

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

MDOT PROJECT MANAGER Mark Sweeney			JOB NUMBER (JN) TBD	CONTROL SECTION (CS) 77111
DESCRIPTION IF NO JN/CS BWB Black River Bridge Contract - bridge replacement with temporary roadway connections to maintain existing traffic patterns.				
MDOT PROJECT MANAGER: Check all items to be included in RFP. WHITE = REQUIRED GRAY SHADING = OPTIONAL			CONSULTANT: Provide only checked items below in proposal.	
Check the appropriate Tier in the box below				
☐ TIER I (\$25,000-\$99,999)	☐ TIER II (\$100,000-\$250,000)	☒ TIER III (>\$250,000)		
☐	☐	☒	Understanding of Service	
☐	☐	☒	<i>Innovations</i>	
☐	☐	☐	<i>Safety Program</i>	
N/A	☐	☒	Organization Chart	
☐	☐	☒	Qualifications of Team	
☐	☐	☒	Past Performance	
Not required as part of official RFP	Not required as part of official RFP	☒	Quality Assurance/Quality Control	
☐	☐	☒	Location: The percentage of work performed in Michigan will be used for all selections unless the project is for on-site inspection or survey activities, then location should be scored using the distance from the consultant office to the on-site inspection or survey activity.	
N/A	N/A	☐	Presentation	
N/A	N/A	☐	Technical Proposal (if Presentation is required)	
3 pages (MDOT forms not counted) (No Resumes)	7 pages (MDOT forms not counted)	19 pages (MDOT forms not counted)	Total maximum pages for RFP not including key personnel resumes	

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 Service Contracts" and "Guideline for Completing a Low Bid Sheet(s)", if a low bid is involved as part of the selection process. **Referenced 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 4/1/09 THROUGH 6/30/09

☒ Prequalified Services – See page <u>3</u> 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.
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☒ **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 RFP's that originate in Bureau of Transportation Planning only**, a priced proposal must be submitted at the same time as, but separate from, the proposal. Submit directly to the Contract Administrator/Selection Specialist, Bureau of Transportation Planning (see address list, page 2). The priced proposal must be submitted in a sealed envelope, clearly marked "**PRICE PROPOSAL.**" The vendor's name and return address **MUST** be on the front of the envelope. The priced proposal will only be opened for the highest scoring proposal. Unopened priced proposals will be returned to the unselected vendor(s). Failure to comply with this procedure may result in your priced proposal being opened erroneously by the mail room.

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.

☐ **Qualifications 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 and post the date of the bid opening on the MDOT website. The notification will be posted at least two business days prior to the bid opening. Only bids from vendors that meet proposal requirements will be opened. The vendor 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

A bid sheet(s) must be submitted in accordance with the "Guideline for Completing a Low Bid Sheet(s)" (available on MDOT's website). The Bid Sheet(s) is located at the end of the Scope of Services. Submit bid sheet(s) separate from the proposal, to the address indicated below. The bid sheet(s) must be submitted in a sealed manila envelope, clearly marked "**SEALED BID.**" The vendor's name and return address **MUST** be on the front of the envelope. Failure to comply with this procedure may result in your bid being opened erroneously by the mail room and the bid being rejected from consideration.

PROPOSAL SUBMITTAL INFORMATION

REQUIRED NUMBER OF COPIES FOR PROJECT MANAGER 8	PROPOSAL/BID DUE DATE 4/29/09	TIME DUE 12:00 pm
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PROPOSAL AND BID SHEET MAILING ADDRESSES

Mail the multiple proposal bundle to the MDOT Project Manager or Other indicated below.

☒ MDOT Project Manager ☐ MDOT Other

Michigan Department of Transportation
18101 West Nine Mile Road
Southfield, Mi 48075
Attn: Mark Sweeney

Mail one additional stapled copy of the proposal to the Lansing Office indicated below.

Lansing Regular Mail	OR	Lansing Overnight Mail
☒ Secretary, Contract Services Div - B470 Michigan Department of Transportation PO Box 30050 Lansing, MI 48909		Secretary, Contract Services Div - B470 Michigan Department of Transportation 425 W. Ottawa Lansing, MI 48933
☐ Contract Administrator/Selection Specialist Bureau of Transportation Planning B470 Michigan Department of Transportation PO Box 30050 Lansing, MI 48909		Contract Administrator/Selection Specialist Bureau of Transportation Planning B470 Michigan Department of Transportation 425 W. Ottawa Lansing, MI 48933

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 four (4) 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
5100G – Certification of Availability of Key Personnel
5100I – Conflict of Interest Statement

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

NOTIFICATION ARRA MONTHLY EMPLOYMENT REPORTS

Note: This Notification is only applicable for those projects/contracts funded with ARRA funds. If you have questions, please contact MDOT Contract Services Division at (517) 335-0071.

The American Recovery and Reinvestment Act of 2009 (ARRA), requires states receiving stimulus funds for highway projects to provide monthly reports to the Federal Highway Administration (FHWA) regarding the number of newly hired employees and the number of existing employees of prime contractors, all-tier subcontractors and consultants on ARRA funded projects.

The cost for complying with this Notification must be borne by the prime contractor, and all-tiers of subcontractors and consultants, as part of their overhead and is deemed to be included in the payments made under this contract.

"Newly hired employees" means persons initially hired or re-hired to perform work on this contract. "Existing employees" means persons who perform work on this project other than newly hired employees.

Within 30 days after the end of each month in which work is performed on this contract, all prime contractors, and all-tier subcontractors and consultants, must provide the Engineer a monthly report, in a format and on forms approved by the Engineer, which shall include, for work performed in that preceding month:

- The total number of existing employees and the total number of newly hired employees who performed work on this contract
- The total number of hours worked by existing employees and the total number of hours worked by newly hired employees who performed work on this contract
- The total wages of existing employees and the total wages of newly hired employees who performed work on this contract

This Notification shall be included as a part of each subcontract executed by the prime contractor, and all-tiers of subcontractors and consultants.

If necessary to conform to guidance provided by FHWA concerning the ARRA reporting requirements, the prime contractor, and all-tiers of subcontractors and consultants will revise their reporting as directed by the Engineer.

Failure to comply with the reporting requirements under ARRA would jeopardize the Department's continued receipt of ARRA funding.

Accordingly, if a contractor or any-tier of subcontractor or consultant fails to comply with this Notice to Bidders, the Department may withhold contract payments until compliance is achieved. If the Department is compelled to incur costs because of such a breach, the amount of those costs may be deducted from payments otherwise to be made under this contract. Additional sanctions may include reduction or elimination of prequalification ratings and removal of bidding privileges.

NOTIFICATION
REQUIRED CONTRACT PROVISIONS TO IMPLEMENT AMERICAN
RECOVERY AND REINVESTMENT ACT (ARRA) SECTIONS 902 AND 1515

Note: This Notification is only applicable for those projects/contracts funded with ARRA funds. If you have questions, please contact MDOT Contract Services Division at (517) 335-0071.

In accordance with requirements under section 902 of the American Recovery and Reinvestment Act of 2009 (ARRA), the following language is made a part of this contract and is to be made a part of all tier subcontracts or consultant contracts:

The U.S. Comptroller General and his representatives have the authority:

- (1) to examine any records of the contractor or any of its subcontractors, or any State or local agency administering such contract, that directly pertain to, and involve transactions relating to, the contract or subcontract; and
- (2) to interview any officer or employee of the contractor or any of its subcontractors, or of any State or local government agency administering the contract, regarding such transactions.

The Comptroller General and his representatives have the authority and rights provided under Section 902 of the ARRA with respect to this contract. As provided in section 902, nothing in section 902 shall be interpreted to limit or restrict in any way any existing authority of the Comptroller General.

In accordance with the requirements of section 1515(a) of the ARRA any representatives of the Inspector General have the authority:

- (1) to examine any records of the contractor or grantee, any of its subcontractors or subgrantees, or any State or local agency administering such contract, that pertain to, and involve transactions relating to the contract, subcontract, grant, or subgrant; and
- (2) to interview any officer or employee of the contractor, grantee, subgrantee or agency regarding such transactions.

Nothing set forth in section 1515 of the ARRA shall be interpreted to limit or restrict in any way any existing authority of an inspector general.

Michigan Department of Transportation

**SCOPE OF SERVICE
FOR
DESIGN SERVICES**

CONTROL SECTION: 77111

BLACK RIVER BRIDGE CONTRACT

JOB NUMBER:

PROJECT LOCATION: The project is located at the I-94 / I-69 bridge over the Black River, (B03 of 77111), within Port Huron Township, the City of Port Huron and St. Clair County. The project length is .5 miles.

PROJECT DESCRIPTION: All work shall be in accordance with the approved Final Environmental Impact Statement, Record of Decision, Engineering Report, Preliminary Base Plans, Structure Studies and Aesthetic Design Guide.

Note that the project limits are adjacent to the Blue Water Bridge Plaza, which is an International Border crossing. As such, the I-94/I-69 freeway shall not be closed for any reason, for any period of time, as a result of this project. All work, whether before, during or after construction, shall ensure that the direct connection between the Blue Water Bridge Plaza and the I-94/I-69 freeway remains open and operational at all times.

This project consists of all work related to the design of this reconstruction project, including but not limited to the following:

- A. Geotechnical investigation and design (due to poor soils and methane gas issues)
- B. Grading and earthwork.
- C. Retaining walls.
- D. Constructing roads and ramps per the MDOT Pavement Design.
- E. Relocation and reconstruction of Riverside Drive.
- F. Constructing road, ramp, bridges and sidewalk geometrics per current MDOT standards.
- G. Replace 1 existing bridge structure over the Black River (See Attachment B).
- H. Adjust, upgrade and improve the existing drainage system per current standards.
- I. Drainage detention / retention facilities.
- J. Adjust, replace and / or install signs (both freeway and non freeway).
- K. Adjust, replace and / or install ITS facilities.
- L. Adjust, replace and / or install freeway lighting (designed by MDOT)
- M. Adjust and / or relocate Municipal Utilities, as is required.
- N. Utility Coordination (See Attachment G).
- O. Guardrail upgrades.
- P. Right-of-Way tasks (PROW, FROW, MFROW and others)
- Q. Context Sensitive Design process. (See Attachment C)
- R. Landscape and Aesthetic enhancements.

- S. Constructing side walk and non-motorized path. To current ADA standards.
- T. Install current ADA sidewalk ramp terminals at all applicable locations.
- U. Clean existing drainage structures and drainage structure leads, as is required

As part of this project, the replacement of 1 bridge will be designed by the Consultant. The Consultant will be responsible for all the required plans and special provisions for the bridge, as well as the additional staging, maintaining traffic, pavement markings, signals, signing, and bridge-related road work (bridge approaches, guardrail, etc.) that these bridges will require (See Attachment B).

The existing bridge location includes, but is not limited to, the following:

1. B03 of 77111 94 / I-69 over the Black River

Separate from this project, though adjacent in location, is the I-94/I-69 Freeway Reconstruction that will be designed by OTHERS. The Consultant will be responsible for plan review and coordination work required to resolve design related continuity, project phasing and construction staging issues.

1. I-94 / I-69, between Lapeer Road and the Black River Bridge

Note that this project may or may not be packaged for construction with the above project. Should the projects be packaged together, the consultant will be responsible for all the coordination work required to incorporate this bridge design information into the project. Should the projects be constructed separately, the consultant will be responsible for all the coordination work required to ensure that the continuity of the freeway connections is maintained during construction.

2. I-94/I-69 Interchange Reconstruction

Separate from this project, though adjacent in location, is the BWB Plaza Expansion effort that will be designed by OTHERS. The Consultant will be responsible for plan review and coordination work required to resolve design related continuity, project phasing and construction staging issues

1. The Pine Grove relocation and the clearing of the Plaza area.
2. The Blue Water Bridge (BWB) Plaza expansion.

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

DBE PARTICIPATION: 10%

ANTICIPATED START DATE: July 6, 2009

ANTICIPATED COMPLETION DATE: June 27, 2011

PRIMARY PREQUALIFICATION CLASSIFICATION:

Complex Bridges

SECONDARY PREQUALIFICATION CLASSIFICATION(S):

Complex Urban Freeway Design
Specialty Walls/Slopes
Geotechnical Engineering Services
Maintaining Traffic Plans & Provisions
Pavement Marking Plans
Permanent Freeway Traffic Signing Plans
Permanent Non-Freeway Traffic Signing Plans
Safety Studies
Municipal Utilities
Hydraulics
Utility Coordination
Intelligent Transportation Systems
Landscape Architecture
* Right-of-Way Surveys
* Road Design Surveys
* Structure Surveys
* Hydraulic Surveys
* Photogrammetric Control Surveys
* Photogrammetry

*** Survey information was obtained during the environmental clearance phase of this project. The survey prequalifications have been included should additional survey information be required.**

EXPERIENCE PREFERENCE:

In addition to the secondary prequalification classifications, it is preferred that the consultant teams have prior experience in the below area:

1. Knowledge of and experience with the coordination requirements to process and expedite wetland and stream crossing permits through the United States Army Corp of Engineers (USACOE).
2. Knowledge of and experience with the successful implementation of design treatments to address the conflict between ice flow / jamming along a moving body of water, and the placement of proposed bridge piers.

These experiences may be provided by either the primary or a subcontracted consultant.

