

**ARKANSAS STATE HIGHWAY AND TRANSPORTATION DEPARTMENT
EQUIPMENT AND PROCUREMENT DIVISION
BID INVITATION**

Bid Number: M-15-029P

BID OPENING LOCATION:
AHTD Equipment and
Procurement Division
11302 W. Baseline Road
Little Rock, AR 72209

MAIL TO:
AHTD Equipment and
Procurement Division
P.O. Box 2261
Little Rock, AR 72203

DELIVER TO:
AHTD Equipment and
Procurement Division
11302 W. Baseline Road
Little Rock, AR 72209

Bid Opening Date: January 13, 2015 Time: 11:00 a.m.

Sealed bids for furnishing the commodities and/or services described below, subject to the Conditions on Page 2 of this Bid Invitation will be received at the above-noted mail and delivery locations until the above-noted bid opening date and time, and then publicly opened at the above-noted bid opening location. **Bids must be submitted on this form, with attachments when appropriate, or bids will be rejected. Late bids and unsigned bids will not be considered.**

In compliance with this Bid Invitation and subject to all the Conditions thereof, the undersigned offers and agrees to furnish any and all items upon which prices are quoted, at the price set opposite each item.

Company Name: _____

Name (Type or Print): _____

Address: _____

Title: _____

Phone: _____ Fax: _____

City: _____ State: _____ Zip: _____

E-mail Address: _____

Federal Tax ID or Social Security No.: _____

Signature: _____

Signature must be legible, original (not photocopied) and in ink.
Unsigned bids will be rejected.

Item No.	Description	Quantity	Unit Price	Amount
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1.	Variable Message Sign Assembly	8 ea.	\$ _____	\$ _____
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FOB: AHTD – Maintenance Division/Communications
9003 Mabelvale Pike, Little Rock, AR 72209

To meet the requirements of Arkansas State Highway and Transportation Department Special Provision attached to and made a part of this bid.

Contact for Technical Information: Woody Adams (501-569-2624)
Contacts for Bidding Information: Danny Keene (501-569-2674) or Chicita Pate (501-569-2675)

If any literature and/or specifications of items conflict with AHTD specifications, the conflict(s) shall be specifically noted, corrected and submitted with the bid.

Bid Bond in the amount of 5% of total bid price required of all bidders at time of bid opening or bid will be rejected. **Personal and company checks are not acceptable as Bid Bonds.** See Condition 3 on page 2 of Bid Invitation.

Performance Bond in the amount of 5% of total bid price will be required of successful bidder prior to providing goods/services. **Personal and company checks are not acceptable as Performance Bonds.** See Condition 3 on page 2 of Bid Invitation.

The successful bidder will be required to complete delivery within 45 days after award.

Bids and Specifications are available on-line by going to the AHTD Web Site – www.arkansashighways.com and clicking on “Commodities and Services Bids/Contracts Information”. Tabulations will also be available at this site within 72 hours after bid opening. If you have any questions, call this office at 501-569-2667.

