

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

	REQUISITION NUMBER	DUE DATE	
MDOT PROJECT MANAGER	JOB NUMBER (JN)	CONTROL SECTION (CS)	
DESCRIPTION			
MDOT PROJECT MANAGER: Check all items to be included in RFP WHITE = REQUIRED GRAY SHADING = OPTIONAL Check the appropriate Tier in the box below		CONSULTANT: Provide only checked items below in proposal	
<input type="checkbox"/> TIER I (\$25,000-\$99,999)	<input type="checkbox"/> TIER II (\$100,000-\$250,000)	<input type="checkbox"/> TIER III (>\$250,000)	
<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"/>	Location: 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) (No Resumes)	7 pages (MDOT Forms not counted)	14 pages (MDOT forms not counted)	Total maximum pages for RFP not including key personnel resumes. Resumes limited to 2 pages per key staff personnel.

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

GENERAL INFORMATION

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

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

MDOT FORMS REQUIRED AS PART OF PROPOSAL SUBMISSION

5100D – Request for Proposal Cover Sheet

5100J – Consultant Data and Signature Sheet (Required 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

BUREAU OF HIGHWAYS BUREAU OF TRANSPORTATION PLANNING OTHER

THE SERVICE WAS POSTED ON THE ANTICIPATED QUARTERLY REQUESTS FOR PROPOSALS

NO YES DATED _____ THROUGH _____

Prequalified Services – See page ____ of 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 section team will review the information submitted and will select the firm considered most qualified to perform the services based on the proposals. The selected vendor will be contacted to confirm capacity. Upon confirmation, that 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 Review / 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. The selected vendor may be contacted to confirm capacity.

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) separate from the proposal, to the email address: mdot-rfp-response@michigan.gov. Failure to comply with this procedure may result in your bid being rejected from consideration.

**NOTIFICATION
MANDATORY ELECTRONIC SUBMITTAL**

Proposals submitted for this project must be submitted electronically.

The following are changes to the Proposal Submittal Requirements:

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

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

The following are Requirements for Electronic Submittals:

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

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

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

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

Required Bookmarking Format:

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

2/14/12

MICHIGAN DEPARTMENT OF TRANSPORTATION

**SCOPE OF SERVICE
FOR
PRE-DESIGN SERVICES
DEVELOPING BRIDGE REPAIR ALTERNATIVES**

CONTROL SECTION: 63102

JOB NUMBER: 117078

LOCATION: Z01, Z02, and Z03 – 63102
Pedestrian Plaza Bridges over I-696 in Oakland County

PROJECT DESCRIPTION:

The purpose of this service is to develop a detailed scope of work and cost estimates in the form of a Scoping Report for each structure. The information contained in the Scoping Reports will be used by the Design Division to prepare rehabilitation plans for a proposed 2014 project. The content of the reports will need to be sufficient to adequately convey the general physical condition of the structures and the specific areas in need of repair.

These three Plaza bridges consist of side-by-side box beams with approximately 5' of earth fill over the beams, and serve as recreational parks for the local community. The parks contain playground equipment, sidewalks, and landscaping, including mature trees. The Plaza bridges are considered "Big Bridges", each with a deck area in excess of 100,000 sq. ft.

ANTICIPATED SERVICE START DATE: October 8, 2012

ANTICIPATED SERVICE COMPLETION DATE: March 8, 2013

PRIMARY PREQUALIFICATION CLASSIFICATIONS:

Bridge Project Scoping

SECONDARY PREQUALIFICATION CLASSIFICATIONS:

Geotechnical Engineering Services
Structure Survey
Road Design Survey
ROW Survey

DBE REQUIREMENT: 0%

PROJECT MANAGER:

Linda Reed, P.E.
Bridge Scoping Engineer
Design Division
8885 Ricks Road
Lansing, Michigan 48909
reedl@michigan.gov

CONSULTANT RESPONSIBILITIES:

The CONSULTANT PM will be the primary contact with MDOT’s PM, and will report immediately any unusual findings to the MDOT PM or her designate. Only one manager level position will be allowed and paid for in this project. The CONSULTANT PM is considered key staff and if he/she is unable to finish the work of the entire project, the authorization may be terminated and incomplete work will not be paid for. The CONSULTANT can submit an alternate PROJECT MANAGER who could take the place of the primary PROJECT MANAGER in the event the latter cannot finish the project for approval with the initial submission of the technical proposal.

The CONSULTANT must assign additional staff necessary to complete the work in the required time frame. The qualifications and experience of these individuals must be suitable for the assigned tasks.

GENERAL INFORMATION:

The work for each bridge in this scope of work is broken down into three main components: A) Field Work, C) Engineering Analysis, and D) Report Development.

