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) |
|---|---|---|
| Thomas Fisher | JN104458C | Multiple |

DESCRIPTION
Signal Optimization for 13 Locations in Allegan & Cass Counties, Southwest Region

**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** |

Michigan Department
of Transportation
5100H (03/10)

# 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 2 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.

## PROPOSAL SUBMITTAL INFORMATION

| REQUIRED NUMBER OF COPIES FOR PROJECT MANAGER | PROPOSAL/BID DUE DATE | TIME DUE |
|---|---|---|
| 5 | 5/24/11 | 4:00 p.m. |

## 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

Thomas Fisher,Signal Operation, Traffic & Safety,MDOT
Murray D. Van Wagoner Building
P.O. Box 30050
Lansing, MI 48909

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<br>Michigan Department of Transportation<br>PO Box 30050<br>Lansing, MI 48909 | | Secretary, Contract Services Div - B470<br>Michigan Department of Transportation<br>425 W. Ottawa<br>Lansing, MI 48933 |
| ☐ | Contract Administrator/Selection Specialist<br>Bureau of Transportation Planning B470<br>Michigan Department of Transportation<br>PO Box 30050<br>Lansing, MI 48909 | | Contract Administrator/Selection Specialist<br>Bureau of Transportation Planning B470<br>Michigan Department of Transportation<br>425 W. Ottawa<br>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
## TRAFFIC & SAFETY SERVICES
## Traffic Signal Optimization

**CONTROL SECTION(S):** 84915

**JOB NUMBER(S):** 104458C

**PROJECT LOCATION:**

13 Signalized Intersections in Allegan and Cass Counties, Southwest Region:

| # | CS | SN | Intersection Name | City/Twp. |
|---|---|---|---|---|
| 1 | 03035 | 002 | I196 SWB OFF RAMP @ M40 (LINCOLN) | Holland |
| 2 | 03072 | 015 | M40 @ WAVERLY RD (RELOCATED) | Holland |
| 3 | 03072 | 002 | M40 (LINCOLN) @ M40 (48TH,146TH) | Holland |
| 4 | 03072 | 001 | M40 @ US31 BYPASS | Holland |
| 5 | 03112 | 104 | US131 SB OFF RAMP @ 135TH AVE | Wayland Twp. |
| 6 | 14011 | 005 | M51 @ M62 & BURGER KING DR (W JCT) | Dowagiac |
| 7 | 14011 | 002 | M51,M62 (FRONT) @ M62 (DIVISION) | Dowagiac |
| 8 | 14011 | 012 | M51 (FRONT) @ PRAIRIE RONDE | Dowagiac |
| 9 | 14031 | 003 | M62 @ REDFIELD RD | Ontwa Twp. |
| 10 | 14031 | 002 | M62 @ ELKHART RD | Edwardsburg |
| 11 | 14031 | 001 | M62 @ US12 (MAIN) | Edwardsburg |
| 12 | 14032 | 001 | M60,M62 (BROADWAY) @ M60 (STATE ST) | Cassopolis |
| 13 | 14061 | 001 | M60 @ M60BR,YANKEE,BEEBE & HUNTLEY | Howard Twp. |

**PROJECT DESCRIPTION:**

Traffic Signal Optimization on various corridors in the Southwest Region. This project will provide MDOT with updated corridor signal progression plans with optimized traffic signal operations along each corridor. The consultant team will provide this information on MDOT timing permits forms. New timings will be implemented by MDOT. Follow-up analysis of the network and recommendation of adjustments to the system after implementation is required, as is a before and after study of the effectiveness. All work will follow the Michigan Signal Optimization Guidelines, the Michigan Timing Plan Preparation Guidelines timing guidelines and other documents provided by MDOT.

MDOT is requesting qualifications and a proposal for providing engineering services for signal optimization on various state trunk lines in Southwest Region.

**ANTICIPATED SERVICE START DATE:** June 24, 2011

**ANTICIPATED SERVICE COMPLETION DATE:** June 22, 2012

**PRIMARY PREQUALIFICATION CLASSIFICATION(S):**

Complex Traffic Signal Operations

**SECONDARY PREQUALIFICATION CLASSIFICATION(S):**

None

**DBE REQUIREMENT:** N/A

**MDOT PROJECT ENGINEER MANAGER:**

Thomas Fisher
Michigan Department of Transportation
Division of Operations – Traffic Signals Section
425 West Ottawa Street
Lansing, MI 48913
Email: fisherth@michigan.gov
Tel: (517) 335-1207
Fax: (517) 241-2567

**CONSULTANT RESPONSIBILITIES:**

Schedule a pre-project initiation meeting to discuss the overall project schedule including data collection and to coordinate project activities and to determine signal timing objectives and issues.

Conduct as needed status meetings at MDOT facilities. Provide written monthly project status reports to MDOT detailing progress towards completion of the project's goals and objectives. Also provide the meeting minutes.

Obtain and review the current signal timing plans. It may be necessary for the consultant to obtain and review the signal timing plans of the existing signals immediately upstream/adjacent to the project signals to evaluate continued progression along a given corridor.

