

## 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 \_\_\_\_\_

**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, 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. **Form 5100J is required with Proposal for firms not currently prequalified with MDOT**

**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  
EARLY PRELIMINARY ENGINEERING DESIGN SERVICES  
“As-Needed” Routine Bridge Safety Inspection**

**CONTROL SECTION:** 84917

**JOB NUMBER:** 114762

**LOCATION:** Various - The bridges for this project are situated in various locations within the Metro Region. See Section X, BRIDGE INSPECTION WORK PACKAGE LIST for specific bridge numbers and locations.

**PROJECT DESCRIPTION:**

To perform in-service safety inspection of MDOT owned bridge structures in accordance with National Bridge Inspection Standards (NBIS). This is termed “Bridge Inspection.”

**PRIMARY PREQUALIFICATION CLASSIFICATION:**

Bridge Safety Inspections

**SECONDARY PREQUALIFICATION CLASSIFICATION:**

N/A

**DBE REQUIREMENT:** N/A

**MDOT PROJECT MANAGER**

Olukayode Adefeso, P.E.  
Metro Region Management Bridge Engineer  
18101 W. Nine Mile Road  
Southfield, Michigan 48075  
PM Office: (248) 521-7002  
Fax: (248) 569-7718  
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**PURPOSE**

In accordance with the Code of Federal Regulations 23-CFR-650, subpart C, each bridge under MDOT jurisdiction is periodically inspected following the Federal Highway Administration (FHWA) NBIS. For the bridges identified on the WORK PACKAGE LIST, a “Routine” inspection will be performed by a qualified consultant. There are several steps in the process of this work and there may be a need for follow-up action.

The deliverable will be the “Inspection Report.” This report will have several components as noted below and will be attested to be accurate and complete by a professional engineer, registered in the State of Michigan.

## **DURATION & SCHEDULE**

### **Project Schedule**

By submittal of the priced proposal, the CONSULTANT is verifying that they can meet the schedule identified in this scope of work. The CONSULTANT is required to develop a project schedule for the inspection of the bridges shown on the attached WORK PACKAGE LIST. Each bridge must be inspected within the month of the due date, as established by the date of the previous inspection, and the frequency determined by the previous inspector. These dates are shown on the WORK PACKAGE LIST. In no case shall the inspection date exceed 24 months from the previous date. The Project Schedule must be submitted in the form of a Gantt Chart also showing the meeting dates as milestones.

Any changes to the schedule must be submitted to the MDOT PM for approval prior to the change. Failure to progress in alignment with the schedule will be considered as failing to meet the terms of this authorization and may result in the cancellation of the contract.

The CONSULTANT must be prepared to begin the field inspection work within one week after receiving the notice to proceed.

### **Project Dates**

The CONSULTANT is required to attend an initial pre-inspection meeting, a series of periodic meetings and, several informational meetings. The expected dates for these meetings are shown below; however, these may be adjusted as mutually agreed to by the MDOT PM and the CONSULTANT.

See Section V-D, Meetings for a description of the CONSULTANT's responsibilities.

Priced Proposal Submission:		<b>February 24<sup>th</sup>, 2014</b>
Anticipated NTP:		<b>March 7<sup>th</sup>, 2014</b>
Pre-Inspection Meeting:		<b>March 12<sup>th</sup>, 2014</b>
Quarterly Progress	1 <sup>st</sup>	<b>June 3<sup>rd</sup>, 2014</b>
Meetings:	2 <sup>nd</sup>	<b>September 3<sup>rd</sup>, 2014</b>
	3 <sup>rd</sup>	<b>December 3<sup>rd</sup>, 2014</b>
	4 <sup>th</sup>	<b>March 4<sup>th</sup>, 2015</b>
Project Closeout Meeting:		<b>June 3<sup>rd</sup>, 2015</b>

## **STAFF REQUIREMENTS**

Each bridge on the list must be inspected by a CONSULTANT team composed of a Qualified Team Leader (QTL) and a staff person. The CONSULTANT must have these two individuals present on site during the inspection to fulfill the requirements of the contract. The CONSULTANT may utilize additional personnel on any given team, but MDOT will not pay for the additional staff. The CONSULTANT is required to have as many teams as necessary to complete the inspections by the required dates.

