Michigan Department
Of Transportation
5100B (03/10)

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

Exhibit B

MDOT PROJECT MANAGER	JOB NUMBER (JN)	CONTROL SECTION (CS)
Lynne Kirby	84004C	81031

DESCRIPTION
Design Servces for roadway reconstruction, curb and gutter replacement, traffic signal staging, geo services, streetscape

MDOT PROJECT MANAGER: Check all items to be included in RFP WHITE = REQUIRED GRAY SHADING = OPTIONAL Check the appropriate Tier in the box below			**CONSULTANT:** Provide only checked items below in proposal
☐ **TIER 1 ($25,000-$99,999)**	☐ **TIER II ($100,000-$250,000)**	☑ **TIER III (>$250,000)**	
☐	☐	☑	Understanding of Service
☐	☐	☐	*Innovations*
☐	☐	☐	*Safety Program*
N/A	☐	☑	Organizational 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

Clear Form

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 _____

☑ **Prequalified Services** – See page 1 of the attached Scope of Services for required Prequalification Classifications.

☐ **Non-Prequalified Services** - If selected, the vendor must make sure that current financial information, including labor rates, overhead computations, and financial statements, if overhead is not audited, is on file with MDOT's Office of Commission Audits. This information must be on file for the prime vendor and all sub vendors so that the contract will not be delayed. (**Form 5100J Required with Proposal**)

☑ **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.

Clear Form

PROPOSAL SUBMITTAL INFORMATION

REQUIRED NUMBER OF COPIES FOR PROJECT MANAGER	PROPOSAL/BID DUE DATE	TIME DUE
1	6/29/11	noon

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

MDOT-RFP-Response@michigan.gov

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
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
All Proposals for this project must be submitted electronically

Revised 6/3/2011

CONTROL SECTION: 81031

JOB NUMBER: 84004C

PROJECT LOCATION:
The project is located on US-12 from the bridge over the Saline River (B01) to Maple Rd. The project length is 0.94 miles.

PROJECT DESCRIPTION:
Work involved in the design of the project consists of: Reconstruct roadway, replace curb & gutter, upgrade sidewalk ramps, drainage upgrades, intersection radius improvements, traffic signal upgrades, water main & sanitary sewer upgrades.

A copy of the original scoping document for this project dated 5/2002, is available for review at the BTSC.

ANTICIPATED SERVICE START DATE: 10/1/11

ANTICIPATED SERVICE COMPLETION DATE: 2/5/2014

PRIMARY PREQUALIFICATION CLASSIFICATION(S):
Roadway Rehabilitation & Rural Freeways

SECONDARY PREQUALIFICATION CLASSIFICATION(S):
Maintaining Traffic Plans and Provisions
Pavement Marking Plans
Permanent Non-Freeway Traffic Signing Plans
Traffic Signal Design
Road Design Surveys
Right-of-Way Surveys
Hydraulics
Safety Studies
Municipal Utilities
Geotechnical Engineering Services
Landscape Architecture
Subsurface Utility Engineering

DBE REQUIREMENT: 5%

MDOT PROJECT ENGINEER MANAGER:

Lynne Kirby, BTSC Cost & Scheduling Engineer
Brighton TSC
10321 E Grand River, Suite 500
Brighton, MI 48116
810-225-2627
810-227-7929
kirbyl@michigan.gov

CONSTRUCTION COST:

A. The estimated cost of construction is: $ 7,550,000

B. The estimated cost of real estate is: $75,000

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.).

NOTE: A process change mandated by federal audit of MDOT's design process puts the Omissions and Errors Check Meeting after the Plan Completion. Please keep this in mind when preparing your schedule. See MDOT Road Design Manual, Chapter 14 – Procedures – Section 14.54 for corroboration. See "For Your Information" contacts at the end of this document for more info or questions.

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:

A. Perform design surveys. (Attachment A)
B. Prepare required plans, typical cross-sections, details, and specifications required for design and construction.
C. Compute and verify all plan quantities.
D. Prepare staging plans and special provisions for maintaining traffic during construction. (including traffic signal staging) The staging plans shall include any required temporary pavement construction and removal plans required for the project.
E. Traffic signal modernizations & traffic signal staging (Attachment B)
F. Prepare pavement marking plans and special provisions
G. Prepare permanent signing plans and special provisions for non-freeway signs.
H. Prepare Right-Of-Way plans as required to locate, verify and purchase real estate and/or obtain construction access permits for this project.
I. Perform a Crash Analysis for the 3R/4R Safety Review for the entire limits of the project. This shall include the last three (3) years of reliable data for the analysis period. . The CONSULTANT will be furnished three (3) years of data. The Final Report will be in letter format addressed to the Project Manager.
J. Perform detailed crash analyses for each Design Exception submitted. This crash analysis will be included as an attachment to the Design Exception.
K. Prepare a Traffic Management Plan (TMP) per the Work Zone Mobility Manual.
L. Perform subsurface utility engineering (SUE) (Attachment C)
M. Perform water main & sanitary design
N. Remove & replace existing streetscape items impacted by road construction.
O. Perform soil borings (Attachment D)
P. Complete a CPM Network for the construction of the entire project.

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

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

A. Perform design surveys.

B. Prepare required plans, typical cross-sections, details, and specifications required for design and construction.

C. Compute and verify all plan quantities.

D. Prepare staging plans and special provisions for maintaining traffic during construction.

E. Provide solutions to any unique problems that may arise during the design of this project.

F. 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.

G. 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.

H. If excavation is required, submit the excavation locations which may contain contamination. Project Manager then can proceed in requesting a Preliminary Project Assessment (PPA).

I. The Consultant shall be required to prepare and submit a CPM network for the construction of this project.

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. MDOT will provide and distribute official meeting minutes for the Plan Review Meeting.

K. 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. The following is an estimate of the number of copies that will be needed; 30 sets – Pre-OEC, 30 sets - OEC Review.

L. Prepare and submit electronically (native format or Adobe PDF) any information, calculations, hydraulic studies, or drawings required by MDOT for acquiring any permit (ie. NPDES, DEQ, etc), approvals (i.e. county drain commission) and related mitigation. MDOT will submit permit requests.

M. Attend any project-related meetings as directed by the MDOT Project Manager.

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 Consultant shall assist in the review of utility permit requests, incorporate the information in the design plans, and respond within 2 weeks from receipt of the permit.

P. The MDOT Project Manager shall be the official MDOT contact person for the Consultant **and shall be made aware of all communications regarding this project**. The Consultant must either address or send a copy of all correspondence to the MDOT Project Manager. This includes all Subcontractor correspondence and verbal contact records.