MDOT PROJECT ENGINEER MANAGER:

Mark A. Sweeney – Project Manager
MDOT – Metro Region Office
18101 West Nine Mile Road
Southfield, Michigan 48075
Phone: 248-483-5151
Fax: 248-483-5148
E-mail: sweeneym@michigan.gov

CONSTRUCTION COST:

A. The estimated cost of construction is:

1.	Mainline Pavement	\$ 2,800,000
2.	Drainage	\$ 600,000
3.	Maintaining Traffic	\$ 300,000
4.	Miscellaneous Bridge Cost	\$ 28,500,000
5.	Permanent Pavement Markings/Signs/Signals	\$ 500,000
6.	Miscellaneous	\$ 10,700,000

CONSTRUCTION TOTAL	\$ 43,400,000
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B. The estimated cost of real estate is: \$ 25,000,000

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

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

REQUIRED MDOT GUIDELINES AND STANDARDS:

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

Consultant is required to use MDOT's current version of Bentley MicroStation for CADD applications and Bentley GEOPAK for road design. Consultant shall comply with all MDOT CADD standards and file naming conventions.

PRE-QUALIFICATION AND SUBCONTRACTING OF CONTRACT WORK:

The Prime Consultant must be prequalified by the Department in all primary prequalification classifications.

Any task(s) for which the Primary Consultant is not prequalified must be completed by a Subcontracted Consultant that is prequalified for that task(s). Any questions regarding prequalification should be directed to Phil Brooks, Prequalification Manager, at (517)335-2514.

The Department's prequalification is not a guarantee or warranty of the Subcontracted Consultant's ability to perform or complete the work. The Primary Consultant remains fully responsible to the Department for completion of the work according to the contract as if no portion of it had been subcontracted.

All Subcontract Consultant communications with the Department shall be through the Primary Consultant to the MDOT Project Manager. This requirement may be waived if a written communication plan is approved by the MDOT Project Manager.

The Department may direct the immediate removal of any Subcontracted Consultant working in violation of this subsection. Any costs or damages incurred are assumed by the Primary Consultant by acceptance of the contract. It is further understood that the Primary Consultant's responsibilities in the performance of the contract, in case of an approved subcontract, are the same as if the Primary Consultant had conducted the work with their own organization.

CONSULTANT RESPONSIBILITIES:

All work shall be in accordance with the approved Final Environmental Impact Statement, Record of Decision, Engineering Report, Preliminary Base Plans, Structure Studies and Aesthetic Design Guide.

A. DESIGN SCOPE OF WORK

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

1. Perform design surveys. **A design survey was conducted as part of the EPE portion of this project and will be made available to the selected team.** The survey tasks have been included should additional survey information be required (See Attachment A).
2. Perform a drainage study and related design (See Attachment D).
3. Prepare required plans, typical cross-sections, details, and specifications required for design and construction.
4. Compute and verify all plan quantities.
5. Perform Geotechnical investigation and soil stability related design. The Consultant is to be aware that the site has **poor soils** and **methane gas** issues. MDOT Geotechnical will provide direction as to what will be required as part of

this project. The consultant team will be responsible for all the work required to prepare the plans and special provisions.

6. Prepare bridge plans and special provisions. (See Attachment B).
7. Prepare retaining wall plans and special provisions.
8. Prepare staging plans and special provisions for maintaining traffic during construction.
9. Prepare pavement marking plans and special provisions.
10. Prepare permanent signing plans and special provisions for non-freeway sign upgrading.
11. Prepare permanent signing plans and special provisions for freeway sign upgrading.
12. Schedule and conduct public meetings and workshops, and prepare all presentation, informational and notice materials. All public involvement work shall be in adherence to the MDOT context sensitive design process (See Attachment C)
13. Prepare landscaping / enhancement plans and special provisions.
14. Provide base sheets to the MDOT Electrical Unit, and incorporate their plans, special provisions and details into the project as appropriate.
15. Prepare ITS plans and special provisions. MDOT Traffic and Safety will provide direction as to what will be required as part of this project. The consultant team will be responsible for all the work required to prepare the plans and special provisions.
16. Perform a Crash Analysis and Safety Review for this project. (See Attachment F).
17. Prepare the accident analysis report for this project. A separate report will be required for each of the design elements included within design exception requests.
18. Provide a Capacity Analysis (to include user cost calculations)
19. Perform Utility Coordination for the project (See Attachment G).
20. Prepare Municipal Utility plans and special provisions (to include public water, storm and sanitary services). Street lighting also included.

21. Prepare Right-Of-Way and Marked Final Right of Way plans, as required, to locate, verify and purchase real estate and/or obtain construction access permits for this project. (See Attachment I)
22. Separate from this project, though adjacent in location, is the I-94/I-69 Freeway Reconstruction that will be designed by OTHERS. The Consultant will be responsible for plan review and coordination work required to resolve design related continuity, project phasing and construction staging issues.

I-94 / I-69, between Lapeer Road and the Black River Bridge
Note that this project may or may not be packaged for construction with the above project. Should the projects be packaged together, the consultant will be responsible for all the coordination work required to incorporate this bridge design information into the project. Should the projects be constructed separately, the consultant will be responsible for all the coordination work required to ensure that the continuity of the freeway connections is maintained during construction.

23. Separate from this project, though adjacent in location, is the BWB Plaza Expansion effort that will be designed by OTHERS. The Consultant will be responsible for plan review and coordination work required to resolve design related continuity, project phasing and construction staging issues

The Pine Grove relocation and the clearing of the Plaza area.
The Blue Water Bridge (BWB) Plaza expansion.

24. Provide solutions to any unique problems that may arise during the design of this project.
25. The Consultant may be required to provide Design Services during the construction phase of this project. If Construction Assistance is required, then a separate authorization for those services will be issued.

B. OTHER RELATED RESPONSIBILITIES

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

2. Maintain a Design Project Record which includes a history of significant events (changes, comments, etc.) which influenced the development of the plans, dates of submittals and receipt of information.
3. **PPMS TASK 3130 – VERIFY DESIGN SCOPE OF WORK AND COST**
See the P/PMS Task Manual for details.
4. **PPMS TASK 3310 – PREPARE AERIAL TOPOGRAPHIC MAPPING**
See the P/PMS Task Manual for details.
5. **PPMS TASK 3320 – CONDUCT PHOTOGRAMMETRIC CONTROL SURVEY**
See the P/PMS Task Manual for details.
6. **PPMS TASK 3321 – SET AERIAL PHOTO TARGETS**
See the P/PMS Task Manual for details.
7. **PPMS TASK 3330 - CONDUCT DESIGN SURVEY**
Perform surveys as necessary to design this project (See the P/PMS Task Manual and Attachment A for details). The Consultant's survey shall be as complete and accurate as necessary to:
 1. Calculate and verify plan quantities to the Consultant's standards.
 2. Locate and lay out the future construction of this project.
 3. Perpetuate affected property controlling corners for monument preservation

As part of the design proposal, the Consultant shall present a detailed survey work plan for review, evaluation and acceptance by the MDOT Project Manager. A final survey report for review and approval by the MDOT Survey Unit is required. Acceptance of the survey by MDOT Design Survey does not in any way relieve the Consultant of responsibility and liability for the content of the survey.

The Consultant will be responsible for providing elevation view sketches at both sides of each and every bridge in the project area. The sketch must show the elevation of the roadway at 2 feet inside of the inside edge of metal and 2 feet outside of the outside edge of metal, as well as the interior lane lines, crown point, and shoulder edges. The corresponding elevation of the structure underclearance immediately overhead must also be shown. Both directions will be handled separately and similarly, as will the cross roads. All underclearance sketches must be shown looking up station.

8. **PPMS TASK 3340 – CONDUCT STRUCTURE SURVEY**
See the P/PMS Task Manual for details.

9. **PPMS TASK 3350 – CONDUCT HYDRAULIC SURVEY**
See the P/PMS Task Manual for details.
10. **PPMS TASK 3360 - PREPARE BASE PLANS**
See the P/PMS Task Manual for details.
11. **PPMS TASK 3361 – REVIEW AND SUBMIT PRELIMINARY RIGHT-OF-WAY PLANS**
See the P/PMS Task Manual for details.
12. **PPMS TASK 3370 - PREPARE STRUCTURE STUDY**
See the P/PMS Task Manual for details.
13. **PPMS TASK 3380 - REVIEW BASE PLANS (BY MDOT)**
See the P/PMS Task Manual for details.
14. **BASE PLAN REVIEW**
15. **PPMS TASK 3390 - DEVELOP THE MAINTAINING TRAFFIC CONCEPTS**
See the P/PMS Task Manual for details.
16. **MAINTAINING TRAFFIC RESTRICTIONS**
This includes providing all Traffic Control Devices and Flaggers when needed.
17. Develop the bridge items required for this project according to the enclosed Attachment B.
18. Perform storm sewer design calculations, including appropriate outlets and energy dissipation if necessary, as outlined in the MDOT Drainage Manual. Detention may be required. Detention pond design must meet, but is not limited to, local agency storm water regulations and Michigan Department of Environmental Quality water quality permit requirements. Submit all design calculations, drainage maps, and proposed profiles to the MDOT Project Manager for review prior to the Plan Review.
19. The Consultant shall identify the locations of any water main and/or sanitary sewer on the project.
20. If water mains and/or sanitary sewers are present within the project limits, the Consultant shall evaluate the necessity for the relocation of water mains and sanitary sewers, in accordance with Design Division's Informational Memorandum #441B and #402R dated April 13, 1992. The Consultant shall submit a report to Steven J. Urda, Design Engineer – Municipal Utilities, Design Division for review and concurrence. A copy of the report shall be sent to the Project Manager. **If relocation is necessary and water main and/or sanitary sewer work is not part of the Scope of Work, contact the MDOT Project Manager immediately.**

21. **P/PMS TASK 3520 – CONDUCT HYDRAULIC/HYDROLOGIC AND SCOUR ANALYSIS**
See the P/PMS Task Manual for details.
22. **P/PMS TASK 3522 – CONDUCT DRAINAGE STUDY, STORM SEWER DESIGN, AND STRUCTURAL BEST MANAGEMENT PRACTICES (BMP)**
See the P/PMS Task Manual for details.
23. **P/PMS TASK 3530 - CONDUCT STRUCTURE FOUNDATION INVESTIGATION**
See the P/PMS Task Manual for details.
24. **P/PMS TASK 3535 – CONDUCT STRUCTURE REVIEW FOR ARCHITECTURAL AND AESTHETIC IMPROVEMENT**
See the P/PMS Task Manual for details..
25. **P/PMS TASK 3540 - DEVELOP MAINTAINING TRAFFIC PLAN**
See the P/PMS Task Manual for details.
26. **P/PMS TASK 3552 - DEVELOP PRELIMINARY PERMANENT PAVEMENT MARKING PLAN**
See the P/PMS Task Manual for details.
27. **P/PMS TASK 3553 - DEVELOP PRELIMINARY NON - FREEWAY SIGNING PLAN**
See the P/PMS Task Manual for details.
28. **P/PMS TASK 3554 - DEVELOP PRELIMINARY FREEWAY SIGNING PLAN**
See the P/PMS Task Manual for details.
29. **P/PMS TASK 3570 - PREPARE PRELIMINARY STRUCTURE PLANS**
See the P/PMS Task Manual for details..
30. **P/PMS TASK 3580 - DEVELOP PRELIMINARY PLANS**
See the P/PMS Task Manual for details.
31. **P/PMS TASK 3581 – REVIEW AND SUBMIT FINAL RIGHT-OF-WAY PLANS**
See the P/PMS Task Manual for details.
32. **P/PMS TASK 3590 - REVIEW PRELIMINARY PLANS (HOLD PLAN REVIEW MEETING) (BY MDOT)**
See the P/PMS Task Manual for details.

33. **THE PLAN REVIEW**
34. **P/PMS TASK 3610 – COMPILE UTILITY INFORMATION**
See the P/PMS Task Manual for details.
35. **P/PMS TASK 3660 – RESOLVE UTILITY ISSUES**
See the P/PMS Task Manual for details.
36. **UTILITY CONFLICT RESOLUTION PLAN DISTRIBUTION**
37. **UTILITY MEETING**
38. **P/PMS TASK 3670 - DEVELOP MUNICIPAL UTILITY PLANS (impacted by project)**
See the P/PMS Task Manual for details.
39. **OBTAIN REQUIRED MUNICIPAL UTILITY PERMITS**
See the P/PMS Task Manual for details.
40. **P/PMS TASK 3672 – DEVELOPMENT OF SPECIAL DRAINAGE STRUCTURES PLANS**
See the P/PMS Task Manual for details.
41. **P/PMS TASK 3675 - DEVELOP ELECTRICAL PLANS (impacted by road work)**
See the P/PMS Task Manual for details.
42. **P/PMS TASK 3710 - DEVELOP REQUIRED MITIGATION**
See the P/PMS Task Manual for details.
43. **P/PMS TASK 3822 - COMPLETE PERMANENT PAVEMENT MARKING PLAN**
See the P/PMS Task Manual for details.
44. **P/PMS TASK 3823 - COMPLETE NON-FREEWAY SIGNING PLAN**
See the P/PMS Task Manual for details.
45. **P/PMS TASK 3824 - COMPLETE FREEWAY SIGNING PLAN**
See the P/PMS Task Manual for details.
46. **P/PMS TASK 3830 - COMPLETE THE CONSTRUCTION ZONE TRAFFIC CONTROL PLAN**
See the P/PMS Task Manual for details.
47. **P/PMS TASK 3840 - DEVELOP FINAL PLANS AND SPECIFICATIONS**
See the P/PMS Task Manual for details.