Following are the minimum qualifications necessary for the required personnel. This must be documented with resumes and submitted with the Fee Proposal.

**CONSULTANT Project Manager**

1. Administrative manager with authoritative control over the inspection teams and demonstrated project management experience.
2. Primary contact between the MDOT PM and the CONSULTANT. One of the inspection QTLs may be delegated Project Manager responsibility.
3. Will perform project contract Quality Control.

**CONSULTANT Qualified Team Leader, QTL(s):**

1. Must meet the requirements of NBIS for a QTL. See Code of Federal Regulations, 23-CFR-650 §650-309.
2. Professional registration as an engineer, licensed to practice in the State of Michigan.
3. Minimum of three years of documented experience in the in-service safety inspections of bridges.
4. If the QTL(s) has attended NHI 130055 more than five years ago, he / she must have taken the NHI #130053. A three day Bridge Inspection Refresher course within the preceding five years.

**Field Staff assisting the CONSULTANT QTL(s):**

1. A technical staff person with three years experience in inspection, design, or construction of bridges or:
2. Recent graduate engineer working at the staff engineer or entry level position.
3. The above listed classes for the QTL(s) are encouraged, but not required for the field staff.

If the QTL(s) that is approved under this authorization is unable to finish the work of the entire project, the authorization may be terminated. The CONSULTANT shall submit a backup QTL(s) for approval with the initial submission of the proposal. However, if any one person identified in the proposal is rejected by MDOT, the entire proposal will be considered non-responsive and rejected.

Bridge safety inspections are done to insure the safe use of the structures by the motoring public. To accomplish this, the National Bridge Inspection Standards (NBIS), AASHTO, *Manual for Condition Evaluation of Bridges* and, the *Bridge Inspection Reference Manual* are to be used as guidance to complete the inspection and provide necessary information. Additional guidance documents and manuals are listed in the appendix.

For the purposes of this project, bridge inspection is broke into four phases: bridge file review, inspection of the bridge in the field, completion of the reports, and communication of the findings to MDOT. Each of these phases must be completed for successful completion of the project.

**Bridge File review**

In this phase of the work the CONSULTANT will take several steps to review the documentation for each bridge and register on-line to be assigned the forms to complete.

1. The QTL(s) must register online with the MDOT Michigan Bridge Inspection System (MBIS) bridge data collection application. Please contact Rich Kathrens (517) 322-5715, [kathrensr@michigan.gov](mailto:kathrensr@michigan.gov) to gain access to MBIS. The person's name will appear on all inspection documents.
2. Review the bridge files, and become familiar with the documentation for each bridge at the MDOT Metro Region office.
3. Print out paper copies of the previous inspection reports from MBIS for use in the field.

### **Field Inspection**

The CONSULTANT team will visit each bridge site and perform an inspection according to the NBIS and AASHTO manual description for a "Routine" inspection. This will be done with a visual inspection and non-destructive tests (NDT). Several reports, described below, will be completed by the QTL while performing this inspection.

1. Observations
  - a. The CONSULTANT QTL will observe all of the bridge components and record their findings ratings in red ink on the appropriate inspection report. This information will be entered into the respective form using the Web based application MBIS.
  - b. There must be sufficient comments for each element in the reports to outline its condition and to justify the rating given. Some of the previous reports may not have complete comments. The lack of previous information does not exempt the CONSULTANT QTL from providing sufficient comments for each element to outline its condition. Follow the rating guidelines provided in the system, unless there are circumstances, particularly if they are safety related, that in the judgment of the QTL do not fit within these guidelines. In this case, the inspector will document the reason for the deviation in the respective comment section.
  - c. NBIS sets a maximum of 24 months between inspection intervals. However, structures in poor condition or with rapidly changing conditions may require inspection sooner than 24 months. It is the responsibility of the CONSULTANT QTL to determine the inspection frequency and notify the MDOT PM when a frequency is to be changed. The *Bridge Inspection Frequency Guidelines* will assist the CONSULTANT QTL in setting the frequency.
  - d. The CONSULTANT QTL must render a professional judgment as to the need for structural analysis or loading rating of the given structure. It may also be necessary to recommend temporary load restrictions and/or changes to the inspection frequency. If load rating is required, MDOT Load Rating Engineer will perform the analysis. Load rating is not a part of this scope. (See Section D, "Load Analysis" below.)