A. FIELD WORK

1. General

Each bridge and environs must be visited by the CONSULTANT PM. The purpose of this visit is to locate all areas of deterioration to determine feasible repair options, maintenance of traffic options, and repair quantities. High-reach equipment must be used to get close enough to evaluate the structural components where necessary, such as inspecting beam flange and web cracking. Field work will also include:

Perform a topographic survey and inventory all trees by size and location. SEE SURVEY SCOPE OF WORK IN ATTACHMENT A. Working from existing landscape plans, create an “as built” landscape plan that includes: sidewalks, paved plaza areas, playscapes, trees and other landscape plantings, sprinkler systems, lights and other utilities, drains, and other appurtenances to determine the actual dead load on the structures (including dead load of saturated soils, as determined in subsurface investigation). Plot contours and document any evidence of ponding on the structures.

Perform subsurface investigation (two bores per plaza, in locations to be determined by the MDOT PM) to characterize soil properties in accordance with MDOT document “Geotechnical Investigation and Analysis Requirements for Structures”. In particular, dead load of the saturated soil is to be determined. Auger method shall not damage waterproofing membrane or any portion of

the plaza structure (such as box girders, abutment walls, etc.). In addition, **test pits are to be provided** per AASHTO “Manual on Subsurface Investigations”, for visual inspection of the soil profile and the condition of the waterproofing membrane. The condition of the waterproofing membrane is to be verified in the field by the MDOT PM or an MDOT Geotechnical Engineer, at the MDOT PM’s discretion. All bores and test pits are to be backfilled prior to terminating work for that day.

Determine the source and cause of water standing on the plazas, saturating the plaza soils, and permeating through the box beams (check grade, sprinkler system, hydrants, utilities, drains, etc.). Locate and videotape all underdrains and outlets. Also, work with the MDOT Local Agency Engineer at the Oakland TSC to contact local officials at the cities of Southfield and Oak Park for additional information, landscape plans, and concerns regarding any issues on the plaza structures.

The information collected in the field must be sufficient to determine quantities and locations of recommended repairs and improvements. This information must be detailed in the field notes and/or sketches and these notes are to be included in the report. Field work includes a close-up visual inspection (within 3 feet) of all structural elements plus sounding of all associated concrete surfaces, and documenting all findings. Items of deterioration (including cracks, re-cracking, rust stains, spalls, delaminations, leaking or leaching, corrosion, section loss, fatigue or shear cracking, evidence of externally-caused damage, and unusual movements, etc.) will be documented in written form and diagrammed. Areas to be inspected include:

- a. Plaza Surface – Visually inspect and survey entire surface of plazas within reference lines and beyond reference lines to the limits defined in the Survey Scope of Work (Attachment A). Identify locations of erosion, ponding and/or improper drainage concerns.
- b. Parapet Railing - Visually inspect and sound parapet, and mark distressed areas in an inconspicuous manner. Determine cause of distress.
- c. Box Beams – Visually inspect the box beams, and sound areas of distress. Note differential camber, the condition of post tensioning ducts, and signs of distress in post tensioning. Identify cracks by type (shear at endspan, flexure at midspan, etc.), location, width, and length, marking the ends of all cracks with the date (month/year), with a marker of consistent color. Inspect condition and bonding of CFRP sheets, by thermal imaging or sounding. Note if cracks have penetrated CFRP sheets. Determine if water has infiltrated the beam voids. Examine condition of grout between beams and note any signs of water leaking between beams or at ends span.

Evaluate the performance of the high density polyurethane URETEK 486 injected from the underside of the box beams by MDOT Maintenance crews to minimize water seepage and icicle formation. Consider the long-term impact of continued water seepage, freeze-thaw cycles, and icicle formation on the structural integrity of the beams.

- d. Abutments and Piers – Sound and locate distress on all visible surfaces, including bearings. Mark inconspicuously. Measure minimum underclearance over I-696 for each Plaza, in each direction. Inspect condition of lighting along I-696 beneath the plaza structures.

e. The area immediately around the plaza structures must be closely evaluated to determine if there are any site issues or constraints that may have an impact during construction. These include items such as:

- (1) Businesses, driveways or other structures close to the plazas.
- (2) Roadways, parking lots, and recreational facilities on the plazas.
- (3) Utilities attached to or near the plaza structures.
- (4) Locate Right-of-Way lines and determine if additional ROW or easements may be required.
- (5) Are there environmental issues that may impact the 2014 project?

If, during the site review, the CONSULTANT finds any structural condition that may cause the structures to be load restricted, or which may require other immediate action (such as lane closures or emergency repairs), the CONSULTANT will notify the MDOT PM as soon as possible. The CONSULTANT will also provide documentation of the condition (such as beam section loss measurements) to the MDOT PM as quickly as possible.

f. Traffic Control - The CONSULTANT will consider and propose potential traffic control schemes for I-696, Church Street (over Z03), and pedestrian traffic on the Plazas themselves, and will contact the Oakland TSC Traffic and Safety Engineer for assistance estimating the costs for maintaining traffic. Final detailed traffic control costs for construction will be determined by MDOT.

