility relocation permit applications are submitted to the Kalamazoo TSC.
- Prepare the "Utilities Status Report" (MDOT Form 2286) and "Notice to Bidders - Utility Coordination" documents.
- Track and monitor utility relocation progress.

Deliverables (Provided to the TSC Utility Coordinator and Project Manager):

- Courtesy copies of all correspondence with the utilities
- Utility Conflict Matrix
- Utility coordination meeting minutes
- Reimbursable utility relocation documentation
- Utilities Status Report and Notice to Bidders - Utility Coordination

The Utility Conflict Matrix (UCM) is located on the http://www.trb.org/Main/Blurbs/166731.aspx website under Training materials > Prototype 1 – Stand-alone UCM. The UCM was developed as part of the Transportation Research Board's (TRB) second Strategic Highway Research Program (SHRP 2) Report S2-R15B-RW-1: Identification of Utility Conflicts and Solutions which provides concepts and procedures to identify and resolve utility conflicts. Tools described in the report include utility conflict matrices that enable users to organize, track, and manage conflicts that frequently arise.