48. **P/PMS TASK 3850 - DEVELOP STRUCTURE FINAL PLANS AND SPECIFICATIONS**
See the P/PMS Task Manual for details.
49. **PLAN COMPLETION**
50. **P/PMS TASK 3870 - HOLD OMISSIONS/ERRORS CHECK (OEC) MEETING**
See the P/PMS Task Manual for details.
The interval for plotting cross-sections and developing the grade book shall be 50 feet. The intervals for critical areas shall be 25 feet.
51. **PLAN TURN IN**
52. **P/PMS TASK 3880 – CPM QUALITY ASSURANCE REVIEW**
See the P/PMS Task Manual for details.
53. **PPMS TASK 4120 – OBTAIN PRELIMINARY TITLE COMMITMENTS**
See the P/PMS Task Manual for details.
54. **PPMS TASK 4130 – PREPARE MARKED FINAL RIGHT OF WAY PLANS**
See the P/PMS Task Manual for details.
55. **APPROVED MARKED FINAL ROW**
56. **PPMS TASK 4140 – PREPARE PROPERTY LEGAL INSTRUMENTS**
See the P/PMS Task Manual for details.
57. **PPMS TASK 4510 - CONDUCT RIGHT OF WAY SURVEY & STAKING**
See Survey Scope of Work **Attachment A** for details.
58. If excavation is required, submit the excavation locations which may contain contamination. Project Manager then can proceed in requesting a Preliminary Project Assessment (PPA).
59. The Consultant shall be required to prepare and submit a CPM network for the construction of this project. (See Attachment J).
60. **CRASH ANALYSIS.** Perform a crash analysis and determine the recommended countermeasures, (See Attachment F for details). This shall include, but shall not be limited to, performing the crash analysis, which shall include the last 3 years of reliable data for the analysis period. If there has been a fatality within those 3 years, then the analysis shall incorporate the last 7 years of reliable data. The Consultant will be furnished with 3 years of data. If 7 years of data is required, the Consultant

shall request in writing, the additional crash data from the MDOT Project Manager (requests may take up to two weeks from the date the request is received to fill).

61. Determine countermeasures based on crash analysis and provide a detailed drawing explaining each recommendation. Determine the construction cost estimate for each countermeasure using MDOT Pay Items.
62. Review and document the roadside safety related items (i.e. guardrail, barriers, attenuators, etc.) which need to be modified or included in the project. Documentation is to include location, existing type and condition, and the recommended treatment.
63. **DRAINAGE STUDY.** Perform drainage study. See Attachment D.
64. **UTILITY COORDINATION.** Perform the Utility Coordination for the project (See Attachment G).
65. The Consultant representative shall record and submit type-written minutes for all project related meetings to the MDOT Project Manager within two weeks of the meeting. The Consultant shall also distribute the minutes to all meeting attendees **AFTER RECIEVEING APPROVAL FROM THE MDOT PROJECT MANAGER TO DO SO.** MDOT will provide and distribute official meeting minutes for The Plan Review Meeting.
66. Attend information meetings (i.e., public hearings, open houses, etc.) with the public and public officials to assist in responding to concerns and questions. May require the preparation of displays such as maps, marked-up plans, etc.
67. Attend regular coordination meetings, both with adjacent project teams, as well as with representatives from both the affected communities and governmental agencies. (2 groups will be formed, those being, a project steering committee and a community advisory group.)
68. Prepare and submit electronically (native format or Adobe PDF) any information, calculations, hydraulic studies, or drawings required by MDOT for acquiring any permit (ie. NPDES, DEQ, etc), approvals (ie. county drain commission) and related mitigation. MDOT will submit permit requests.
69. Attend any project-related meetings as directed by the MDOT Project Manager.
70. The Consultant shall assist in the review of driveway and utility permit requests, incorporate the information in the design plans, and respond within 2 weeks from receipt of the permit.
71. The MDOT Project Manager shall be the official MDOT contact person for the Consultant **and shall be made aware of all communications regarding this project.** The Consultant must either address or send a copy of all correspondence

to the MDOT Project Manager. This includes all Subcontractor correspondence and verbal contact records.

72. The Consultant shall contact the MDOT Project Manager whenever discoveries or design alternatives have the potential to require changes in the scope, limits, quantities, costs, or right-of-way of the project.
73. Coordinate this project with the affected communities and business groups.
74. The Consultant will provide to MDOT at the scheduled submittal dates, copies of the required specifications and plan set materials for distribution by MDOT for all reviews for this project with the exception of The Plan Review. The Consultant shall contact the project manager prior to the submittal dates for the exact number of copies that will be required for submittal
75. Submit all design files electronically (**in both native and pdf formats**) at all submittals.

C. UTILITIES

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

D. TRAFFIC CONTROL AND MDOT PERMITS

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

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

E. MONTHLY PROGRESS REPORT

On the first of each month, the Consultant Project Manager shall submit a monthly project progress report to Mark Sweeney the MDOT Project Manager, Shelly Nawojski, the Road Consultant Coordinator and Phil Grotenhuis, the Bridge Consultant Coordinator. The monthly progress report shall follow the guidelines in Attachment K.

F. SECURITY

Special security measures and clearances will be required on this project. Details of security requirements will be addressed with the selected consultant.

MDOT RESPONSIBILITIES:

- A. Schedule and/or conduct the following:
 - 1. Project related meetings.
 - 2. Base Plan Review
 - 3. The Plan Review
 - 4. Utility Meetings.
 - 5. Quantity summary sheets and final item cost estimates.
 - 6. Packaging of plans and proposal.
- B. Furnish Special Details and pertinent reference materials.
- C. Furnish prints of an example of a similar project and old plans of the area, if available.
- D. Supply information on existing pavement structure as necessary.
- E. Furnish pavement core information (Consultant shall place information on plan sheets).
- F. (For the borings that MDOT will perform) Furnish soil boring information as necessary (Consultant shall place information on plan sheets).
- G. Pavement design
- H. Furnish FTP site for software download and instructions for the MDOT Stand Alone Proposal Estimator's Worksheet (SAPW).

DELIVERABLES:

The Consultant shall deliver all computer files associated with the project in their native format (spreadsheets, CADD files, GEOPAK files, etc.) on DVD, CD or uploaded to ProjectWise, as directed by the MDOT Project Manager. All CADD/GEOPAK files shall be created and identified with standard MDOT file names as shown in Appendix A of the Road Design Manual.

It is the Consultant's responsibility to obtain up to date MicroStation and GEOPAK seed/configuration files necessary to comply with MDOT's CADD standards which are posted to the bulletin board system. When the use of GEOPAK road design software is necessary to develop plans all pay items shall be placed into the CADD file using GEOPAK's Design and Computation Manager so that Quantity Manager can be used to transfer pay item information to

SAPW/Trns*port. Any CADD/GEOPAK files that do not conform to MDOT standards will be returned to the Consultant for correction at the Consultant's expense.

Proposal documents shall be submitted in their native format with standard naming conventions. To provide text search capabilities the combined proposal shall be created by converting native electronic files to PDF. Scanning to PDF is discouraged except in instances where it is necessary to capturing a legally signed document or a hard copy version of a document is all that exists.

Full size (cut size 24" x 36") and half size (cut size 11" x 17") plans including plan sheets and profile sheets will be required. The project will require a ratio (scale) of 1:40; scale and layout of sheets to be discussed with the MDOT Project Manager.

Plan files shall be submitted in their native dgn format with standard naming conventions as well as plotted into a combined Adobe PDF file. Plan sheets shall be plotted to Adobe PDF with full text search and level on/off capabilities in each full size (24" x 36") and half size (11" x 17") formats. A full size title sheet shall be plotted stamped and signed then scanned for inclusion with the Adobe PDF set. The original title sheet will be sent to the MDOT Project Manager.

Stand Alone Proposal Estimator's Worksheet (SAPW) shall be used to generate the txt and csv files necessary for import into the Trns*port bid letting software. The SAPW files shall be transmitted electronically by the method specified by the MDOT Project Manager.

Other plan sheets that are required for this project shall be completed by the Consultant. These include, but are not limited to the following plan sheets:

- A. The title sheet. MDOT will provide a map of the area on a disk in our workstation format. If the map is not available, MDOT will provide a map that could be used. The Consultant shall be responsible for any revisions to the title sheet and the title sheet and map shall meet MDOT format and layout guidelines.
- B. Note Sheet.
- C. Typical Cross-Sections.
- D. Project specific Special Details.
- E. Construction staging and traffic control plans.
- F. Detail grade sheets for major intersections, ramp gores and critical areas.
- G. Paving details.
- H. Pavement marking plan(s).
- I. Culvert detail sheet(s).

- J. Vicinity and drainage map sheet.
- K. Alignment sheet.
- L. Witness and benchmark sheet(s).
- M. Soil boring log sheet(s).
- N. Bridge Plans

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

All plans, specifications, and other project related items are subject to review and approval by MDOT.

PROJECT SCHEDULE:

The Consultant shall be responsible for the completion of all Program Project Management System (P/PMS) Tasks indicated with an “x” for yes on the checklist below.

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

	MDOT PRECONSTRUCTION TASKS CONSULTANT CHECKLIST	
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Please indicate with a check in the box next to each task number whether you believe that task will require consultant involvement on the job. Milestones (a specific event at a point in time) are italicized and underlined. See the [P/PMS Task Manual](#) for more details.

STUDY (EARLY PRELIMINARY ENGINEERING)

		P/PMS TASK NUMBER AND DESCRIPTION	DATE TO BE COMPLETED BY
YES	NO		(mm/dd/yyyy)
		<u>EPE SCOPING ANALYSIS</u>	
☐	☒	2120 Prepare Traffic Analysis Report	__/__/__
☐	☒	2130 Prepare Project Justification	__/__/__
☐	☒	<i><u>213M Concurrence by Regulatory Agencies with the Purpose and Need</u></i>	__/__/__
☐	☒	2140 Develop and Review Illustrative Alternatives	__/__/__
☐	☒	2155 Request/Perform Safety Analysis	__/__/__
☐	☒	2160 Prepare and Review EIS Scoping Document	__/__/__
☐	☒	<i><u>211M Public Information Meeting</u></i>	__/__/__
		<u>EPE DRAFT ANALYSIS</u>	
☐	☒	2310 Conduct Technical SEE Studies	__/__/__
☐	☒	2321 Prepare for Aerial Photography	__/__/__
☐	☒	2322 Finish/Print Aerial Photography	__/__/__
☐	☒	2330 Collect EPE Geotechnical Data	__/__/__
☐	☒	2340 Develop and Review Practical Alternatives	__/__/__
☐	☒	<i><u>233M Aerial Photography Flight</u></i>	__/__/__
☐	☒	2360 Prepare and Review EA or DEIS	__/__/__
☐	☒	<i><u>231M Draft Submission to FHWA</u></i>	__/__/__
☐	☒	2380 Circulate EA or DEIS	__/__/__
☐	☒	<i><u>232M Public Hearing</u></i>	__/__/__
		<u>EPE FINAL ANALYSIS</u>	
☐	☒	2510 Determine and Review Recommended Alternative	__/__/__
☐	☒	<i><u>250M Concurrence by Regulatory Agencies with Recommended Alternatives</u></i>	__/__/__
☐	☒	2525 Prepare and Review Engineering Report	__/__/__
☐	☒	2530 Prepare and Review Request for FONSI or FEIS	__/__/__
☐	☒	<i><u>252M Final Submission to FHWA</u></i>	__/__/__
☐	☒	2550 Obtain FONSI or ROD	__/__/__
		<u>CONTAMINATION INVESTIGATION</u>	
☐	☒	2810 Project Area Contamination Survey (PCS)	__/__/__
☐	☒	2820 Preliminary Site Investigation (PSI) for Contamination	__/__/__

MDOT PRECONSTRUCTION TASKS CONSULTANT CHECKLIST

PRELIMINARY ENGINEERING - DESIGN

		P/PMS TASK NUMBER AND DESCRIPTION	DATE TO BE COMPLETED BY (mm/dd/yyyy)
YES	NO		
		<u>DESIGN SCOPE VERIFICATION AND BASE PLAN PREPARATION</u>	
☒	☐	3130 Verify Design Scope of Work and Cost	__/__/__
☒	☐	3310 Prepare Aerial Topographic Mapping	__/__/__
☒	☐	3320 Conduct Photogrammetric Control Survey	__/__/__
☒	☐	3321 Set Aerial Photo Targets	__/__/__
☒	☐	3330 Conduct Design Survey	__/__/__
☒	☐	3340 Conduct Structure Survey	__/__/__
☒	☐	3350 Conduct Hydraulics Survey	__/__/__
☒	☐	3360 Prepare Base Plans	__/__/__
☒	☐	<u>331M Utility Notification</u>	__/__/__
☒	☐	3361 Review and Submit Preliminary ROW Plans	__/__/__
☐	☒	<u>331M Preliminary ROW Plans Distributed</u>	__/__/__
☒	☐	3370 Prepare Structure Study	__/__/__
☐	☒	3375 Conduct Value Engineering Study	__/__/__
☒	☐	3380 Review Base Plans	__/__/__
☒	☐	<u>332M Base Plan Review (Pre-GI Inspection)</u>	__/__/__
☒	☐	3390 Develop the Maintaining Traffic Concepts	__/__/__
		<u>PRELIMINARY PLANS PREPARATION</u>	
☐	☒	3510 Perform Roadway Geotechnical Investigation	__/__/__
☒	☐	3520 Conduct Hydraulic/Hydrologic and Scour Analysis	__/__/__
☒	☐	3522 Conduct Drainage Study, Storm Sewer Design, and use Structural Best Management Practices	__/__/__
☒	☐	3530 Conduct Structure Foundation Investigation	__/__/__
☒	☐	3535 Conduct Structure Review for Architectural and Aesthetic Improvements	__/__/__
☒	☐	3540 Develop the Maintaining Traffic Plan	__/__/__
☐	☒	3551 Prepare/Review Preliminary Traffic Signal Design Plan	__/__/__
☒	☐	3552 Develop Preliminary Pavement Marking Plan	__/__/__
☒	☐	3553 Develop Preliminary Non-Freeway Signing Plan	__/__/__
☒	☐	3554 Develop Preliminary Freeway Signing Plan	__/__/__
☐	☒	3555 Prepare/Review Preliminary Traffic Signal Operations	__/__/__
☒	☐	3570 Prepare Preliminary Structure Plans	__/__/__
☒	☐	3580 Develop Preliminary Plans	__/__/__
☒	☐	3581 Review and Submit Final ROW Plans	__/__/__
☐	☒	<u>351M Final ROW Plans Distributed</u>	__/__/__
☒	☐	3590 Review Preliminary Plans (Hold Plan Review Meeting)	__/__/__
☒	☐	<u>352M THE Plan Review (Grade Inspection)</u>	__/__/__