2. Determining Repair Options

Each structure will be evaluated to determine the most appropriate repair option based on the physical condition of the bridge, economic considerations, and engineering judgment. An initial determination is to be made in the field. The CONSULTANT is required to perform an engineering analysis of this option and on the options more and less extensive. For example, (on a typical bridge) if epoxy overlay is determined in the field to be the most appropriate repair option, the engineering analysis will also be performed on the rigid concrete overlay (deep or shallow) and deck patch options. A post field review meeting will be held with the CONSULTANT and the MDOT PM to formulate and agree upon feasible repair options prior to moving on to the analysis phase.

3. Photographs

A photo log of the structures and the surrounding areas must be included in the report. All of the pictures must be mounted on 8 ½" X 11" media (2 photos per page) and are to be captioned with a description of what the picture is intended to show. Each copy of the scoping report must have this series of pictures showing at least the following items and sequenced in the following order:

- a. Elevation views of both sides of the bridge.
- b. Plaza surface (to sufficiently show condition of plaza and appurtenances), including typical parapet railing, drainage structures, landscape material, playscapes, roadway and parking lot over Z03, utilities, etc.
- c. Area adjacent to Plazas but beyond reference lines.
- d. Typical superstructure elements - condition of beams, CFRP sheets, grout, bearings, etc.
- e. Typical substructure elements – Abutments and Piers.

- f. Major deteriorated areas.
- g. Utilities, including lighting on and under the plazas.
- h. Anything else that could affect the cost or complexity of rehabilitation.

In addition, pictures must be taken which will support the CONSULTANT's recommendations. All pictures must be captioned to describe the picture's general view (such as north elevation, etc.) and to describe the pertinent item or deterioration.

4. Equipment

It is anticipated that the field work can be accomplished with the use of a bucket truck, but if necessary, MDOT will provide the use of an under bridge inspection truck (Reachall) for access to the underside of the bridge. The CONSULTANT will be responsible for contacting the MDOT Operations Division (Aaron Porter at 517-242-5788 or Jason DeRuyver at 517-322-3320) to schedule one of the Reachall units a minimum of 14 days in advance. The CONSULTANT will coordinate the use of the Reachall to ensure the equipment is fully utilized while onsite and released as soon as the high reach areas are inspected. MDOT will provide traffic control during the use of the Reachall.

The Reachall is part of the Department's emergency response team and may be called away unexpectedly. The CONSULTANT will plan for this contingency and should this occur, will re-direct the field staff to maintain efficiency and the schedule.

The CONSULTANT will ensure that all personnel on site have all personal protective safety equipment (PPE), including safety shoes, and that it is worn by the staff while onsite.

5. Maintenance of Traffic

MDOT Metro Region will provide a slow moving lane closure for the CONSULTANT to inspect the box beams at midspan for flexure cracks and grout condition. All other traffic control during the site review (except during the use of the MDOT Reachall, if required) will be the responsibility of the CONSULTANT. This will likely only require shoulder closures. Traffic control will follow standard MDOT procedures. Permits for the traffic control and for working in the MDOT Right of Way must be obtained from the appropriate MDOT Transportation Service Center (Oakland TSC) or Region (Metro Region) prior to the start of work. Allow ample time for permit issuance. The CONSULTANT will be responsible for obtaining all permits and notifying the Region Engineer in writing (with a copy to the MDOT PM) of the time and location of the work.

Nighttime or weekend work may be required for lane closures on I-696 at this location. Field work affecting traffic will also be restricted on or around major holidays. **Work on the plaza surfaces will be prohibited from Friday 6:00 pm to Sunday 6:00 am so as not to interfere with observance of the Sabbath. Safe pedestrian access on and to the plazas is to be maintained at all times.** CONSULTANT'S vehicles and equipment on the plazas is to be kept to a minimum. Other traffic control restrictions may be imposed by the Region or TSC.

6. Testing

If the CONSULTANT PM feels that additional material testing is needed to better understand the condition of the bridge to evaluate the best repair option, a testing proposal must be submitted to the

MDOT PM for approval. The testing proposal will show what tests are to be performed, what specific information is to be gained from the testing, how this information is to be used, and the cost of testing and necessary traffic control. Proposals submitted with insufficient justification for testing will be denied.

The results and analysis of any testing that is approved and performed will be discussed in the Field Site Review Findings section of the report and the actual test reports will be included in the Appendix.

B. ENGINEERING ANALYSIS

The engineering analysis phase will include an evaluation of the field work findings; the preparation of and evaluation of three repair strategies, including the estimate of cost of the repair strategies; a Life Cycle Cost Analysis (LCCA); and the selection of the best repair option.

