

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

	REQUISITION NUMBER	DUE DATE	TIME DUE
MDOT PROJECT MANAGER	JOB NUMBER (JN)	CONTROL SECTION (CS)	
DESCRIPTION			
<b>MDOT PROJECT MANAGER:</b> Check all items to be included in RFP  WHITE = REQUIRED ** = OPTIONAL  Check the appropriate Tier in the box below		<b>CONSULTANT:</b> Provide only checked items below in proposal	
<input type="checkbox"/> <b>TIER I</b> (\$50,000 - \$150,000)	<input type="checkbox"/> <b>TIER II</b> (\$150,000-\$1,000,000)	<input type="checkbox"/> <b>TIER III</b> (>\$1,000,000)	
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Understanding of Service **
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<i>Innovations</i>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Organizational Chart
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Qualifications of Team
Not required as part of Official RFP	Not required as part of Official RFP	<input type="checkbox"/>	Quality Assurance/Quality Control **
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<b>Location:</b> The percentage of work performed in Michigan will be used for all selections unless the project is for on-site p=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	<input type="checkbox"/>	Presentation **
N/A	N/A	<input type="checkbox"/>	Technical Proposal (if Presentation is required)
3 pages (MDOT Forms not counted) ( <b>No Resumes</b> )	7 pages (MDOT Forms not counted)	14 pages (MDOT forms not counted)	Total maximum pages for RFP <b>not including key personnel resumes.</b> Resumes limited to 2 pages per key staff personnel.

**PROPOSAL AND BID SHEET EMAIL ADDRESS – [mdot-rfp-response@michigan.gov](mailto: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 only for firms not currently prequalified with MDOT)

**(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” and “Guideline for Completing a Low Bid Sheet(S)\*, if a low bid is involved as part of the selection process. **Reference Guidelines are available on MDOT’s website under Doing Business > Vendor/Consultant Services >Vendor/Consultant Selections.**

**RFP SPECIFIC INFORMATION**

ENGINEERING SERVICES                       BUREAU OF TRANSPORTATION PLANNING                       OTHER

THE SERVICE WAS POSTED ON THE ANTICIPATED QUARTERLY REQUESTS FOR PROPOSALS  
 NO                       YES                      DATED \_\_\_\_\_ THROUGH \_\_\_\_\_

<input type="checkbox"/> <b>Prequalified Services</b> – See the attached Scope of Services for required Prequalification Classifications.	<input type="checkbox"/> <b>Non-Prequalified Services</b> – If selected, the vendor must make sure that current financial information, including labor rates, overhead computations, and financial statements, if overhead is not audited, 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. <b>Form 5100J is required with Proposal for firms not currently prequalified with MDOT</b>
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**Qualifications 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.) See Bid Sheet Instructions below for additional instructions.

**BID SHEET INSTRUCTIONS**

Bid Sheet(s) must be submitted in accordance with the “Guidelines for Completing a Low Bid Sheet(s)\* (available on MDOT’s website). 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](mailto: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](mailto: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):** 32022

**JOB NUMBER(S):** 119065C

**PROJECT LOCATION:**

The project is located on M-142 from M-19 to Ruth Road in Verona and Sigel Townships.  
The project length is 10.081 miles.

**PROJECT DESCRIPTION:**

The project scope includes crush and shape and HMA overlay.  
Work involved in the design of the project consists of the development and preparation of plans, details, specifications and cost estimates for the following “shelf project”

**ANTICIPATED SERVICE START DATE:** 7/28/2014

**ANTICIPATED SERVICE COMPLETION DATE:** 7/1/2016

**PRIMARY PREQUALIFICATION CLASSIFICATION(S):**

Roadway Rehabilitation & Rural Freeways

**SECONDARY PREQUALIFICATION CLASSIFICATION(S):**

Geotechnical Engineering Services  
Road Design Surveys  
Hydraulic Surveys  
Hydraulics  
Maintaining Traffic Plans and Provisions  
Permanent Non-Freeway Traffic Signing Plans  
Pavement Marking Plans

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

**UTILITY COORDINATION**

MDOT shall be responsible for project Utility Coordination

**DBE PARTICIPATION REQUIREMENT:** 10%

**MDOT PROJECT ENGINEER MANAGER:**

Annette Shelton  
Cost & Scheduling Engineer  
MDOT Davison TSC  
9495 E. Potter Rd  
Davison, Michigan 48423  
Phone: (989) 220-9000  
Fax: 810-653-1248  
[sheltona1@michigan.gov](mailto:sheltona1@michigan.gov)

**CONSTRUCTION COST:**

The estimated cost of construction is:

1.	Mainline Pavement	\$ 3,697,900
2.	Geometric Improvement	\$ 25,000
3.	Environmental	\$ 0
4.	Drainage	\$ 300,000
5.	Safety	\$ 26,700
6.	Non Motorized	\$ 0
7.	Maintaining Traffic	\$ 809,500
8.	Miscellaneous Bridge Cost	\$ 0
9.	Detours and Maintaining Traffic	\$ 0
10.	Permanent Pavement Markings/Signs/Signals	\$ 37,400
11.	Miscellaneous	\$ 2,351,100
	<b>CONSTRUCTION TOTAL</b>	<b>\$ 7,247,600</b>

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 current MDOT1 workspace version of Bentley MicroStation for CADD applications and Bentley GEOPAK for road design. Consultant shall comply with all MDOT CADD standards and file naming conventions.

## **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. Final Transport item cost estimates
- B. Furnish pertinent reference materials.
- C. Furnish prints of an example of a similar project and old plans of the area, if available.
- D. Obtain all permits for the project as outlined in previous section.
- E. Coordinate any necessary utility relocation(s)
- F. Furnish FTP site for software download and instructions for the MDOT Stand Alone Proposal Estimator's Worksheet (SAPW).
- G. Furnish a safety analysis.