Q. The Consultant shall contact the MDOT Project Manager whenever discoveries or design alternatives have the potential to require changes in the scope, limits, quantities, costs, or right-of-way of the project.

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. The Consultant will be responsible for miscellaneous staking of 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:

A. Schedule and/or conduct the following:
    1. Project related meetings.
    2. The Plan Review
    3. Utility Meetings.
    4. Quantity summary sheets and final item cost estimates.
    5. 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. Obtain all permits for the project as outlined in previous section.

E. Coordinate any necessary utility relocation.

F. 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 as well as combined into one Adobe PDF file in the sequence specified by MDOT. To provide text search capabilities the combined proposal shall be created by converting native electronic files to PDF. Scanning to PDF is discouraged except in instances where it is necessary to capturing a legally signed document or a hard copy version of a document is all that exists.

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. 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 critical areas.

G. Pavement marking plan(s).

H. Witness and benchmark sheet(s).

I. Soil boring log sheet(s).

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

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)

Yes	No	P/PMS Task Number and Description	Date To Be Completed By (mm/dd/yyyy)
		EPE Scoping Analysis	
☐	☒	2120 Prepare Traffic Analysis Report	/ /
☐	☒	2130 Prepare Project Justification	/ /
☐	☒	*213M Concurrence by Regulatory Agencies with the Purpose and Need*	/ /
☐	☒	2140 Develop and Review Illustrative Alternatives	/ /
☒	☐	2155 Request/Perform Safety Analysis	/ /
☐	☒	2160 Prepare and Review EIS Scoping Document	/ /
☐	☒	*211M Public Information Meeting*	/ /
		EPE Draft Analysis	
☐	☒	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	/ /
☐	☒	*233M Aerial Photography Flight*	/ /
☐	☒	*234M Concurrence by Regulatory Agencies with the Alternatives for Study*	/ /
☐	☒	2360 Prepare and Review EA or DEIS	/ /
☐	☒	*231M Draft Submission to FHWA*	/ /
☐	☒	2380 Circulate EA or DEIS	/ /
☐	☒	*232M Public Hearing*	/ /

MDOT PRECONSTRUCTION TASKS CONSULTANT CHECKLIST

Study (Early Preliminary Engineering)

Yes	No	P/PMS Task Number and Description	Date To Be Completed By (mm/dd/yyyy)
		EPE Final Analysis	
☐	☒	2510 Determine and Review Recommended Alternative	/ /
☐	☒	*250M Concurrence by Regulatory Agencies with Recommended Alternative*	/ /
☐	☒	2525 Prepare and Review Engineering Report	/ /
☐	☒	2530 Prepare and Review Request for FONSI or FEIS	/ /
☐	☒	*252M Final Submission to FHWA*	/ /
☐	☒	2550 Obtain FONSI or ROD	/ /

Contamination Investigation

☐	☒	2810	Project Area Contamination Survey (PCS)	/ /
☐	☒	2820	Preliminary Site Investigation (PSI) for Contamination	/ /

Preliminary Engineering

Design Scope Verification and Base Plans Preparation

☒	☐	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	5/1/2012
☐	☒	*311M*	*Utility Notification*	/ /
☒	☐	3361	Review and Submit Preliminary ROW Plans	5/1/2012
☒	☐	*331M*	*Preliminary ROW Plans Distributed*	5/1/2012
☐	☒	3370	Prepare Structure Study	/ /
☐	☒	3375	Conduct Value Engineering Study	/ /
☒	☐	3380	Review Base Plans	/ /
☒	☐	*332M*	*Base Plan Review (Pre-GI Inspection)*	/ /
☒	☐	3390	Develop the Maintaining Traffic Concepts	5/1/2012

Preliminary Plans Preparation

☒	☐	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	/ /

MDOT PRECONSTRUCTION TASKS CONSULTANT CHECKLIST

Preliminary Engineering (cont'd)

Yes	No	P/PMS Task Number and Description		Date To Be Completed By (mm/dd/yyyy)

Preliminary Plans Preparation (cont'd)

☐	☒	3535	Conduct Structure Review for Architectural and Aesthetic Improvements	/ /
☒	☐	3540	Develop the Maintaining Traffic Plan	9/15/2012
☒	☐	3551	Develop Traffic Signal Operations Plan	9/15/2012
☒	☐	3552	Develop Preliminary Pavement Marking Plan	9/15/2012
☒	☐	3553	Develop Preliminary Non-Freeway Signing Plan	9/15/2012
☐	☒	3554	Develop Preliminary Freeway Signing Plan	/ /

☐	☒	3570	Prepare Preliminary Structure Plans	/ /
☒	☐	3580	Develop Preliminary Plans	9/15/2012
☒	☐	3581	Review and Submit Final ROW Plans	9/15/2012
☒	☐		*351M Final ROW Plans Distributed*	/ /
☒	☐	3590	Review Preliminary Plans (Hold Plan Review Meeting)	10/15/2012
☒	☐		*352M THE Plan Review (Grade Inspection)*	/ /
			Utilities	
☒	☐	3610	Compile Utility Information	/ /
☐	☒	3660	Resolve Utility Issues	/ /
☐	☒		*360M Utility Conflict Resolution Plan Distribution*	/ /
☒	☐		*361M Utility Meeting*	/ /
☒	☐	3670	Develop Municipal Utility Plans	/ /
☐	☒	3672	Develop Special Drainage Structures Plans	/ /
☐	☒	3675	Develop Electrical Plans	/ /
			Mitigation/Permits	
☐	☒	3710	Develop Required Mitigation	/ /
☐	☒	3720	Submit Environmental Permit Applications	/ /
☐	☒	3730	Obtain Environmental Permit	/ /

MDOT PRECONSTRUCTION TASKS CONSULTANT CHECKLIST

Preliminary Engineering (cont'd)

Yes	No	P/PMS Task Number and Description		Date To Be Completed By (mm/dd/yyyy)
		Final Plan Preparation		
☒	☐	3821	Prepare/Review Traffic Signal Plan	/ /
☒	☐	3822	Complete Permanent Pavement Marking Plan	/ /
☒	☐	3823	Complete Non-Freeway Signing Plan / /	
☐	☒	3824	Complete Freeway Signing Plan	/ /
☒	☐	3830	Complete the Maintaining Traffic Plan	/ /
☒	☐	3840	Develop Final Plans and Specifications	5/05/2013
☒	☐		*380M Plan Completion*	5/05/2013
☐	☒	3850	Develop Structure Final Plans and Specifications	/ /
☒	☐	3870	Hold Omissions/Errors Check (OEC) Meeting	6/05/2013
☒	☐		*387M Omissions/Errors Checks Meeting*	/ /
☒	☐		*389M Plan Turn-In*	7/05/2013
☐	☒	3880	CPM Quality Assurance Review	/ /