1. Estimating Various Repair Options

Cost estimates for each of the repair options will be prepared for each plaza structure. Cost estimates must include mitigation measures as needed, such as replacing trees, landscaping appurtenances, playscapes, etc. in kind. A standard form Cost Estimate Worksheet (Attachment B) with unit prices may be used but will need to be modified and expanded due to the unique features of these structures. The estimates required are “early preliminary estimates” and not the more detailed “engineering estimates.” The object is to determine the most economical method of treatment and to establish the budget. Estimates are to be broken down by work activity and must list the quantity and assumed unit price.

2. Life Cycle Cost Analysis

The CONSULTANT shall evaluate the repair options formulated in the engineering analysis phase on the basis of a Life Cycle Cost Analysis for each bridge. The type of LCCA used for this report will be to determine the “present value” of each cost at the time of its implementation and then to sum these costs. The strategy with the lowest present value cost will normally be selected as the preferred repair option, but engineering judgment may reveal that a strategy with higher cost is actually more reasonable.

The CONSULTANT will propose a method of performing the LCCA. All assumptions used for the LCCA calculations and the estimates must be shown, using the following basic assumptions:

- a. Base year for analysis – 2014
- b. Life Cycle Analysis Period – 75 years in 5 year increments.
- c. Real Discount Rate – 4%
- d. User Costs – will not be considered for this report.
- e. Salvage Value – zero in terms of dollar value, but stated in terms of remaining service life for the last repair.

C. REPORT DEVELOPMENT

The deliverables for this scope of work will be the Bridge Scoping Reports (with Appendix).

1. Format

The reports must be submitted in Microsoft Word format, with one copy created in Adobe pdf on CD or DVD. All reports must be printed on both sides of the paper. Photographs must be printed in color with two photographs per page. The reports shall be submitted in a three-ring binder as described below. The binder will contain all information pertaining to the site review findings, LCCA, recommendations, photos, etc. for each bridge.

2. Drafts & Final Reports

The reports will be submitted in two phases: draft version and final version. The draft report will be a complete report, with **3 copies** submitted to the MDOT PM. These will be reviewed by the Region Bridge Engineer, Lansing Bridge Design, and the Bridge Scoping Engineer. MDOT reserves the right to request additional drafts for review if, in the opinion of the MDOT PM, the changes required are extensive. Comments and questions arising from those reviews will be given to the CONSULTANT to be incorporated into the final report if appropriate, as well as addressed separately and submitted with the final report. Photographs from the draft reports will also be returned to the CONSULTANT, to be incorporated into the final reports. **Four copies** of the final report will be submitted.

Incomplete final reports or reports with errors will be returned to the CONSULTANT for revision. Failure to make the required changes will be considered a failure to meet the terms of the scope of work.

3. Layout

The Scoping Report will be divided into chapters as follows:

a. Table of Contents

b. General Site Review Procedures

This section will summarize the general procedures used during the site reviews (field work). This information will include the site review dates for each bridge, typical equipment used, typical traffic control procedures, typical site review procedures, etc.

c. Executive Summary

This is to include a statement of the recommended treatment for the bridge and the cost of the initial repair. The executive summary will be a “stand alone” section and will not refer to other sections of the report, nor will the main text refer to information in the executive summary.

d. Field Site Review Findings

This section will include, as a minimum, discussion of the following areas:

- (1) Overall assessment of the condition of the structures, with each bridge element described separately.
- (2) Site issues, i.e., geometrics, maintenance of traffic, utilities, etc. In case of the situation where no site issues that would impact the rehabilitation of the structure were identified, a statement will be made that all areas were investigated and no issues were found.
- (3) Testing results and implications to the repair options.

(4) The following outline may be used for a consistent presentation format for the body of this section of the report:

- i. Plaza Surface (appurtenances, drainage, parapet railing, etc.)
- ii. Superstructure (beams, grout, bearings)
- iii. Substructure (abutments, piers)
- iv. Adjacent Surroundings (similar to “approach” on typical bridge)
- v. Site Issues (maintaining traffic, geometrics, signs, utilities, drainage, etc.)
- vi. Geotechnical Investigation
- vii. Survey Summary

e. **Rehabilitation Options**

This section will include a discussion of the rehabilitation options. For each option evaluated, a discussion of the necessary improvements and the associated costs (initial construction costs and the present value of the LCCA) will be included. The report must discuss and state the reasoning and judgment for selection of the recommended option. This discussion will also include the reasoning for the elimination of all other options, as appropriate.

A table summarizing the initial construction cost and present value of LCCA for each of the options considered will be included in this section for ease of comparison

f. **Summary with Repair Recommendation**

This section will state the recommended course of action for the structures and the factors used in determining this recommendation. This section will also briefly discuss the effects of postponing the recommended improvements.

g. **Appendix**

- (1) Photos with descriptions
- (2) LCCA Assumption Sheet
- (3) LCCA Presentation Sheets
- (4) Cost Estimate Sheets
- (5) Field notes and sketches, including sketches of plaza as-built (or as-exists) landscape plan, beam distress map, substructure repair areas, locations of borings and test pits, etc.
- (6) Bridge Inspection Report
- (7) Geotechnical Report
- (8) Survey Deliverables – see Attachment A

Do not include (in the appendix) lengthy descriptions of the structure and repetition of the LCCA information already stated in the report.