- e. If there is an area of concern that requires traffic control or special inspection / testing, the CONSULTANT must notify the MDOT PM with a “Request for Action” (RFA) form. See “Notification for Unusual Situations” below. The MDOT PM will schedule an in-depth inspection for the area of concern. Traffic control is not required as a part of this scope.
- f. Stream and river bed scour must be evaluated to ensure the foundation for the bridge has adequate support. The CONSULTANT QTL will perform a scour inspection around all structural elements that are located in water up to six feet deep utilizing the wade and probe or the boat and probe methods. Substructure elements in water over six feet will be inspected by a diver under a separate scope.
- g. Information on scour must be reported on the Bridge Safety Inspection Report (BSIR). If there is loss of bearing or undermining of a footing that is safety concern, this must be reported to the MDOT PM using the RFA. If the loss of bearing is sufficient to be of immediate concern for the component to structurally support the bridge, the CONSULTANT will notify the MDOT PM on an emergency basis (See “Notification for Unusual Situations” below).
- h. In addition, for every other routine inspection (maximum of every four years), the elevation of the stream or river bed relative to an established datum must be measured for all structures over water. These measurements must be taken at locations along the length of the bridge spans that are over a stream or river bed, and recorded on the “Stream Cross Section Report” form (See Worksheet Instructions). This information must be compared to the previous data in the form of a graph.
- i. The CONSULTANT QTL must determine if the structure has been hit by a vehicle and damaged. The CONSULTANT QTL shall document all high load hit damage not previously recorded on the bridge safety inspection report. This damage must be documented with a description and photographs.
- j. During the inspection, the CONSULTANT QTL will evaluate the structure for long and short term maintenance and repairs, and record this information on the “Work Recommendations” form of the BIR.

- k. During the inspection, the CONSULTANT QTL will measure and quantify structural deterioration of the CoRe Elements and record this information on the CoRe Element Report. The CONSULTANT QTL will refer to the MDOT Pontis Manual for placement of the correct quantities in their appropriate state. The CONSULTANT QTL shall also add and remove elements that have changed since the last inspection, as well as verify that all smart flags are up to date.

## 2. Notification for Unusual Situations

One of the primary reasons for bridge inspection is to determine if there are any unusual circumstances or situations that could effect the continued safe operation of the bridge, or where it could be costly if repair action is delayed. The CONSULTANT QTL must determine whether the bridge can safely remain in service until the next inspection date with no further observations required. The CONSULTANT QTL must identify the cause of any unusual circumstances or situations and notify the MDOT PM within a time frame appropriate for the situation. The CONSULTANT QTL will be given a list of all of the 24 hour emergency responders for MDOT at the pre-inspection meeting for use when structural deterioration warrants emergency closure of the structure.

Communication of these situations is accomplished formally by using a RFA. The CONSULTANT must properly complete this form and deliver it to the MDOT PM in a timely manner to ensure this communication takes place.

This form does not preclude advising the MDOT PM immediately by phone, or other means, of imminent circumstances. However, the CONSULTANT is still obligated to complete the form. If the situation warrants, the form should be delivered on an expedited basis, faxed or e-mailed, and the CONSULTANT must get confirmation of the delivery.

