

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

MDOT PROJECT MANAGER Jon Sytsma		JOB NUMBER (JN) 110524&110581	CONTROL SECTION (CS) 39022
DESCRIPTION EPE Design services for project development studies to prepare analysis of alternative design concepts for an interchange			
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			
<input type="checkbox"/> TIER I (\$25,000-\$99,999)	<input type="checkbox"/> TIER II (\$100,000-\$250,000)	<input checked="" type="checkbox"/> TIER III (>\$250,000)	
<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Understanding of Service
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<i>Innovations</i>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<i>Safety Program</i>
N/A	<input type="checkbox"/>	<input type="checkbox"/>	Organizational Chart
<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Qualifications of Team
<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	Past Performance
Not required As part of Official RFP	Not required As part of Official RFP	<input type="checkbox"/>	Quality Assurance/Quality Control
<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	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	<input type="checkbox"/>	Presentation
N/A	N/A	<input type="checkbox"/>	Technical Proposal (if Presentation is required)
3 pages (MDOT Forms not counted) (No Resumes)	7 pages (MDOT Forms not counted)	19 pages (MDOT Forms not counted)	Total maximum pages for RFP not including key personnel resumes

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 _____ THROUGH _____

<input checked="" type="checkbox"/> Prequalified Services – See page <u>1</u> of the attached Scope of Services for required Prequalification Classifications.	<input type="checkbox"/> Non-Prequalified Services - If selected, the vendor must make sure that current financial information, including labor rates, overhead computations, and financial statements, if overhead is not audited, is on file with MDOT's Office of Commission Audits. This information must be on file for the prime vendor and all sub vendors so that the contract will not be delayed. (Form 5100J Required with Proposal)
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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 3	PROPOSAL/BID DUE DATE 11/9/10	TIME DUE 3:00 p.m.
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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

Jon Sytsma, P.E.
Kalamazoo TSC
5372 South 9th Street
Kalamazoo, MI 49009

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

The following two American Recovery and Reinvestment Act of 2009 (ARRA) notifications, **ARRA MONTHLY EMPLOYMENT REPORTS** and **REQUIRED CONTRACT PROVISIONS TO IMPLEMENT AMERICAN RECOVERY AND REINVESTMENT ACT (ARRA) SECTIONS 902 AND 1515**, are attached to this Request For Proposal for your understanding. These two notifications are only applicable for those projects/contracts funded with ARRA funds and will be included in contract Exhibits.

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
5100J - Consultant Data and Signature Sheet (Required only for Non-Prequalified Work)

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

Michigan Department of Transportation

SCOPE OF SERVICE FOR DESIGN SERVICES Early Preliminary Engineering

CONTROL SECTION(S): 39022

JOB NUMBER(S): 110524C & 110581C

PROJECT LOCATION:

The project is located on I-94 from east of Sprinkle Road to the I-94BL in the city of Kalamazoo, Cork Street Ct. to Business One Drive on E. Cork Street, and on Sprinkle Road from Cork Street to Vanrick Drive in the city of Kalamazoo.

The project length is 2.367 miles on I-94, 0.72 miles on E. Cork Street, and 0.447 miles on Sprinkle Road.

PROJECT DESCRIPTION:

Work involved in the design of the project consists of:

- Analyzing current traffic operations of existing interchange utilizing MDOT supplied traffic counts and appropriate modeling software for existing and future traffic
- Preparing alternate interchange design concepts utilizing MDOT supplied traffic counts for existing and future traffic
- Analysis of alternate interchange design concepts with appropriate modeling software
- Early preliminary design of horizontal and vertical geometrics of selected alternate interchange designs
- Preparation of cost estimates for alternate interchange designs
- Preparation of cost estimates for structure replacement options of Sprinkle Road over I-94 (S04 of 39022)
- Preparation of cost estimates for structure replacement options of Cork Street over I-94 (S10 of 39022)
- Preparation of completed scoping checklist.

ANTICIPATED SERVICE START DATE: 01/03/2011

ANTICIPATED SERVICE COMPLETION DATE: 12/03/2011

PRIMARY PREQUALIFICATION CLASSIFICATION(S):

Project Development Studies

SECONDARY PREQUALIFICATION CLASSIFICATION(S):

Complex Urban Freeway Design

Environmental Assessment and Impact Statements – Surface Transportation

Traffic Capacity Analysis and Geometric Studies

Simple Traffic Signal Operations

Short and Medium Span Bridges

Right of Way Surveys

Road Design Surveys

DBE REQUIREMENT: 5%

MDOT PROJECT ENGINEER MANAGER:

Jon Sytsma, Cost & Scheduling Engineer

Kalamazoo TSC

5372 South 9th Street

(269) 375-8710

(269) 544-0080 Fax

sytsmaj@michigan.gov

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.

