

SEP-14 Work Plan
Michigan Department of Transportation
Variable Scope Contracting
Job No. 113243, North Region
December 1, 2015

Introduction

The Michigan Department of Transportation (MDOT) proposes to use variable scope contracting for an Environmental Sensor Station ITS project at various locations within MDOT's North Region.

Purpose

The purpose of this variable scope contract is to construct two active warning systems (AWS), up to 12 Environmental Sensor Stations (ESS) and up to 7 CCTV cameras at traffic signal locations within the current available project budget. See Attachment B for the location of the project sites, as well as the preliminary list of what sites will be included with the minimum bid, and which sites are included in the variable scope portion of the project.

NEPA Document

The project is expected to be classified as a Categorical Exclusion. The project description in the document is expected to be "RWIS Phase 3".

STIP

The project will be described in the STIP as "RWIS Phase 3". Sites designed but not built as part of this project are planned to be constructed as funds become available at a later date.

Scope

The project budget is approximately \$1,500,000 and will be funded with federal/state ITS funds. MDOT anticipates that at least 10 environmental sensor stations, 2 AWS, and 5 camera installations can be installed with this funding level. Additional sites are desired within the region, and this level of funding may be sufficient to complete a portion of the remaining desired sites. Sites include items such as atmospheric equipment, pavement condition sensors, cabinets, power, communications and other miscellaneous devices to provide a working system. Recent bid history on similar work has had significant variances making estimating difficult. Variable Scope contracting will allow the possibility for more than 10 ESS, 2 AWS, and 5 cameras to be installed if the bids are below the available budget.

Procurement Process

The project is anticipated to be divided into 4 sections for contractors to bid on.

Section 1 in the Schedule of Items will include the work needed to install ESS sites 1,2,3,4,5,6,7,8,9,10, AWS sites 1 and 2, and camera sites 1,2,3,4,5. Section 1 is the minimum amount of work that can be bid, and bids can be submitted in this section at any price.

Section 2 in the Schedule of Items will include the work needed to install ESS sites 1,2,3,4,5,6,7,8,9,10, AWS sites 1 and 2, and camera sites 1,2,3,4,5,6,7. Bids will only be accepted for this section if the bid price is equal to or less than the available budget (\$1,500,000). Bids greater than this amount will be considered non-responsive.

Section 3 in the Schedule of Items will include the work needed to install ESS sites 1,2,3,4,5,6,7,8,9,10,11, AWS sites 1 and 2, and camera sites 1,2,3,4,5,6,7. Bids will only be accepted for this section if the bid price is equal to or less than the available budget (\$1,500,000). Bids greater than this amount will be considered non-responsive.

Section 4 in the Schedule of Items will include the work needed to install ESS sites 1,2,3,4,5,6,7,8,9,10,11,12, AWS sites 1 and 2, and camera sites 1,2,3,4,5,6,7. Bids will only be accepted for this section if the bid price is equal to or less than the available budget (\$1,500,000). Bids greater than this amount will be considered non-responsive.

Contractors will only be allowed to bid on one Section. The selection of the contractor will be based on the following criteria:

1. Work Completed: The selected contractor will be the one that can complete the most work. Section 4 will be considered more work than section 1, 2 or 3 and section 3 will be considered more work than Section 1 and 2 and so on.
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.

Example Bids are shown in Attachment A. A Special Provision from a similar FPVS project is included in Attachment C. If there are significant changes to the Special Provision, MDOT will obtain approval from the FHWA-Michigan Division prior to advertising the project.

Schedule

The project is scheduled to utilize FY 2016 funds, and be let in February, 2016. Construction will occur in 2016.

Evaluation

In order to evaluate the success of this innovative contracting method, MDOT will assess the completed work under the contract compared to a typical design-bid-build project. To accomplish this, MDOT will estimate the amount of work that would be expected to be constructed using the budgeted dollar amount. Estimating will be performed by using traditional estimating methods based on recent bidding history. Industry reaction will also be measured by comparing the bids on similar contracts to the number of bids received on the fixed price variable scope contracts, as well as comments and suggestions from Michigan's contracting industry.

Reporting

MDOT will prepare and submit a report to the FHWA within 6 months of the project's completion. The report will contain information on how to access the project's unique contract language, an overall evaluation to determine if this innovative contracting method provided more value for the dollar than traditional contracting methods along with any recommendations for improving the process.