MDOT PRECONSTRUCTION TASKS CONSULTANT CHECKLIST

PRELIMINARY ENGINEERING - DESIGN (cont'd)

		P/PMS TASK NUMBER AND DESCRIPTION	DATE TO BE COMPLETED BY
YES	NO		(mm/dd/yyyy)
		<u>UTILITIES</u>	
☒	☐	3610 Compile Utility Information	__/__/__
☐	☒	3650 Coordinate RR Involvement for Grade Separations	__/__/__
☐	☒	3655 Coordinate RR Involvement for At-Grade Crossings	__/__/__
☒	☐	3660 Resolve Utility Issues	__/__/__
☒	☐	360M <i>Utility Conflict Resolution Plan Distribution</i>	__/__/__
☒	☐	361M <i>Utility Meeting</i>	__/__/__
☒	☐	3670 Develop Municipal Utility Plans	__/__/__
☒	☐	3672 Develop Special Drainage Structures Plans	__/__/__
☒	☐	3675 Develop Electrical Plans	__/__/__
		<u>MITIGATION/PERMITS</u>	
☒	☐	3710 Develop Required Mitigation	__/__/__
☐	☒	3720 Submit Environmental Permit Applications	__/__/__
☐	☒	3730 Obtain Environmental Permit	__/__/__
		<u>FINAL PLAN PREPARATION</u>	
☐	☒	3821 Prepare/Review Final Traffic Signal Design Plan	__/__/__
☒	☐	3822 Complete Permanent Pavement Marking Plan	__/__/__
☒	☐	3823 Complete Non-Freeway Signing Plan	__/__/__
☒	☐	3824 Complete Freeway Signing Plan	__/__/__
☐	☒	3825 Prepare/Review Final Traffic Signal Operations	__/__/__
☒	☐	3830 Complete the Maintaining Traffic Plan	__/__/__
☒	☐	3840 Develop Final Plans and Specifications	__/__/__
☒	☐	380M <i>Plan Completion</i>	08/30/2010
☒	☐	3850 Develop Structure Final Plans and Specifications	__/__/__
☒	☐	3870 Hold Omissions/Errors Check (OEC) Meeting	__/__/__
☒	☐	387M <i>Omissions/Errors Checks Meeting</i>	__/__/__
☒	☐	389M <i>Plan Turn-In</i>	11/01/2010
☐	☒	3880 CPM Quality Assurance Review	__/__/__

MDOT PRECONSTRUCTION TASKS CONSULTANT CHECKLIST

PRELIMINARY ENGINEERING – RIGHT OF WAY

		P/PMS TASK NUMBER AND DESCRIPTION	DATE TO BE COMPLETED BY
YES	NO		(mm/dd/yyyy)
		<u>EARLY RIGHT OF WAY WORK</u>	
☒	☐	4120 Obtain Preliminary Title Commitments	_/_/_/____
☒	☐	4130 Prepare Marked Final Right Of Way Plans	_/_/_/____
☒	☐	<i>413M Approved Marked Final ROW</i>	_/_/_/____
☒	☐	4140 Prepare Property Legal Instruments	_/_/_/____
		<u>ROW ACQUISITION</u>	
☐	☒	4411 Preliminary Interviews	_/_/_/____
☐	☒	<i>441M Post-Decision Meeting</i>	_/_/_/____
☐	☒	4412 Real Estate Services Assignment Proposal and Fee Estimate (Form 633s) for Appraisal Work Authorization	_/_/_/____
☐	☒	4413 Appraisal Reports	_/_/_/____
☐	☒	4420 Appraisal Review Reports	_/_/_/____
☐	☒	4430 Acquire Right Of Way Parcels	_/_/_/____
☒	☐	4510 Conduct Right Of Way Survey & Staking	_/_/_/____
		<u>ROW RELOCATION</u>	
☐	☒	4710 Relocation Assistance	_/_/_/____
☐	☒	4720 Prepare Improvement Removal Plan	_/_/_/____
☐	☒	<i>442M ROW Certification</i>	_/_/_/____

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.

FOR YOUR INFORMATION

For questions on specific P/PMS tasks, refer to the P/PMS Task Manual located on the MDOT Bulletin Board System (BBS).

For assistance in accessing this manual, please contact one of the following:

Dennis Kelley: (517) 373-4614

Tonya Nobach: (517) 335-1927

ATTACHMENT A

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.

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

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

A **detailed Survey Work Plan** must be included in the project proposal. A **spreadsheet estimate** of hours by specific survey task such as 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.
3. Work in any of the following categories of survey: Road Design, Structure, Hydraulic, Right-of-Way, and/or Ground Control (Photogrammetric) 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 March 2008, the MDOT Design Survey Manual on-line, and the MDOT RTK guidelines. Please contact the Design Survey office to clarify any specific questions regarding these standards.
5. Consultants must obtain all necessary permits required to perform this survey on any public and/or private property, including an up-to-date permit from the MDOT Utilities Coordination and Permits Section.

6. Prior to performing the survey, the Consultant must contact all landowners upon whose lands they will enter. The contact may be personal, phone or letter, but must be documented. This notice must include the reasons for the survey on private land, the approximate time the survey is to take place, the extent of the survey including potential brush cutting (which must be minimized), and an MDOT contact person (the MDOT Project Manager or designate).
7. The Consultant must contact any and all Railroads prior to commencing field survey on railroad property. The cost for any permit, flaggers and/or training that is required by the Railroad will be considered as a direct cost, but only if included in the Consultant's priced proposal.
8. The Consultant must adhere to all applicable OSHA and MIOSHA safety standards, including the appropriate traffic signs for the activities and conditions for this job.
9. Consultants are responsible for a comprehensive and conscientious research of all records, including MDOT records, essential for the completion of this project.
10. Measurements, stationing, recorded data, and computations must be in **International Feet**, unless specified otherwise by the MDOT Project Manager.
11. Coordinate values shall be based upon the Michigan State Plane coordinate system NAD83 (CORS). All elevations must be based upon the North American Vertical Datum of 1988 (NAVD88). The datums must be clearly stated in the Survey Work Plan. A preliminary submittal of the adjusted Horizontal and Vertical control for the project may be submitted to the MDOT Survey Consultant Coordinator or Region Surveyor for review and acceptance as soon as it is available.
12. The survey notes must be submitted to the Design Survey Unit in 10" by 12" divided portfolios with flap covers. As many portfolios should be used as are needed to contain all of the required documents and Compact Discs (CD's) or DVD's. **Duplicate CD's must be included in the portfolio, with one set labeled "Region Surveyor".**
13. Each portfolio must be labeled on the outside as in the following example:

Survey Notes for:
Route, Location and Project Limits [I-94 under Beaubien Street]
Control Section [S06 of 82024] Job Number [45197D] Date [*of submittal*]
By [*Name of Firm*]
Michigan Professional Surveyor [] License # []
14. Each submittal is to be divided into six sections. These sections are to be labeled as follows: **Administrative, Alignment, Control, Property, Mapping, and Miscellaneous.**

- a. The **Administrative** section will include the following items: a completed copy of the MDOT Form 222(5/01) entitled “SURVEY NOTES: RECEIPT AND TRANSMITTAL”; the limits of the survey and original survey scope as determined by the Consultant Surveyor and Design Engineer; a complete synopsis of the survey **that shall include, but not be limited to** horizontal and vertical control datums used, methodology, a complete discussion of government corners recovered, perpetuated or otherwise used as part of the survey, problems encountered, and a statement from the Consultant surveyor supervising the project certifying compliance with Michigan Department of Transportation (MDOT) Design Surveys *Standards of Practice* dated March 2008; as well as documentation of all project specific meetings and/or conversations with MDOT Survey personnel.

Also included in the Administrative section shall be a copy of the **Survey Project Portfolio QA/QC Check-off list**, available on the MDOT Design Survey File Transfer Protocol (FTP) site at <ftp://ftp.michtrans.net/>. The consultant Username is “survcons.” The consultant Password is “\$urvcon\$.” This document shall be signed and certified by the Professional Surveyor responsible for the project QA/QC. It is highly recommended that the consultant become familiar with this document prior to preparing the proposal and again prior to assembling the final portfolio. **Failure to use and include this document shall result in the immediate return of the project portfolio for completion.**

- b. The **Alignment** section will contain a MicroStation drawing of the alignment; coordinates and stationing of alignment points set or found; curve data with P.I. coordinates; a designation of alignment type such as as-constructed (best fit), legal, or survey; an explanation of how the alignment was determined; and all supporting documentation.
- c. The **Control** section must contain the data collected and copies of all research documents used to establish the **horizontal and vertical** reference systems for the project, and must include a thorough written explanation describing how the systems were established. This section should also contain control traverse and GPS raw data (electronic only), least squares analysis for both traverse and benchmarks, and a list of control point coordinates and witnesses. A complete benchmark list with datum, description, station and offset, and elevation shall also be included. This information must be submitted in hardcopy as well as ASCII and MicroStation electronic file format on Compact Discs (CD's). Also, a sketch of the control traverse, showing any ties (government corners, property, alignment, etc.) shall be included in this section. It is recommended that the project's survey control be submitted for review as soon as it is available.
- d. The **Property** section contains all information that is utilized regarding the real property affected by the project, and all necessary property ties. This may include copies of all recorded Land Corner Recordation Certificates for the government

corners used or reestablished, recorded plats, recorded certified surveys, tax maps, tax descriptions, and adjacent/riparian owners.

- e. The **Mapping** section contains all survey notes, research documents, and collected data used to produce the maps necessary for this project. All topographic plots, as well as utilities and drainage information, are to be placed in this section. Raw data in electronic form only, but not on the .PDF file.
 - f. The **Miscellaneous** section contains any information not included in the previous sections. The project Surveyor's Report should specify any items included in this section.
15. **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 ASCII text, CAiCE and MicroStation must have separate access in native format outside of the .PDF file. CD's must be labeled with the control section, job number, data type and file names.
16. It is not necessary to label each individual paper page in the portfolio.
17. Each category of survey must be packaged separately (i.e., Structure surveys separate from Road surveys and Hydraulic surveys). CD's must be labeled with the Control Section, Job Number, data type and file names.
18. The Consultant representative shall record and submit typewritten minutes for all project related meetings to the MDOT Project Manager within two weeks of the meeting. The Consultant shall also distribute the minutes to all meeting attendees.
19. 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 a Survey Consultant Project Manager or MDOT Region Surveyor.

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 Support Area, 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.

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*, 2003 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 on line 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 2003 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.

FIELD SURVEY

The purpose of the field survey is to obtain all information and data required by the project design engineer, to leave control in the field for future construction staking, and to provide a sufficient history of the area to enable the MDOT Design Survey Unit to perform dependable surveys in the future. The Consultant surveyor must discuss the scope of this survey with the project design engineer before initiating any work on this project. Notes of this meeting and a detailed Survey Work Plan with an estimate of hours broken down by specific survey task must be submitted to the MDOT Project Manager and Survey Consultant Project Manager within two weeks of this meeting.

CONTROL

A three dimensional control system must be established throughout the project area. This control shall be based on the Michigan State Plane Coordinate System NAD1983 (CORS) horizontal datum and NAVD 1988 vertical datum. All subsequent control must be based on the established control. Any traverse/control points or bench marks established must adhere to the Michigan Department of Transportation (MDOT) Design Surveys *Standards of Practice* dated March 2008 and be listed in the Control pocket of the portfolio. Contact the MDOT Survey Consultant Coordinator or Region Surveyor for existing control in the area.

OPUS positioning may be used as a check, and for determining Primary Control as defined in the MDOT Standards of Practice for Design Survey March 2008. For any and all OPUS solutions, a RINEX format file with a minimum of two hours of GPS data must be included, as well as the OPUS solution (extended version) from NGS. All OPUS solutions must be verified within 0.20 foot, either by a separate OPUS solution from an independent occupation, or by a least squares adjustment based on NGS/CORS positions.