CONSULTANT RESPONSIBILITIES:

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

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

Meet with the MDOT Project Manager to review project, location of data sources and contact persons, and review relevant MDOT operations. The Consultant shall review and clarify project issues, data needs and availability,

and the sequence of events and team meetings that are essential to complete the design by the project plan completion date.

- A. Prepare required plans, typical cross-sections, details, and specifications, and exhibits required for evaluation of interchange and structure alternatives.
- B. Compute and verify all plan quantities.
- C. The Consultant shall identify the locations and any associated conflicts of any water main and/or sanitary sewer on the project. 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 the Design Engineer – Municipal Utilities, Design Division for review and concurrence. A copy of the report shall be sent to the Project Manager.
- D. Identify all utility conflicts and provide a utility conflict matrix for all utilities in the project limits. This also includes preparing cost sharing comparisons and related costing alternative calculations.
- E. Identify any design exception requests for road and/or bridge issues (i.e. transition rates, SSD, shoulder widths, under clearance, etc.).
- F. Identify right of way impacts of interchange designs as necessary.
- G. Prepare preliminary hydraulic report and identify potential areas for storm water detention if required.
- H. Provide solutions to any unique problems that may arise.
- I. Maintain a Project Record which includes a history of significant events (changes, comments, etc.) which influenced the development of the concepts, dates of submittals and receipt of information.
- J. 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.
- K. The Consultant will provide to MDOT at the scheduled submittal dates, electronic copies of the required specifications and materials and exhibits in Adobe PDF format for distribution by MDOT for all reviews for this project.

- L. The Consultant shall provide cost estimates at the scheduled submittal dates.
- M. Attend any project-related meetings as directed by the MDOT Project Manager. These meetings will include but are not limited to pre-price proposal meeting, kickoff meeting, initial alternative selection meeting, and final alternative selection meeting. Meetings may require the preparation of displays such as maps, marked-up plans, etc.
- N. 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.
- O. 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.
- P. 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.
- Q. The Consultant may be required to provide Design Services for an environmental assessment and an interstate access justification report during a later phase of this project. If additional design services are required, then a separate authorization for those services will be issued.

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.

TRAFFIC CONTROL

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

MDOT PERMITS

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.

MONTHLY PROGRESS REPORT

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

MDOT RESPONSIBILITIES:

- . Schedule and/or conduct any project related meetings.
- . Furnish all required traffic data for existing and future year.
- . Furnish safety analysis of existing interchange.
- . Furnish prints of an example of a similar project and old plans of the area, if available.
- . Furnish pertinent reference materials.
- . Prepare utility request.
- . MDOT will supply the Consultant with the ground survey mapping; the Consultant will be responsible for notifying MDOT of any additional survey pick up necessary to complete the design of this project. **Additional survey if needed will be performed by MDOT.**
- . Supply a preliminary project pavement design for cost alternatives.

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.

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 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.

The project construction, removal and profile sheets will require a ratio (scale) of **1:40 (English Units)**.

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. Typical Cross-Sections.
- B. Construction staging and traffic control concepts.

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

PROJECT SCHEDULE:

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

	MDOT PRECONSTRUCTION TASKS CONSULTANT CHECKLIST	
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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 (mm/dd/yyyy)
YES	NO		
		<u>EPE SCOPING ANALYSIS</u>	
<input type="checkbox"/>	X	2120 Prepare Traffic Analysis Report	_/_/____
<input type="checkbox"/>	X	2130 Prepare Project Justification	_/_/____
<input type="checkbox"/>	X	<i><u>213M Concurrence by Regulatory Agencies with the Purpose and Need</u></i>	_/_/____
X	<input type="checkbox"/>	2140 Develop and Review Illustrative Alternatives	_/_/____
<input type="checkbox"/>	X	2155 Request/Perform Safety Analysis	_/_/____
<input type="checkbox"/>	X	2160 Prepare and Review EIS Scoping Document	_/_/____
X	<input type="checkbox"/>	<i><u>211M Public Information Meeting</u></i>	_/_/____
		<u>EPE DRAFT ANALYSIS</u>	
<input type="checkbox"/>	X	2310 Conduct Technical SEE Studies	_/_/____
<input type="checkbox"/>	X	2321 Prepare for Aerial Photography	_/_/____
<input type="checkbox"/>	X	2322 Finish/Print Aerial Photography	_/_/____
<input type="checkbox"/>	X	2330 Collect EPE Geotechnical Data	_/_/____
<input type="checkbox"/>	X	2340 Develop and Review Practical Alternatives	_/_/____
<input type="checkbox"/>	X	<i><u>233M Aerial Photography Flight</u></i>	_/_/____
<input type="checkbox"/>	X	2360 Prepare and Review EA or DEIS	_/_/____
<input type="checkbox"/>	X	<i><u>231M Draft Submission to FHWA</u></i>	_/_/____
<input type="checkbox"/>	X	2380 Circulate EA or DEIS	_/_/____
<input type="checkbox"/>	X	<i><u>232M Public Hearing</u></i>	_/_/____
		<u>EPE FINAL ANALYSIS</u>	
<input type="checkbox"/>	X	2510 Determine and Review Recommended Alternative	_/_/____
<input type="checkbox"/>	X	<i><u>250M Concurrence by Regulatory Agencies with Recommended Alternatives</u></i>	_/_/____
<input type="checkbox"/>	X	2525 Prepare and Review Engineering Report	_/_/____
<input type="checkbox"/>	X	2530 Prepare and Review Request for FONSI or FEIS	_/_/____
<input type="checkbox"/>	X	<i><u>252M Final Submission to FHWA</u></i>	_/_/____
<input type="checkbox"/>	X	2550 Obtain FONSI or ROD	_/_/____
		<u>CONTAMINATION INVESTIGATION</u>	
<input type="checkbox"/>	X	2810 Project Area Contamination Survey (PCS)	_/_/____
<input type="checkbox"/>	X	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
YES	NO		(mm/dd/yyyy)
		<u>DESIGN SCOPE VERIFICATION AND BASE PLAN PREPARATION</u>	
<input type="checkbox"/>	X	3130 Verify Design Scope of Work and Cost	_/_/____
<input type="checkbox"/>	X	3310 Prepare Aerial Topographic Mapping	_/_/____
<input type="checkbox"/>	X	3320 Conduct Photogrammetric Control Survey	_/_/____
<input type="checkbox"/>	X	3321 Set Aerial Photo Targets	_/_/____
X	<input type="checkbox"/>	3330 Conduct Design Survey	_/_/____
<input type="checkbox"/>	X	3340 Conduct Structure Survey	_/_/____
<input type="checkbox"/>	X	3350 Conduct Hydraulics Survey	_/_/____
X	<input type="checkbox"/>	3360 Prepare Base Plans	_/_/____
<input type="checkbox"/>	X	<i>331M Utility Notification</i>	_/_/____
<input type="checkbox"/>	X	3361 Review and Submit Preliminary ROW Plans	_/_/____
<input type="checkbox"/>	X	<i>331M Preliminary ROW Plans Distributed</i>	_/_/____
X	<input type="checkbox"/>	3370 Prepare Structure Study	_/_/____
<input type="checkbox"/>	X	3375 Conduct Value Engineering Study	_/_/____
<input type="checkbox"/>	X	3380 Review Base Plans	_/_/____
<input type="checkbox"/>	X	<i>332M Base Plan Review (Pre-GI Inspection)</i>	_/_/____
<input type="checkbox"/>	X	3390 Develop the Maintaining Traffic Concepts	_/_/____
		<u>PRELIMINARY PLANS PREPARATION</u>	
<input type="checkbox"/>	X	3510 Perform Roadway Geotechnical Investigation	_/_/____
<input type="checkbox"/>	X	3520 Conduct Hydraulic/Hydrologic and Scour Analysis	_/_/____
X	<input type="checkbox"/>	3522 Conduct Drainage Study, Storm Sewer Design, and use Structural Best Management Practices	_/_/____
<input type="checkbox"/>	X	3530 Conduct Structure Foundation Investigation	_/_/____
<input type="checkbox"/>	X	3535 Conduct Structure Review for Architectural and Aesthetic Improvements	_/_/____
<input type="checkbox"/>	X	3540 Develop the Maintaining Traffic Plan	_/_/____
<input type="checkbox"/>	X	3551 Prepare/Review Preliminary Traffic Signal Design Plan	_/_/____
<input type="checkbox"/>	X	3552 Develop Preliminary Pavement Marking Plan	_/_/____
<input type="checkbox"/>	X	3553 Develop Preliminary Non-Freeway Signing Plan	_/_/____
<input type="checkbox"/>	X	3554 Develop Preliminary Freeway Signing Plan	_/_/____
<input type="checkbox"/>	X	3555 Prepare/Review Preliminary Traffic Signal Operations	_/_/____
<input type="checkbox"/>	X	3570 Prepare Preliminary Structure Plans	_/_/____
<input type="checkbox"/>	X	3580 Develop Preliminary Plans	_/_/____
<input type="checkbox"/>	X	3581 Review and Submit Final ROW Plans	_/_/____
<input type="checkbox"/>	X	<i>351M Final ROW Plans Distributed</i>	_/_/____
<input type="checkbox"/>	X	3590 Review Preliminary Plans (Hold Plan Review Meeting)	_/_/____