## **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 project, location of data sources and 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, ROW submittal dates, Railroad coordination requirements, utility conflict resolution, local agency meetings, etc.

- A. Perform design surveys. See attachment A for more information.
- B. Prepare required plans, typical cross-sections, details, and specifications required for design and construction.
- C. Compute and verify all plan quantities.

- D. Design any geometric improvements as required by the 3R design criteria in the MDOT Road Design Manual. The Consultant is to provide a report listing each design criteria element, the standard value, and the existing value. The ideal design would have no design exceptions, however, in case of an unavoidable design exception; the Consultant shall provide all necessary submittals for the design exception.
- E. All Maintaining of Traffic (MOT) work in the project is a Consultant task. Develop Maintaining of Traffic concepts and prepare staging plans and special provisions for maintaining traffic during construction. Furnish maintaining traffic pay items and quantity estimates and the Transportation Management Plan (TMP).
- F. Provide solutions to any unique problems that may arise during the design of this project.
- G. 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.
- H. Maintain a Design Project Record which includes a history of significant events (changes, comments, etc.) which influenced the development of the plans, dates of submittals and receipt of information.
- I. If excavation is required, submit the excavation locations which may contain contamination. Project Manager then can proceed in requesting a Project Area Contamination Survey (PACS).
- J. The Consultant shall be required to prepare and submit a CPM network for the construction of this project.
- K. The Consultant representative shall record and submit type-written minutes 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.
- L. The Consultant will provide to MDOT at the scheduled submittal dates, electronic copies (in Adobe PDF format) of the required specifications and plan set materials for distribution by MDOT for all reviews for this project.
- M. Prepare and submit electronically (native format or Adobe PDF) any information, calculations, hydraulic studies, or drawings required by MDOT for acquiring any permit (ie. NPDES, DEQ, etc), approvals (i.e. county drain commission) and related mitigation. MDOT will submit permit requests.
- N. Attend any project-related meetings as directed by the MDOT Project Manager.

- O. 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.
- P. 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.
- Q. 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.
- R. 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 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.
- S. The Consultant shall be responsible for all traffic control required to perform the tasks as outlined in this Scope of Design Services.
- T. The Consultant shall be responsible for obtaining up to date access permits and pertinent information for tasks in MDOT Right of Way (ROW).
- U. This information can be obtained through Joe Rios, Utilities/Permits Section, Development Services Division at (517) 241-2103.
- V. On the first of each month, the Consultant Project Manager shall submit a monthly project progress report to the Project Manager.

### **DELIVERABLES:**

The Consultant shall deliver all computer files associated with the project in their native format (spreadsheets, CADD files, GEOPAK files, Roadway Designer Templates etc.) on DVD, CD or uploaded to ProjectWise, 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 in their native format with standard naming conventions as well as combined into one Adobe 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 printed to an Adobe PDF set in 11" x 17" format. For final Plan Turn-In, a title sheet shall be printed, signed, sealed, and then scanned for inclusion with the Adobe PDF set. The original title sheet shall be sent to the MDOT Project Manager.

At final Plan Turn-In, Reference Information Documents (RID) shall be delivered to MDOT with standard naming conventions and content. The RID files included will depend on the design survey and work type of the project. 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 csv files necessary for import into the Trns\*port bid letting software. The SAPW files shall be transmitted electronically by the method specified by the MDOT Project Manager.

The project removal, construction, and profile sheets will require a scale of **1"=80' or as approved by the Project Manager.**

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 11  
Updated  
08-26-2013**

*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)**

		<b>P/PMS TASK NUMBER AND DESCRIPTION</b>	<b>DATE TO BE COMPLETED BY</b>	
			<b>(mm/dd/yyyy)</b>	
		<b>CONSULTANT CONTRACT AUTHORIZATION/EXECUTION</b>	<b>/</b>	<b>/</b>
<b>YES</b>	<b>NO</b>			
		<b><u>INFORMATION GATHERING/STUDIES</u></b>		
<input type="checkbox"/>	<input type="checkbox"/>	1115 Traffic Data Collection for Studies	/	/
<input type="checkbox"/>	<input type="checkbox"/>	1120 Prepare Traffic Analysis Report for Studies	/	/
<input type="checkbox"/>	<input type="checkbox"/>	1125 Traffic Capacity Analysis for Studies	/	/
<input type="checkbox"/>	<input type="checkbox"/>	1155 Request/Perform Safety Analysis for Studies	/	/
<input type="checkbox"/>	<input type="checkbox"/>	1300 Traffic Impact Study	/	/
<input type="checkbox"/>	<input type="checkbox"/>	1350 Determine Need for Interstate Access Change Request	/	/
<input type="checkbox"/>	<input type="checkbox"/>	1400 Feasibility Study	/	/
<input type="checkbox"/>	<input type="checkbox"/>	1500 Corridor Study	/	/
<input type="checkbox"/>	<input type="checkbox"/>	1555 Interstate Access Change Request	/	/
<input type="checkbox"/>	<input type="checkbox"/>	<i><u>155M FHWA Approval of Interstate Access Change Request</u></i>	/	/
<input type="checkbox"/>	<input type="checkbox"/>	1600 Access Management Study Plan	/	/
<input type="checkbox"/>	<input type="checkbox"/>	1700 Other Miscellaneous Studies	/	/
		<b><u>EPE SCOPING ANALYSIS</u></b>		
<input type="checkbox"/>	<input type="checkbox"/>	2100 Scope Verification and Initiation of EPE Activities	/	/
<input type="checkbox"/>	<input type="checkbox"/>	2115 Prepare Traffic Analysis Report for EPE/Design	/	/
<input type="checkbox"/>	<input type="checkbox"/>	2120 Traffic Data Collection for EPE/Design	/	/
<input type="checkbox"/>	<input type="checkbox"/>	2125 Traffic Capacity Analysis for EPE/Design	/	/

