

**Final Report  
Special Experimental Project No. 14 (SEP-14)  
Michigan Department of Transportation  
Fixed Price Variable Scope Contracting  
January 22, 2018**

Project Number: 106329A

Control Section: 84923

Project Scope: Installation of Environmental Sensor Station ITS and the Fiber Optic Network

Location: Various locations in the Grand Region

**Introduction**

In 2017, MDOT received approval to utilize the Fixed Price Variable Scope (FPVS) contracting method for the installation of Environmental Sensor Station (ESS) ITS Sites and the Fiber Optic Network located at various sites within Muskegon and Ottawa Counties. The purpose of using the FPVS contracting method was to gain more value by installing additional sites than if the traditional Design-Bid-Build process was utilized.

**Contract Information**

This contract can be found on MDOT's e-proposal website by clicking on the following link: <http://mdotcf.state.mi.us/public/eprop/login/index.cfm>. Once registered, enter the e-proposal website by typing in the user's email address and password. Instructions for registering new users are on the left side of this page. Select the letting date (July 12, 2017) from the "Lettings" area on the left side of the page. The project plans and proposal, and contractor inquiries and responses will be available for downloading from this location.

MDOT has also developed a guide of the development of FPVS projects. This guide is incorporated as an appendix to MDOT's Innovative Construction Contracting Guide which is publicly posted on MDOT's website.

**Project Overview**

The project work includes the installation of at least twenty sites, and up to twenty-three ITS/ESS sites and the Fiber Optic Network. Each site includes items such as fiber optic network, wireless communications, dynamic message signs (DMS), closed-circuit television cameras (CCTV), microwave vehicle detection systems (MVDS), equipment cabinets, electrical service, and ESS that include atmospheric sensors, to be integrated into MDOT's Road Weather Information System (RWIS) central management system via 4G cellular modems and other miscellaneous equipment to provide a working system.

**Project Development**

The project was divided into four sections for contractors to bid on. Contract documents were included to define the work included in each Section and provide clear bidding instructions.

Section 1 included the work needed to install ITS/ESS Sites 1 through 20 and the Fiber Optic Network. This was the minimum amount of work that could be bid, and bids could be submitted at any price.

Section 2 included the work needed to install ITS/ESS Sites 1 through 21 and the Fiber Optic Network, and bids were required to be less than or equal to \$4,000,000. Bids greater than this dollar amount would not be considered.

Section 3 included the work needed to install ITS/ESS Sites 1 through 22 and the Fiber Optic Network, and bids were required to be less than or equal to \$4,000,000. Bids greater than this dollar amount would not be considered.

Section 4 included the work needed to install ITS/ESS Sites 1 through 23 and the Fiber Optic Network, and bids were required to be less than or equal to \$4,000,000. Bids greater than this dollar amount would not be considered.

Contractors were only allowed to bid on one Section, and the selection of the contractor was based on the following criteria:

1. Work completed: The selected contractor will be the one that can complete the most work.
2. Price: If two or more contractors are tied after applying criteria 1, the tied contractor's price will be considered. The contractor with the lowest price will be the selected contractor.
3. Best and Final Offer (BAFO): If two or more contractors are tied after applying criteria 2, MDOT will request a BAFO from the tied contractors. The contractor with the lowest price will be the selected contractor.
4. Random Selection: If two or more contractors are tied after applying criteria 3, MDOT will draw a name from a container to determine the selected contractor.

### **Bid Results**

The total number of bidders for this project was 2. The low bidder bid on Section 1 at a price of \$3,996,205.00. The low bid included the installation of ITS/ESS Sites 1 through 20 and the Fiber Optic Network. The ITS/ESS system will operate as planned without the additional units.

The other bidder also bid on Section 1 (Sites 1 through 20 and the Fiber Optic Network) with a bid of \$4,290,056.96.

### **Industry Reaction**

Since only two bids were received and were both for the minimum amount of work, MDOT did not benefit from using the FPVS contracting method on this project.