Preliminary Engineering – Right Of Way

Early Right Of Way Work

☐	☒	4120	Obtain Preliminary Title Commitments	/	/
☐	☒	4130	Prepare Marked Final Right Of Way Plans	/	/
☐	☒	*413M*	*Approved Marked Final ROW*	/	/
☐	☒	4140	Prepare Property Legal Instruments	/	/

ROW Acquisition

☐	☒	4411	Preliminary Interviews	/	/
☐	☒	*441M*	*Post-Decision Meeting*	/	/
☐	☒	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	/	/

ROW Relocation

☐	☒	4710	Relocation Assistance	/	/
☐	☒	4720	Prepare Improvement Removal Plan	/	/
☐	☒	*442M*	*ROW Certification*	/	/

PAYMENT SCHEDULE

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

CONSULTANT PAYMENT:

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

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 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

ATTACHMENT A
April 2011

SURVEY SCOPE OF WORK

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

JOB NUMBER: 84004C CONTROL SECTION: 83031

ROUTE: US-12 from the east end of B 01 over the Saline River thence east to 50 feet east of the Maple Road intersection in the City of Saline, Washtenaw County. Also, Curtis Park on the southeast side of the B 01 structure from the rivers edge to Monroe Street from the US-12 ROW plus 100 feet.

TYPE OF SURVEY: Road Design and ROW Survey – PPMS Task 3330 and 4510

PROJECT DESCRIPTION: Roadway reconstruction, replace curb and gutter, drainage upgrades, intersection radius improvements, water main and sanitary sewer upgrades, and traffic signal upgrades or design.

Research: Tax address and deed descriptions are needed for all adjacent land owners.

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

Alignment: A Legal Alignment is required. An Alignment Microstation drawing will be generated to show the ROW lines, private parcel lines with house numbers and building / structure type contained.

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

Utilities & Drainage: All surface manifestations and overhead lines, structure details for all catch basins, manholes, culverts, etc. Also contact local officials for information, plans, and any problem areas.

Mapping: Topographic mapping is required for the Road Design and ROW Survey.

- Cross streets to 300 feet from ROW to ROW.
- Topo of all features to include lane lines.
- Topo to extend 15 feet beyond the ROW lines.
- Streetscape Design Considerations will to locate all of the existing site features of the current elements in the downtown area, the 100 blocks north and south of US-12 for both Ann Arbor and Harris streets as turn lanes shall be added.
- Curtis Park as a storm water BMP could be installed.
- **Note: Scale will be 1” = 40’**

- **Contour Interval = 0.5'**

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 <u>must</u>** be included in the project proposal. A **spreadsheet estimate** of hours by specific survey task such as traversing, leveling, mapping, etc., **<u>must</u>** be included in the **priced proposal**.

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

GENERAL REQUIREMENTS:

1. Surveys must comply with **all Michigan law** relative to land surveying.

2. Surveys must be done under the **direct supervision** of a Professional Surveyor licensed to practice in the State of Michigan, according to Public Act 299 of 1980.

3. Work in any of the following categories of survey: Road Design, Structure, Hydraulic, Right-of-Way, Photogrammetric Ground Control, and/or Geodetic Control must be completed by a survey firm which is pre-qualified by MDOT for that category.

4. Surveys must meet all requirements of the Michigan Department of Transportation (MDOT) Design Surveys *Standards of Practice* dated April 2011. Please contact the MDOT Design Survey office to clarify any specific questions regarding these standards.

5. Consultants must obtain all necessary permits required to perform this survey on any public and/or private property, including an up-to-date permit from the MDOT Utilities

   Coordination 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 (NSRS2007). 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.

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". **It is desirable to limit paper documents as much as possible.**

13. Each portfolio and CD 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**.

15. To be included in the Administrative section shall be a copy of the **Survey Project Portfolio QA/QC Check-off list**, available from the MDOT Design Survey Unit. 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 may result in the immediate return of the project portfolio for completion.**

16. **All data**, whether electronic or paper, **must be recorded on non-rewritable Compact Discs (CD's) or DVD's**. All paper files, including MicroStation files, must be scanned and/or converted to Adobe Acrobat .PDF format. It is not necessary to include raw survey data files in the Adobe file. CD's must be organized in the same manner as the portfolio, such as by Administrative section, Control section, etc. A Table of Contents in Adobe Acrobat format is required that has all .PDF pages of the CD bookmarked/linked

so each place in the .PDF archive can be accessed with a single click of the computer mouse. Specified format files such as Microsoft Word, CAiCE and MicroStation must have separate access in native format outside of the .PDF file.

17. It is not necessary to label each individual paper page in the portfolio.

18. The MDOT Project Manager is the official contact for the Consultant. The Consultant must send a copy of all project correspondence to the MDOT Project Manager. The MDOT Project Manager shall be made aware of all communications regarding this project. Any survey related questions regarding this project should be directed to an MDOT Survey Consultant Project Manager 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 Division, Supervising Land Surveyor, P.O. Box 30050, Lansing, MI 48909. Please use MDOT's Form 222(5/01) entitled "SURVEY NOTES: RECEIPT AND TRANSMITTAL" for all transmittals. A copy of this transmittal form must also be sent to the MDOT Project Manager for Design.

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

WORK RESTRICTIONS

The Selected Consultant, and the Selected Consultant only, is advised to discuss Traffic Control scenarios with the MDOT Traffic and Safety Engineer, Wendy Ramirez (810)225-2626, at the Brighton 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*, 2012 edition, www.mdot.state.mi.us/specbook/, and Supplemental Specification 03SS001(2) Errata to the 2012 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 2012 Standard Specifications for Construction. Other contracts or maintenance operations may occur during the life of the project.

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

POST SURVEY CLEAN-UP

Once the survey is complete, all stakes must be removed from the MDOT median and ROW to aid the maintenance crews and adjacent property owners. All benchmarks and control points and their witnesses must remain in place.

FINAL REPORT: DELIVERABLES

The final report for this project shall include:

1. In the first pocket of the portfolio, and first directory on the CD, labeled **ADMINISTRATIVE**, the following will appear:
   a. MDOT's Form 222(5/01) entitled "SURVEY NOTES: RECEIPT AND TRANSMITTAL"
   b. The project's Professional Surveyor's Report on company letterhead consisting of:
      i) A comprehensive synopsis of the work performed on this project, signed **and sealed** by the project's Professional Surveyor.
      ii) The source and methods used to establish the project horizontal and vertical control and alignment(s) for this project.

iii) A detailed explanation of anything discovered during the survey of this project that may create a problem for the designer or another surveyor.

c. CD or DVD with all documents scanned or converted into PDF files. Each page must be inserted in a master PDF file and bookmarked for easy retrieval. An example can be provided upon request.
d. MDOT QA/QC Portfolio Checklist (revised April 2011).