The RFA should not be used to convey the ordinary information that belongs on the BIR. Below are some of the situations that may trigger a RFA:

- a. Deficient Structural Conditions
- b. If a condition exists on a structural component that warrants a structural analysis (See "Load Analysis" below) or further investigation to determine if the capacity of the element in question is capable of safely carrying the intended loads, the CONSULTANT is required to inform the MDOT PM with a RFA form. An example is an exposed or broken pre-stressing strand in PCI beams or box beam super-structures.
- c. Functional Conditions

- d. Situations that exist in and around the structure that are not a part of a structural element, but could require immediate attention are termed functional problems. Some of these are damaged approach guardrail, erosion of the shoulder, settled approach pavement, missing load posting or height restriction signs, damaged or broken light poles and sign supports.
- e. Suspect Conditions Requiring Further Consideration or Testing
- f. The CONSULTANT QTL will perform the routine inspection in the best manner possible on these structures and document any areas that need further consideration or testing.
- g. The CONSULTANT QTL will inform the MDOT PM using a RFA form of the need to perform supplemental in-depth inspections on structures for such things as:
  - (1) Where a portion of the structure cannot be inspected by routine inspection methods.
  - (2) Where a portion of the structure cannot be visibly inspected due to false decking.
  - (3) Where there are many structural members in need of measurement for excessive loss of section, or need NDT for evaluation.
  - (4) Where there is a need to mechanically remove a lot of scale to get measurements.
  - (5) Where there is a need to coordinate with others', such as closing a lane, to closely examine the structure.
  - (6) If there is a crack or suspected crack in a structural steel component, the CONSULTANT must clearly document this on paper with narrative and photographs.

Testing and in-depth inspections are not a part of this scope.

### **Inspection Reports**

As stated in Section, "PURPOSE", the deliverable for this authorization will be the Inspection Report. The CONSULTANT will be assigned the structures for inspection in MBIS. The assignment will last for 90 days; however, the CONSULTANT is required to complete all assigned inspections in the month of assignment.

A Bridge Inspection Report (BIR) has several components that will vary from bridge to bridge, but that will include at least the “*Bridge Safety Inspection Report*”, MDOT form 2502 (BSIR), the “*Culvert Safety Inspection Report*” (CSIR), and the “*CoRe Element Report and Work Recommendations Report*”. Additional documents may also be necessary depending on the circumstances at the bridge and its condition. Some of these are the RFA form, the “*Streambed Profile*” form, field notes, sketches, and pictures. The BSIR, CoRe element Report, and the work recommendations are to be completed and the data saved on-line in MBIS. If the field application is used, the data must be submitted back to MDOT using MBIS on-line.

All of the documents created by the inspection will be assembled in a binder and presented under cover of a letter stating that the inspections have been performed in accordance with this scope of services, and that all appropriate procedures and guidelines have been followed. This letter will also have the professional registration seal of the QTL or CONSULTANT PM. An additional unbound black and white copy will be presented with the information separated for each bridge for the bridge owner’s bridge files.

The MDOT PM will conduct periodic QA checks on the CONSULTANT’s work and the adequacy of the CONSULTANT’s QC procedures (approximately ten percent of the structures listed in the work package). If these evaluations, in the judgment of the MDOT PM, show that the CONSULTANT does not adhere to the policies and guidelines noted above the contract can be terminated and the balance of the structures to be inspected will not be paid for.

The following documents are typical for each bridge. Other reports may be necessary as conditions warrant.

1. Bridge Safety Inspection Report (BSIR), MDOT form 2502

This is the primary inspection report form and is incorporated into MBIS. The CONSULTANT QTL must complete this form in the field at the specific bridge site. This is usually done by red-lining a copy of the previous report. MBIS has a “Field Copy” print option that creates white space on the previous report for noting changed conditions at the site. It is recommended that the CONSULTANT retain this copy in their records as backup in case of failure of the electronic copy.

A new inspection record is created in MBIS using the information from the site visit. This can be done in the field using the field application with downloaded data or entered in the office using the on-line application.