If GPS-derived elevations are used, the Surveyor's Report and the Witness List and Witness Sheet for the project must clearly state that the vertical datum is "NAVD 1988 GPS-derived from Geoid XX." Geoid03 is the recommended Geoid at this time September 2008.

A mapping control point that is a rebar in the ground should not be considered a benchmark. The elevation of a rebar that is a control point should be verified or re-established prior to use as a benchmark.

A Witness list sheet for this project must be provided that has a formula for grid to ground conversion, with a statement that a mapping control point that is a rebar in the ground should not be considered a benchmark, and its elevation should be verified or re-established prior to use.

All Witness lists, for horizontal control, benchmarks, government corners, and alignment points, must use all capital letters exclusively.

The Consultant must provide a **MicroStation file** that contains the benchmark list and horizontal control point list, government corner list, and alignment point list. The type of alignment must be described. This file must also provide a formula for a grid to ground conversion. This file must be named **JNxxxxwit.dgn** and formatted as an MDOT plan sheet. An example MicroStation file will be provided on the MDOT Design Survey ftp site. **Upper case letters must be used exclusively**, as they are easier to read on half size plan sheet.

PROPERTY/GOVERNMENT CORNERS

Any PLSS corners within the project limits must be recovered or established and tied to the project coordinate system. Any PLSS corners necessary for legal alignment determination and/or property ties for Right of Way issues must be recovered or established and tied to the project coordinate system.

All PLSS corners must be recorded in accordance with PA 74 of 1970, as amended, and all applicable administrative rules. A copy of each **recorded** Land Corner Recordation Certificate must be submitted to the MDOT Design Survey Office as part of the final report. All PLSS corners located in hard surface roads must be protected by a monument box, regardless of impending construction. The Consultant shall provide to the Survey Consultant Project Manager a list of any affected Government or Property Controlling Corners in the detailed work plan for discussion or approval.

The Consultant surveyor must contact the County Remonumentation Representative prior to beginning work on the project to inform him of proposed corner perpetuation activities, and to obtain information pertinent to PLSS corners and/or property controlling corners affected by project construction.

All **monument boxes** through the project area must be accounted for by the Consultant surveyor, shown on the project mapping, and have a recorded LCRC submitted in the survey portfolio.

ALIGNMENT

Since most existing alignment points locate and define the boundary between the public Right of Way and private ownership, legal alignment points are considered Property Controlling Corners and must be recovered and recorded in accordance with PA 74 of 1970, as amended, and all applicable administrative rules. A copy of each recorded Land Corner Recordation Certificate must be submitted in the Property Section of the final portfolio.

The Consultant must clearly define in the Work Plan what type of alignment(s) is proposed, Legal, Survey or As Constructed, how the stationing will be established, and whether or not the alignment(s) will be staked in the field.

An **alignment sheet** must be prepared and submitted that shows the alignment(s) with stationing and coordinates, and the source of stationing, curve data, and the alignment definition. All alignments must be **annotated** as in the following examples: As Constructed alignment for CS 45011 as surveyed in 2006, or Legal Alignment of 1952 for CS 38016 as surveyed in 2008. Showing government corners with distances along government lines to the alignment are also appropriate for this CADD drawing. MDOT MicroStation format is required. Some tangents may be graphically shortened to “shrink” the drawing to fit paper size.

The Consultant must provide an **alignment control point list with witnesses** for all alignment points found or set. This list must include datum, point designations, descriptions, coordinates, combined Scale Factor, and witnesses. This list may be appended to the witness list for horizontal and vertical control points. Witness lists must use only uppercase letters.

All **monument boxes** through the project area must be accounted for by the Consultant surveyor, shown on the project mapping, and have a recorded LCRC submitted with the survey portfolio.

MAPPING

The Consultant must submit a **CAiCE software file, named MDOTjob#.zip**, utilizing CAiCE’s built-in archive feature, of all survey mapping points and data files for the mapping area. If a Digital Terrain Model is needed for the project, it must be created in CAiCE and named EXRD. **The CAiCE software used must be Version 10.6 or newer.**

The Consultant is responsible for using the latest MDOT CAiCE Feature Codes, files and Plans Production tugboat (macro), available on the MDOT Design Survey File Transfer Protocol (FTP) site at **ftp://ftp.michtrans.net/**. The consultant Username is “survcons.” The consultant Password is “\$urvcon\$.” The tugboat can also be used to convert CAiCE files into Geopak and MicroStation formats.

The Consultant must provide an electronic **MicroStation Intergraph Version 8 format file** of the mapping area. This file must be named MDOTjob#pl.dgn, for example **79023Cpl.dgn**, and must be submitted **in a sub-directory outside of the CAiCE archive file** named

“MicroStation.” The MicroStation file will be a 2-D file of the planimetric features including contours. This file must be sized appropriately, utilize the seed file **seedrd_c.dgn** with working units of 1000, 1, and be compiled in standard MDOT format. The Consultant is responsible for using the latest MDOT Resource files, color table, and cell files, available on the MDOT File Library site under CAD_V8. Go to <http://mdotwas1.mdot.state.mi.us/public/bbs/>

For a comprehensive list of MicroStation level designations, contents and line attributes, refer to the “MDOT V8 Level Feature Code List_08.pdf” table located on the MDOT Design Survey File Transfer Protocol web site. This table replaces the former Attachments AA, C & D. Also in the ftp site, the Consultant should refer to the V8GROUP&ALPHA LIST_08.pdf file for Data Collection Codes.

The Consultant must submit **files created from CAiCE that are formatted for design in Geopak** software. This can be accomplished by using the MDOT Plans Production CAiCE Tugboat (macro), which is available on the MDOT Design Survey File Transfer Protocol (FTP) site. The Consultant must submit a 3D MicroStation Triangle file and the same Triangle file in Geopak DAT format. **This DAT file is generated through the new (August 2008) MDOT tugboat.** The Consultant must also submit a Survey Chain (TIN Boundary) around the edited Triangle file with the name and Feature “CLIP.” A Job#.XML file must be included for each separate alignment. Each alignment must be computed separately, and uniquely named to include the JN and a description, such as 79585_AsC_Wbd.XML. These files must be submitted electronically **in a subdirectory outside of the CAiCE archive file** named “Geopak.”

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, 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 March 2008).
2. In the second pocket of the portfolio, labeled **ALIGNMENT**, the following will appear:
- a. An annotated MicroStation drawing of the alignment(s), showing:
 - i) A statement defining the alignment(s) as **legal, as constructed, or survey**
 - 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 alignment points found.
3. In the third pocket of the portfolio, labeled **CONTROL**, the following will appear:
- a. Documentation of horizontal and vertical datum sources.
 - b. OPUS documentation.
 - 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, hardcopy and on CD, 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. A MicroStation V8 file showing the data in d. above, using only upper case letters.
4. In the fourth pocket of the portfolio, 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, labeled **MAPPING**, the following will appear:
 - a. Mapping file in MicroStation V8 format, and also converted to .PDF format. Hardcopy signed and sealed. 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, 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

General Notes

- a. It is the responsibility of the Consultant to insure that all electronic files submitted to MDOT conform to the required format and that all documents are legible.
- b. The Consultant must organize and label the various sections of the portfolio as required by the Standards of Practice for MDOT Design Surveys dated March 2008.
- c. All research documents are required to be scanned and placed on the CD.
- d. It is desirable to limit paper and to include as much electronic data as possible on Compact Disc or DVD, including scanned items, to facilitate future electronic storage and transmission of survey data. **Duplicate CD's must be included in the portfolio, with one set labeled "Region Surveyor".**

ATTACHMENT B

BRIDGE SCOPE OF WORK

BRIDGE SCOPE OF WORK

B03-77111 I-94/ I-69 over the Black River

I. Description of Work:

The Work shall consist of a design for the complete replacement and approach work for the above structure using LRFD specifications.

II. Consultant Responsibilities:

1. A complete design for a bridge at the above location.
2. Preparation of both contract plans and bid item quantities.
3. Preparation of any specifications and/or special provisions required to supplement MDOT's Standard Specifications for Construction.
4. Soil borings of sufficient depth and number and a geotechnical analysis to perform the foundation design. For scope of work statement for geotechnical services, see Appendix 5.03.03 A.1.e MDOT Bridge Design Manual.
5. Preparation of permit requests. (MDOT will submit these).
6. Necessary contacts with concerned agencies: e.g. DEQ, municipalities, utilities, railroad, State Historic Commission. All contacts are to be documented. MDOT is to receive copies of minutes, record of conversations or memos documenting all contacts.
7. Participation in meetings and field reviews at the site.
8. Solutions to any unique problems, e.g. utility interference, staging for part width construction.
9. With concurrence from MDOT Port Huron TSC Traffic Engineer, provide plans and specifications for maintaining traffic during construction.
10. With concurrence from MDOT Port Huron TSC traffic engineer, provide traffic control to permit the work described in item 4 & 12.

11. Prepare and submit any information, calculations, or drawings required by MDOT for acquiring permits (i.e. NPDES), approvals (i.e. county drain commission) and related mitigation. MDOT will submit permit requests.
12. Any pickup survey or field measurements required to supplement the data provided by MDOT. See survey attachment.

The consultant shall be responsible for the following PPMS tasks.

P/PMS TASK 3340 - CONDUCT STRUCTURE SURVEY

P/PMS TASK 3350 - CONDUCT HYDRAULICS SURVEY

P/PMS TASK 3370 - PREPARE STRUCTURE STUDY

**P/PMS TASK 3390 - DEVELOP THE CONSTRUCTION ZONE TRAFFIC
CONTROL CONCEPTS**

**PPMS TASK 3520 - CONDUCT HYDRAULIC/HYDROLOGIC AND SCOUR
ANALYSIS**

P/PMS TASK 3530 - CONDUCT FOUNDATION STRUCTURE INVESTIGATION

**P/PMS TASK 3540 - DEVELOP CONSTRUCTION ZONE TRAFFIC CONTROL
PLAN**

P/PMS TASK 3570 - PREPARE PRELIMINARY STRUCTURE PLANS

**P/PMS TASK 3830 - COMPLETE CONSTRUCTION ZONE TRAFFIC
CONTROL PLAN**

P/PMS TASK 3840 - DEVELOP FINAL PLANS AND SPECIFICATIONS

**P/PMS TASK 3850 - DEVELOP STRUCTURE FINAL PLANS AND
SPECIFICATIONS**

P/PMS TASK 3870 - HOLD OMISSIONS/ERRORS CHECK (OEC) MEETING

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

III. PROJECT SCHEDULE

The scheduled plan completion date for this project is 08/30/2010. The Consultant shall use the following events to prepare the proposed implementation schedule as required in the Guidelines for the Preparation of Responses on Assigned Design Services Contracts. These events shall be used in preparing the Consultant's Monthly Progress Reports.

<u>Target Date</u>	<u>Task #</u>	<u>Description</u>
	3340	Conduct Structure Survey
	3370	Prepare Structure Study Structure Study Approval
	3570	Prepare Preliminary Structure Plans
	3590	Review Preliminary Plans (Grade Inspection - approximate date) Submit Pre-Final Plan Package to MDOT Pre-Final Review Meeting (approximate date)
	3850	Develop Structure Final Plans and Specifications Submit Final Plan/Proposal Package to MDOT for final review
	3870	Omissions/Errors Check (OEC) Meeting (approximate date) Final Construction Plan/Proposal package with recommendations incorporated to MDOT. Final Deliverables

The plans shall be submitted to MDOT as follows:

1. A study showing the conceptual design. This shall be accompanied by a rough (square foot) estimate of cost.
2. Preliminary Plans consisting of a General Plan of Site and a General Plan of Structure of the proposed work and Log of Boring. Preliminary Plans shall be accompanied by an estimate of cost based on the quantities of major pay items shown on the plans.
3. Prefinal plans consisting of final plans that are approximately 90% complete and any special provisions and supplemental specifications that may be required.
4. Final plans and Contract Quantities and any special provisions or supplemental specification that may be required.

The consultant is not authorized to proceed with Preliminary Plans until he receives MDOT approval of the Study. Neither is he authorized to proceed with Final Plans until notified that the FHWA has approved Preliminary Plans.

All work shall conform to AASHTO specifications and MDOT specifications and MDOT design and detailing practices. All submittals to MDOT shall meet the attached quality assurance document. The Consultant shall maintain office records, submit monthly progress reports, and submit MDOT vouchers with their billings. The consultant is

advised that MDOT considers plans 5% complete upon approval of the study, 30% complete when the preliminary plans are distributed, and 95% complete when final plans are submitted for review.

The consultant is to show the location and names of all existing utilities within the limits of the proposed work. The consultant will attend any utility meetings called to insure that the concerns are addressed on the plans involving utilities.

All submittals to MDOT shall be dated and identified by structure number, control section, job number including phase, MDOT contract number, route and location.

All minutes for project related meetings shall be typewritten, recorded, and submitted within two weeks of the meeting.

A file containing project related correspondence, design, and any information resulting from research shall be submitted to MDOT with the final plans on CD's.

IV. MDOT WILL PROVIDE:

Standard detail sheets and existing plans.

ATTACHMENT C

CONTEXT SENSITIVE DESIGN PROCESS

The CONSULTANT will incorporate design intent, specific design features and details as established in the Aesthetic Design Guide (ADG) for the Blue Water Bridge Plaza Study. The ADG was developed through the stakeholder engagement process and represents commitments made to visual quality that will be incorporated into the final design and construction phases of the project.