2. In the second pocket of the portfolio, and second directory on the CD, labeled **ALIGNMENT**, the following will appear:
   a. An annotated MicroStation drawing of the alignment(s), showing:
      i) A statement defining the alignment(s) as **survey, as constructed, and/or legal**
      ii) Stationing, source of stationing, and station equation to existing stationing
      iii) Horizontal coordinates of P.I.'s, at a minimum
      iv) Curve data
      v) Alignment points found or set
      vi) Control points
      vii) Reference lines and angles of crossing (if appropriate)
      viii) Government corners and ties to government lines
   b. Witness list for the alignment points found or set, which shows coordinates, stationing and four witnesses for each alignment point. Witness lists must use only uppercase letters.
   c. LCRC's for legal alignment points found or set.

3. In the third pocket of the portfolio, and third directory on the CD, labeled **CONTROL**, the following will appear:
   a. Documentation of horizontal and vertical datum sources.
   b. OPUS documentation, long version..
   c. Least squares adjustments for the horizontal and vertical control.
   d. It is not necessary to submit electronic raw survey data in hardcopy form, or in the .PDF file.
   e. Text files which contain the witness lists for the horizontal alignment ties, horizontal control points, benchmarks and government corners. All witness lists must note the datum(s), a combined scale factor for state plane grid-to-ground conversion, and an example thereof. Witness lists must use only uppercase letters.
   f. An MDOT-formatted Microsoft Word file, SurveyInfoSheet.doc, showing the data in e. above, using only upper case letters.

4. In the fourth pocket of the portfolio, and fourth directory on the CD, labeled **PROPERTY**, the following will appear:
   a. Tax maps and descriptions with owner names, addresses and phone numbers, if Right of Way is to be acquired, or if riparian ownerships are required.
   b. Maps, plats, and recorded surveys.
   c. Documents such as plats, Act 132 Certificates and/or tax maps marked with point numbers as property ties, if Right of Way is to be acquired.
   d. Legible **recorded** copies of all Land Corner Recordation Certificates (LCRC) filed for the government corners (PLSS corners and Property Controlling Corners) used for computations and/or in danger of obliteration by impending construction.

5. In the fifth pocket of the portfolio, and fifth directory on the CD, labeled **MAPPING**, the following will appear:
   a. Mapping file in MDOT MicroStation V8 format, and also converted to .PDF format. All point and line descriptions must use only upper case letters.
   b. An archived CAiCE software file.
   c. Geopak files produced from CAiCE.
   d. All field survey notes and electronic mapping data used for the project. It is not necessary to submit electronic raw survey data in hardcopy form, or in the .PDF file.
   e. All supporting and supplemental information or data, such as drainage and utilities, electronically only if possible.

6. In the sixth pocket of the portfolio, and sixth directory on the CD, labeled **MISCELLANEOUS**, the following will appear:
   a. Any photographs taken for clarity of an area
   b. Any newspaper clippings related to the project
   c. Any information not covered in this scope that will be of benefit to the designer or another surveyor

CONTROL SECTION: 81031

JOB NUMBER: 84004C

PROJECT LOCATION(S):

1) **US-12 @ Monroe/Mills,** City of Saline, Washtenaw County, 81031-004
2) **US-12 @ Ann Arbor Rd**, City of Saline, Washtenaw County, 81031-001
3) **US-12 @ Harris Rd**, City of Saline, Washtenaw County, 81031-010
4) **US-12 @ Maple Rd**, City of Saline, Washtenaw County, 81031-003

PROJECT DESCRIPTION:

Signal Modernization Design and Staging Plans for the above mentioned existing signalized intersections.

The Signal Modernization Design consists of ; the design for upgrading **of the existing** traffic signal equipment including but not limited to traffic signal controllers ("EPAC" type controllers), traffic and pedestrian heads, pedestrian push button actuated **(if necessary)**, embedded loop and/or camera design **(if necessary)**, illuminated case signs, span wire, signal support poles and supporting structures (**if necessary**). Radio Interconnect Design **(if necessary)**, Replace all **existing** traffic and pedestrian signal heads crossing all legs with 12" heads.

Note: **First option for signal design should be "Box Span" design. The signal designs should incorporate the use of LED technology. The consultant identifies and notes the existing posted speed limit on all approaches of the intersection(s) on the plan. Design for Radio Interconnect requires performing the Radio Survey and submitting the Signal Radio Survey Form. The Signal Radio Survey Form can be found in the "Traffic Consultant Files" at the following website:**

http://mdotwas1.mdot.state.mi.us/public/tands/plans.cfm

PROJECT MANAGER:

Lynne Kirby, BTSC Cost & Scheduling Engineer
Brighton TSC
10321 E Grand River, Suite 500
Brighton, MI 48116
810-225-2627
810-227-7929
kirbyl@michigan.gov

General Requirements:

Design and develop traffic signal contract plans, proposal package, engineering documents, and related work necessary for new installation or modernization of electronic traffic signal control devices to be accomplished by contract bid letting. New traffic signal work typically includes installation of: signal support poles and/or pedestals, span wire, traffic and pedestrian signals, and traffic signal controller. Modernization traffic signal work typically includes the replacement, as needed, of: signal support poles and/or pedestals, span wire (if appropriate), traffic and pedestrian signals, traffic loops, handholes, and traffic signal control equipment.

If steel poles are required for a location, soil borings need to be taken. The first step is to request soil borings from the Region soils engineer (provide the proposed pole locations). The Region soils engineer will inform the consultant if existing soil boring data is available, or if the Region soils engineer can perform the borings, or if the consultant must perform the soil borings.

If it is determined during construction, the design **is not constructible** due to consultant design error; the signal design consultant will be responsible for correcting the design at no additional cost to MDOT. If the constructability is based on changes made by MDOT, the consultant will be compensated.

CONSULTANT RESPONSIBILITIES:

A) Specific Responsibilities:

1) The designer shall arrange for an on-site design kick-off meeting with, MDOT University Region Electrician, MDOT Lansing Signals Unit, Brighton TSC Traffic & Safety Engineer, Brighton TSC Utility/Permit Engineer to review the proposed signal modernization design plans.

B) General Responsibilities:

1) Proposed plan views must have a 1"=30' scale when plotted to 11"x17".

