

Work Plan
Special Experimental Project No. 14 (SEP-14)
Michigan Department of Transportation
Alternate Technical Concepts for Staging and Maintaining Traffic
February 12, 2013

MDOT Job Number: 106848A (107607A, 108695A, 110434A, 115141A, 115135A)
Control Section: 37032 & 56045
Length of Project: 7.4 Miles
Location: US-10, from the Midland/Isabella County Line to M-18 including 8 bridges
Contract Cost: \$20,900,000

Introduction

The Michigan Department of Transportation (MDOT) proposes to use an Alternate Technical Concepts (ATC) contracting approach under the provisions of Special Experimental Project No. 14 (SEP 14) for the use of innovative contracting practices.

Purpose

It is common for contractors to approach MDOT after the award of a contract with an alternate way to stage the project and maintain traffic. The purpose of using Alternate Technical Concepts (ATC) on this project is to allow contractors the ability to propose, and receive approval for, alternate staging and maintaining traffic plans in order to bring a contractor's innovations and construction techniques into the project during the bidding process.

Project Scope and Background

US-10 is a freeway with an ADT of 8,700 (with 9% commercial) scheduled for a major rehabilitation in 2013. The project will use an alternate pavement bidding (APB) process to determine if it will be built with an unbounded concrete overlay or a Hot Mix Asphalt (HMA) overlay. The MDOT-furnished proposal will consist of maintaining one lane of traffic per bound on their respective road beds using lane widening with a four foot lateral safety buffer. This will apply to both the HMA pavement option and the concrete pavement option.

The concrete paving industry approach MDOT stating that equipment and technology have changed and the 4 foot lateral buffer in MDOT's current standards may be larger than needed which could make their pavement option non-competitive in this APB project.

An ATC process for maintaining traffic is being proposed in order to allow all potential construction methods to be considered pre-bid in order to maximize competition, incorporate innovative approaches and equipment that will add value to the project while maintaining a safe construction work zone. To accomplish these goals, the following steps are anticipated to be taken:

1. Construction plans and specifications will be developed that include a lump sum item for traffic control. The traffic control item will include all costs for the contractor to maintain traffic during construction. The contractor will have the option of bidding the

MDOT-furnished proposal for maintaining traffic or proposing a different alternative through a series of MDOT/FHWA approvals.

2. The base design will be provided for MDOT's traditional maintaining traffic schemes using a 4 foot lateral safety buffer.
3. A mandatory pre-bid meeting will be held regardless of whether a contractor will be submitting an ATC for approval or if they will be bidding the MDOT-furnished proposal.
4. A Notice to Bidders will be developed to detail the goals, requirements and guidelines of the ATC process. In this provision, MDOT will define minimum criteria that shall be met. The Notice to Bidders will clearly describe what work and equipment can be within the lateral safety buffer. The Notice to Bidders along with a Liquidated Damages Special Provision is anticipated to include the consequences for violating the buffer zone requirements and for lane closures associated with the temporary pavement maintenance. All contract provisions related to the ATC process will be provided to the FHWA-Michigan Division prior to advertising the project for approval.
5. Through the ATC process, contractors will be provided the opportunity to present alternate maintaining traffic concepts to MDOT. MDOT will review the concept(s) and provide the contractors feedback on the concept and indicate if it is approved for further development. If a concept is approved for further development, the contractor will follow the requirements outlined in the Notice to Bidders for additional information and re-submit for final approval. Final approval will be needed if a contractor elects to use it for the basis of their bid. Costs associated with the additional design work shall be the contractor's responsibility and shall be included in the lump sum cost for maintaining traffic.
6. Bids are anticipated to be submitted electronically. However, in addition to submitting an electronic bid, MDOT anticipates that a technical proposal will be required. The technical proposal will include specific details and designs for the final maintaining traffic concept being proposed by the contractor.
7. A Special Provision for Liquidated Damages associated with the closing of a lane(s) is expected to be included in the contract. These liquidated damages assign a cost that is charged to the contractor for every fifteen minute increment that a traffic lane is unavailable for use by traffic. The costs will increase progressively as the time extends for lanes that are unavailable for traffic use.
8. The final contractor will be selected based on the project cost and the EUAC (Equivalent Uniform Annual Cost) equation developed for the APB procedure. The EUAC formula is a summation incorporating costs associated with contract work items, user delay costs and future maintenance costs. The lowest calculated EUAC, as verified by the Department, will be the apparent low bid and will be reviewed according to subsection 102.10 of the Standard Specifications for Construction. See MDOT's previous SEP-14 for APB for details on how the EUAC is developed.

Schedule

The Project is scheduled to be advertised in April, 2013 with bids due in May, 2013. Construction is expected to be completed in 2014.

Evaluation

MDOT will evaluate the success of this process based on the factors listed below. The evaluation will be included in a report that will be completed within 6 months of the project's completion.

1. Industry Reaction: MDOT will record and track the response from our contracting industry. This will also include an assessment of improvements to the process that may be proposed by industry.
2. ATC's Proposed: MDOT will assess the number of ATC concepts proposed, the number of concepts approved for further development, and the number of concepts proposed at the time of bidding.
3. Time and Cost Savings: MDOT will compare the cost of the Engineer's Estimate of the base designs to the cost of the selected contractor's maintaining traffic scheme. MDOT will also evaluate any time savings from alternate maintaining traffic schemes proposed.
4. Lessons Learn: MDOT will provide a summary of any lessons learned throughout the project and will include any items that may be improved on for the next project that uses a similar process.

Reporting

MDOT will prepare and submit a report on this project to FHWA. The report will be submitted to FHWA upon completion of the contract and final acceptance by the MDOT. The final report will contain all unique contract provisions related to the ATC process, an overall evaluation of the project along with any suggestions and recommendations for improving the process.