Development of the final design plans and specifications will include refining preferred design concepts that meet the requirements of the ADG and the aesthetic vision for the project including the I-94 Corridor, the Black Water Bridge, local streets and the Blue Water Bridge Plaza expansion.

Provide for ongoing local agency coordination and public involvement through the project steering committee and community advisory group.

The CONSULTANT team will hold (public) information/coordination meeting(s) to update the community on project status including construction phasing, mobility concerns etc.

Deliverables:

Exhibits, plans and details to illustrate individual elements and features including bridges and structures, architectural details and landscape plantings that compose the project corridor, local streets, the plaza and its context.

Meeting minutes and documentation of community involvement and coordination.

ATTACHMENT D

DRAINAGE STUDY SCOPE

The Consultant is to conduct a site investigation of the drainage within the limits of the project. The purpose of this study is to determine where hydraulic analyses and/or surveys are required.

Work Steps:

1. Prepare a typed report summarizing the drainage affected by the project. For each culvert carrying natural drainage within the MDOT Right-of-Way, provide the following information:
 - a. Stream name
 - b. Exact location of the culvert, including Section, Town, Range, and Township
 - c. Size, type, and condition of culvert
 - d. Any evidence of scour or erosion
 - e. Any evidence that the structure is undersized
 - f. Any county drains
 - g. Photographs of the upstream face, downstream face, looking upstream, and looking downstream, as well as any drainage structures, buildings, or farmland that may affect or be affected by the culvert
 - h. Drainage area, including delineation on a USGS quadrangle map (or local contour map, if more up-to-date)
 - i. Type of work proposed, including existing and proposed lengths
2. The report must include any other effects on the drainage; for example, a raise in road grade or widening.
3. Submit the drainage study to the MDOT Project Manager for review and approval by the Design Engineer - Hydraulics/Hydrology.
4. Receive any items returned by the MDOT Project Manager as incomplete or deficient.
5. Make necessary changes and resubmit the incomplete items, including a written response to all comments.

ATTACHMENT E

DELETED

ATTACHMENT F

SCOPE OF WORK FOR CRASH ANALYSIS REPORTS

The Consultant shall provide MDOT with a Crash Analysis Report, which shall detail the safety performance of the project location (includes not only the mainline, but all ramps, major and minor intersections, and crossovers within the project limits), and provide detailed graphic depiction of countermeasures, and cost/benefit analysis for crash concentration locations.

The Crash Analysis Report shall, at a minimum, compare the project location features (mainline, ramps, major intersections, minor intersections and cross overs) to regional averages, identify crash concentration locations, examine crash concentration locations for crash patterns and provide countermeasures for correctable crash patterns. The Consultant shall combine a thorough review of computer-based crash records with field reviews of the roadways characteristics (geometric and operational features shall be specifically noted), to identify crash concentration locations. The Consultant shall provide a Draft Crash Analysis Report and upon review and comment by MDOT, the Consultant shall make any changes identified and submit a Final Crash Analysis Report.

The Consultant shall at a minimum review and analyze the most recent three years of MDOT crash data. If there is a fatality within those three years, the Consultant shall review and analyze an additional seven years of crash data. For the analysis, the Consultant shall stratify the data by location and the crash data shall also be aggregated by similar roadway segment characteristics. The Consultant shall quarry SEMCOG to determine regional crash averages which will provide a normative measure of comparison to aid in the identification of crash concentration locations.

The Consultant shall identify crash concentration locations and determine crash patterns. Based on the crash patterns identified for each crash concentration location, the Consultant shall develop proposed crash countermeasures. The countermeasures shall be graphically depicted, to scale, with sufficient detail to determine the countermeasures impact to the existing roadway and the proposed roadway improvement.

The countermeasures may range from simple sign / marking / signal modifications up through substantial reconstruction. The Consultant shall present countermeasures stratified into short and long-term solutions. The Consultant shall provide a construction cost estimate for each countermeasure using MDOT Pay Items and shall clearly identify any right-of-way impacts a countermeasure may have. The Consultant shall provide a full cost/benefit analysis for each countermeasure. The Consultant shall also evaluate the crash impacts on design exceptions sought.

ATTACHMENT G

SCOPE OF WORK FOR UTILITY COORDINATION

For the purpose of this scope “utility coordination” means the Consultant shall participate in all stages of the Department’s utility coordination process. It is the intent of this scope that the Consultant selected as a result of this solicitation employs qualified, competent, and experienced personnel to provide the services set forth herein.

The Consultant selected shall be capable of providing the following services pertaining to utility coordination work, including, but not limited to:

1. Identification of existing/proposed utility owners and their facilities.
2. Resolution of conflicts between utility facilities and proposed construction.
3. Documentation of utility company activities.
4. Evaluation and certification of utility relocation schedules for compatibility to the Department’s project schedule.

GENERAL REQUIREMENTS

The Consultant is responsible for taking the necessary steps to insure appropriate utility coordination for the project. The Consultant is expected to participate in all stages of the MDOT utility coordination process, including but not limited to the following: scope meetings, design meetings, pre-advertisement meetings, pre-construction meetings, field inspections, utility permit reviews, plan reviews, and construction phase services. In addition, the Consultant shall provide the following services:

1. Schedule and conduct utility meetings, as necessary, to resolve conflicts between utility facilities and proposed construction. Moderate and record meeting minutes, distribute to all in attendance plus the appropriate MDOT Region/TSC Utilities/Permits Engineer and the MDOT Project Manager. The meetings, as a minimum will identify conflicts, discuss possible design modifications, develop utility relocation schemes, review the schedule of MDOT construction activities, and develop a coordinated utility activity schedule. Include resolution of all utility conflicts and utility coordination needs in the proposed project schedule.
2. Provide bi-weekly status reports to the appropriate MDOT Region/TSC Utilities/Permits Engineer, MDOT Project Manager and the MDOT Lansing Utilities-Permits office and any other appropriate personnel as directed by the MDOT Project Manager. The report, at a minimum, should display the control section, project number, project location and description, report date, status of each utility and date information is expected back or when action is to be taken. Develop and maintain a status report (i.e. spreadsheet, log, etc.) regarding the project’s utility status. Depending on the project, these status reports may be reduced to monthly, at the request of the Project Manager.

3. Conduct or participate in meetings convened for the purpose of utility betterments (i.e. new water main and communication facilities, etc.). Develop corridor schemes and utility construction schedules.
4. Provide technical assistance to MDOT's Design Division and design consultants regarding utility relocations and project impacts. Assure that all proposed utility relocation work, either private or municipal force account work, is compatible with the proposed project and meets MDOT and other applicable standards.
5. Review utility relocation plans for compatibility with the proposed MDOT project. Confirm that all necessary utility relocation permits are submitted to the appropriate MDOT Region/TSC Utilities/Permits Engineer for issuance. Follow-up with utility companies to ensure that their utility relocations are progressing and will not adversely affect the project's schedule.
6. Prepare a Notice to Bidders Utility Coordination Clause. This needs to be submitted to the appropriate MDOT Region/TSC Utilities/Permits Engineer by a deadline to be determined by the Project Manager.
7. The Consultant may be required to provide Design Services during the construction phase of this project, including utility alignment staking and inspection. If Construction Assistance is required, then a separate authorization for those services will be issued.

PLAN DISTRIBUTION AND UTILITY INFORMATION PROCUREMENT

The Consultant will be required to distribute plans on an as-needed basis to the utility companies. At a minimum the following distributions shall take place:

1. The Consultant shall verify that base plans have been sent to utility companies within the project area. This will consist of an informational letter and two sets of preliminary plans (some companies may require four sets), describing the scope of the project. Initial contact should be made with all utility companies that may have facilities in the project area. Four to six weeks should be allowed for utility companies to respond back with one set of marked plans showing their facilities, copies of their "As Built" plans, or written confirmation that they have no facilities in the project area. This information will then be forwarded to the Design Project Manager.
2. Collect and compile utility company responses from each utility company. Follow up with non-responsive utility companies to ensure a response is received. Establish design contacts and if different, construction contacts for the project. Review the plan note sheets and verify with the utility company that the utility company names, addresses, contacts and phone numbers are accurate.
3. Distribute Department plans at approximately 50 percent completion. These plans should have the utility locations plotted and provide sufficient detail for utility companies and the

utility coordinator to determine conflicts (i.e. storm sewer design). The Department's standard plan distribution letter, authorizing utility companies to begin preliminary engineering and also notifying the utility company of their responsibility to relocate facilities under Act 368, P.A. of 1925, needs to be included with this plan distribution.

4. Copies of any correspondence sent to any utility company should be sent to the appropriate MDOT Region/TSC Utilities/Permits Engineer, MDOT Project Manager and the MDOT Lansing Utilities-Permits Office and any other appropriate personnel unless otherwise directed.

PERMIT REVIEWS

Review utility relocation plans and new permit applications for compatibility with the proposed MDOT project. Confirm that all necessary utility relocation permits are submitted to the appropriate MDOT Region/TSC Utilities/Permits Engineer for issuance. To ensure that utility relocations are progressing and will not adversely affect the project's schedule, follow up with the appropriate utility companies.

REIMBURSABLE UTILITY RELOCATIONS

Ensure that eligible reimbursable utility relocations, under Federal-Aid Policy Guide 23 CFR 645A and 645B and MDOT Utility Accommodation Policy are identified. Confirm that the utility companies submit the necessary information (i.e. permit applications, property rights, estimates, etc.) as to meet the aforementioned guidelines to the appropriate MDOT Region/TSC Utilities/Permits Engineer for processing and authorization.

DESIGN ANALYSIS AND RECOMMENDATIONS

When the Consultant has obtained all necessary utility information, the Consultant shall determine to what extent the proposed roadway and/or bridge improvements will impact the existing utilities. The Consultant shall prepare a report outlining avoidance alternates, required adjustments, relocations, and cost estimates to perform those relocations.

STAKING, PERMIT INSPECTION AND CONSTRUCTION PHASE SERVICES

The Consultant may be requested to provide any needed alignment staking for utility relocations. Staking shall be consistent with the project's survey control. The Consultant will be responsible for the accuracy, per applicable survey standards, when performing survey work. The Consultant performing any surveys must be on the Department's pre-approved surveyors list.

The Consultant may be asked to oversee and inspect utility relocations. Reports of this activity and the Department's Permit Inspection Report (Form #2213) will need to be sent to the appropriate Region/TSC Utilities/Permits Engineer.

Construction phase services may be requested. This may include attending the preconstruction meeting and presenting the utility coordination work. It also may involve working with the Department's Resident Engineer and utility company to resolve utility conflicts discovered during construction. If Construction Assistance is required, then a separate authorization for those services will be issued.

CERTIFICATION

This certification will include all necessary copies of correspondence and will be signed by a duly authorized representative of the firm. After certification, the project files will be forwarded to the appropriate MDOT Region/TSC Utilities/Permits Engineer. The Consultant will certify to the MDOT Region/TSC Utilities/Permits Engineer the following:

1. All utility work has been completed or that all arrangements have been made for it to be undertaken and completed as required for proper coordination with the projects construction schedule.
2. Plans were sent to all utility agencies, responses were received, and no utility relocation is required.

DEPARTMENT RESPONSIBILITIES

1. The MDOT Region/TSC Utilities/Permits Engineer or appropriate representative will notify the Consultant when to proceed with work by issuance of a work authorization. Work authorizations shall identify the project's location, scope, and required "due dates" to complete the utility coordination.
2. Provide a preliminary list of utility companies within the project limits. This list may not be 100% accurate and/or complete. The Consultant is responsible to identify all known and unknown utility facilities within the project limits.
3. Provide the Consultant with any appropriate Department form letters.

The Department shall have the authority to suspend the work, in full or in part, for such period or periods as may be deemed necessary due to conditions that are considered unfavorable work performance, or for the failure on the part of the Consultant to comply with any or all provisions of the contract. Such suspension shall be ordered in writing, giving in detail the reasons for the suspension.

ATTACHMENT H

DELETED

ATTACHMENT I

REAL ESTATE TASKS

These task descriptions should be used to complete this project only and are located on the MDOT Bulletin Board System under the D_CONSLT Library.

Consultants are encouraged to review and provide comment on the task descriptions.

ATTACHMENT J

CONSTRUCTION CRITICAL PATH NETWORKS

I. INTRODUCTION

The Consultant is required to submit a Construction Critical Path Network at various points in the design process. Refer to the following:

P/PMS TASK 3580 - DEVELOP PRELIMINARY PLANS

P/PMS TASK 3830 - COMPLETE THE CONSTRUCTION ZONE TRAFFIC CONTROL PLAN

P/PMS TASK 3840 - DEVELOP FINAL PLANS AND SPECIFICATIONS

Construction Critical Path Networks are often needed to develop the progress schedule for a project. They are required on any project designated to include an Incentive/Disincentive or Special Liquidated Damages clause. Construction Critical Path Networks are also recommended for projects with the following characteristics:

1. New construction.
2. Major reconstruction or rehabilitation on an existing roadway that will severely disrupt traffic.
3. Unique or experimental work.
4. More than one construction season.
5. Complex staging (multiple stages with traffic shifts).

As noted in MDOT's Construction and Technology Instructional Memorandum 1997-7, Progress Schedule Determinations/Critical Path Rates,

preparation of a Critical Path is a requirement on all Consultant-designed projects, regardless of the project type or complexity

The MDOT Resident Engineer assigned to the project should be consulted when developing Construction Critical Path Networks.

MDOT requires the precedence diagramming method. The Consultant will submit this network in MPX version 4.0.