2) Perform design service including the design and preparation of base plans, preliminary (75%) plans, final plans, "E proposal" package, specifications, wiring diagrams, interconnect drawings, bills of materials, measurement and payment items, and cost estimates for all construction work for this project, including necessary alterations to power, lighting, and interconnect facilities. Traffic signal work may include installation of: signal support poles and/or pedestals, span wire, traffic and pedestrian signals, and traffic signal controller, traffic loops, handholes, wireless interconnect, and video detection.

3) Although the Utility coordination for this project will be done by MDOT TSC staff through the Road project, the consultant must incorporate all the utility information received into the design plans (both existing and proposed plans). **The consultant should anticipate attending utility coordination meetings as required (including on-site field meetings with the utility engineer and the affected utility companies in the area), a plan review meeting, and an OEC meeting.** The consultant will provide meeting minutes of all meetings for matters pertaining to traffic signal design.

4) Perform Design Service for drilled shaft foundations as required including soil boring information, identification of any suspected contamination of the boring site, and preliminary foundation investigation. (Refer to MDOT's website.) The following information must be provided for proper analysis of strain pole foundations:

   a) Accurate pole location information
   b) Soil classification
   c) Standard penetration values every 2.5 feet (750 mm) extending 20 feet (6.1 m) below the ground surface elevation (blows/foot in accordance with ASTM D1586)
   d) Unconfined compressive shearing resistance (PSF, for cohesive soils)
   e) Ground water table elevation

5) Perform strain pole foundation design as required. The MDOT has developed a strain pole foundation design table for box span signals. This table can be found on the Traffic and Safety website in the signals correspondence and guidelines area. A special foundation design may be necessary depending on site specific soil properties and proposed signal layout and geometry.

6) The Consultant shall contact the Region Materials/Testing Engineer or Soils Engineer before proceeding with any geotechnical work and submit the results of the preliminary subsurface investigation for their review, approval, and recommendations for foundation design.

7) In the performance of design service, govern all project design and plan work by the applicable codes, standards, and practices of the Michigan Department of Transportation, hereinafter referred to as the department, and the current *Michigan Manual of Uniform Traffic Control Devices*.

8) Supply all materials necessary for completion of the projects, except as hereinafter described, including incidental prints required.

9) All documents prepared by the Consultant, including, drawings, estimates, specifications, field notes, investigation studies, etc., are the property of the department.

10) All plan sheets shall be developed using computer-aided drafting technology. The system shall be Intergraph Microstation, or one that processes data exactly as Intergraph will, no translations or system revisions being necessary by the department.

11) Refer to Suggested Traffic Signal Design Procedure: MDOT website.

12) Refer to Requirements for Preliminary Geotechnical Investigations for Signal Foundations: MDOT website.

13) Plans are to be designed using the 2012 Standard Specifications.

14) Perform any design/coordination tasks with any railroad company involved within the project limits, including (but not limited to):
    a) Determine railroad contact person(s)
    b) Complete any applications required by the railroad company to perform the proposed traffic signal work.
    c) Include related notes and special provisions as required in the proposal.

15) Any existing or proposed pedestrian pushbuttons and ramps must be accessible per ADA guidelines and MDOT design practices including:

    a) Pushbutton must be within 24" from edge of sidewalk
    b) The pushbutton must be located in the middle of a 4' pushbutton landing (maximum slope of 2%).
    c) ADA ramps are required at every crosswalk controlled by a pedestrian signal head.
    d) Sidewalk is required to connect ADA ramps on a quadrant.

16) Perform sidewalk and ramp survey and design if not included in scope of road project on an as-needed basis to comply with MDOT design practices and ADA requirements. For all stop and go traffic signals, all ADA ramps will be replaced unless the existing ramps are compliant with MDOT design practices and ADA guidelines. For flashing signals, pedestrian ramps will not be replaced unless they are disturbed.

17) The ADA ramp survey data must be sufficient for ramp and pushbutton design including (but not limited to):

a) Relative elevations, including at least two horizontal and vertical control points for future layout control for construction staking
b) Curb (top back of curb) & gutter (at flow line and at edge) is to be collected through the curves with observations every 3 feet along the arc near existing or proposed ADA ramps. Outside existing or proposed ADA ramp areas, curb and gutter observations may be every 5 feet.
c) Drainage structures (and any other utility located in or adjacent to the curb and gutter) near existing or proposed ADA ramps must be located because they can affect ADA ramp design.
d) If an ADA ramp exists, enough information must be collected to properly define the existing conditions.
e) Both ends of existing sidewalk joints must be mapped to determine limits of sidewalk replacement during ADA ramp design.

Task 1: Base Plan Preparation

1) Design and develop contract base plans necessary for new installation or modernization of electronic traffic signal control devices to be accomplished by contract bid letting. Base plans include (but are not limited to):

a) Existing road rights-of-way (ROW)
b) Field measured/surveyed road and lane geometry and posted speed limits
c) Field measured/surveyed locations of any visible utilities
d) Proposed types and locations of poles and controller
e) Proposed traffic and pedestrian signal head types and locations
f) Proposed pushbuttons, traffic loops, and antennas
g) Proposed traffic signal removal (if required) and installation plan(s)
h) Proposed phasing (as required)
i) POCH diagram for proposed attachments to wood poles (not required for steel pole attachments)

2) Where applicable, the intersection and ADA ramp survey will be used to develop base plans

3) If existing or proposed pole locations appear to be outside existing right-of-way, contact Douglas Adelman (517-373-2363), Traffic Signal Unit in Lansing.

Task 1: Deliverables (Base Plans):

1. All traffic signal plan and interconnect sheets (no details required) in the following formats:
   a. One 11x17 paper copy
   b. One 11x17 pdf file
   c. Distribute as follows:
      i. Traffic Signals Unit: One (1) 11x17 paper copy and pdf file
      ii. TSC Delivery Engineer: Pdf file
      iii. TSC Traffic & Safety Engineer: Pdf file

iv. TSC Utilities Engineer: Pdf file
v. Region Soils Engineer: Pdf file
vi. Region Traffic & Safety Engineer: Pdf file
vii. Maintaining Agency (if applicable) : Pdf file
viii. Utility company supplying power: Pdf file

Task 2: Utility Documentation

1. Show existing utility information (as provided by utility companies) on both removal and proposed signal plans.
2. Identify and inform the TSC utility engineer of any utilities for which insufficient information was provided, and identify any utilities that may conflict with the proposed construction.
3. Attend utility coordination meeting(s) as required and document any additional utility information.