Attachment A

Example Bid Tab (Actual Bid Tab is more extensive)

Section 1: Environmental Sensor Station Installation: ESS sites 1,2,3,4,5,6,7,8,9,10, AWS 1, 2, camera sites 1,2,3,4,5

<u>Pay Item</u>	<u>Quantity</u>	<u>Unit</u>	<u>Price</u>	<u>Total</u>
Mobilization	1	LS		
Conduit and Wire	5000	Ft		
Pole	13	Ea		
Environmental Sensors	13	Ea		
Integration	1	LS		

Section 2: Environmental Sensor Station Installation: ESS sites 1,2,3,4,5,6,7,8,9,10, AWS 1, 2, camera sites 1,2,3,4,5,6,7

<u>Pay Item</u>	<u>Quantity</u>	<u>Unit</u>	<u>Price</u>	<u>Total</u>
Mobilization	1	LS		
Conduit and Wire	5500	Ft		
Pole	15	Ea		
Environmental Sensors	15	Ea		
Integration	1	LS		

Section 3: Environmental Sensor Station Installation: ESS sites 1,2,3,4,5,6,7,8,9,10,11, AWS 1, 2, camera sites 1,2,3,4,5,6,7

<u>Pay Item</u>	<u>Quantity</u>	<u>Unit</u>	<u>Price</u>	<u>Total</u>
Mobilization	1	LS		
Conduit and Wire	5750	Ft		
Pole	16	Ea		
Environmental Sensors	16	Ea		
Integration	1	LS		

Section 4: Environmental Sensor Station Installation: ESS sites 1,2,3,4,5,6,7,8,9,10,11,12, AWS 1, 2, camera sites 1,2,3,4,5,6,7

<u>Pay Item</u>	<u>Quantity</u>	<u>Unit</u>	<u>Price</u>	<u>Total</u>
Mobilization	1	LS		
Conduit and Wire	6000	Ft		
Pole	17	Ea		
Environmental Sensors	17	Ea		
Integration	1	LS		

Bid Example 1

Contractor Name	Bid Results				Acceptable Bid?	Comments
	Section 1	Section 2	Section 3	Section 4		
A1 Contractor	\$1,600,000				Yes, Section 1 bids can be higher than \$1,500,000	
B2 Contractor		\$1,500,000			Yes, Section 2-4 bids must be less than or equal to \$1,500,000	
C3 Contractor				\$1,200,000	Yes, Section 2-4 bids must be less than or equal to \$1,500,000	
D4 Contractor		\$900,000			Yes, Section 2-4 bids must be less than or equal to \$1,500,000	
E5 Contractor	\$800,000				Yes	
F6 Contractor			\$1,500,000		Yes, Section 2-4 bids must be less than or equal to \$1,500,000	
G7 Contractor		\$1,600,000			No, Section 2 bids cannot exceed \$1,500,000	Non-responsive bid
H8 Contractor			\$1,501,000		No, Section 3 bids cannot exceed \$1,500,000	Non-responsive bid
J9 Contractor	\$200,000	\$550,000			No, you cannot bid on more than 1 section	Non-responsive bid
J10 Contractor				\$1,100,000	Yes, Section 2-4 bids must be less than or equal to \$1,500,000	Selected Contractor: Criteria 1

Bid Example 2

Contractor Name	Bid Results				Acceptable Bid?	Comments
	Section 1	Section 2	Section 3	Section 4		
A1 Contractor	\$1,600,000				Yes, Section 1 bids can be higher than \$1,500,000	
B2 Contractor		\$1,500,000			Yes, Section 2-4 bids must be less than or equal to \$1,500,000	
C3 Contractor		\$1,500,000			Yes, Section 2-4 bids must be less than or equal to \$1,500,000	
D4 Contractor		\$900,000			Yes, Section 2-4 bids must be less than or equal to \$1,500,000	Selected Contractor: Criteria 2
E5 Contractor	\$800,000				Yes	
G7 Contractor		\$1,600,000			No, Section 2 bids cannot exceed \$1,500,000	Non-responsive bid
H8 Contractor			\$1,501,000		No, Section 3 bids cannot exceed \$1,500,000	Non-responsive bid
J9 Contractor	\$200,000	\$550,000			No, you cannot bid on more than 1 section	Non-responsive bid