STANDARD BID CONDITIONS

M-15-029P

1. **ACCEPTANCE AND REJECTION:** The Arkansas State Highway and Transportation Department (AHTD) reserves the right to reject any or all bids, to accept bids in whole or in part (unless otherwise indicated by bidder), to waive any informalities in bids received, to accept bids on materials or equipment with variations from specifications where efficiency of operation will not be impaired, and to award bids to best serve the interest of the State.
2. **PRICES:** Unless otherwise stated in the Bid Invitation, the following will apply: (1) unit prices shall be bid, (2) prices should be stated in units of quantity specified (feet, each, lbs., etc.), (3) prices must be F.O.B. destination specified in bid, (4) prices must be firm and not subject to escalation, (5) bid must be firm for acceptance for 30 days from bid opening date. In case of errors in extension, unit prices shall govern. Discounts from bid price will not be considered in making awards.
3. **BID BONDS AND PERFORMANCE BONDS:** If required, a **Bid Bond** in the form of a cashier's check, certified check, or surety bond issued by a surety company, in an amount stated in the Bid Invitation, must accompany bid. **Personal and company checks are not acceptable as Bid Bonds.** Failure to submit a Bid Bond as required will cause a bid to be rejected. The Bid Bond will be forfeited as liquidated damages if the successful bidder fails to provide a required Performance Bond within the period stipulated by AHTD or fails to honor their bid. When a bidder claims and can show clear and convincing evidence that a material mistake was made in the bid and was not the bid intended, the bidder may be permitted to withdraw their bid prior to award without forfeiture of bid bond. Cashier's checks and certified checks submitted as Bid Bonds will be returned to unsuccessful bidders; surety bonds will be retained. The successful bidder will be required to furnish a **Performance Bond** in an amount stated in the Bid Invitation and in the form of a cashier's check, certified check, or surety bond issued by a surety company, unless otherwise stated in the Bid Invitation, as a guarantee of delivery of goods/services in accordance with the specifications and within the time established in the bid. **Personal and company checks are not acceptable as Performance Bonds.** In some cases, a cashier's check or certified check submitted as a Bid Bond will be held as the Performance Bond of the successful bidder. Cashier's checks or certified checks submitted as Performance Bonds will be refunded shortly after payment has been made to the successful bidder for completion of all terms of the bid; surety bonds will be retained. Surety bonds must be issued by a surety company authorized to do business in Arkansas, and must be signed by a Resident Local Agent licensed by the Arkansas State Insurance Commissioner to represent that surety company. Resident Agent's Power-of-Attorney must accompany the surety bond. Certain bids involving labor will require Performance Bonds in the form of surety bonds only (no checks of any kind allowed). These bonds shall not only serve to guarantee the completion of the work, but also to guarantee the excellence of both workmanship and material until the work is finally accepted and the provisions of the Plans, Specifications, and Special Provisions fulfilled. In such cases, the company issuing the surety bond must comply with all stipulations herein and must be named in the U. S. Treasury listing of companies holding Certificates of Authority as acceptable sureties on Federal Bonds and as acceptable reinsuring companies. Any excess between the face amount of the bond and the underwriting limitation of the bonding company shall be protected by reinsurance provided by an acceptable reinsuring company. Annual Bid and Performance Bonds on file with E & P Division must have sufficient unencumbered funds to meet current bonding requirements, or the bid will be rejected, unless the balance is submitted as set forth above, prior to bid opening.
4. **TAXES:** The AHTD is not exempt from Arkansas State Sales and Use Taxes, or local option city/county sales taxes, when applicable, and bidders are responsible to the State Revenue Department for such taxes. These taxes should not be included in bid prices, but where required by law, will be paid by the AHTD as an addition thereto, and should be added to the billing to the AHTD. The AHTD is exempt from Federal Excise Taxes on all commodities except motor fuels; and excise taxes should not be included in bid prices except for motor fuels. Where applicable, tax exemption certificates will be furnished by the AHTD.
5. **"ALL OR NONE" BIDS:** Bidders who wish to bid "All or None" on two or more items shall so stipulate on the face of bid sheet; otherwise, bid may be awarded on an individual item basis.
6. **SPECIFICATIONS:** Complete specifications should be attached for any substitution or alternate offered, or where amplification is necessary. Bidder's name must be placed on all attachments to the bid.
7. **EXCEPTIONS TO SPECIFICATIONS:** Any exceptions to the bid specifications must be stated in the bid. Any exceptions to manufacturer's published literature must be stated in the bid, or it will be assumed that bidder is bidding exactly as stated in the literature.
8. **BRAND NAME REFERENCES:** All brand name references in bid specifications refer to that commodity or its equivalent, unless otherwise stated in Bid Invitation. Bidder should state brand or trade name of item being bid, if such name exists.
9. **FREIGHT:** All freight charges should be included in bid price. Any change in common carrier rates authorized by the Interstate Commerce Commission will be adjusted if such change occurs after the bid opening date. Receipted common carrier bills that reflect ICC authorized rate changes must be furnished.
10. **SAMPLES, LITERATURE, DEMONSTRATIONS:** Samples and technical literature must be provided free of any charge within 14 days of AHTD request, and free demonstrations within 30 days, unless AHTD extends time. Failure to provide as requested within this period may cause bid to be rejected. Samples, literature and demonstrations must be substantially the same as the item(s) being bid, unless otherwise agreed to by AHTD. Samples that are not destroyed will be returned upon request at bidders expense. Samples from successful bidders may be retained for comparison with items actually furnished.
11. **GUARANTY:** Unless otherwise indicated in Bid Invitation, it is understood and agreed that any item offered or shipped on this bid shall be newly manufactured, latest model and design, and in first class condition; and that all containers shall be new, suitable for storage or shipment and in compliance with all applicable laws relating to construction, packaging, labeling and registration.
12. **BACKORDERS OR DELAY IN DELIVERY:** Backorders or failure to deliver within the time required may constitute default. Vendor must give written notice to the AHTD, as soon as possible, of the reason for any delay and the expected delivery date. The AHTD has the right to extend delivery if reasons appear valid. If reason or delivery date is not acceptable, vendor is in default.
13. **DEFAULT:** All commodities furnished will be subject to inspection and acceptance by AHTD after delivery. Default in promised delivery or failure to meet specifications authorizes the AHTD to cancel award or any portion of same, to reasonably purchase commodities or services elsewhere and to charge full increase, if any, in cost and handling to defaulting vendor. Applicable bonds may be forfeited.
14. **ETHICS:** *"It shall be a breach of ethical standards for a person to be retained, or to retain a person, to solicit or secure a State contract upon an agreement of understanding for a commission, percentage, brokerage, or contingent fee, except for retention of bona fide employees or bona fide established commercial selling agencies maintained by the contractor for the purpose of securing business."* (Arkansas Code, Annotated, Section 19-11-708).