<input type="checkbox"/>	<input type="checkbox"/>	2130	Prepare Project Purpose and Need	/	/
<input type="checkbox"/>	<input type="checkbox"/>	<u>213M</u>	<u>Concurrence by Regulatory Agencies with the Purpose and Need</u>	/	/
<input type="checkbox"/>	<input type="checkbox"/>	2140	Develop and Review Illustrative Alternatives	/	/
<input type="checkbox"/>	<input type="checkbox"/>	2155	Request/Perform Safety Analysis for EPE/Design	/	/
<input type="checkbox"/>	<input type="checkbox"/>	2160	Prepare and Review EIS Scoping Document	/	/
<input type="checkbox"/>	<input type="checkbox"/>	<u>216M</u>	<u>Public Information Meeting</u>	/	/

**MDOT PRECONSTRUCTION TASKS CONSULTANT CHECKLIST**

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

		<b>P/PMS TASK NUMBER AND DESCRIPTION</b>		<b>DATE TO BE COMPLETED BY</b>	
<b>YES</b>	<b>NO</b>			<b>(mm/dd/yyyy)</b>	
<b><u>EPE DRAFT ANALYSIS</u></b>					
<input type="checkbox"/>	<input type="checkbox"/>	2310	Conduct Technical SEE Studies	/	/
<input type="checkbox"/>	<input type="checkbox"/>	2311	Cultural Resources Survey	/	/
<input type="checkbox"/>	<input type="checkbox"/>	2312	Recreational Survey – Section 4(f)/6(f)	/	/
<b><u>EPE DRAFT ANALYSIS (cont'd)</u></b>					
<input type="checkbox"/>	<input type="checkbox"/>	2313	Endangered Species Survey	/	/
<input type="checkbox"/>	<input type="checkbox"/>	2314	Wetland Assessment	/	/
<input type="checkbox"/>	<input type="checkbox"/>	2315	Wetland Mitigation	/	/
<input type="checkbox"/>	<input type="checkbox"/>	2316	Other Technical Reports	/	/
<input type="checkbox"/>	<input type="checkbox"/>	2321	Prepare for Aerial Photography	/	/
<input type="checkbox"/>	<input type="checkbox"/>	2322	Finish/Print Aerial Photography	/	/
<input type="checkbox"/>	<input type="checkbox"/>	2330	Collect EPE Geotechnical Data	/	/
<input type="checkbox"/>	<input type="checkbox"/>	2340	Develop and Review Practical Alternatives	/	/
<input type="checkbox"/>	<input type="checkbox"/>	<u>233M</u>	<u>Aerial Photography Flight</u>	/	/
<input type="checkbox"/>	<input type="checkbox"/>	2360	Prepare and Review EA	/	/
<input type="checkbox"/>	<input type="checkbox"/>	<u>236M</u>	<u>Approval of EA by FHWA</u>	/	/
<input type="checkbox"/>	<input type="checkbox"/>	2370	Prepare and Review Draft EIS	/	/
<input type="checkbox"/>	<input type="checkbox"/>	<u>237M</u>	<u>Approval of Draft EIS by FHWA</u>	/	/
<input type="checkbox"/>	<input type="checkbox"/>	2380	Distribute EA	/	/
<input type="checkbox"/>	<input type="checkbox"/>	<u>238M</u>	<u>Public Hearing for EA</u>	/	/
<input type="checkbox"/>	<input type="checkbox"/>	2390	Distribute DEIS	/	/
<input type="checkbox"/>	<input type="checkbox"/>	<u>239M</u>	<u>Public Hearing for DEIS</u>	/	/
<b><u>EPE FINAL ANALYSIS</u></b>					
<input type="checkbox"/>	<input type="checkbox"/>	2510	Determine and Review Recommended Alternative	/	/
<input type="checkbox"/>	<input type="checkbox"/>	<u>250M</u>	<u>Concurrence by Reg Agencies with Recom Alternatives</u>	/	/
<input type="checkbox"/>	<input type="checkbox"/>	2525	Prepare and Review Engineering Report	/	/
<input type="checkbox"/>	<input type="checkbox"/>	2530	Prepare and Review Request for FONSI	/	/
<input type="checkbox"/>	<input type="checkbox"/>	<u>252M</u>	<u>Approval of FONSI by FHWA</u>	/	/
<input type="checkbox"/>	<input type="checkbox"/>	2540	Prepare and Review FEIS	/	/
<input type="checkbox"/>	<input type="checkbox"/>	<u>254M</u>	<u>Approval of FEIS by FHWA</u>	/	/

<input type="checkbox"/>	<input type="checkbox"/>	2550	Obtain ROD	/	/
<input type="checkbox"/>	<input type="checkbox"/>	<u>255M</u>	<u>ROD Issued by FHWA</u>	/	/
<input type="checkbox"/>	<input type="checkbox"/>	2570	ITS Concept of Operations	/	/

**CONTAMINATION INVESTIGATION**

<input type="checkbox"/>	<input type="checkbox"/>	2810	Project Area Contamination Survey (PCS)	/	/
<input type="checkbox"/>	<input type="checkbox"/>	2820	Preliminary Site Investigation (PSI) for Contamination	/	/