2. Structure Inventory & Appraisal Sheet

The Structure Inventory and Appraisal (SI&A) sheet is a tabulation of information that must be submitted for each individual structure. The CONSULTANT QTL must review and verify that accurate data entry from previous inspection. The SI&A sheet is completed in MBIS

### 3. CoRe Element Report & Work Recommendations Report

The CoRe Element Report and Work Recommendations Report are key elements of the NBI program and MDOT Bridge Management. The key to the Work Recommendations Report is the communication of the inspector's judgment of the need for maintenance or rehabilitation work necessary to keep the structure in service. The key to the CoRe Element Report is tracking the bridge deterioration rates to produce a reliable and predictable future network condition. The CoRe Element Report and Work Recommendations Report are completed in MBIS.

### 4. Stream Cross Section Report Form

The CONSULTANT will record the elevation of the stream bed with reference to an established datum on this form. The data collected must be entered on the form electronically, and the hard copy and electronic form will be submitted to MDOT.

### 5. Photographs and Posting Document

Photographs must be taken and submitted as part of the Inspection Report to document the current elevation view of the bridge and any unusual conditions. The photographs must be digital images printed paper and captioned with a description of what the photo is showing. Photos that are over or under exposed so the details in question cannot be seen will be returned to the CONSULTANT, and will have to be taken again until the photos are legible. A copy of the electronic files will also be submitted in jpeg format on CD with the Inspection Report.

Bridges that are load posted must have a picture taken of the load posting sign with the bridge in the background. This picture will be stapled to the SI&A form and submitted to the MDOT PM.

### 6. Request for Action Report

As noted above, the CONSULTANT will use this report to document communication to MDOT of circumstances that need more urgent attention than otherwise noted in the Work Recommendations. Examples of this are noted in §V-B-2.

## **Load Analysis**

The NBIS requires that all bridges have an initial load rating calculated, and the rating re-evaluated when the condition or loading of the bridge has changed. Deterioration of structural components over time may get to the point where the structure may have to be load restricted. It is the Inspection QTL's responsibility to assess the overall condition of the structure, render a judgment as to need for a re-evaluation, and document his/her judgment in the general comments section of the BSIR.

Load rating analysis is not required at every routine inspection and is dependent on conditions determined during the inspection. Therefore, the MDOT PM will evaluate the inspector's recommendations and decide on the best course of action based on the circumstances. If the MDOT PM determines that a load rating analysis is necessary, the MDOT PM will forward the work to the Lansing Bridge Operations Load Rating Engineer. The CONSULTANT will not be performing any load rating analyses as a part of this contract.

### **MEETINGS:**

The following meetings are anticipated during this project. Each meeting is expected to take ½ day for the CONSULTANT QTL(s) to attend the meeting, including travel and ½ day to complete the associated paperwork. The meeting location will be at the MDOT Metro Region Office.

For all of the periodic meetings listed below, the CONSULTANT will prepare an agenda and submit it to the MDOT PM prior to the meeting. The CONSULTANT will also keep notes of the meeting and provide "Meeting Minutes" within one week after the meeting.

### **Pre-Inspection Meeting**

This meeting is intended to exchange information regarding the general procedures for communication, review the schedule, discuss emergency procedures and communication, and discuss any open questions to that point before the first inspection begins.

### **Monthly Status Meetings**

The CONSULTANT QTL(s) will meet with the MDOT PM on a regular basis as determined at the pre-inspection meeting to review the progress of the inspections and to submit the draft inspection reports from the previous period. The CONSULTANT will have all of the documents completed prior to the meeting and will submit them under letter of transmittal. See, "DURATION & SCHEDULE", for anticipated dates.

The CONSULTANT will include a copy of all the non-emergency Request for Action forms completed during the previous inspection period and will review these in the meeting with the MDOT PM.

The QTL(s) and the MDOT PM will review the QA reports and the Consultant's QC records and determine if any changes are necessary to the CONSULTANT's procedures.

### **Project Closeout Meeting**

This meeting is intended as a review of any outstanding contract requirements and final presentation of the deliverables. The completed "Consultant Performance Evaluation" form will be given to the CONSULTANT and reviewed.