ARKANSAS STATE HIGHWAY AND TRANSPORTATION DEPARTMENT

NOTICE OF NONDISCRIMINATION

The Arkansas State Highway and Transportation (Department) complies with the Americans with Disabilities Act of 1990, Section 504 of the Rehabilitation Act of 1973, Title VI of the Civil Rights Act of 1964 and other federal equal opportunity laws and therefore does not discriminate on the basis of race, sex, color, age, national origin, religion or disability, in admission or access to and treatment in Department programs and activities, as well as the Department's hiring or employment practices. Complaints of alleged discrimination and inquiries regarding the Department's nondiscrimination policies may be directed to Joanna P. McFadden, Section Head - EEO/DBE (ADA/504/Title VI Coordinator), P. O. Box 2261, Little Rock, AR 72203, (501) 569-2298, (Voice/TTY 711), or the following email address: Joanna.Mcfadden@arkansashighways.com.

This notice is available from the ADA/504/Title VI Coordinator in large print, on audiotape and in Braille.

**ARKANSAS STATE HIGHWAY AND TRANSPORTATION DEPARTMENT
SPECIAL PROVISION
VARIABLE MESSAGE SIGN ASSEMBLY**

1. Description.

This item shall consist of furnishing overhead variable message signs (VMS) assembly in accordance with these special provisions.

2. Materials.

The permanently mounted VMS consisting of an optically enhanced LED lamp matrix panels shall consist of a full matrix message capable of displaying a minimum of three (3) lines with sixteen (16) characters per line. Each character shall be 5 pixels wide by 11 pixels tall. Character and line spacing shall be one pixel. All pixel modules, assemblies, and components shall be identical, individually replaceable, and interchangeable throughout the VMS. The sign back plate shall be a 12 inch aluminum extrusion construction and so assembled as to prevent dissimilar metal action from occurring.

2.1 Signs shall have the following parameters:

- a. Equal horizontal and vertical pixel spacing, center to center and gap between pixels.
- b. The total weight of the Overhead VMS Assembly shall not exceed 1500 pounds.