Bid Example 3

Contractor Name	Bid Results				Acceptable Bid?	Comments
	Section 1	Section 2	Section 3	Section 4		
A1 Contractor	\$1,600,000				Yes, Section 1 bids can be higher than \$1,500,000	
B2 Contractor				\$1,500,000	Yes, Section 2-4 bids must be less than or equal to \$1,500,000	Criteria 3: Request BAFO
C3 Contractor				\$1,500,000	Yes, Section 2-4 bids must be less than or equal to \$1,500,000	Criteria 3: Request BAFO
E5 Contractor	\$800,000				Yes	
G7 Contractor		\$1,600,000			No, Section 2 bids cannot exceed \$1,500,000	Non-responsive bid
H8 Contractor			\$1,501,000		No, Section 3 bids cannot exceed \$1,500,000	Non-responsive bid
J9 Contractor	\$200,000	\$550,000			No, you cannot bid on more than 1 section	Non-responsive bid

Attachment B Site Locations

MICHIGAN DEPARTMENT OF
TRANSPORTATION

**DRAFT SPECIAL
PROVISION FOR
PREPARATION, DELIVERY, AND CONSIDERATION OF BIDS ON FIXED
PRICE VARIABLE SCOPE PROJECTS**

SW:SB
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1 of 2

APPR:XXX:XXX: 00-00-

The Department will receive and compare bids according to the process described in this special provision to determine the low Bidder for this project.

Delete subsection 102.03, on page 16 of the Standard Specifications for Construction, in its entirety and replace it with the following:

The Department will use the process described in the Special Provision for Preparation, Delivery, and Consideration of Bids on Fixed Price Variable Scope Projects and the modifications to the Standard Specifications for Construction contained therein to determine the low Bidder for this project.

Add the following after the second paragraph in subsection 102.05, on page 17 of the Standard Specifications for Construction:

Do not bid on more than one Section. Bid on all pay items listed in the Section being bid, and leave the pay items in the other Sections blank. When bidding electronically in Bid Express, deselect all pay items with a fixed unit price in the Sections not being bid. Bids will be considered non-responsive if 2 or more Sections are bid, or if all pay items in the Section are not bid. ESS Sites 1 through 14 are identified in the plans.

Bids for Section 0001: ESS Sites 1,2,3,4,5,6,7,8,9,10, AWS sites 1 and 2, and camera sites 1,2,3,4,5 – can be submitted at any price.

Bids for Section 0002: ESS Sites 1,2,3,4,5,6,7,8,9,10, AWS sites 1 and 2, and camera sites 1,2,3,4,5,6,7 – must be less than or equal to **\$1,500,000**. Bids greater than this dollar amount will be considered non-responsive.

Bids for Section 0003: ESS Sites 1,2,3,4,5,6,7,8,9,10,11, AWS sites 1 and 2, and camera sites 1,2,3,4,5,6,7 – must be less than or equal to **\$1,500,000**. Bids greater than this dollar amount will be considered non-responsive.

Bids for Section 0004: ESS Sites 1,2,3,4,5,6,7,8,9,10,11,12, AWS sites 1 and 2, and camera sites 1,2,3,4,5,6,7 – must be less than or equal to **\$1,500,000**. Bids greater than this dollar amount will be considered non-responsive.

Delete subsection 102.06.A.1, on page 17 of the Standard Specifications for Construction, in its entirety.

Delete the first paragraph of subsection 102.13, on page 21 of the Standard Specifications for Construction, in its entirety and replace it with the following:

The low Bidder will be determined based on the following criteria.

A. The Bidder that bids the most work will be the low Bidder. For the purposes of determining the bid, Section 0004 is considered more work than Section 0001, Section 0002 or Section 0003. Section 0003 is considered more work than Section 0001 or Section 0002, and Section 0002 is considered more work than Section 0001.

B. In the event two or more Bidders are tied after subsection 102.13.A is evaluated, the Department will evaluate the price bid by each of the tied Bidders. The Bidder with the lowest price will be considered the low Bidder.

C. In the event that two or more Bidders are tied after subsection 102.13.B is evaluated, the Department will request an adjusted bid price from each of the tied Bidders. Adjusted bid price cannot be greater than the original price bid. The Bidder with the lowest adjusted price will be the low Bidder.

D. In the event that two or more Bidders are tied after subsection 102.13.C is evaluated, the low Bidder will be determined by drawing names from a container. The following rules apply:

1. Each of the tied Bidders will provide a representative to witness the drawing. The representative must have the authority to sign an agreement.
2. The names of the tied Bidders will be written on separate and identical pieces of paper and be placed in a container provided by the Department.
3. A representative of the Department will draw a single piece of paper from the container. The Bidder that is drawn from the container will be the low Bidder. The drawing constitutes the final decision of the Department and is not subject to further contest or appeal.