**MDOT PRECONSTRUCTION TASKS CONSULTANT CHECKLIST**

**PRELIMINARY ENGINEERING - DESIGN**

		<b>P/PMS TASK NUMBER AND DESCRIPTION</b>		<b>DATE TO BE COMPLETED BY</b>	
<b>YES</b>	<b>NO</b>			<b>(mm/dd/yyyy)</b>	
<b><u>DESIGN SCOPE VERIFICATION AND BASE PLAN PREPARATION</u></b>					
X	<input type="checkbox"/>	3130	Verify Design Scope of Work and Cost	7/28/2014	
<input type="checkbox"/>	<input type="checkbox"/>	3310	Prepare Aerial Topographic Mapping	/	/
<input type="checkbox"/>	<input type="checkbox"/>	3320	Conduct Photogrammetric Control Survey	/	/
<input type="checkbox"/>	<input type="checkbox"/>	3321	Set Aerial Photo Targets	/	/
<input type="checkbox"/>	<input type="checkbox"/>	3325	Geotechnical Structure Site Characterization	/	/
X	<input type="checkbox"/>	3330	Conduct Design Survey	11/21/2014	
<input type="checkbox"/>	<input type="checkbox"/>	3340	Conduct Structure Survey	/	/
X	<input type="checkbox"/>	3350	Conduct Hydraulics Survey	02/06/2015	
X	<input type="checkbox"/>	3360	Prepare Base Plans	02/06/2015	
<input type="checkbox"/>	<input type="checkbox"/>	<u>311M</u>	<u>Utility Notification</u>	/	/
<input type="checkbox"/>	<input type="checkbox"/>	3361	Review and Submit Preliminary ROW Plans	/	/
<input type="checkbox"/>	<input type="checkbox"/>	<u>331M</u>	<u>Preliminary ROW Plans Distributed</u>	/	/
<input type="checkbox"/>	<input type="checkbox"/>	3365	Pre-Conceptual ITS Design and Meeting	/	/
<input type="checkbox"/>	<input type="checkbox"/>	3370	Prepare Structure Study	/	/
<input type="checkbox"/>	<input type="checkbox"/>	3375	Conduct Value Engineering Study	/	/
<input type="checkbox"/>	<input type="checkbox"/>	3380	Review Base Plans	/	/
<input type="checkbox"/>	<input type="checkbox"/>	3385	Preliminary Load Rating	/	/
X	<input type="checkbox"/>	<u>332M</u>	<u>Base Plan Review (Pre-GI Inspection)</u>	02/27/2015	
X	<input type="checkbox"/>	3390	Develop the Maintaining Traffic Concepts	02/06/2015	
<b><u>PRELIMINARY PLANS PREPARATION</u></b>					
X	<input type="checkbox"/>	3500	Develop Transportation Management Plan	08/11/2015	
X	<input type="checkbox"/>	3510	Perform Roadway Geotechnical Investigation	/	/
X	<input type="checkbox"/>	3520	Conduct Hydraulic/Hydrologic and Scour Analysis	08/11/2015	
X	<input type="checkbox"/>	3522	Conduct Drainage Study, Storm Sewer Design, and use Structural Best Management Practices	08/11/2015	
<input type="checkbox"/>	<input type="checkbox"/>	3530	Geotechnical Foundation Engineering Report	/	/
<input type="checkbox"/>	<input type="checkbox"/>	3535	Conduct Str. Review for Arch. & Aesthetic Improvements	/	/
X	<input type="checkbox"/>	3540	Develop the Maintaining Traffic Plan	08/11/2015	
<input type="checkbox"/>	<input type="checkbox"/>	3551	Prepare/Review Preliminary Traffic Signal Design Plan	/	/

X	<input type="checkbox"/>	3552	Develop Preliminary Pavement Marking Plan	08/11/2015
X	<input type="checkbox"/>	3553	Develop Preliminary Non-Freeway Signing Plan	08/11/2015
<input type="checkbox"/>	<input type="checkbox"/>	3554	Develop Preliminary Freeway Signing Plan	/ /
<input type="checkbox"/>	<input type="checkbox"/>	3555	Prepare/Review Preliminary Traffic Signal Operations	/ /
<input type="checkbox"/>	<input type="checkbox"/>	3570	Prepare Preliminary Structure Plans	/ /
X	<input type="checkbox"/>	3580	Develop Preliminary Plans	08/11/2015
<input type="checkbox"/>	<input type="checkbox"/>	3581	Review and Submit Final ROW Plans	/ /
<input type="checkbox"/>	<input type="checkbox"/>	<u>351M</u>	<u>Final ROW Plans Distributed</u>	/ /