Task 3: Preliminary (75%) Plan Preparation

1. Design and develop preliminary (75%) contract plans necessary for new installation or modernization of electronic traffic control devices to be accomplished by contract bid letting. Preliminary (75%) plans include (in addition to base plan information):
(a) Location and types of utilities as provided by the utility companies and resulting from utility coordination meeting(s) as required.
(b) Separate Interconnect plan sheet (if the scope requires **"Radio Interconnect Design"**)
(c) List of Materials and Quantities
(d) Wiring diagram
(e) ADA ramp and pushbutton design (including existing and proposed elevations)
(f) Point of Contact Height (POCH) diagram(s)
(g) Appropriate note blocks for contact persons, etc.
(h) Proper file names, levels, and text sizes
(i) Any additional right-of-way required for existing and proposed traffic signal appurtenances
(j) Soil boring information including depths, soil description, water level, and depth of foundation (if required)
2. Attend plan review meeting at the local TSC.

Task 3: Deliverables Preliminary (75%) Plans:

1) All traffic signal plan and interconnect sheets including details.
2) All required special provisions, notices to bidders, and specifications in E-Proposal format including a draft progress clause, a draft coordination clause, and a draft special provision for maintaining traffic.
3) Checklist of "typical" signal details to be used
4) Format of Task 3 Deliverables
a) Nine (9) 11x17 paper copies
b) One electronic 11x17 pdf file (filename: Job#PLANHALF.pdf)
c) One electronic proposal pdf file (filename: Job#PROPOSAL.pdf)

5) Distribute Task 3 Deliverables as follows:

- **i)** Traffic Signals Unit: Two (2) 11x17 paper copies, and pdf file
- **ii)** TSC Delivery Engineer: One (1) 11x17 paper copy, and pdf file
- **iii)** TSC Traffic & Safety Engineer: One (1) 11x17 paper copy, and pdf file
- **iv)** TSC Utilities Engineer: One (1) 11x17 paper copy, and pdf file
- **v)** Region Soils Engineer: One (1) 11x17 paper copy, and pdf file
- **vi)** Region Traffic & Safety Engineer: One (1) 11x17 paper copy, and pdf file
- **vii)** Lansing Signal Shop: One (1) 11x17 paper copy
- **viii)** Maintaining Agency (if applicable): One (1) 11x17 paper copy, and pdf file
- **ix)** Utility company supplying power: One (1) 11x17 paper copy

Task 4: Utility Coordination

1) Actively work with MDOT personnel until utility conflicts are resolved. This includes, but is not limited to:

- **a) Staking proposed foundation locations in the field prior to the utility coordination field review**
- **b) Documenting additional utility information on the plans**
- **c) Revising plans to avoid utility conflicts**

Task 5: Final Plan and Proposal Preparation

1) Incorporate the department's comments on the plans and prepare complete detailed construction final plans, supplemental specifications, special provisions, measurement and payment items, estimates of quantities, span calculations, and engineer's final estimates of cost for all necessary construction and related work included in this project.

2) During preparation of the final plans, make such alterations, corrections, and revisions to said plans and supporting materials as are deemed necessary and desirable by the department to insure conformance of plans to good design and standard practices and to have said plans and other material in proper form for receiving bids.

3) During preparation of the proposal, work with the appropriate MDOT personnel to obtain final bid proposal documents including progress clause, coordination clause, special provision for maintaining traffic, and utility relocation status (form 2286).

4) Attend and provide electronic plans for the OEC meeting. Make any final changes necessary.

Task 5: Deliverables (Final Plans):

1. Upon completion of design services for this project and final approval thereof by the department, deliver to the department final plans, proposal and supporting documents compatible with **current"E- Proposal"** requirements (Refer to MDOT website: E-Proposal Training for MDOT Consultants Document). **All CAD files must be "Intergraph Microstation Version 8 file format" and all PDF files must be Adobe Acrobat version 6.**

Format of Task 5 Deliverables (Final Plans):

- **a)** Two (2) 11”x17” paper copies of the full plan set. The title sheets must have original stamps and signatures and include a map of the area with work locations identified, a list of locations, and other items as determined by Traffic Signal Unit
- **b)** Electronic files of all signal plans
- **c)** Electronic (pdf) 11”x17” plan file (filename: Job#PLANHALF.pdf)
- **d)** Electronic (pdf) proposal file (filename: Job#PROPOSAL.pdf)
- **e)** Electronic (pdf) files of all required supporting documents
- **f)** Editable electronic files of all supporting documents and of all files inserted into proposal document. For example, submit the progress clause as a word document in addition to the progress clause (pdf) which will also be inserted in the proposal pdf.
- **g)** One set of estimates of cost of construction (8-1/2" x 11" paper copy).
- **h)** One copy of all design computations as required for use by the department.
- **i)** Upon request by the department, make available thereto all notes utilized in preparation of the plans, supplemental specifications, and cost estimates.
- **j)** For all signal contracts, a "txt" or “csv” file compatible with Transport system detailing the materials used
- **k)** Checklist of "typical" signal details to be used
- **l)** All required checklists of MDOT Special Provisions extracted per E-Proposal format

Distribute Task 5 Deliverables to Lansing Traffic Signals Unit only as follows:

- **i)** Two (2) 11x17 paper copies
- **ii)** All electronic files to be delivered on a compact disk (CD) and sent via email

MDOT RESPONSIBILITIES:

Department Review:
The department will review and comment on the base plan, the preliminary (75%) plan, and the OEC plan submittals. Additional plan review may be required dependent on completeness and accuracy of the plans submitted.

Information services to be provided by the MDOT are:

- Control section numbers
- Job numbers
- Contact information for TSC/Region/C&T personnel
- Appropriate Traffic and Safety Notes
- Available signal design plans and/or layout drawings for each location
- Available signal phasing or operational information for each location
- A Proposal file will be made available to be used as a template
- **Items available on MDOT's website - www.michigan.gov/mdot**
  (Select: Doing Business with MDOT, Traffic & Safety Services, Typicals/Details/Guides)

  1. Signal Details
    a. MDOT Typical Signal Construction Detail Sheets

b. MDOT Typical Signal Information Note Sheet
c. MDOT Typical Signal Legend Sheet

2. Traffic Consultant Files
a. Cell libraries
b. Microstation information
c. CAD instructions for consultants
d. MDOT sample layouts
e. MDOT Suggested Traffic Signal Design Procedure
f. MDOT Requirements for Preliminary Geotechnical Investigations for Signal Foundations
g. Method of Measurement and Basis of Payment for Signal Contracts
h. Signal Span Calculation Program (non-disclosure statement required)

3. Traffic Guidelines
- Traffic Signal Head Placement Diagrams

Signal special provisions are now available on the Design IRS menu.