II. NETWORK DEVELOPMENT

The network will be defined using the following steps.

1. Activity definition.
2. Activity sequencing.
3. Duration estimation.
4. Schedule development.

1. ACTIVITY DEFINITION

The Consultant will define the specific activities in enough detail so that the proper objectives will be met. The Consultant must identify assumptions (those factors considered true, real or certain). Supporting detail for the activities should be documented and organized as needed to simplify the review of the activities by MDOT personnel.

The Construction Critical Path Network must start with the **Letting Date** as the first activity and terminate with the **End of Project** as the finish activity.

A sufficient number of activities will be required with sufficient detail so that the controlling construction operation(s) may be identified. Notation on each activity shall include a brief work description and activity time duration.

2. ACTIVITY SEQUENCING

Activity sequencing involves identifying and documenting interactivity dependencies. The Consultant must sequence activities accurately to support later development of a realistic and achievable construction schedule. Two types of dependencies should be considered. Mandatory dependencies are inherent in the nature of the work being done, such as construction sequencing. Discretionary dependencies are based on a knowledge of the work to be done. Constraints are used to show how the activities relate to each. The Consultant must include documentation supporting all discretionary dependencies used in the project. All activities must lead to another activity. Only Start to Start, Finish to Finish and Finish to Start relationships will be allowed. All logic shall show how the given activity is dependent on its preceding activities.

3. DURATION ESTIMATION

After the Consultant has sequenced the activities, the Consultant should determine the activity duration. Activity duration estimating involves assessing the number of work periods likely to be needed to accomplish each activity. Duration (working days): No activity will have duration greater than 20 working days unless approved by the Engineer. Activities that will be allowed to exceed 20 working days include, but are not limited to, working drawing approvals or other activities not under the control of the Contractor. If requested by the Engineer, the Consultant shall explain the reasonableness

of activity time durations. The approved MDOT production rates will be used in estimating activity duration. These are available in the Supplemental Information section of this attachment. The Consultant must document and submit all assumptions made during the duration estimation to MDOT.

4. SCHEDULE DEVELOPMENT

The activity sequencing, duration estimations and the calendars are combined to create the construction schedule. During the development of the schedule the Consultant will verify:

1. The required schedule to build the project.
2. The constructability of the project.
3. If the maintaining traffic scheme will work.
4. If seasonal limitations will affect the construction.
5. Any other project specific considerations.

The MDOT Calendars will be used by the Consultant in developing the network. The calendars are based on a 4, 5 or 6 day work week. The MDOT Calendars are included in the Supplemental Information section of this attachment.

At this point there should be no negative float in the network. If there is, there is an error in the network and the error must be corrected before network submittal.

All summary tasks shall be removed prior to submittal to MDOT Project Manager

III. DELIVERABLES

After this final step the design Consultant will submit the finished CPM schedule to MDOT

1. Documents

- A. 11" x 17" PDF plot of the network. The critical path shall be clearly identified on the plot. A larger plot may be required for complex networks.
- B. Work Day / Completion Date Determination Worksheet.
- C. List of any other assumptions or controlling factors used in creating the network. For example, permit or maintaining traffic restrictions.

2. Electronic Format

This section sets the requirements for the electronic submittal of the Consultant's Construction Network. All networks shall be submitted on a 3.5 inch floppy disk (or via E-mail) using one of the following formats:

- A. **Standard Electronic Media Format:** This is a standard ASCII text file containing the data elements below, in the order specified. This file can be created using any text editor or word processing application (i.e., MS-Word, WordPerfect, Notepad, Write) but must be saved as an ASCII file.

The **first line** will provide a descriptive header describing the submittal and containing:

Control Section
Job Number
Route
Consultant name
Date of Submittal

The next line will be **blank**, followed by multiple data lines.

Each **data line** will contain one record pertaining to one task of the job. Separate data fields by a comma. Fields within each task line are as follows:

(Note that the term "task" is synonymous with "activity." Leave fields that are not required blank)

- (1) Task # (Job # followed by a hyphen followed by this task's unique 4 digit task number. This is the Preceding Event Activity Code)
- (2) Description of Task, Milestone or Hammock, blank if this record is a constraint
- (3) Calendar (see attached list)
- (4) Duration of task, blank for constraints
- (5) Task # of the next task (Succeeding Event) - leave blank if this record is not a constraint or hammock
- (6) Type of constraint (FS, SS, FF) - leave blank if this record is not a constraint.
- (7) Delay, if required
- (8) Original "Baseline" Start Date
- (9) Original "Baseline" Finish Date
- (10) Current (forecast) Start Date (early start)
- (11) Current (forecast) Finish Date (early finish)
- (12) Estimated completion date (if different from early start + current duration)
- (13) Late Start Date
- (14) Late Finish Date
- (15) Actual Start Date
- (16) Actual Finish Date

Example - each line contains the following:

Task # (preceding event), Description, Calendar, Duration, Next Task # (succeeding event), Constraint Type, Delay, Baseline Start, Baseline Finish, Early Start, Early Finish, Estimated Completion Date, Late Start, Late Finish, Actual Start, Actual Finish, Total Float.

- B. **Primavera Project Planner(P3) 2.0 Export Procedure:** Users who have Primavera Project Planner(P3) version 2.0 can automatically create an export file by following the export procedure below. **Users having an older version of Primavera may use the applications export feature only if they are able to include all the data elements listed in the version 2.0 format.**

1. Choose Tools, Project Utilities, **EXPORT**
2. Click **ADD**, then click **OK** to accept the next sequential ID number, or type a unique number to identify the specifications and click **OK**
3. Enter a description for the specification in the Title field
4. Specify data items to export

Activities

- Select **Contents of List**
- Use the Description column to specify which data items to export
- To add items, click the right mouse button in the Description column and choose from the list. Suggested Items include: **Activity ID, Activity Description, Actual Start, Actual Finish, Calendar ID, Early Start, Early Finish, Late Start, Late Finish, Original Duration.**
- Select **All Current, All Target, or All Target2**
- Set Description Length to 48

OR

Constraints

- Select **Successor relationships** - Choose this option to export Activity IDs and their corresponding successors only. Lags and relationship types will also be displayed in this output file.

5. Click **FORMAT** in Export Dialog Box
6. In the Output file section, enter a new name and path (ex. A:\actexp or A:\conexp). Do not include a file extension.
7. In the type field, click the minimize button and choose the **[.PRN]** - **ASCII** file format for the output file.
8. Select **CALENDAR** for Date Format
9. Set ASCII Output Field Separation to **1** and Blank column width to **0**
10. Click **RUN**
11. In the Output Options dialog box, click on **OK**

NOTE: A COMPLETED FILE EXPORT WILL CONSIST OF 2 EXPORT FILES (ACTIVITIES & CONSTRAINTS)

- C. **Microsoft Project Export Procedure:** Users of Microsoft Project Version 4.0 and above can create a Microsoft Project Exchange (MPX) file by following the procedure below.
1. Choose File, Save As from the main menu
 2. In the Save File as Type box Select **MPX 4.0**
 3. On the drive box select a: or whichever drive is the 3.5" Floppy drive
 4. Click on **OK**
- This saves the file in MPX format.
- D. **Primavera Sure Track:** Users of Sure Track Version 2.0 and above can create a Microsoft Project Exchange (MPX) file by following the procedure below.
1. Choose File, Save As from the main menu
 2. In the filename box input a filename
 3. In the Save File as Type box Select **MPX**
 4. On the drive box select a: or whichever drive is the 3.5" Floppy drive
 5. Click on **OK**
- This saves the file in MPX format
- E. **Scitor Project Scheduler 7 Export Procedure:** Users of Scitor Project Scheduler Version 7 and above can create a Microsoft Project Exchange (MPX) file by following the procedure below.
1. Choose File, Save As from the main menu
 2. In filename box select a filename
 3. In the Save File as Type box Select MPX
 4. On the drive box select a: or whichever drive is the 3.5" Floppy drive
 5. Click on **OK**
- This saves the file in MPX format
- F. **Export Files with Other Scheduling Applications:** Most scheduling packages have export functions similar to those described above. If the Consultant chooses to use packages with export capabilities, they shall include all items listed in the Standard Media Format in a text or ASCII type file.

IV. SUPPLEMENTAL INFORMATION

A. MDOT CRITICAL PATH-CONSTRUCTION TIME ESTIMATES

Drainage

Cross Culverts

Rural Highways	44 yd./day
Expressways	55 yd./day
Large Headwalls	5 days/unit
Slab or Box Culverts	5 days/pour
Plowed in Edge Drain (production type project)	4921 yd./day
Open Graded Underdrain (production type project)	1312 yd./day

Sewers

0m-5m(up to 60 in. (1500mm))	44 yd./day
0m-5m(over 60 in. (1500mm))	27 yd./day
5m-over(up to 60 in. (1500mm))	27 yd./day
5m-over(over 60 in. (1500mm))	22 yd./day
Jacked-in-place	14 yd./day
including excavation pit & set up	min. 5 days
Tunnels	
hand mining	9 yd./day
machine mining	22 yd./day
including excavation pit & set up	min. 5 days

Manholes

3 units/day

Catch Basin

4 units/day

Utilities

Water Main(up to 16 in. (400mm))	109 yd./day
Flushing, Testing & Chlorination	4 days
Water Main(20 in. (500mm) – 40 in. (1050mm))	27 yd./day
Flushing, Testing & Chlorination	5 days
Order & Deliver 24 in. (600 mm) HP Water Main	50 days/order
Gas Lines	109 yd./day

Earthwork and Grading

Embankment(CIP)

Metro Exp
1962 yd.³/day

Rural
6932 yd.³/day

Excavation and/or Embankment(Freeway)	1962 yd. ³ /day	12033 yd. ³ /day
Excavation and/or Embankment(Reconstruction)	981 yd. ³ /day	4970 yd. ³ /day
Embankment(Lightweight Fill)	392 yd. ³ /day	785 yd. ³ /day
Muck(Excavated Waste & Backfill)	1962 yd. ³ /day	
Excavation(Widening)	656 yd./day	
Grading(G & DS)	820 yd./day	
Subbase and Selected Subbase(up to 8 yd. (7.4m))	656 yd./day	
Subbase and Selected Subbase(8 yd. (7.4 m) & over)	492 yd./day	
Subgrade Undercut & Backfill	1962 yd. ³ /day	
Subbase & Open-Graded Drainage Course	492 yd./day	

Surfacing

Concrete Pavement (8 ft. (7.3m))	492 yd./day
Including Forming & Curing	min. 7 days
Bituminous Pavement (8 ft. (7.3m))	1312 yd./day/course
Concrete Ramps(5.6 yd. (4.9m))	328 yd./day
Including Forming & Curing	min. 7 days
Curb(1 side)	820 yd./day
Concrete Shoulder-Median	1435 yd. ² /day
Bituminous Shoulders(1 side per course)	820 yd./day
Sidewalk	215 yd. ² /day
Sidewalk(Patching)	78 yd. ² /day

Structures

Sheeting(Shallow)	33 yd./day
General Excavation at Bridge Site	981 yd. ³ /day
Excavation for Substructure(Footings)	1 unit/day
Piles(12m)	15 piles/day
Substructure(Piers & Abutments)	5 days/unit

Order and Delivery of Beams

Plate Girders	100-120 days/order
Rolled Beams	90-120

Concrete Beams	days/order
Erection of Structural Steel	50 days/order
Bridge Decks	3 days/span
Form & Place Reinforcement(66 yd. (60m) Structure)	15 days
Pour Deck Slab(1 1/5 days/pour)	2 days/span
Cure	14 days
2 Course Bridge Decks	
Add 9 days for Second Course Latex	
Add 12 days for Second Course Low Slump	
Sidewalks and Railings	
Sidewalks and Parapets	5 days/span
Slip Formed Barriers	2 days/span
Clean Up	10 days
Pedestrian Fencing	
Shop Plan Approval & Fabrication	1-2 months
Erection	1 week/bridge
Rip Rap Placement	
Bucket Dumped	504 yd. ³ /day
Bucket Dumped and Hand Finished	171 - 684 yd. ³ /day
Retaining Walls	1 Panel/day min. 10 days
Railroad Structures	
Grade Temporary Runaround	981 yd. ³ /day
Ballast, Ties & Track	55 yd./day
Place Deck Plates	5 days/span
Waterproof, Shotcrete & Mastic	5 days/span
Railroad Crossing Reconstruction	10-15 work days
(depends on whether concrete base is involved)	
Temporary Railroad Structures	
Order & Deliver Steel	55 days/order
Erect Steel	1 day/span
Ties and Track	3 days/span

Pumphouse

Structure	30 days/structure
Order & Deliver Electrical & Mechanical Equipment	90 days
Install Electrical & Mechanical Equipment	30 days

Miscellaneous

Removing Old Pavement	66 yd./day
Removing Old Pavement for Recycling(8 yd. (7.3m))	492 yd./day
Crushing Old Concrete for 6A or OGDC	1485 tons/day
Removing Trees(Urban)	15 units/day
Removing Trees(Rural)	30 units/day
Removing Concrete Pavement	538 yd. ² /day
Removing Sidewalk	299 yd. ² /day
Removing Curb & Gutter	492 yd./day
Removing Bituminous Surface	1914 yd. ² /day
Conditioning Aggregate	984 yd./day
Bituminous Base Stabilizing	2990 yd. ² /day
Ditching	656 yd./day
Trenching for Shoulders	820 yd./day
Station Grading	667 yd./day
Clearing	9568 yd. ² /day
Restoration(Topsoil, Seeding, Fertilizer & Mulch)	1973 yd. ² /day
Sodding	2512 yd. ² /day
Seeding	47840 yd. ² /day
Guard Rail	252 yd./day
Fence(Woven Wire)	394 yd./day
Fence(Chain Link)	164 yd./day
Clean Up	656 yd./day
Concrete Median Barrier	328 yd./day
Cure	min. 7 days
Reroute Traffic(Add 4 days if 1st item)	1 day/move
Concrete Glare Screen	492 yd./day
Light Foundations	6 units/day
Order & Delivery	6-8 week/order