MDOT PRECONSTRUCTION TASKS CONSULTANT CHECKLIST
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PRELIMINARY ENGINEERING - DESIGN (cont'd)

		P/PMS TASK NUMBER AND DESCRIPTION	DATE TO BE COMPLETED BY
YES	NO		(mm/dd/yyyy)
		UTILITIES	
<input checked="" type="checkbox"/>	<input type="checkbox"/>	3610 Compile Utility Information	__/__/__
<input type="checkbox"/>	<input checked="" type="checkbox"/>	3650 Coordinate RR Involvement for Grade Separations	__/__/__
<input type="checkbox"/>	<input checked="" type="checkbox"/>	3655 Coordinate RR Involvement for At-Grade Crossings	__/__/__
<input type="checkbox"/>	<input checked="" type="checkbox"/>	3660 Resolve Utility Issues	__/__/__
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<i>360M Utility Conflict Resolution Plan Distribution</i>	__/__/__
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<i>361M Utility Meeting</i>	__/__/__
<input type="checkbox"/>	<input checked="" type="checkbox"/>	3670 Develop Municipal Utility Plans	__/__/__
<input type="checkbox"/>	<input checked="" type="checkbox"/>	3672 Develop Special Drainage Structures Plans	__/__/__
<input type="checkbox"/>	<input checked="" type="checkbox"/>	3675 Develop Electrical Plans	__/__/__
		MITIGATION/PERMITS	
<input type="checkbox"/>	<input checked="" type="checkbox"/>	3710 Develop Required Mitigation	__/__/__
<input type="checkbox"/>	<input checked="" type="checkbox"/>	3720 Assemble Environmental Permit Applications	__/__/__
<input type="checkbox"/>	<input checked="" type="checkbox"/>	3730 Obtain Environmental Permit	__/__/__
		FINAL PLAN PREPARATION	
<input type="checkbox"/>	<input checked="" type="checkbox"/>	3821 Prepare/Review Final Traffic Signal Design Plan	__/__/__
<input type="checkbox"/>	<input checked="" type="checkbox"/>	3822 Complete Permanent Pavement Marking Plan	__/__/__
<input type="checkbox"/>	<input checked="" type="checkbox"/>	3823 Complete Non-Freeway Signing Plan	__/__/__
<input type="checkbox"/>	<input checked="" type="checkbox"/>	3824 Complete Freeway Signing Plan	__/__/__
<input type="checkbox"/>	<input checked="" type="checkbox"/>	3825 Prepare/Review Final Traffic Signal Operations	__/__/__
<input type="checkbox"/>	<input checked="" type="checkbox"/>	3830 Complete the Maintaining Traffic Plan	__/__/__
<input type="checkbox"/>	<input checked="" type="checkbox"/>	3840 Develop Final Plans and Specifications	__/__/__
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<i>380M Plan Completion</i>	__/__/__
<input type="checkbox"/>	<input checked="" type="checkbox"/>	3850 Develop Structure Final Plans and Specifications	__/__/__
<input type="checkbox"/>	<input checked="" type="checkbox"/>	3870 Hold Omissions/Errors Check (OEC) Meeting	__/__/__
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<i>387M Omissions/Errors Checks Meeting</i>	__/__/__
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<i>389M Plan Turn-In</i>	__/__/__
<input type="checkbox"/>	<input checked="" type="checkbox"/>	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>	
<input type="checkbox"/>	X	4120 Obtain Preliminary Title Commitments	_/_/____
<input type="checkbox"/>	X	4130 Prepare Marked Final Right Of Way Plans	_/_/____
<input type="checkbox"/>	X	<i>413M Approved Marked Final ROW</i>	_/_/____
<input type="checkbox"/>	X	4140 Prepare Property Legal Instruments	_/_/____
		<u>ROW ACQUISITION</u>	
<input type="checkbox"/>	X	4411 Preliminary Interviews	_/_/____
<input type="checkbox"/>	X	<i>441M Post-Decision Meeting</i>	_/_/____
<input type="checkbox"/>	X	4412 Real Estate Services Assignment Proposal and Fee Estimate (Form 633s) for Appraisal Work Authorization	_/_/____
<input type="checkbox"/>	X	4413 Appraisal Reports	_/_/____
<input type="checkbox"/>	X	4420 Appraisal Review Reports	_/_/____
<input type="checkbox"/>	X	4430 Acquire Right Of Way Parcels	_/_/____
<input type="checkbox"/>	X	4510 Conduct Right Of Way Survey & Staking	_/_/____
		<u>ROW RELOCATION</u>	
<input type="checkbox"/>	X	4710 Relocation Assistance	_/_/____
<input type="checkbox"/>	X	4720 Prepare Improvement Removal Plan	_/_/____
<input type="checkbox"/>	X	<i>442M ROW Certification</i>	_/_/____

FOR YOUR INFORMATION

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

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

Dennis Kelley: (517) 373-4614

Tonya Nobach: (517) 335-1927

CONSULTANT PAYMENT – Actual Cost Plus Fixed Fee:

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

All billings for services must be directed to the Department and follow the current guidelines. The latest copy of the "Professional Engineering Service Reimbursement Guidelines for Bureau of Highways" is available on MDOT's website. This document contains instructions and forms that must be followed and used for billing. Payment may be delayed or decreased if the instructions are not followed.