DURATION & SCHEDULE:

The CONSULTANT will develop a detailed schedule, including specific dates and milestones as described below which will form a part of the contract. Failure to progress in alignment with the schedule will be considered as failing to meet the terms of this contract and may result in the cancellation of the contract.

A. SCHEDULE OF DATES AND MILESTONES

The CONSULTANT is required to develop a Project Schedule in alignment with the project parameters described above, for this work. The Project Schedule must include a Gantt chart showing meeting dates, draft report submissions, etc. as milestones.

A high level Project Schedule must be submitted as part of the Price Proposal. A fully complete Project Schedule will be submitted, to the MDOT PM for approval, at the project initiation meeting.

Once the project begins, the CONSULTANT will be required to adhere to the schedule and any changes to the schedule must be submitted to the MDOT PM for approval prior to the change. The CONSULTANT must be prepared to begin the field evaluation work within two weeks after receiving Notice to Proceed.

B. MEETING DATES

1. Project Initiation Meeting – Approximately one week after NTP (Notice to Proceed) and before beginning any field work. Location to be determined.
2. Post Field Review Meeting – After all field work is complete, to discuss findings and determine feasible repair options.
3. Draft Report Review Meeting – After draft report is submitted and reviewed by MDOT. This meeting will be held at the discretion of the MDOT PM.

PAYMENT SCHEDULE

Compensation for this Scope of Services shall be on an **actual cost plus fixed fee** basis.

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.

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.

The use of overtime hours is not acceptable unless prior written approval is granted by the MDOT Region Engineer/Bureau Director and the MDOT Project Manager. Reimbursement for overtime hours that are allowed will be limited to time spent on this project in excess of forty hours per person per week. Any variations to this rule should be included in the priced proposal submitted by the Consultant and must have prior written approval by the MDOT Region Engineer/Bureau Director and the MDOT Project Manager.

The fixed fee for profit allowed for this project is 11.0% of the cost of direct labor and overhead.

ATTACHMENT A
July 2012

SURVEY SCOPE OF WORK

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

JOB NUMBER: 117078

CONTROL SECTION: 63102

PROJECT DESCRIPTION: 3 Specialized Structures – Z01, Z02, & Z03 over I-696 in Southfield and Oak Park (see attached PDF files)

TYPE OF SURVEY: Structure Survey, ROW Survey, and Road Design Survey
(PPMS Task 3340, 4510, and 3330)

RESEARCH: Existing plans will be supplied to the selected Survey Consultant.

CONTROL: Establish intermediate control for topo pickup to satisfy the design requirements and for future staking of the ROW and the construction improvements.

ALIGNMENT: A Legal Alignment is required. An Alignment MicroStation drawing will be generated to show the ROW lines for the Highway and the private parcel lines surrounding each Plaza area.

PROPERTY: ROW lines need to be established. Documentation such as found Section Corners, Property irons, etc. shall be placed on the alignment drawing.

UTILITIES & DRAINAGE: MISS DIG Notification is required. Surface Manifestations and Structure Details with connectivity and Local Providers listed on a separate and distinct MicroStation drawing.

- The sprinkler system (pop up heads) at each location need to be located to help in resolving the drainage issues.

There are drainage issues at these 3 locations which need to be resolved, therefore, running straight cross sections at a 25 or 50 foot interval will not be acceptable. All high and low points must be measured and areas subject to standing water collection need to be carefully detailed.

MAPPING: Detailed topographic mapping is required for each Plaza Area. Length limits will be 100 feet before the left work point line to 100 feet past the right work point line at each location.

Width limits for each Plaza are as follows:

1. Z01 – 20 feet west of the west edge of sidewalk to a line parallel and 100 feet east of the east wall of the structure.
2. Z02 – From the south side of the most northerly line of parking spaces of the parking lot in the southeast quad of the Plaza to the centerline of Lincoln Terrace St.

3. Z03 – From a line parallel and 100 feet southwest of the southwest structure line to a line parallel and 100 feet northeast of the northeast structure line.

All features contained within these limits need to be obtained. All trees and shrubs need to be classified individually on an XLS spreadsheet to include the following information: type, measured diameter, height, and drip radius. The thickness of the concrete sidewalks and decorative brick areas for each Plaza need to be measured at a number of spots and documented as Finished Floor shots.

Note: No roadway data is required for this project.

BRIDGE DETAILS: Field verify and document on Existing Plan sheets for each location the Bridge seat and Reference point elevations. Under clearances at each end of each structure for the east and west bound I-696 shall be obtained.