Remove Railing & Replace with Barrier(1 or 2 decks at a time)	4 days/side
Longitudinal Joint Repair	1750 yd./day
Crack Sealing	5249 yd./day
Joint and Crack Sealing	547 yd./day
Repairing Pavement Joints - Detail 7 or 8	219 yd./day
Seal Coat	6999 lane yd./day
Diamond Grinding/Profile Texturing Concrete	3947 yd. ² /day
Rest Area Building	
Order Material	3 months
Construct Building	9 months
Tower Lights	
Order and Deliver Towers	100 days
Weigh-In-Motion	
Order and Deliver Materials	1 month-6weeks
O & D with Installation	3 months
Raised Pavement Markers	300 each/day
Attenuators	2 each/day
Shoulder Corrugations, Ground or Cut	5 - 6 mi./side/day
Aggregate Base	3468 yd. ² /day
Aggregate Shoulders	458 yd. ³ /day
Freeway Signing - 3# Post Type	50 signs/day
Concrete Joint Repair (High Production-Projects with > 1000 patches)	
Average(2 yd. (1.8m))	50 patches/day
Large(>2 yd. (1.8m))	598 yd. ² /day
Bridge Painting	108 yd. ² /day
Pin and Hanger Replacement	3 beams/day
Order Pin & Hanger	60 days
Bridge Repair	
Scarifying(Including Clean up)	11960 yd. ² /day
Joint Removal(Including Clean up)	4 yd./day
Forming & Placement	3.8 yd./day
Hydro-Demolishing	328 yd./day

Barrier Removal	16 yd./day
Placement	49 yd./day
Hand Chipping (Other than Deck)	0.31 yd. ³ /person/day
Shoulder Corrugations, Ground or Cut	5 - 6 mi./side/day
Casting Latex Overlay	273 yd./day
Curing Overlay	
Regular	4 days
High Early	1 day
Thrie Beam Retrofit	33 yd./day
Beam End Repairs	
Welded Repairs	.75 days/repair
Bolted Repairs	.50 days/repair
Bolted Stiffeners (Pair)	.25 days/repair
Grind Beam Ends	.25 days/repair
Welded Stiffeners (Pair)	.25 days/repair
H-Pedestal Repairs:	
Welded Repair	.50 days/each
Replacement	1 day/each
Deck Removal	281 yd. ² /day

Surfacing-Bituminous

Metro-Primary(<(19800 tons (18000mtons))	
Paving	594 tons/day
Joints	164 yd./day
Cold Milling	4066 yd. ² /day
Aggregate Shoulders	990 tons/day
Metro Primary(>(19800 tons (18000mtons))	
Paving	594 tons/day
Joints	219 yd./day
Cold Milling	8970 yd. ² /day
Metro Interstate(>(19800 tons (18000mtons))	
Paving	1210 tons/day
Joints	394 yd./day
Aggregate Shoulders	990 tons/day
Urban Primary(<(19800 tons (18000mtons))	
Paving	704 tons/day
Joints	109 yd./day

Cold Milling	2033 yd. ² /day
Rubblizing	2033 yd. ² /day
Aggregate Shoulders	495 tons/day
Urban Primary(>(19800 tons (18000mtons))	
Paving	1100 tons/day
Joints	131 yd./day
Cold Milling	2033 yd. ² /day
Aggregate Shoulders	550 tons/day
Urban Interstate(>(19800 tons (18000mtons))	
Paving	1320 tons/day
Joints	241 yd./day
Cold Milling	2033 yd. ² /day
Rubblizing	6937 yd. ² /day
Aggregate Shoulders	704 tons/day
Rural Primary(<(19800 tons (18000mtons))	
Paving	704 tons/day
Joints	131 yd./day
Cold Milling	649 tons/day
Crush & Shape	11960 yd. ² /day
Aggregate Shoulders	704 tons/day
Rural Primary(>(19800 tons (18000mtons))	
Paving	1210 tons/day
Joints	164 yd./day
Cold Milling	880 tons/day
Crush & Shape	11960 yd. ² /day
Rural Interstate(>(19800 tons (18000mtons))	
Paving	1329 tons/day
Joints	214 yd./day

B. WORKSHEET

WORK DAY/COMPLETION DATE DETERMINATION

CS: JN:

DESCRIPTION OF WORK: _____

MAJOR WORK ITEM	PRODUCTION QUANTITY	RATE	ESTIMATED TIME
--------------------	------------------------	------	-------------------

This image shows a blank sheet of white paper with horizontal ruling lines. The lines are evenly spaced and run across the width of the page. There are no margins, text, or other markings on the paper.

TOTAL ESTIMATED TIME:

COMPLETION DATE: _____ (Calendar Days or Work Days)

COMMENTS:

C. MDOT CALENDARS

The following are the MDOT 4, 5 and 6 day calendars:

CALENDAR	DESCRIPTION	START	FINISH
1	Std - Apr 16 - Nov 15 - 4 day	APR 16	NOV 15
2	LP - Bit Stab - 4 day	MAY 15	OCT 15
3	UP - Bit Stab - 4 day	JUN 01	OCT 01
4	LP S of M-46 - Bit Pave - 4 day	MAY 05	NOV 15
5	LP N of M-46 - Bit Pave - 4 day	MAY 15	NOV 01
6	UP - Bit Pave - 4 day	JUN 01	OCT 15
7	LP - Bit Seal Coat - 4 day	JUN 01	SEP 15
8	UP - Bit Seal Coat - 4 day	JUN 15	SEP 01
9	Tree Planting - Deciduous - 4 day	MAR 01 OCT 01	MAY 15 NOV 15
10	Tree Planting - Evergreen - 4 day	MAR 01	JUN 01
11	South LP - Restoration - 4 day	MAY 01	OCT 10
12	North LP - Restoration - 4 day	MAY 01	OCT 01
13	UP - Restoration - 4 day	MAY 01	SEP 20
14	Full Year - Winter Work - 4 day	JAN 01	DEC 31
21	Std - Apr 16 - Nov 15 - 5 day	APR 16	NOV 15
22	LP - Bit Stab - 5 day	MAY 15	OCT 15
23	UP - Bit Stab - 5 day	JUN 01	OCT 01
24	LP S of M-46 - Bit Pave - 5 day	MAY 05	NOV 15
25	LP N of M-46 - Bit Pave - 5 day	MAY 15	NOV 01
26	UP - Bit Pave - 5 day	JUN 01	OCT 15
27	LP - Bit Seal Coat - 5 day	JUN 01	SEP 15
28	UP - Bit Seal Coat - 5 day	JUN 15	SEP 01
29	Tree Planting - Deciduous - 5 day	MAR 01 OCT 01	MAY 01 NOV 15
30	Tree Planting - Evergreen - 5 day	MAR 01	JUN 01

31	South LP - Restoration - 5 day	MAY 01	OCT 10
32	North LP - Restoration - 5 day	MAY 01	OCT 01
33	UP - Restoration - 5 day	MAY 01	SEP 20
34	Full Year - Winter Work - 5 day	JAN 01	DEC 31
35	Full Year - Expedited - 6 day	JAN 01	DEC 31

ATTACHMENT K

MONTHLY PROGRESS REPORTS

The first two pages of this attachment are the necessary layout of the Monthly progress reports and the last three pages are a completed example.

Control Section 00000
Job Number 00000C
Structure Number S02
Date 00/00/00

MONTHLY PROGRESS REPORT

- A. Work accomplished during the previous month.
- B. Anticipated work items for the upcoming month.
- C. Real or anticipated problems on the project.
- D. Update of previously approved detailed project schedule (attached), including explanations for any delays or changes.
- E. Items needed from MDOT.
- F. Copy of Verbal Contact Records for the period (attached).

Structure Number - Control Section - Job Number
Route, Location Description
Design Schedule as of 00/00/00

**LIST TASKS, SUBMITTALS, APPROVALS AND MEETINGS AS OUTLINED IN
SCOPE OF DESIGN SERVICES AS NEEDED. THIS LIST IS JUST AN EXAMPLE.**

Original Authorized Start Date	Original Authorized Finish Date	(Anticipated) or Actual Start Dates	(Anticipated) or Actual Finish Dates	Task	Task Description
00/00/00	00/00/00	00/00/00	00/00/00	*	Initial project meeting.
00/00/00	00/00/00	00/00/00	00/00/00	3330	Conduct Design Survey
00/00/00	00/00/00	00/00/00	00/00/00	3360	Prepare Base Plans
00/00/00	00/00/00	00/00/00	00/00/00		Submit Base Plans
00/00/00	00/00/00	00/00/00	00/00/00	3580	Develop Preliminary Plans
00/00/00	00/00/00	00/00/00	00/00/00	3390	Develop Construction Zone Traffic Control Concepts
00/00/00	00/00/00	00/00/00	00/00/00	3540	Develop Construction Zone Traffic Control Plan
00/00/00	(00/00/00)	00/00/00	00/00/00	3550	Develop Preliminary Traffic Operations Plan
00/00/00	(00/00/00)	00/00/00	00/00/00	3351	Review & Submit of Preliminary Right-Of-Way Plans
00/00/00	(00/00/00)	00/00/00	00/00/00		Submittal of The Plan Review Package
00/00/00	(00/00/00)	00/00/00	00/00/00		Completion of the Plan Review Meeting
00/00/00	(00/00/00)	00/00/00	00/00/00	3840	Develop Final Plans and Specifications
00/00/00	(00/00/00)	00/00/00	00/00/00		Submittal of final plans/proposal package to MDOT for final review.
00/00/00	00/00/00	00/00/00	00/00/00	3870	Omissions/Errors Check (OEC) Meeting
00/00/00	00/00/00	00/00/00	00/00/00		Consultant's Plan Completion: Final Construction Plan/Proposal package with recommendations incorporated to MDOT (two weeks after OEC Meeting)
00/00/00	00/00/00	00/00/00	00/00/00		Final Deliverables to MDOT

SAMPLE

Control Section 12345
Job Number 11111C
Structure Number S02
Date 00/00/00

MONTHLY PROGRESS REPORT

- A. Work accomplished during the previous month.
 - 1. During the last month we completed the Final Right of Way plans and submitted them to PM on 00/00/00.
- B. Anticipated work items for the upcoming month.
 - 1. Submit the Preliminary Plans and related material on 00/00/00.
 - 2. Attend the meeting regarding the Ameritech lines on the bridge, scheduled for 00/00/00.
- C. Real or anticipated problems on the project.
 - 1. We foresee no problems at this time.
- D. Update of previously approved detailed project schedule (attached), including explanations for any delays or changes.
 - 1. The design is falling behind schedule because we had problems resolving the geometries of the ramps in relation to the bridge. The Preliminary Plan submittal will be the only task affected by this delay because we will make up the lost time prior to submitting the Final Plans and Specifications.
- E. Items needed from MDOT.
 - 1. Prior to final Plan submittal we will need the latest Special provision and Supplemental Specification checklist.
- F. Copy of Verbal Contact Records for the period (attached).
 - 1. Discussed bridge and ramp geometries with engineer of MDOT Traffic and Safety Division on 00-00-00.

SN: S02 - CS: 12345 - JN: 1111C
M-111, from There Village Limits to north of That Road
Design Schedule as of 00/00/00

Original Authorized Start Date	Original Authorized Finish Date	(Anticipated) or Actual Start Dates	(Anticipated) or Actual Finish Dates	Task	Task Description
01/12/95	01/12/95	01/12/95	01/12/95*		Initial project meeting.
01/29/95	01/29/95	01/30/95	01/30/95 3330		Conduct Design Survey.
02/17/95	04/10/95	02/17/95	04/20/95 3360		Prepare Base Plans.
02/29/95	02/29/95	02/29/95	02/29/95 3390		Develop the Construction Zone Traffic Control Concepts
03/12/95	03/13/95	03/12/95	(03/30/95)	3540	Develop Construction Zone Traffic Control Plan
03/20/95	03/19/95	03/25/95	(03/30/95)	3551	Develop/Review Preliminary Traffic Signal Plan
07/01/95	07/01/95	(07/01/95)	(07/01/95)	3590	The Plan Review Meeting
07/11/95	08/11/95	(07/11/95)	(08/11/95)	3821	Complete/Review Traffic Signal Plan
09/15/95	09/15/95	(09/15/95)	(09/15/95)	3830	Complete Construction Zone Traffic Control Plan.
09/16/95	09/16/95	(09/16/95)	(09/16/95)	3840	Develop Final Plans and Specifications
09/25/95	09/23/95	(09/25/95)	(09/25/95)	3870	Omissions/Errors Check (OEC) Meeting

VERBAL CONTACT RECORD

Control Section 12345

Job Number 11111C

Structure Number S02

Date 00/00/00

Joe Engineer talked to Tom Myers and decided to use a 0.05'/ft super on ramp A leading into the bridge.