### **Project Quality Control**

The CONSULTANT will submit a project quality control plan with their proposal that will accomplish at a minimum the following:

1. Confirm that all QTLs have the required documents and certificates to substantiate their qualifications.
2. Confirm that the inspection process and procedures meet the requirements of the NBIS.
3. Review 10% of the completed work to insure that all reports are complete,

accurate, and consistent.

### **Administrative Reports**

In addition to the inspection reports above, the following administrative reports are required.

Inspection Progress Report  
CONSULTANT QC reports

These reports must be completed and submitted to the MDOT PM at the Status Meetings. This information will be used by the MDOT PM to compare progress of the inspections with the schedule.

### **MDOT RESPONSIBILITIES:**

The following activities and information will be provided by the MDOT PM, where applicable, to the CONSULTANT.

1. Assign the structures to be inspected to the CONSULTANT in MBIS
2. Provide access to the hard copy bridge files which have:
  - a. Previous stream bed cross section reports.
  - b. Previous work recommendations.
3. Blank "Request for Action" form

Provide access for the CONSULTANT to any pertinent information in the MDOT bridge files and database that may be necessary to complete the inspection. See **Release of Information**, for restrictions on dissemination of the material.

The MDOT PM will perform QA evaluations with the CONSULTANTS on ten percent of the structures inspected.

### **CONSULTANT PAYMENT:**

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.

The hours provided are only an estimate. The Consultant will be reimbursed a proportionate share of the fixed fee based on the portion of the authorized total hours in which services have been provided to the Department. Fixed fee on "as needed" projects is computed by taking the percent of actual labor hours billed to labor hours authorized, then applying that percentage to the total fixed fee authorized.

## **GENERAL**

### **Personal Safety Equipment**

The CONSULTANT will be required to provide all personal safety equipment for those people working in the field. Some of the required items are hardhats, safety shoes, safety vests, gloves, safety harnesses, eye protection, etc.

Any person found to not have the required safety equipment will be asked to leave the MDOT right of way. If there are repeated cases of this, the authorization with the CONSULTANT will be terminated.

## **Inspection Equipment**

The CONSULTANT must provide the following equipment as suitable for the inspection of the bridge.

### Inspection Vehicle

The CONSULTANT will provide a vehicle with high visibility marking and lighting for use during inspection. This vehicle will provide transportation for the inspection staff and the necessary equipment.

### Boat

The CONSULTANT is required to have a small boat with a motor available for the purpose of inspecting those bridges which are over water and are too deep to wade. This is typically a small aluminum boat or inflatable Zodiac style of boat with a small motor.

The CONSULTANT will be responsible for insuring the boat is safe for operation and is operated in a safe manner utilizing all required safety equipment.

### Computer

The CONSULTANT is required to have a computer with internet connection. A laptop computer for use in the field would be helpful but is not required.

The computer must have access to a printer to print the report documents for the field and the final report. Non-Destructive Testing (NDT)

The inspection process does not require a lot of testing but spot checking by sounding concrete for delaminations, checking for suspected cracks in steel, and measuring for section loss in areas of heavy corrosion is required. If Non-Destructive Testing is required over live traffic, the CONSULTANT shall contact the MDOT PM. The MDOT PM will arrange for an in-depth inspection. In-depth inspections and traffic control are not a part of this contract.

The following equipment is necessary to perform these tests:

- Calipers and thickness gauges
- Dye penetrant test kit
- Chain drag or sounding rod or hammer

### Cell Phone

While in the field, the QTL must have a cellular telephone. The phone numbers must be provided to the MDOT PM at the Pre-Inspection meeting.

### Camera

The CONSULTANT must have a digital camera that can clearly record images of pertinent items found during the inspection. One color copy of the pictures must be given to MDOT as part of the Inspection Report along with the electronic file.

#### Hand Tools

The CONSULTANT must provide the hand tools necessary to complete the inspection. Some of these are ladders, waders, hammers, lighting, marking paint, measuring tapes, etc.