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

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

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

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

GENERAL REQUIREMENTS:

1. Surveys must comply with **all Michigan law** relative to land surveying.
2. Surveys must be done under the **direct supervision** of a Professional Surveyor licensed to practice in the State of Michigan, according to Public Act 299 of 1980.
3. Work in any of the following categories of survey: Road Design, Structure, Hydraulic, Right-of-Way, Photogrammetric Ground Control, and/or Geodetic Control must be completed by a survey firm which is pre-qualified by MDOT for that category.
4. Surveys must meet all requirements of the Michigan Department of Transportation (MDOT) Design Surveys *Standards of Practice* dated January 2012. Please contact the MDOT Design Survey office to clarify any specific questions regarding these standards.
5. Consultants must obtain all necessary permits required to perform this survey on any public and/or private property, including an up-to-date permit from the MDOT Utilities Coordination

16. **All data**, whether electronic or paper, **must be recorded on non-rewritable Compact Discs (CD's) or DVD's**. All paper files, including MicroStation files, must be scanned and/or converted to Adobe Acrobat .PDF format. It is not necessary to include raw survey data files in the Adobe file. CD's must be organized in the same manner as the portfolio, such as by Administrative section, Control section, etc. A Table of Contents in Adobe Acrobat format is required that has all .PDF pages of the CD bookmarked/linked so each place in the .PDF archive can be accessed with a single click of the computer mouse. Specified format files such as Microsoft Word, CAiCE and MicroStation must have separate access in native format outside of the .PDF file.
17. It is not necessary to label each individual paper page in the portfolio.
18. The MDOT Project Manager is the official contact for the Consultant. The Consultant must send a copy of all project correspondence to the MDOT Project Manager. The MDOT Project Manager shall be made aware of all communications regarding this project. Any survey related questions regarding this project should be directed to an MDOT Survey Consultant Project Manager.

At the completion of this survey for this project, legible copies of all field survey notes, all electronic data, and all research records obtained for this project will be considered the property of MDOT and **must be sent to** the MDOT, Design Division, Supervising Land Surveyor, P.O. Box 30050, Lansing, MI 48909. 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 for Design.

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

WORK RESTRICTIONS

The Selected Consultant, and the Selected Consultant only, is advised to discuss Traffic Control scenarios with the MDOT Traffic and Safety Engineer at the closest MDOT TSC prior to submitting a priced proposal.

No work shall be performed or lane closures allowed during the Memorial Day, July 4th, or Labor Day holiday periods, as defined by the MDOT Project Manager or representative specifically designated by the Project Manager (the Traffic & Safety Engineer at the MDOT TSC).

Work on weekends, if approved, shall be as directed by the MDOT Project Manager or Designate. **Work on the plaza surfaces will be prohibited from Friday 6:00 pm to Sunday 6:00 am so as not to interfere with observance of the Sabbath. Safe pedestrian access on and to the plazas is to be maintained at all times.**

The Consultant must call the MDOT Region or TSC Traffic and Safety Engineer before beginning work to inform him or her of surveying activity in the area. The MDOT Region or TSC must be notified at

least two weeks prior to lane closures so advance notice can be posted on the Web site.

Traffic shall be maintained by the Consultant throughout the project in accordance with Sections 812, 922, 103.05 and 103.06 of the *Standard Specifications for Construction*, 2012 edition, www.mdot.state.mi.us/specbook/, and Supplemental Specification 03SS001(2) Errata to the 2003 Standard Specifications and all other supplemental specifications currently in effect against the Standard Specifications for Construction. All traffic control devices shall conform to the current edition, 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, and shall be set up five feet above ground.

The Consultant shall use MDOT standard “maintaining traffic” typicals for any and all closures. Typical MDOT traffic control diagrams are available online at www.mdot.state.mi.us/tands/plans.cfm

COORDINATION WITH OTHER CONTRACTS IN THE VICINITY:

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

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

The Consultant must contact the Development Engineer at the nearest MDOT TSC for information regarding project coordination.

The Consultant’s attention is called to the requirements of cooperation with others as covered in Article 104.07 of the 2012 Standard Specifications for Construction. Other contracts or maintenance operations may occur during the life of the project.

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

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.