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

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

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

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

ATTACHMENT A

SURVEY SCOPE OF WORK

MAPPING LIMITS: A PORTFOLIO as outlined in this section IS REQUIRED.

NOTES: The Consultant shall discuss the scope of this survey with the MDOT Project Manager/Region Surveyor before submitting a PRICE proposal.

Jon Sytsma, MDOT engineering project manager at the Kalamazoo TSC at (269) 375-8710 or sytsmaj@michigan.gov

Erik J. Schneppe, PS, Region Surveyor, survey project manager at the Southwest Region office at 269-337-3922 or schneppe@michigan.gov

The Consultant surveyor must contact the Region Traffic and Safety Engineer for work restrictions and traffic control in the project area prior to submitting a proposal.

A **detailed Survey Work Plan** showing timeframe with a **spreadsheet estimate** of hours by specific survey task such as DTM creation, traversing, leveling, mapping, etc., **must** be included in the project PRICE 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.

BI-WEEKLY PROGRESS REPORT

Every two weeks the Consultant shall submit a project progress report to the Region surveyor. The progress report shall address the following items:

1. Work accomplished during the previous weeks.
 2. Anticipated work and goals for the coming weeks.
 3. Real problems which occurred during the weeks, and anticipated problems for the coming weeks.
 4. Any updates on the project schedule including explanations for any delays or changes in schedule, scope, or work plan.
 5. Any early reviews or submittals such as adjustments, computations, or alignment.
- For this project the timeline is critical. It is important to meet the proposed schedule as listed above.
6. Copy of Verbal Contact Records for the period giving details for the item discussed and date.

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, Bridge, Hydraulic, Right-of-Way, Ground Control (Photogrammetric), and/or Geodetic control, must be completed by a survey firm which is pre-qualified by MDOT.
 4. Surveys must meet all requirements of the Michigan Department of Transportation (MDOT) Design Surveys *Standards of Practice* dated March, 2009. Please contact the Design Survey office to clarify any specific questions regarding these standards.
 5. The Consultant is responsible for using the latest MDOT CAiCE Feature Codes, files and tugboat (macro), available on the MDOT File Transfer Protocol (FTP) site. **The CAiCE software used must be Version 10.2 or newer. The Consultant must also use MicroStation Version 8.**
 6. Consultants must obtain all necessary permits required to perform this survey on any public and/or private property. This includes an up-to-date permit from the MDOT Utilities Coordination and Permits Section
 7. Prior to performing the survey, the Consultant must contact all landowners upon whose lands they will enter. The contact may be personal, phone or letter, but must be documented. This notice must include the reasons for the survey on private land, the approximate time the survey is to take place, the extent of the survey including potential brush cutting, and an MDOT contact person (the MDOT project manager).
 8. 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 proposal.
 9. 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.
 10. Consultants are responsible for a comprehensive and conscientious research of all records, including MDOT records, essential for the completion of this project.
 11. Measurements, stationing, recorded data, and computations must be in **International Feet.**
1. Coordinate values must be based on the Michigan Coordinate System of 1983 (MCS 83), Appropriate Zone. All elevations must be based on the North American Vertical Datum of 1988 (NAVD88).
 2. Specific requirements concerning the Control, Alignment, property, mapping, misc., of

each survey portfolio will be described in the MDOT REQUEST FOR CONSULTANT SURVEY SERVICES letter as shown in Appendix A.

3. **Current MDOT QA/QC CERTIFICATION CHECK LIST** dated March 2009 will be used which can be obtained on the MDOT FTP site.
15. Current MDOT symbology must be used exclusively as shown on the MDOT FTP site.
The FTP site for consultants is:
<ftp://ftp.michtrans.net>
username: survcons
password: \$urvcon\$
16. All data, whether electronic or paper, must be recorded on non-rewritable Compact Discs (CD's). All paper files, including MicroStation files, must be scanned and/or converted to Adobe Acrobat .PDF format. 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.