**MDOT PRECONSTRUCTION TASKS CONSULTANT CHECKLIST**

**PRELIMINARY ENGINEERING - DESIGN (cont'd)**

		<b>P/PMS TASK NUMBER AND DESCRIPTION</b>		<b>DATE TO BE COMPLETED BY</b>
<b>YES</b>	<b>NO</b>			<b>(mm/dd/yyyy)</b>
<b><u>PRELIMINARY PLANS PREPARATION (cont'd)</u></b>				
<input type="checkbox"/>	<input type="checkbox"/>	3585	Final ITS Concept Design and Meeting	/ /
<input type="checkbox"/>	<input type="checkbox"/>	3590	Review Preliminary Plans (Hold Plan Review Meeting)	/ /
X	<input type="checkbox"/>	<u>352M</u>	<u>THE Plan Review (Grade Inspection)</u>	09/22/2015
<input type="checkbox"/>	<input type="checkbox"/>	3595	Conduct ITS Structure Foundation Investigation	/ /
<b><u>UTILITIES</u></b>				
X	<input type="checkbox"/>	3610	Compile Utility Information	02/06/2015
<input type="checkbox"/>	<input type="checkbox"/>	3615	Compile ITS Utility Information	/ /
<input type="checkbox"/>	<input type="checkbox"/>	3650	Coordinate RR Involvement for Grade Separations	/ /
<input type="checkbox"/>	<input type="checkbox"/>	3655	Coordinate RR Involvement for At-Grade Crossings	/ /
X	<input type="checkbox"/>	3660	Resolve Utility Issues	09/23/2015
X	<input type="checkbox"/>	<u>360M</u>	<u>Utility Conflict Resolution Plan Distribution</u>	08/11/2015
<input type="checkbox"/>	<input type="checkbox"/>	<u>361M</u>	<u>Utility Meeting</u>	/ /
<input type="checkbox"/>	<input type="checkbox"/>	3670	Develop Municipal Utility Plans	/ /
<input type="checkbox"/>	<input type="checkbox"/>	3672	Develop Special Drainage Structures Plans	/ /
<input type="checkbox"/>	<input type="checkbox"/>	3675	Develop Electrical Plans	/ /
<input type="checkbox"/>	<input type="checkbox"/>	3680	Preliminary ITS Communication Analysis	/ /
<input type="checkbox"/>	<input type="checkbox"/>	3690	Power Design (Power Drop in Field)	/ /
<b><u>MITIGATION/PERMITS</u></b>				
<input type="checkbox"/>	<input type="checkbox"/>	3710	Develop Required Mitigation	/ /
<input type="checkbox"/>	<input type="checkbox"/>	3720	Assemble Environmental Permit Applications	/ /
<input type="checkbox"/>	<input type="checkbox"/>	3730	Obtain Environmental Permit	/ /
<b><u>FINAL PLAN PREPARATION</u></b>				
<input type="checkbox"/>	<input type="checkbox"/>	3815	Geotechnical Structure Design Review	/ /
<input type="checkbox"/>	<input type="checkbox"/>	3821	Prepare/Review Final Traffic Signal Design Plan	/ /
X	<input type="checkbox"/>	3822	Complete Permanent Pavement Marking Plan	11/21/2015
X	<input type="checkbox"/>	3823	Complete Non-Freeway Signing Plan	11/21/2015

<input type="checkbox"/>	<input type="checkbox"/>	3824	Complete Freeway Signing Plan	/	/
<input type="checkbox"/>	<input type="checkbox"/>	3825	Prepare/Review Final Traffic Signal Operations	/	/
X	<input type="checkbox"/>	3830	Complete the Maintaining Traffic Plan	11/21/2015	
X	<input type="checkbox"/>	3840	Develop Final Plans and Specifications	11/21/2015	
X	<input type="checkbox"/>	<u>380M</u>	<u>Plan Completion</u>	01/04/2016	
<input type="checkbox"/>	<input type="checkbox"/>	3850	Develop Structure Final Plans and Specifications	/	/
X	<input type="checkbox"/>	3870	Hold Omissions/Errors Check (OEC) Meeting	02/12/2016	
<input type="checkbox"/>	<input type="checkbox"/>	3875	Final Load Rating	/	/

**MDOT PRECONSTRUCTION TASKS CONSULTANT CHECKLIST**

**PRELIMINARY ENGINEERING - DESIGN (cont'd)**

		<b>P/PMS TASK NUMBER AND DESCRIPTION</b>		<b>DATE TO BE COMPLETED BY</b>	
<b>YES</b>	<b>NO</b>			<b>(mm/dd/yyyy)</b>	
<b><u>FINAL PLAN PREPARATION (cont'd)</u></b>					
X	<input type="checkbox"/>	<u>387M</u>	<u>Omissions/Errors Checks Meeting</u>	01/19/2016	
X	<input type="checkbox"/>	<u>389M</u>	<u>Plan Turn-In</u>	02/26/2016	
<input type="checkbox"/>	<input type="checkbox"/>	3880	CPM Quality Assurance Review	/	/
<input type="checkbox"/>	<input type="checkbox"/>	3890	Final ITS Communication Analysis	/	/

**PRELIMINARY ENGINEERING – RIGHT OF WAY**

<b><u>EARLY RIGHT OF WAY WORK</u></b>					
<input type="checkbox"/>	<input type="checkbox"/>	4120	Obtain Preliminary Title Commitments	/	/
<input type="checkbox"/>	<input type="checkbox"/>	4130	Prepare Marked Final Right Of Way Plans	/	/
<input type="checkbox"/>	<input type="checkbox"/>	<u>413M</u>	<u>Approved Marked Final ROW</u>	/	/
<input type="checkbox"/>	<input type="checkbox"/>	4140	Prepare Property Legal Instruments	/	/
<b><u>ROW ACQUISITION</u></b>					
<input type="checkbox"/>	<input type="checkbox"/>	4411	Preliminary Interviews	/	/
<input type="checkbox"/>	<input type="checkbox"/>	<u>441M</u>	<u>Post-Decision Meeting</u>	/	/
<input type="checkbox"/>	<input type="checkbox"/>	4412	Real Estate Services Assignment Proposal and Fee Estimate (Form 633s) for Appraisal Work Authorization	/	/
<input type="checkbox"/>	<input type="checkbox"/>	4413	Appraisal Reports	/	/
<input type="checkbox"/>	<input type="checkbox"/>	<b><u>ROW ACQUISITION (cont'd)</u></b>			
<input type="checkbox"/>	<input type="checkbox"/>	4420	Appraisal Review Reports	/	/
<input type="checkbox"/>	<input type="checkbox"/>	4430	Acquire Right Of Way Parcels	/	/
<input type="checkbox"/>	<input type="checkbox"/>	4510	Conduct Right Of Way Survey & Staking	/	/
<input type="checkbox"/>	<input type="checkbox"/>	<b><u>ROW RELOCATION</u></b>			
<input type="checkbox"/>	<input type="checkbox"/>	4710	Relocation Assistance	/	/
<input type="checkbox"/>	<input type="checkbox"/>	4720	Prepare Improvement Removal Plan	/	/
<input type="checkbox"/>	<input type="checkbox"/>	<u>442M</u>	<u>ROW Certification</u>	/	/

## MDOT PRECONSTRUCTION TASKS CONSULTANT CHECKLIST

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

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

### **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. The latest copy of the "Professional Engineering Service Reimbursement Guidelines for Bureau of Highways" is available on MDOT's website. This document contains instructions and forms that must be followed and used for billing. 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](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](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**

January 2014

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

**NOTES:** The Selected Consultant must discuss the scope of this survey with the MDOT Region Surveyor before submitting a priced proposal.