Reference Documents and Standards to be Used:

- National *Manual of Uniform Traffic Control Devices*
- *Michigan Manual of Uniform Traffic Control Devices* (MMUTCD)
- *Michigan Vehicle Code*
- Local and national electrical codes
- MDOT Standards, Specifications, and Construction Details
- MDOT Pay Item Code Book

From this list, the following documents can be ordered from MDOT Financial Services Division (517-335-2519). The Consultant must pay the cost.

- MMUTCD
- MDOT 2012 Standard Specifications for Construction
- MDOT Pay Item Code Book

PROJECT COORDINATION:

Coordinate design service with MDOT, Traffic and Safety Support Area, Traffic Signal Unit, Douglas Adelman (517-373-2363); overhead and/or underground utility/telephone companies; Miss Dig (800-482-7171).

ATTACHMENT C

SUBSURFACE UTILITY ENGINEERING (SUE)

CONTROL SECTION: 81031

JOB NUMBER: 84004C

The Consultant shall discuss the scope of this SUE work with the MDOT Project Manager, Design Team and TSC utility coordinator before submitting the priced proposal. **The determination of Utility Quality Level will be made at the Scope Verification Meeting, prior to the Vendor submitting the priced proposal.**

SUE can be applied to varying degrees on a project depending on the situation. A project may include one or multiple utility quality levels depending on the risk factor associated with each subsurface utility. Subsurface utility data evaluation is an important part of the utility coordination and SUE process. The following section provides issues to consider when determining what specific quality level to choose. The following items are not intended to be comprehensive or exclusive; they are merely set forth as a general outline of the work that is expected.

SUE - A branch of engineering practice that involves managing certain risks associated with utility mapping at appropriate quality levels, utility coordination, utility relocation design and coordination, utility condition assessment, communication of utility data to concerned parties, utility relocation cost estimates, implementation of utility accommodation policies, and utility design. (ASCE Standard 38-02)

ASCE Standard 38-02, "Standard Guideline for the Collection and Depiction of Existing Subsurface Utility Data" has been used as a guideline for the development of this scope of services. Depending on the project, Consultant may be asked to provide some or all the work identified in utility quality levels A through D.

Utility Quality Level - A professional opinion of the quality and reliability of utility information. Such reliability is determined by the means and methods of the professional. Each of the four existing utility data quality levels is established by different methods of data collection and interpretation. (ASCE Standard 38-02)

MDOT shall –

1. Provide a preliminary list of utility companies and addresses for utilities that may have facilities located within the project limits. This list may not be 100% accurate and/or complete. (utility quality level C or D)

2. Render assistance when necessary in persuading utility owners to allow access to pertinent records and facilities. If requested, provide a letter of introduction to utilities, to assist the Consultant in establishing the need for their presence in a particular area.

3. Provide Consultant with utility responses gathered during the base plan distribution when quality level D has been performed by MDOT. (utility quality level A, B or C)

4. Provide survey control for the purposes of tying the horizontal and/or vertical position of the designated utilities to the State Plane Coordinate System and the project limits, including side roads. If available, MDOT will also furnish highway plans showing topography, horizontal alignments, etc. in an electronic or paper form. (utility quality level A, B or C)

5. Furnish preliminary highway plans showing areas requiring test holes when utility quality level A is requested for a specific utility location. (utility quality level A)

Utility Quality Level D - Information derived from existing records or oral recollections. (ASCE Standard 38-02)

The Consultant shall –

1. Solicit utility information as outlined in section 9.02.04 (Plan Distribution Process for Utility Coordination), Chapter 9 of the Michigan Road Design Manual.

2. The Consultant is responsible to take the appropriate steps to identify all known and unknown utility facilities within the project limits. Some sources of information may include utility owners, visual site inspection, internet search, Public Service Commission, County Clerk's office, etc.

Utility Quality Level C - Information obtained by surveying and plotting visible above-ground utility features and by using professional judgment in correlating this information to quality level D information. (ASCE Standard 38-02)

Consultant may need to complete portions of utility quality level D in order to complete utility quality level C.

The Consultant shall –

1. Obtain all necessary permission or permits from MDOT, city, county, municipality, railroad or other entity to allow the Consultant to work on existing streets, roads, and private property for the purpose of marking, measuring, and recording the location of existing underground utilities.

2. Survey visible above-ground utility facilities and correlate this information with existing utility records.

Utility Quality Level B - Information obtained through the application of appropriate surface geophysical methods to determine the existence and approximate horizontal position of subsurface utilities. Quality level B data should be reproducible by surface geophysics at any point of their

depiction. This information is surveyed to applicable tolerances defined by the project and reduced onto plan documents. (ASCE Standard 38-02)

Consultant may need to complete portions of utility quality levels C and D in order to complete utility quality level B.

The Consultant shall –

1. Obtain all necessary permission or permits from MDOT, city, county, municipality, railroad or other entity to allow the Consultant to work on existing streets, roads, and private property for the purpose of marking, measuring, and recording the location of existing underground utilities.

2. Designate, record, and mark the horizontal location of all existing underground utilities and their major laterals to existing buildings. Storm sewers are not to be designated unless specifically required by MDOT. Typically, horizontal designating of underground utilities shall be accurate to plus or minus one foot. Occasionally, this accuracy may be difficult to achieve when a facility is extremely deep and/or is made of a material that only allows for the propagation of a weak signal, or is surrounded by other facilities that cause interference.

3. Provide all necessary equipment and support personnel, including surveying capability, to secure the data outlined in this section.

4. All survey work will be the responsibility of the Consultant.

Utility Quality Level A - Precise horizontal and vertical location of utilities obtained by the actual exposure (or verification of previously exposed and surveyed utilities) and subsequent measurement of subsurface utilities, usually at a specific point. Minimally intrusive excavation equipment is typically used to minimize the potential for utility damage. A precise horizontal and vertical location, as well as other utility attributes, is shown on plan documents. Accuracy is typically set to 15-mm (approximately 5/8") vertical and to applicable horizontal survey and mapping accuracy as defined or expected by the project owner. (ASCE Standard 38-02)

Consultant may need to complete portions of utility quality levels B, C, and D in order to complete utility quality level A.

The Consultant shall –

1. Review plans furnished by MDOT showing areas requiring test holes within the project limits. Recommend changes to MDOT's location plan based upon SUE best practices. Obtain additional company records as required.

2. Obtain all necessary permission or permits from MDOT, city, county, municipality, railroad or other entity to allow the Consultant to work on existing streets, roads, and private property for the purpose of marking, measuring, and recording the location of existing underground utilities.