2.2 All components and subassemblies shall be interchangeable between signs of the same character height. VMS controllers shall be identical for all signs.

2.3 LED Pixels

- a. VMS Pixels shall be the amber LED with a nominal wavelength of 590 nm, as described in this subsection.
- b. The LED shall provide a minimum of 30° angularity for greater visibility (15° off center) as defined in NEMA TS4 Section 5 Display Properties Type class e.
- c. Pixels shall be clusters of 8 LED's and shall be a maximum of 1.5 inches in diameter. The center of all adjacent pixels shall be spaced at 1.6 inches apart, both horizontally and vertically.
- d. The VMS shall provide 18-inch high characters which shall be clearly visible and legible from a distance of 1000 feet under both day and night conditions. Under variable light level conditions the sign shall automatically adjust its light source so as to meet the 1000 feet legibility requirements of NEMA TS4 Section.
- e. The front face of the sign shall be covered with UV inhibited polycarbonate material with an UV silk-screened mask that provides a high level of contrast and readability.

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2.4 LED Display Modules

- a. Each character display module shall be arranged in a 8 X 12 pixel configuration to provide alphanumeric characters in both lowercase and uppercase fonts.
- b. Each character display module shall be easily interchangeable and replaceable with other character display modules in the sign. Each module shall mechanically protect the LEDs so that there is no contact with them with the module is gripped or dropped.
- c. All power and communication to the character display module is provided via a single plug type for easy removal and repair.
- d. Each display module shall be capable of Pixel Diagnostic function as defined by NTCIP

2.5 VMS Roadside Mount

VMS shall meet the following requirements:

- a. The ground mounted VMS shall be capable of being mounted to structures with a sign skew of up to 15 degrees off perpendicular to the roadway.
- b. The ground mounted VMS shall meet applicable AASHTO wind loading requirements.
- c. All system bracket components and structural tubing from galvanized steel, all components subjected to movements (V-channel, U-channel and clips) are made from aluminum, all additional accessories (bolts, nuts, washer, etc.) are stainless steel or nickel-plated.

2.6 VMS Battery Back-Up

- a. The VMS will be installed such that if a power failure occurs the VMS will not go offline. The VMS will be installed with a UPS and battery back-up that will provide a minimum of 12hrs of full operation. Full operation is considered displaying with 30% of pixels on continuously while providing communication back to the server as requested.

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2.7 Communication

- a. The wireless data communications platform shall be a cellular based device to maintain the Department's uniformity in ITS deployment meeting the following minimum standards:
 - i. **Technology:** VZW LTE with fallback to CDMA EV-DO, Rev A with fallback to CDMA 1x, DSMA 1xRTT and CDMA IS-95.
 - ii. **Network Interface:** 10/100 Base T, RJ45 connector
 - iii. **Band:** LTE (700 MHz), EV-DO 800, 1900 MHz
 - iv. **Antenna Connections:** Cellular -50 Ohm SMA
 - v. **Environmental:** The radio shall be contained in a ruggedized enclosure capable of operating in a temperature range of -10°F to 120°F
 - vi. **Warranty:** A minimum 2 years manufacturer's warranty

3. Manufacturer-Supplied Controller.

3.1 Controller

- a. All necessary electronics shall be mounted in a rugged-environmental box that can be mounted in virtually any location within 200 feet (60 meters) of the sign display.
- b. The controller shall allow a user to create and store messages and sequences using the hand-held input terminal. A user shall be able to create and store up to 100 messages.
- c. The controller shall allow a user to edit operating parameters (such as flash rate, on and off times, calendar functions, blinking, etc.).
- d. Provide diagnostic LEDs and indicators on the face of the controller for troubleshooting.

4. Input Device(s) Requirement.

- 4.1 On-Site Communications System: For on site communications, a hand-held terminal (HHT) or integrated terminal shall be used. The HHT unit shall have alphanumeric membrane keys and a character backlit LCD display. Each HHT shall have 15 feet (4.5 meters) minimum of communications cable that plugs into directly into the sign and the manufacturer-supplied controller in a remote cabinet. The integrated terminal shall contained within the control cabinet and include an alphanumeric keyboard and LCD display sufficient to perform the functions listed below.