The Selected Consultant surveyor must contact the closest MDOT Transportation Service Center Traffic and Safety Engineer that has jurisdiction prior to submitting a priced proposal.

A detailed Survey Work Plan must be included in the project proposal. A spreadsheet estimate of man hours for specific survey tasks 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.

**GENERAL REQUERIEMENTS:**

1. Surveys must comply with **all Michigan laws** relative to land surveying and must be done under the **direct supervision** of a Professional Surveyor license to practice in the State of Michigan.
2. Work in any of the following categories: Road Design Surveys, Structure Surveys, Hydraulic Surveys, and/or Right-of-way Surveys must be completed by a firm which is pre-qualified by MDOT.
3. Surveys must meet all requirements of the current versions of the Michigan Department of Transportation (MDOT) Design Surveys *Standards of Practice*, MDOT QA/QC Check List, MDOT Design Survey Manual on-line, and MDOT RTK guidelines.
4. Consultants must obtain all necessary permits required to perform this survey on any public and/or private property. **The Consultant shall be responsible for obtaining an up-to-date access permits** and pertinent information from the MDOT Utilities Coordination and Permits Section for any tasks involving work with the MDOT Right of Way (ROW).

5. Prior to performing any ground survey work, the Consultant must contact all landowners upon whose land they will enter. The contact may be personal, phone, or letter, but must be documented. This notice must include the reasons for the survey upon 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 a MDOT contact person (the MDOT Project Manager).
6. The Consultant must contact any and all Railroads prior to commencing field survey on railroad property. This 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.
7. The Consultant must adhere to all applicable OSHA and MIOSHA safety standards, including appropriate traffic signs for the activities and conditions for this project.
8. Consultants are responsible for a comprehensive and conscientious research for all records, including MDOT records, essential for the completion of this project.
9. Measurements, stationing, recorded data and computations must be in International Feet.
10. Coordinate values must be based on the Michigan Coordinate System of 1983, appropriate zone. All elevations must be based on the North American Vertical Datum of 1988 (NAVD88) if control is available within four miles. Use of other datums must be approved by the MDOT Region Surveyor. The datums must be clearly stated in the Survey Work Plan and subsequent submittal.
11. For projects over 5 miles in length contact the MDOT Region Surveyor to discuss scale factor issues. Ground coordinates may be required. The Consultant Surveyor should contact the MDOT Region Surveyor for specific reporting format and conversion process from State Plane Grid Coordinates.
12. The current MDOT *Standards of Practice* for Design Surveys and the current MDOT QA/QC Check List and shall be utilized in preparing the deliverables.
13. To be included in the Administrative section shall be a copy of the MDOT QA/QC Check List and Certification Statement. This document shall be signed and certified by the Professional Surveyor responsible for the project QA/QC. Failure to use and include this document may result in the immediate return of the project portfolio for completion.
14. NOTE: It is not necessary to submit mapping folder for a consultant survey/consultant design in the same authorization. In its place, submit a 2D planimetric map with legal alignments and legal rights of way.
15. It is the responsibility of the consultant to insure that all electronic files submitted to MDOT conform to the required formats in the current Michigan Department of Transportation (MDOT) Design Surveys *Standards of Practice*, MDOT QA/QC Certification Checklist, and MDOT CADD standards, and that all documents are legible.

16. All paper files must be scanned and/or converted to Adobe Acrobat .PDF format. Specific format files such as text (.txt), MicroStation drawing (.dgn), and documents (.doc) must have separate access in native format outside of the Project.pdf file.

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 the MDOT Region Surveyor. **The MDOT Project Manager must be copied on any and all correspondence.**

At the completion of this survey, three identical digital copies must be submitted with one labeled "MDOT Region Surveyor". All electronic data, and all research records obtained for this project will be considered the property of MDOT and must be sent to MDOT Bay Region Surveyor, 55 East Morley Drive, Saginaw, MI 48601. Please use MDOT's form 222 (5/01) entitled "SURVEY NOTES: RECEIPT AND TRANSMITTAL" for all transmittals. A copy of this transmittal form must also be sent to the MDOT Project Manager.

Acceptance of the survey by the MDOT Project Manager and/or MDOT Region Surveyor does not in any way relieve the Consultant of any responsibility and liability for the content of the survey.

#### **TRAFFIC CONTROL/WORK RESTRICTIONS**

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

The Selected Consultant must notify the TSC Traffic and Safety Engineer having jurisdiction prior to submitting a price proposal and prior to beginning surveying activity in the area, to obtain any potential work restrictions and to discuss Traffic Control scenarios for the project.

The TSC Traffic & Safety Engineer must be notified at least two weeks prior to shoulder or lane closures so advance notice, and related traffic issues, can be posted on the MDOT Road Construction Web Site.

No work shall be performed or lane closures allowed during holiday periods, as defined by the local Traffic and Safety Engineer who has jurisdiction over the project area. Week-end work and lane closure exceptions may be permitted but only with the approval in advance from TSC Traffic & Safety Engineer.

Traffic must be maintained by the Consultant throughout the project in accordance with the appropriate sections of the current *Standard Specifications for Construction*, and other supplemental specifications currently in effect.

All traffic control devices shall conform to the current revision, as revised, of the *Michigan Manual of Uniform Traffic Control Devices* (MMUTCD). 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 must have a vehicle with markings/logo that identifies the company within sight distance of the survey activity whenever they are working on or near the road.