CD's must be labeled with the route, location, control section, job number, Consultant name, and data type.
17. Each category of survey must be packaged separately (i.e., Structure survey separate from Road survey). All sheets in a portfolio must be marked with the control section, job number, portfolio section name, and page number.
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 either address, or send a copy of all correspondence to the MDOT Project Manager. The MDOT Project Manager shall be made aware of all communications regarding this project. Any questions regarding this award or any subsequent project should be directed to the Design Survey Consultant Coordinator Erik Schneppe- schneppe@michigan.gov .

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:**

MDOT Design Division
Erik J. Schneppe, PS
1501 E. Kilgore,

Kalamazoo, MI. 49001

Please use MDOT's Form 222(3/99) 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.

WORK RESTRICTIONS

The Consultant must call the MDOT Region or TSC Traffic and Safety Engineer before submitting the Price Proposal to inform him/her of surveying activity in the area. The Consultant must discuss a Traffic Control and Safety plan with the Traffic and Safety Engineer prior to submitting a proposal. A copy of the Traffic Control and Safety plan must be submitted with the Price Proposal and used as a basis of bid for traffic control devices by at least three sources.

Traffic shall be maintained by the Consultant throughout the project to the satisfaction of the Traffic & Safety Engineer at all times. Any deviation from the Traffic Control and Safety plan without the Traffic and Safety Engineer approval can result in project delays.

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.

The following are the time restrictions for I-94:

Maintain two lanes of traffic in each direction as follows:

6:00 a.m. to 8:00 p.m., Monday through Thursday

6:00 a.m. to 10:00 p.m., Friday

8:00 a.m. to 9:00 p.m., Saturday

11:00 a.m. to 10:00 p.m., Sunday

Maintain a minimum of one lane of traffic in each direction during all other times.

Local road time restrictions: Check with the Kalamazoo County Road Commission.

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.

Control

HORIZONTAL CONTROL

A three dimensional coordinate system must be established based on the North American Datum of 1983, NAD83 (CORS96), Michigan State Plane Grid Coordinates- South Zone (2113) in international feet units for this project. The horizontal least squares adjustment statistics must be reported at the 95% confidence level.

There will be two primary control monuments set for this project. The horizontal project control for this project will be classified as intermediate project control according to the MDOT Standards of Practice dated April 1, 1998. For the placement of control the interstate project scenario shall apply. These control points are intended for mapping and should be located outside the proposed construction area to insure their availability for all phases of construction. Each control point must be accurately described and witnessed to at least four nearby features. Please refer to MDOT Standards of Practice for the minimum requirements for these points. Prior to any mapping the horizontal and vertical control must be approved by the Southwest Region surveyor.

OPUS positioning may be used, as long as there are checks, redundancies and controls built into the Consultant's horizontal control system. 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 from NGS. All OPUS solutions must be verified within 0.10 foot, either by a separate OPUS position from an independent occupation, or by a NGS/CORS adjustment. OPUS-RS is not acceptable for establishing the control on the project.

A closed traverse must be run and adjusted between two or more known points on the project control traverse. Open traverses are NOT acceptable. Unadjusted traverse measurements must produce an error of closure of not greater than 1:20,000. Any permissible error of closure shall be distributed throughout the traverse by means of a suitable least squares adjustment software program.

All data collection traverse points and the plan centerline alignment must be tied to the control established for this project. All field observations, unadjusted traverse computations and final adjusted coordinates must be included in the notes. A list of all horizontal control points must be developed which includes datum, point designations, descriptions, horizontal coordinates with standard errors, station and offset, witnesses and appropriate scale factors (grid to ground). This list must be printed on 8.5" x 11" sheets and placed on CD in ASCII format. All data relating to the horizontal component of the system must be included in the control section of the portfolio.

VERTICAL CONTROL

The vertical component of this project must be based upon the North America Vertical Datum of 1988 (NAVD 88). The vertical least squares adjustment statistics must be reported at the 95% confidence level.

Upon request, the MDOT Design Survey Unit will supply descriptions of nearby published NGS control bench marks.

New bench marks must be set on massive structures outside the proposed construction area. There must be a benchmark near the bridge on each side of the structure. Two benchmarks should also be set on each of the bridges within the mapping limits. The benchmarks shall be on opposite sides of the truck line. Each bench mark must be accurately described and its horizontal position referenced by measurement (Northing Easting) and by station plus and offset from the alignment stationing. Any error of closure must be distributed throughout the level runs by means of a suitable least squares adjustment software program. Open level loops are NOT acceptable.

The bench mark notes must include all field observations, the unadjusted loop closures and the final adjusted elevations. A bench mark list must be developed that includes datum, bench mark designations, descriptions, elevations, and station and offset (left or right) out from centerline. This bench mark list must be printed on 8.5"x 11 sheets and placed on CD, in ASCII format. All data relating to the vertical component of the system must be included in the control section of the portfolio.