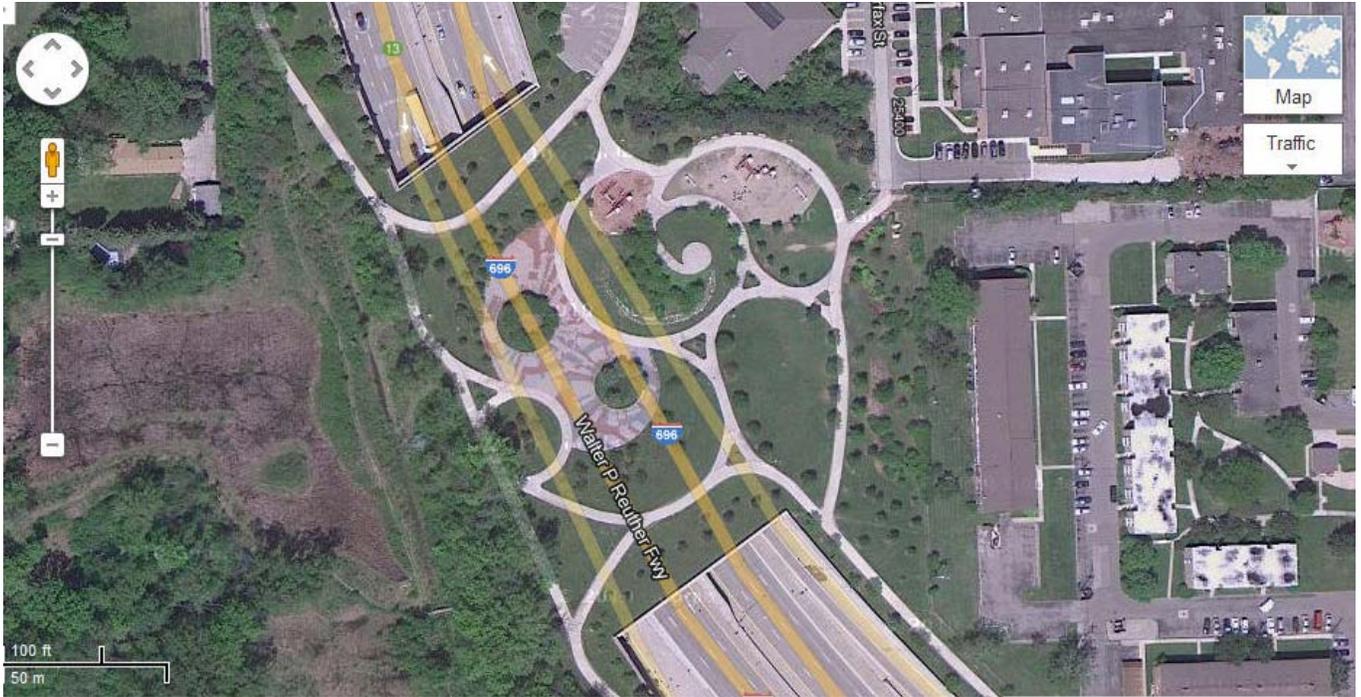
FINAL REPORT: DELIVERABLES

The final report for this project shall include:

1. In the first pocket of the portfolio, and first directory on the CD, 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. CD or DVD with all documents scanned or converted into PDF files. Each page must be inserted in a master PDF file and bookmarked for easy retrieval. An example can be provided upon request.
 - d. MDOT QA/QC Portfolio Checklist (revised January 2012).
2. In the second pocket of the portfolio, and second directory on the CD, labeled **ALIGNMENT**, the following will appear:
- a. An annotated MicroStation drawing of the alignment(s), showing:
 - i) A statement defining the alignment(s) as **survey, as constructed, and/or legal**.
 - ii) Stationing, source of stationing, and station equation to existing stationing.
 - iii) Horizontal coordinates of P.I.'s, at a minimum.
 - iv) Curve data.
 - v) Alignment points found or set.
 - vi) Control points.
 - vii) Reference lines and angles of crossing (if appropriate).
 - viii) Government corners and ties to 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 uppercase letters.
 - c. LCRC's for legal alignment points found or set.
3. In the third pocket of the portfolio, and third directory on the CD, 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, or in the .PDF file.
 - e. Text files which contain the witness lists for the horizontal alignment ties, 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.
4. In the fourth pocket of the portfolio, and fourth directory on the CD, 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 pocket of the portfolio, and fifth directory on the CD, labeled **MAPPING**, the following will appear:
- a. Mapping file in MDOT MicroStation V8 format, and also converted to .PDF format. All point and line descriptions must use only upper case letters.
 - b. An archived CAiCE software file.
 - c. Geopak files produced from CAiCE.
 - d. All field survey notes and electronic mapping data used for the project. It is not necessary to submit electronic raw survey data in hardcopy form, or in the .PDF file.
 - e. All supporting and supplemental information or data, such as drainage and utilities, electronically only if possible.
6. In the sixth pocket of the portfolio, and sixth directory on the CD, 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.