Traffic control on city streets is under the jurisdiction of the city where the project is located.

## **COORDINATION WITH OTHER CONTRACTS IN THE VICINITY**

The Consultant shall coordinate their 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 MDOT TSC Traffic & Safety Engineer and Development Engineer for information regarding project coordination.

The Consultant's attention is called to the requirement of cooperation with others as covered in the current Standard Specifications for Construction. Other contracts or maintenance operations may occur during the life of the project.

No claims for extra compensation or adjustment in authorization costs will be allowed on account of delay or failure of others to complete their work unit as scheduled.

## **FIELD SURVEY**

The purpose of a field survey is to obtain information and/or data required by/for a project design engineer, to provide a survey basis for the preparation of legal descriptions and documents to acquire rights of way, easements, and permits, to leave horizontal and vertical control in the field for future construction staking, and to provide a sufficient history of the area to enable a MDOT Design Survey Unit to perform dependable surveys in the future.

For preferred methods, refer to the current MDOT Design Surveys *Standards of Practice*, or contact the Region Surveyor. Any discrepancy or contradiction will be resolved by applying the following list in order of priority:

1. Written instructions from the MDOT Survey Project Manager or the Region Surveyor
2. The current MDOT Design Surveys *Standards of Practice*
3. Current MDOT Design Survey Manual
4. Accepted survey practice, documented in books from disinterested third parties or papers from state or federal agencies.

## 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 PORTFOLIO DELIVERABLES**

All paper files must be scanned and/or converted to Adobe Acrobat .PDF format. Specific format files such as text (.txt), MicroStation drawing (.dgn), and documents (.doc) must have separate access.

Organization of the deliverables shall follow the format of the current MDOT QA/QC Checklist and shall include:

1. In the first folder labeled **ADMINISTRATIVE**, the following will appear:
  - a. MDOT's Form 222(5/01) entitled "SURVEY NOTES: RECEIPT AND TRANSMITTAL"
  - b. The project's Professional Surveyor's Report on company letterhead, consisting of:
    - i) A comprehensive synopsis of the work performed on this project, signed and sealed by the project's Professional Surveyor.
    - ii) The source and methods used to establish the project horizontal and vertical control and alignment(s) for this project.
    - iii) A detailed explanation of anything discovered during the survey of this project that may create a problem for the designer or another surveyor.
  - c. All documents scanned or converted into a Master PDF file, named (JN)123456C\_TaskXXXX. Each Section and sub-section of this PDF file must be bookmarked for easy retrieval. An example can be provided upon request.
  - d. MDOT QA/QC Portfolio Checklist (revised March 2013). **Failure to complete and include this list with the final project portfolio will result in the immediate return of the portfolio for completion.**
2. In the second folder labeled **CONTROL**, the following will appear:
  - a. Documentation of horizontal and vertical datum sources.
  - b. OPUS documentation, long version.
  - c. Least squares adjustments for the horizontal and vertical control.
  - d. It is not necessary to submit electronic raw survey data in hardcopy form, nor in the .PDF file.
  - e. Text files which contain the witness lists for the horizontal alignment points, horizontal control points, benchmarks and government corners. All witness lists must note the datum(s), a combined scale factor for state plane grid-to-ground conversion, and an example thereof. **WITNESS LISTS MUST USE ONLY UPPERCASE LETTERS.**

- f. An MDOT-formatted Microsoft Word file, **SurveyInfoSheet.doc**, showing the data in e. above, using ONLY UPPER CASE LETTERS.
3. In the third folder labeled **ALIGNMENT**, the following will appear:
    - a. An annotated MicroStation drawing of the alignment(s), showing:
      - i) A statement defining the alignment(s) as **legal or non-legal**, and a key box with description of type and origin of all alignments, such as 1958 Survey Alignment, 1966 Construction Alignment or, 2013 As Constructed Alignment
      - ii) Stationing, source of stationing, and station equation to existing stationing
      - iii) Curve data, including coordinates of P.I.s, P.C.s, and P.T.s.
      - iv) Physical alignment points found or set
      - v) Reference lines and angles of crossing (if appropriate)
      - vi) Government corners with bearing and distance ties to alignment along the government lines.
    - b. Witness list for the alignment points found or set, which shows coordinates, stationing and four witnesses for each alignment point. WITNESS LISTS MUST USE ONLY UPPER CASE LETTERS.
    - c. LCRC's for legal alignment points with physical monumentation, found or set.
  4. In the fourth folder labeled **PROPERTY**, the following will appear:
    - a. Tax maps and descriptions with owner names, addresses and phone numbers, if Right of Way is to be acquired, or if riparian ownerships are required.
    - b. Maps, plats, and recorded surveys.
    - c. Documents such as plats, Act 132 Certificates and/or tax maps marked with point numbers as property ties, if Right of Way is to be acquired.
    - d. Legible **recorded** copies of all Land Corner Recordation Certificates (LCRC) filed for the government corners (PLSS corners and Property Controlling Corners) used for computations and/or in danger of obliteration by impending construction.
  5. In the fifth directory labeled **MAPPING**, the following will appear:
    - a. Mapping files in MDOT MicroStation V8i/Power GEOPAK format in the current MDOT workspace, and also converted to .PDF format. ALL POINT AND LINE DESCRIPTIONS MUST USE ONLY UPPER CASE LETTERS. See the current QA/QC Check list for naming convention.
    - b. GEOPAK design files produced by survey in a subfolder titled GEOPAK.
    - c. All field survey notes and electronic mapping data used for the project. It is not necessary to submit electronic raw survey data in the .PDF file.
    - d. It is not necessary to submit complete mapping folder for a consultant survey/consultant design in the same authorization. In its place, submit a 2D planimetric map with legal alignments and legal rights of way.