The methods used to establish the horizontal and vertical components of the project coordinate control system must be fully discussed in the Surveyor's Project Report.

The consultant will prepare a Microstation file named 110524wit.dgn on an MDOT plan sheet showing the witnesses and control point locations in relation to the legal alignment.

LEGAL ALIGNMENT

A legal alignment will be determined for this project for I-94, Sprinkle Road (East quarter post of Section 36, T2S, R11W to station 125+00), and Cork Street Re-alignment (station 36+09.09 to station 81+23.75). The legal alignment of I-94 shall start at station 641+92.44 to station 749+91.22. The legal alignment to the West of Sprinkle for I-94 (683+21.43 to station 641+92.44) was previously established by another consultant. This segment of alignment may need to be translated/rotated to fit with the coordinates for this project. The selected consultant will complete this transformation. Additional details will be given to the selected consultant. The alignments do not need to be staked. As constructed alignments shall be determined for the ramps A,B,C,D, E & F at Sprinkle Road and I-94. The as constructed alignment from E. Cork Street to Cork Street realignment (Cork street connector) will also be determined. This begins at station 77+00 of Cork Street realignment.

Legal ROW

The legal ROW lines shall be determined along the I-94 alignment following MDOT design survey standards. Along I-94 this would be from station 641+92.44 to station 735+00. This would include the ROW by the Sprinkle Road interchange. The legal ROW lines of Sprinkle Road shall be determined from East quarter post of Section 36, T2S, R11W to station 120+00. The legal ROW lines shall also be determined along Cork Street relocated from (station 36+09.09 to station 81+23.75) The ROW of I-94 to the West of Sprinkle Road has been previously determined. On the Westerly side of Sprinkle road the southerly legal ROW as computed by consultant of I-94 started station 88+22 of Sprinkle Road and was determined Westerly along I-94. Also on the westerly side of Sprinkle Road the Northerly legal ROW as computed by a consultant of I-94 started at station 104+90 of Sprinkle Road and was determined westerly along I-94. This information will be given to the selected consultant. This segment of ROW may need to be translated/rotated to fit with the coordinates for this project. The selected consultant will complete this transformation. There will still be legal ROW determination by the Sprinkle Road interchange. Additional details will be given to the selected consultant. A micro-station DGN file will be created showing the alignment stationing, right of way lines, ties to section corners following MDOT guidelines.

The intent is to determine the legal ROW throughout the project limits. The selected consultant will obtain all deeds and excess sales to determine the ROW lines by all available resources (courthouse, MDOT records, city records, recorded plats, etc). Tax descriptions are not acceptable. The ROW line coordinates shall be determined every 500 feet, PT, PC, and angle point, by a Professional Surveyor. The ROW coordinates determination shall be made for both sides of the ROW. The selected consultant will also find any existing parcel corners (plat monuments, iron pipes, iron pines, capped irons, along the legal ROW line.

The coordinates for both the found monumentation and ROW coordinates as determined above, shall be shown on a separate ROW alignment dgn file. This would be for all areas were the legal ROW line is determined. This drawing will need to be part of the survey submittal.

Government Corners/parcel lines

Any government corner used to establish the legal alignment/legal ROW lines must meet the MDOT's Design Survey Standards. It is anticipated the following section corners will need to be obtained for the project: A-11, A-10, A-12, B-9, B-10, B-11, B-12, B-13, C-9, C-10, C-11, E-10, and E-9 of T2S, R10W. and M-10, M-11, M-12, L-11, L-12, L-13, K-12 of T2S, R11W. These corners shall be submitted to the Kalamazoo county remonumentation group for approval by the selected consultant. This list will be verified between MDOT and the selected consultant prior to beginning work. The consultant shall begin this step first to try and avoid delay's in having the survey delivery date.

Within the project alignment limits parcel lines will be determined/surveyed by the selected consultant. This would include all the parcels along I-94, Sprinkle Road, and Cork Street Relocated. At this time they will not be staked in the field. If no deeds are available the parcels lines can be plotted based on the tax description. Tax maps/descriptions will be obtained for the parcels within the mapping limits. This would include the tax parcel ID, name, address, etc. The tax descriptions maps used must be submitted with the survey portfolio.