Z01



Z02



Z03

ENGINEER: _____ DATE: _____ DECK AREA: _____ SFT _____ STRUCTURE ID: _____
 LOCATION: _____ DECK DIM: _____
 PRIMARY REPAIR STRATEGY: _____ STR. TYPE: _____

WORK ITEM	QUANTITY	UNIT	UNIT COST	TOTAL
NEW BRIDGE				
Multiple Spans, Concrete (add demo. & road approach & traffic control)		SFT	\$150.00 /SFT	
Multiple Spans, Steel (as above)		SFT	\$180.00 /SFT	
Single Span or Over Water, Concrete (as above)		SFT	\$190.00 /SFT	
Single Span or Over Water, Steel (as above)		SFT	\$210.00 /SFT	
Pedestrian Bridge (includes removal, add traffic control)		SFT	\$285.00 /SFT	
Other				
NEW SUPERSTRUCTURE				
Concrete (includes rem of old super, new railing, add t.c. & approach)		SFT	\$110.00 /SFT	
Steel (as above)		SFT	\$160.00 /SFT	
Over Water (add to new superstructure cost)		SFT	\$28.00 /SFT	
Other				
WIDENING				
Added portion only. _____ ft of width (add road approach widening)		SFT	\$190.00 /SFT	
Other				
NEW DECK				
Includes removal of old deck & new railing (add t.c. & approach)		SFT	\$65.00 /SFT	
Other				
DEMOLITION				
Entire bridge, grade separation		SFT	\$27.00 /SFT	
Entire bridge, over water		SFT	\$36.00 /SFT	
Other				
SUPERSTRUCTURE REPAIR				
Concrete Deck Patch (includes hand chipping)		SFT	\$33.00 /SFT	
Full Depth Patch		SFT	\$70.00 /SFT	
HMA Cap (no membrane - add bridge rail if req'd)		SFT	\$1.20 /SFT	
HMA Overlay with WP membrane (add bridge rail if req'd)		SFT	\$4.50 /SFT	
Removal of Concrete Wearing Course (latex)		SFT	\$2.00 /SFT	
Removal of HMA Overlay or Epoxy Overlay		SFT	\$1.00 /SFT	
Epoxy Overlay		SYD	\$34.00 /SYD	
Shallow Overlay (includes joint replmt & hydro, add bridge rail if req'd)		SFT	\$23.00 /SFT	
Deep Overlay (includes joint replmt & hydro, add bridge rail if req'd)		SFT	\$24.00 /SFT	
PCI Beam End Repair (\$2000-\$4000 per beam end)		EA	\$3,000.00 EA	
Repair Structural Steel (\$2000 bolted, \$6000 welded)		EA	\$5,000.00 EA	
High Load Hit Repair (PCI Beam)		SFT	\$200.00 /SFT	
Paint Structural Steel		SFT	\$9.00 /SFT	
Partial Painting		SFT	\$18.00 /SFT	
Pin & Hanger replacement (includes temporary supports)		EA	\$6,000.00 EA	
Other				
SUBSTRUCTURE REPAIR				
Pier repair (measured x 2) Replace unit if spalled area > 30%		CFT	\$180.00 /CFT	
Pier repair over water (measured x 2)		CFT	\$200.00 /CFT	
Pier replacement		CFT	\$70.00 /CFT	
Abutment repair (measured x 2)		CFT	\$180.00 /CFT	
Temporary Supports for Substructure Repair		EA	\$1,500.00 EA	
Slope Protection repairs		SYD	\$80.00 /SYD	
Other				
MISCELLANEOUS				
Expansion or Construction Joints (includes removal)		FT	\$450.00 /FT	
Bridge Railing, remove and replace (type 4 \$210, aesthetic parapet \$260)		FT	\$235.00 /FT	
Thrie Beam Railing retrofit		FT	\$34.00 /FT	
Deck Drain Extensions		EA	\$500.00 EA	
Scour Countermeasures		LSUM	LSUM	
Other				
ROAD WORK				
Approach Pavement, 12" RC (add C & G, GR, Slope, Shldr.) 40' ea. end		SFT	\$11.50 /SFT	
Approach Curb & Gutter (18' ea. quad.)		FT	\$37.50 /FT	
Guardrail Anchorage to Bridge (<40')		quads	\$1,500.00 /quad	
Guardrail, Type B or T (beyond GR anchorage to bridge, <200')		FT	\$21.50 /FT	
Guardrail Ending (end section)		EA	\$1,850.00 /EA	
Roadway Approach work (beyond approach pavement)		LSUM	LSUM	
Utilities		LSUM	LSUM	
Other				
TRAFFIC CONTROL - Unit Cost to be determined by Region or TSC T&S				
Part Width Construction		LSUM	LSUM	
Crossovers		EA	\$250,000.00 EA	
Temporary Traffic Signals		set	\$18,000.00 /set	
RR Flagging		LSUM	LSUM	
Detour		LSUM	LSUM	
Other				
CONTINGENCY (10% - 20%) (use higher contingency for small projects)		%	\$0.00	\$0.00
MOBILIZATION (estimate at 5% but put "10% max" in pay item description)	5.0	%	\$0.00	\$0.00
INFLATION (assume 5% per year, beginning in 2013)		%	\$0.00	\$0.00

(DOES NOT INCLUDE PE & CE)

CONSTRUCTION TOTAL \$0.00