#### **Maintenance of Traffic**

The CONSULTANT shall notify and attain approval from the TSC Traffic Operations Engineer at a minimum of 5 business days prior to the implementation of any work that will require vehicles to be parked on the shoulder, any bridge, lane, or shoulder closures.

The inspection is expected to be done from the shoulders or the median. Some safety equipment for working on the shoulder is necessary such as traffic cones, flashers on the vehicles, flexible roll-up sign for “Men Working Ahead”, etc and they should be in good working order and visible to approaching traffic. At bridge locations identified to have limited driver’s sight distance and/or inadequate shoulder width for safe inspection operation or locations where inspection activities are likely to distract motorists, additional warning signs and traffic control devices may be required. Traffic control for closing a lane will be required for highways with shoulder width 10 feet or less, within the City of Detroit. If a lane closure is warranted, the CONSULTANT shall contact the MDOT PM.

#### **Release of Information**

The CONSULTANT may not release any information about the bridge or the Inspection to anyone outside of MDOT. Failure to abide by this stipulation could result in penalties as a result of the Homeland Security Act.

The CONSULTANT is allowed to make copies of only that information in the bridge file as approved during the Pre-Inspection Meeting unless given written approval from the MDOT PM.

#### **References**

The CONSULTANT is to have the following reference material and be familiar with their contents.

1. National Bridge Inspection Standards (NBIS) Federal Code of Regulations, 23 CFR 650.
2. AASHTO Manual for Bridge Evaluation (MBE), 2011, and subsequent interim changes or the most recent version.
3. Michigan Structure Inventory and Appraisal Coding Guide, latest edition.
4. Pontis Bridge Inspection Manual, latest edition.
5. FHWA Publications:

- a. Bridge Inspector's Reference Manual (BIRM), latest edition.
- b. Culvert Inspection Manual, Report No. FHWA-IP-86-2.
- c. Inspection of Fracture Critical Bridge Members, Report No. FHWA-IP-86-26.
- d. Recording and Coding Guide for the Structure Inventory and Appraisal of Nation's Bridges, Report No. FHWA-PD-96-001, December 95.

### **Terms and definitions**

The following terms and definitions apply to this Scope of Services

1. Bridge Owner (Owner)  
The person within MDOT responsible for ensuring bridge inspection is completed to the requirements of the Nation Bridge Inspection Standards.
2. MDOT PM (Project Manager)  
The person administering the contract for MDOT.
3. CONSULTANT PM (Project Manager)  
The person responsible for administration of the contract for the consulting firm.
4. Inspection QTL  
Person meeting the qualifications of the NBIS to do bridge inspection.
5. NBIS  
National Bridge Inspection Standards, 23-CFR-650
6. MBIS  
Michigan Bridge Inspection System, a web application for the entry of bridge inspection reports.
7. MBRS  
Michigan Bridge Reporting System, a web application for the retrieval of bridge inspection data.
8. Bridge Inspection  
Periodic safety inspection of bridge structures to "Routine" standards of the NBIS.

### **APPENDICES**

#### **Forms**

Sample Bridge Safety Inspection Report (BSIR), MDOT form 2502

Sample Structure Inventory & Appraisal (SIA), MDOT form 1717a

Sample Work Recommendation Form

Sample CoRe Element Form

Sample Request for Action Form

**The following Publications and Guidelines can be found at the Michigan Department of transportation, Bridge Operations Webpage**  
[http://www.michigan.gov/mdot/0,1607,7-151-9625\\_24768---,00.html](http://www.michigan.gov/mdot/0,1607,7-151-9625_24768---,00.html)

MDOT Bridge Analysis Guide, including Assumption & Summary Sheets.

MDOT Bridge Inspection advisory notes.

MDOT Bridge Inspection Frequency Guidelines.

MDOT Bridge Deck Repair Matrix.

MDOT Bridge preservation work activity list.

MDOT Bridge Scour Cross Section Worksheet.