MAPPING

- Begin mapping along I-94 at station 651+00 and end mapping at station 735+00 with shots taken every 50 feet. Mapping shall take place from ROW line to ROW line.
- Begin mapping along relocated Cork Street at station 44+00 and end at station 81+23.75 with shots every 50 feet. Mapping shall take place from ROW line to ROW line.
- Begin mapping along Sprinkle Road 150' south of Van Rick Drive northerly to station 113+00 with shots taken every 50 feet. Mapping shall take place from ROW line to ROW line. The bridge deck of Sprinkle road over I-94 does not need to be mapped.
- Map the complete Sprinkle Road and I-94 interchange from ROW to ROW. This would include ramps A-F.
- For the Sprinkle Road Bridge (S04 of 39022) and Cork Street relocated Bridge (by approximate station 697+20 of I-94) the following will be obtained for each of the bridges: all reference points elevations/grid coordinates including elevations, bridge seat elevations, under clearance elevations, reference point stationing, angle of crossing of existing substructure units, photographs, piers, abutment walls, bride schematic (Plan and elevation views showing both substructure and superstructure elements).
- For the Miller Road bridge (S05 of 39022) and Bridge over I-94 by the Business loop (S06 of 39022) obtain pier locations and under clearance elevations at the following locations (all lane lines, edge of pavement, edge of shoulder, and at the piers. The bridge deck does not need to be located for these bridges.
- For the bridge over the rail road tracks by approximate station 653+60 obtain the following: all reference points elevations/grid coordinates including elevations, bridge seat elevations, under clearance elevations, bridge deck elevations, reference point stationing, angle of crossing of existing substructure units, photographs, piers, abutment walls, bride schematic (Plan and elevation views showing both substructure and superstructure elements).
- Sample features for all mapping areas include the following items: any road features (edge of pavement bit, edge pavement concrete, edge of bit shoulder, pavement marking

lines, etc) walkways, driveways, all terrain points/lines, drainage features, all visible utilities (overhead electric lines, gas line markers, hydrants, etc), sanitary manholes, guardrail. This list is but a short sample of the possible features/codes located within the mapping limits.

DRAINAGE/SEWAR

The following information is required for all surface and subsurface drainage and sewer structures :

-The station and offset, type, condition, location, size and invert elevation of each drainage structure and culvert. End treatments must be noted for each culvert. This information must be printed on 8.5" x 11" sheets and submitted on a CD in **ASCII format or spreadsheet format.**

-The station and offset, type, condition, location, size and invert elevation of the pipes of each sanitary manhole. This information must be printed on 8.5" x 11" sheets and submitted on a CD in **ASCII format or spreadsheet format.**

-The **location and connectivity** of all catch basins, manholes, and culverts must be shown on the topographic map (PL dgn). It may be necessary to prepare a separate plot to clearly show the surface drainage systems. Underground storm systems must be mapped to show the connectivity of the structures. Underground sewer lines must be mapped to show connectivity. This will be added to the CADD file and submitted on a separate topographic plot made specifically for this purpose.

-Photographs must be submitted for each culvert, labeled by station and offset. Digital photographs are required.

DTM

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. A properly edited Digital Terrain Model (DTM), named EXRD and created in CAiCE, must be included for the mapping area. The Consultant is responsible for using the latest MDOT CAiCE Feature Codes, files and tugboat, available on the MDOT File Transfer Protocol (FTP) site. The tugboat can be used to convert CAiCE files into Geopak and MicroStation formats. **The CAiCE software used must be Version 10.5 or newer.**

The Consultant must also 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 available on the MDOT Design Survey FTP site. The Consultant must submit a 3D MicroStation Triangle file, a Survey Chain (TIN Boundary) around the edited Triangle file with the name and Feature "CLIP", a Job#.dat file, and a Job#.ALI file. Each alignment must be

computed separately and uniquely named. These files must be submitted electronically **in a subdirectory outside of the CAiCE archive file** named “Geopak.”

FINAL REPORT

One complete portfolio and three complete sets of CD’s or DVD’s must be assembled and delivered in the format outlined in the *Standards of Practice* dated March, 2009. A copy of the MDOT Checklist dated March, 2009 must be included in the final report. This document shall be signed and certified by the Professional Surveyor responsible for the project. 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.**

The Consultant must provide an electronic **MicroStation Intergraph Version 8 format file** of the mapping area. This must be named MDOTjob#PL.dgn, for example **110524cpl.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, utilizing the appropriate seed file 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 “MDOTV8LEVEL.pdf” table located on the MDOT ftp site at ftp://ftp.michtrans.net/. The consultant Username is “survcons.” The consultant password is \$urvcon\$. This table replaces the former Attachments AA, C & D. Also in the ftp site, the Consultant should refer to the V8GROUP&ALPHA LIST.pdf file for Data Collection Codes.

MISCELLANEOUS

Any information that would not be appropriately placed in the control, property or mapping sections should be included in this section. General photographs, local newspaper articles and project-related comments from residents are example of miscellaneous data.

The surveyor must describe, in the final report, the data included in this section.

FINAL REPORT: DELIVERABLES

The final report for this project shall meet the current guidelines outlined in the MDOT Survey Standards of Practice dated March 2009.