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The On-Site Communication System functions shall provide the following:

- a. When connected to the sign, the on-site communications system shall:
 1. Set up sign parameters.
 2. Allow the user to select stored sequences to display on the sign.
 3. Turn the sign into an arrow board.
 4. Troubleshoot sign components.
 5. Provide viewing of a sequence name before displaying on sign.

- b. When connected to the manufacturer-supplied controller, on-site communications system shall:
 1. Create messages
 2. Select and run alphanumeric message sequences from stored library.
 3. Edit sign parameters such as off times.
 4. Provide viewing of a sequence name before displaying on sign.

5. NTCIP Computer Software.

The existing ATMS software suite Intelligent NETworks by Delcan Technologies is being utilized by the Department and shall be the ATMS software for this project. If the supplier decides to use an NTCIP VMS product that for an unknown complication does not operate with the existing ATMS software the contractor may submit alternative software that will control the existing Department's NTCIP VMSs and meet the requirements listed below. The software and sufficient licenses will be provided at no cost to the Department. The Engineer must approve the software in advance if a replacement for the Intelligent NETworks software package is necessary.

The software shall provide all the functions as the hand-held terminal plus the following additional features:

- A. Create, store, and run graphics via a Windows® or web-based based interface.
- B. Provide complete remote communications when used with an appropriate cell phone and modem.
- C. Connect directly to the manufacturer-supplied controller for updating message libraries.

5.1 VMS / Camera / Vehicle Detection GUI software (graphical user interface)

- a. The VMS's must be able to communicate with any NTCIP compatible software meeting the latest standards.

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- b. The VMS software must be able to have a minimum of 6 users with ability to change the messages based on a hierarchy structure via a web interface over the internet.
- c. The software must be able to be preprogrammed with “canned” message with different messages being displayed on different signs. This software must be Windows XP and 7 compatible and cannot be a first use version (never been used before).
- d. The software will provide from a single software application provide VMS status and control, camera images and control (PTZ), and vehicle detection data.
- e. The software shall contain a Data Distribution Engine that can publish information to traveler information web-sites at specified intervals.
- f. The software shall provide an integrated interface that allows users to create alarms based on device conditions or user definable conditions.
- g. The software shall provide a means to organize devices into logical groupings or Zones.
- h. The software shall provide a method to manage users and groups of users within the software which only allows authorized users access to the system.
- i. The software shall provide a method to log system, device, and security activity into the system database.
- j. The software shall provide users with the ability to group attributes from multiple sensors together into a single graphical display.
- k. The software shall allow users to set the scale for the graphical display.
- l. The software shall provide a means to automatically send visual and audible messages to a user when certain conditions occur.
- m. The software shall provide a means to automatically send e-mail to a user when certain conditions occur.
- n. The software shall allow a user-definable message to be displayed when an alarm condition is reached.
- o. The software shall allow administrators to assign permissions to specific user-groups.
- p. The software shall allow any combination of DMS, CCTV, and detection devices to be controlled simultaneously.
- q. The software shall allow individual scenarios to be triggered based on sensor values.
- r. User Training will be provided on two sessions at dates to be determined by the Engineer of 4 hrs each.

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- s. Technical support will be provided upon request to insure proper installation on each network.

5.2 Software Supported Device Drivers Requirements

- a. NTCIP VMS
- b. EIS RTMS – Microwave Traffic Detector
- c. Axis 2401 Video Compression Device – this device can be used with several camera manufacturers including several Sony, Canon, Diamond, Videmech, Ernitec, Pelco models.

6. Manufacturer Requirements

The manufacturer shall have a minimum of 5 years experience with the design, development, manufacturing, installation, testing, operation and maintenance of Dynamic Message Signs (DMS) for the transportation market. The manufacturer shall regularly and currently produce DMS.