All intersections will require development of timings plans for the A.M. peak, P.M. peak, noon-peak and nighttime periods.

In addition to the normal timing, a [special event, emergency, holiday weekend, summer, etc…] timing plan may also be necessary depending on the specific corridor.

Field collection of the 2-hour A.M. peak period, 4-hour P.M. peak period, and 2-hour mid-day off-peak turning movement volumes including pedestrian counts. Unless otherwise approved, all counts will be taken on Tuesday, Wednesday, or Thursday. No counts will be taken while schools are in summer vacation or during major holiday periods. Exact periods will be determined during the project and approved by the MDOT project manager.

24-hour machine counts for each intersection approach shall be completed to determine schedules for peak periods and flash schedule.

Field collection of lane geometry, posted speed limits, intersection widths, travel distance between signalized locations, grades, lane widths, no turn on red signs, pedestrian facilities (heads and pushbuttons) will be required. A review of the ambient light at each location shall also be noted.

Take a digital photograph of each intersection approach.

Input 24-hour and turning counts into an Excel spreadsheet in MDOT's standard format, for storage and future use.

Optimize traffic signal operations to improve traffic flow and reduce delay at each intersection using *Synchro (Version 7)* software.

Simulate the results using *SimTraffic (Version 7)* software.

Calculate vehicle and pedestrian clearance intervals at each location based on traffic signal timing standards provided by MDOT's Change Interval Guidelines.

Compile a summary of system Measures of Effectiveness and a cost/benefit analysis for the project area.

Identify any potential improvements in the existing signal equipment, lane assignment or roadway geometry that will provide better operational and safety characteristics, if corrected.

Perform a Warrant Analysis on all signals. All applicable warrants shall be reviewed. Graphs shall be created and supplied to MDOT for locations that do not meet warrants. The warrant analysis spreadsheet will be provided by MDOT.

Obtain most recent 3-year traffic crash summaries from MDOT for a 250-ft radius around each signalized location. Evaluate the crash data to determine if there are any crash patterns. Report on crash patterns to the MDOT project manager for future analysis by MDOT. Operational improvements deemed necessary by the crash analysis shall be incorporated into the timing plans developed by the consultant. Crash diagram should be created for the top 10% high crash locations.

Conduct review of nearby signals on cross streets that are within 500 feet of the corridor being retimed and provide suggested timing plans. These signals should also be included in the Synchro models.

Provide the MDOT timing permits to the applicable local agency for the corridor being retimed so they can utilize them to adjust their own timing permits for those affected signals. The local agency should be given enough time to allow for the installation to be implemented at the same time as MDOT.

Develop and submit for review computer simulations and "red-lined" signal-timing plans for each location in accordance with MDOT's and each road agency's format. Revise these timing plans in accordance with MDOT, the road agency's and local communities' comments.

Conduct a follow-up field critique of the new timing plans and recommend adjustments as required. Where required, submit revised signal timing plans.

Perform before and after analysis using actual travel time runs and prepare a brief summary outlining the benefits derived from the project. The following bullets will give an overview of the details that will be involved:

*Data Collection:*

The consultant will be required to collect and evaluate detailed point-to-point travel time data using PC Travel or similar approved data collection and processing software. Collection of travel time data using PC Travel requires use of a laptop computer, with data collected from one of the following two sources:

- Using a GPS receiver coupled with the GPS Travel Time software package, or;
- Using a vehicle-mounted transmission sensor coupled with a TDC-8 traffic count board.
- For locations where there are 3 or fewer signals along a corridor utilize the equivalent output from SimTraffic to generate existing and optimized measures of effectiveness.

Utilize the Michigan Signal Optimization Guidelines and the Michigan Timing Plan Preparation Guidelines throughout the contract, as a tool. Any unusual locations shall be discussed with the Project Manager for direction on how to proceed.

Utilize the MDOT supplied spreadsheet model for conducting benefit/cost evaluations on signal optimization projects. This is in electronic format.

**PROJECT DELIVERABLES:**

Provide MDOT electronic copies of the *Synchro 7* existing and optimized simulation files so that they can be updated and used for future analysis.

Provide MDOT an electronic copy of all project documentation.

Provide a written final report (2 paper copies of the report, 5 electronic copies including the report and appendices) that includes all identified roadway geometry, lane assignments, speed limits, equipment/roadway deficiencies and recommended improvements, turning movement count data, 24 hour approach counts, flash schedule analysis, clearance interval analysis, collision diagrams, crash analysis & recommendations, summary of measures of effectiveness, benefit-cost analysis and summary of each local meeting.

**MDOT RESPONSIBILITIES:**

Host a project initiation meeting to discuss the overall project schedule including data collection and to coordinate project activities and to determine signal timing objectives and issues.

Furnish to the Consultant the following:

> The most recent 3-year traffic crash summaries from MDOT in a 250 ft radius around each signalized location.
>
> Existing timing plans and signal drawings of each intersection.

Conduct final reviews and provide comments on proposed timing permits, computer models and reports.

**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 “then 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.