- e. All supporting and supplemental information or data, such as drainage and utilities, electronically only if possible.
6. In the sixth directory on the CD, and sixth pocket of the portfolio if requested, labeled **MISCELLANEOUS**, the following will appear:
- a. Any photographs taken for clarity of an area
  - b. Any newspaper clippings related to the project
  - c. Any information not covered in this scope that will be of benefit to the designer or another surveyor.

**ATTACHMENT B**  
**SCOPE OF SERVICE**  
**FOR**  
**HYDRAULICS SURVEY**  
**Consultant Analysis**  
**PPMS Task 3350**  
**04.29.13**

**C.S. 32022 Job No. 119065C**  
**M-142 over Phillip Drain**  
**Huron County**

The Consultant shall perform a hydraulics survey, which provides geometric data on the stream channel upstream and downstream of the structure. **Two weeks** prior to starting the hydraulics survey, the Consultant surveyor shall schedule a site visit with an MDOT Hydraulics engineer by contacting the Design Engineer-Hydraulics/Hydrology Chris Potvin at 517-335-1919 or Assistant Design Engineer-Hydraulics/Hydrology 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. Notes must be taken at the site visit and submitted promptly to the MDOT Project Manager, and MDOT Survey Coordinator or Region Surveyor.

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 Design Engineer-Hydraulics/Hydrology as shown in Attachment A.** 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 Hydraulics engineer at the site visit. Shots must be taken at approximately six foot intervals through the stream, and at significant break points. Any high water marks and date of occurrence (if available) shall be noted.

**Since the hydraulics analysis is to be performed by Consultant staff,** the Consultant shall meet the following requirements for hydraulics cross-sections:

1. Cross-sections shall be submitted electronically in a format acceptable to the Design Engineer-Hydraulics/Hydrology.

2. The highpoints of all berms such as roads, railroads, or driveways that cross the stream must be included as a separate chain. Each highpoints chain must also have a description or comment that identifies the type of centerline, such as “railroad berm” or “farm drive.” Each individual shot in the highpoints chain should have its own identifying Feature Code or description, such as centerline, sidewalk or top of wall.
3. Each cross-section shall be submitted with the points in the chain running all left to right, looking downstream.
4. The cross-sections generally must extend a minimum of 100 feet into the floodplain from the stream top of bank.
5. For each cross-section, the vegetation break point (the “friction point” between the natural channel and the surrounding vegetation) shall be shot. It should have a comment or description of “break point.”
6. Subsequent vegetation break points, if applicable, shall be shot with a comment or description such as “friction point – grass to shrub,” or “friction point – shrub to trees” as appropriate.
7. The water surface elevations at each cross section shall be taken at the left edge of water and right edge of water looking downstream. The Consultant must note if any stream bed cross sections were dry, and water surface elevation shots were unavailable.

The project surveyor must ensure that all required information is legible and in a form which is easily accessible to the Hydraulics/Hydrology Unit. A HEC-RAS file is acceptable. Other formats must be discussed in advance with the Survey Project Manager or MDOT Hydraulics Engineer.

All elevations shall be referenced to the North American Vertical Datum of 1988 (NAVD88), or project datum, if established and different. If a project datum is used, the MDOT Hydraulics Engineer may require a reference to NAVD88 or National Geodetic Vertical Datum of 1929 (NGVD29). 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 Hydraulics 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 Hydraulics Survey. It is necessary to provide accurate elevations for underclearances, road profiles, weirs, and anything that controls flow. It is not necessary to provide extremely accurate closures for vertical and horizontal control used for hydraulics cross-sections.

It is not necessary to provide a witness list of horizontal control points set for hydraulics 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 will be used for road/bridge design and construction, least squares analysis is required.

**THE PORTFOLIO FOR THE HYDRAULICS SURVEY MUST BE DELIVERED ELECTRONICALLY.** All field measurements, notes, sketches, and calculations must be included in the final transmission.

## ATTACHMENT AA

C.S. 32022      Job No. 119065C  
M-142 over Phillip Drain: Section 23, T17N, R13E  
Huron County

### FINAL REPORT: DELIVERABLES FOR HYDRAULICS 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. A description should be included noting exactly what element was shot, 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, length, pier thickness 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 across the road.
4. All **pertinent structure data** including water surface elevations, flow lines, invert or footing elevations, opening widths, length, and underclearance elevations, both upstream and downstream, **at any other structures** encountered within the reach of the survey. Include an elevation view sketch of both sides of all such structures showing this information. Note structure width 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 which may affect the evaluation.
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, with a Feature Code of “HIPTC” and labeled as “HIPTC3, HIPTC1”, etc. These HIPTC chains need not be in numerical 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 Hydraulics Engineer with a description or “**M-xx centerline**.” 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” that is shown on the Hydraulics MicroStation file.
8. A **point list in ASCII format** must be provided, containing columns for point number, North (or Y), East (or X), elevation, 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 noted.
9. A MicroStation V8 drawing, **saved to .pdf format**, showing the relationship of the cross sections to the structure and the road, and noting the distance between cross sections. The stream footprint must be shown, as well as any first floor locations and elevations. A **MicroStation drawing, saved to .pdf format**, of the area at the stream crossing, 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).
10. A **MicroStation drawing, saved to .pdf format**, of the area at the stream crossing, 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).
11. **Benchmark list** with descriptions, elevations, and datum; and least squares analysis for benchmarks at the structure.
12. Two hydraulics cross sections, one at the upstream and one at the downstream face of the structure excluding roadway embankment.
13. **Upstream** of the structure, **hydraulics cross-sections must be defined by the MDOT Hydraulics Unit.**
14. **Downstream** of the structure, **hydraulics cross-sections must be defined by the MDOT Hydraulics Unit.**