Experiences with manufacturing other types of electronic sign products will not satisfy the requirements of this DMS specification such as:

- Indoor signs of any size or type
- Portable or mobile signs of any size or type
- Neon signs
- Back-lit signs
- Rotating drum or plank signs
- LED lens Displays
- Blank out signs
- Any type of sign that is not pixilated and cannot be programmed to display a nearly infinite quantity of messages
- DMS that have a pixel technology comprised of something other than high-intensity light emitting diodes (LED). Examples of unacceptable technologies are incandescent lamp, liquid crystal, fiber optic, flip disk, flip-fiber combination, and flip-LED combination
- Outdoor electronic signs that are used for purposes other than roadway/motorway traffic management

The manufacturer shall provide documentation of the total number of years it has been active in supplying DMS, the number of years at its current address, the number of employees. In addition the manufacturer shall be ISO 9001:2000 certified and shall supply a copied of said certificate.

The manufacturer shall have installed DMS for at least 10 projects each with a minimum of 5 signs. These installations shall represent multiple state departments of transportation within the United States. These signs shall have been in operation for at least five (5) years. The DMS for existing installations shall be operated via remote communications including dial-up telephone, cellular telephone, spread spectrum radio, or fiber optic networks.

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A summary of the installation base including the following shall be submitted with the technical submittal:

- Organization's name and country
- Contact person name, telephone number, fax number, and email address
- Date of project installation
- Summary of project scope and deployed sign characteristics

The manufacturer shall include three (3) references. The reference installations shall include DMS that have been installed and in production for at least five (5) years.

Reference information shall include:

- Organization's name and country
- Contact person name, telephone number, fax number, and email address
- Date of project installation
- Summary of project scope

The manufacturer's customer service department shall be available 24 hours per day, 7 days per week and 365 days per year. 3rd party call centers do not meet this requirement. The manufacturer shall offer depot maintenance and repair services for failed components and stock typically needed maintenance repair parts.

The manufacturer must maintain an online record of service requests and the actions taken to address and resolve the service issues.

7. Standards

Manufacturer shall ensure that all products supplied meet or exceed industry standards including:

- a) General DMS Requirements – The DMS shall be designed in accordance with NEMA Standards Publication TS 4-2005, Hardware Standards for Dynamic Message Signs (DMS), with NTCIP Requirements.
- b) Electrical Components – High-voltage components and circuits (120 VAC and greater) shall be designed, wired, and color-coded per the National Electric Code.
- c) Environmental Resistance – The DMS control and power enclosure shall be designed to comply with type 3R enclosure criteria as described in NEMA Standards Publication 250-2003, Enclosures for Electrical Equipment (1000 Volts Maximum)
- d) Radio Frequency Emissions – All equipment shall be designed in accordance with Federal Communications Commission (FCC) Part 15, Subpart B as a "Class A" digital device.
- e) Structural Integrity – The DMS housing shall be designed and constructed to comply with all applicable sections of AASHTO Standard Specifications for Structural Supports for Highway Signs, Luminaries and Traffic Signals, 2006, as well as the fatigue resistance requirements of NCHRP Report 412, Fatigue-Resistant Design of Cantilevered Signal, Sign, and Light Supports.
- f) Communication Protocols – The sign controller hardware/firmware and DMS control software shall conform to the applicable National Transportation Communication for ITS Protocol (NTCIP) standards. The NTCIP testing must have been completed using

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industry accepted test tools such as the NTCIP Exerciser, Trevilon's NTester, Intelligent Devices' Device Tester, and/or Frontline's FTS for NTCIP.

8. Method of Measurement.

VMS Assembly shall be measured for payment by the number of units each, complete with all components and requirements provided as specified in this specification and delivered as directed by the Department.

9. Basis of Payment.

Work completed and accepted under this item and measured as provided above shall be paid for at the contract unit price bid for each variable message sign assembly, which price shall be full compensation for furnishing the variable message sign assembly, cabinet, communication and all materials, equipment, and incidentals necessary to complete the work.

Payment will be made under:

Pay Item	Pay Unit
VMS Assembly	Each