3. Comply with any and all State law requirements for notification prior to excavation. In conformance with Public Act 53 of 1974, Michigan's one call damage prevention system "Miss Dig", the Consultant is required to phone 1-800-482-7171 a minimum of three full working days (excluding Saturdays, Sundays, and Holidays) prior to excavating near a utility.

4. Coordinate with utility company inspectors as required.

5. Neatly cut and remove existing pavement with the cut area not to exceed 225 square inches. Excavate using a method enabling vertical and horizontal exploration through this cut.

6. Excavate test holes in such a manner as to prevent any damage to wrappings coatings, or other protective coverings, such as vacuum excavation, hand digging, etc.

7. Be responsible for any damage to the utility during excavation.

8. Backfill with approved material around utility structure.

9. Furnish and install an above ground marker (i.e. P.K. nail, peg, steel pin, or hub) directly above the centerline of the utility and record the elevation of the marker.

10. Provide a permanent restoration of the pavement within the limits of the original cut at the time of backfill. If the test hole is excavated in an area other than the roadway pavement, the area disturbed shall be restored to equal or better than the condition before excavation.

11. Tie all vertical elevations to a minimum of two checked benchmarks or available datum. The accuracy of these turns shall be in accordance with established surveying practices. Vertical surveying of underground utilities shall be accurate to 5/8".

12. All survey work will be the responsibility of the Consultant.

13. Maintain the quality of the permanent pavement restoration for 3 years.

Permits and Traffic Control

An annual permit (MDOT form 2205-B) and certificate of insurance (MDOT form's 2020 & 2216) shall be required from all SUE Consultants. These shall be submitted to MDOT's Lansing Real Estate Division. An advance notice of permitted activity (MDOT form #2204) shall be submitted to the appropriate TSC office not less than five days prior to working within the right of way.

All maintaining traffic provisions of the permit shall be followed, as well as conformance to the requirements of Part 6 (C) of the Michigan Manual of Uniform Traffic Control Devices. If the site conditions are not addressed in the Michigan Manual of Uniform Traffic Control Devices, the Consultant shall submit a written traffic plan to the TSC for approval. The Consultant shall be responsible for providing all materials, equipment and personnel necessary for the maintenance of traffic. This includes, but is not limited to; temporary traffic control signs, channelizing devices, arrow panels, traffic barriers (i.e. temporary concrete barriers if required), impact attenuators,

flaggers, temporary pavement markings, etc. and all other equipment and/or labor necessary to effectively implement the approved maintenance of traffic plan.

Due to the amount of traffic on certain highways, the Consultant may be required to work off peak hours. In addition, the Consultant shall not work on weekends, national holidays, state holidays, or the days proceeding said holidays without the written permission from the jurisdictional region/TSC office.

Data Management

Data management involves assembling and presenting designating and locating information in a format compatible to MDOT's current version of Microstation.

Time to Complete Work

The Consultant shall complete and deliver SUE services within a mutually agreed upon time after the notice to proceed is given.

Deliverables

1. The final deliverables shall be sealed by a licensed professional civil engineer. This professional must be registered in the State of Michigan. The Consultant shall be responsible for the accuracy of all information presented to MDOT.

2. Copies of all deliverables shall be sent to all appropriate MDOT personnel. This may include the Project Manager, TSC Utility Coordinator and the Lansing Utility Coordination and Permits Section.

3. Horizontal utility depictions shall be in accordance to the conventions indicated in MDOT's English Road Design Manual. CADD files shall be submitted to MDOT on CD in CADD format utilizing MDOT's current version of Microstation. (utility quality level B)

4. For all test holes performed, the following information shall be submitted to MDOT on CD in CADD format utilizing MDOT's current version of Microstation. Test hole information shall be submitted in a spreadsheet format coordinated with test hole locations depicted on the plan sheets. A paper copy shall also be provided as a final deliverable. (utility quality level A and B)

   a. Elevation of top and/or bottom of utility tied to datum of the furnished plan.

   b. Elevation of existing grade over the utility at the test hole.

   c. Horizontal location referenced to project coordinate datum.

   d. Outside diameter of pipe or width of duct banks and configuration of non-encased

multi-conduit systems.

e. Utility structure material composition and condition, when possible.

f. Size, type and owner of utility facility.

ATTACHMENT D

SCOPE OF SERVICE
FOR
GEOTECHNICAL SERVICES
Coring and Testing Services

CONTROL SECTION: 81031

JOB NUMBER: 84004C

DESCRIPTION OF WORK:

The Consultant shall be prepared to perform geotechnical investigations for the above project location within the University Region. The investigations includes pavement coring and soil borings using hollow or solid stem augers, geoprobe or hand augers. Cores and borings through the core hole shall be every 150 feet alternating lanes of US-12(total of 33) and to a depth of 5 feet. Ancillary soils work for all pavement cores/borings shall include soil sampling for the purpose of soil classification and gradation analysis. SPT testing will not be required for pavement cores/borings. In addition, soil borings for the traffic signal modernization locations listed in Attachment B will be required. Borings shall be obtained at each quadrant for the box span design and to a depth of 25 feet. SPT testing is required for all signal foundation borings. All Pavement cores and soil borings will be performed during normal working hours and off-peak traffic hours such as weekends and nights are not anticipated.

CONSULTANT RESPONSIBILITIES:

A. The Consultant is responsible for contacting MISS DIG. The consultant is also responsible for location of other utilities not on the MISS DIG system.

B. The consultant is responsible for traffic control during all operations. The Project Manager will supply the consultant with appropriate traffic control typicals to use for each specific project. In most cases the typicals will be drawn from the "MDOT Maintenance Work Zone Traffic Control Guidelines" available on the MDOT website.

C. The Consultant shall perform field operations in accordance with the Department's Personal Protective Equipment (PPE) Policy as stated in the MDOT Guidance Document #10118. A current copy of MDOT's PPE Policy is available on the Bulletin Board System. The Consultant shall perform field operations in accordance with MIOSHA regulations and accepted safety practices.

D. The Consultant is responsible for filling the auger holes with bituminous patching material or fast set concrete prior to leaving the specific location.

E. The consultant is responsible for preparing all core and boring reports. The core/soil boring report shall consist of plan sheet(s) in Microstation and pdf formats graphically listing all

cores/borings. Core/boring locations shall include lateral and longitudinal offsets referencing lanes and cross streets. In addition, the consultant will provide GPS coordinates in latitude/longitude format for all cores/borings locations.

MDOT RESPONSIBILITIES

A. The Project Manager will provide the consultant with the appropriate traffic control scheme to use for each project. Traffic control may be changed during the work in response to unforeseen conditions, or as dictated by emergency or other events. MDOT will review traffic control measures being used at random times during performance of the contract.