



**Request for Proposal  
For  
Statewide ITS Maintenance**  
Issued by:

IOWA DEPARTMENT OF TRANSPORTATION  
Purchasing Section  
Proposal 16113

**Response Due Date: June 15, 2016**

Must be submitted no later than 1:00 PM Central Time  
Responses received after this date will be rejected

***For information about this notice, and during this procurement,  
interested persons shall contact only:***

Zach Gillen, Purchasing Agent  
800 Lincoln Way  
Ames, Iowa 50010  
Phone: 515-239-1347  
Fax: 515-239-1538  
E-Mail: zachary.gillen@dot.iowa.gov

Issued addenda will be posted to internet website:

<http://www.iowadot.gov/purchasing/lettingschedule.htm>

## Procurement Timetable

The following dates are set forth for informational and planning purposes. However, the Department reserves the right to change the dates. All times listed are Central Time.

Event/Dates	Section Reference	Date/Time
Issue RFP	cover	May 12, 2016
Number of returned Responses Required 1-original Technical and 1-Cost Proposal <b>(1-removable media for each original Technical and Cost Proposal)</b> 6-Hard Copies of Technical Proposal and 1-Public Copy of Technical Proposal.	4.1.3	
Responder's Conference <input type="checkbox"/> <i>Box will be checked when attendance is mandatory</i>	2.32	N/A
DOT Response from Contractor's Conference Questions	2.32	N/A
Responder Questions, Requests for Clarification, & Changes <i>(no later than)</i>	2.2/2.5	May 25, 2016
DOT Response to Questions Issued <i>(no later than)</i>	2.2/2.5	June 1, 2016
Response Due Date	2.8/2.9	June 15, 2016
Presentations & Demonstrations "Short list" <i>(by invitation only)</i>	2.24/ 5.3	7/7/16 – 7/11/16
Announce Successful Responder Intent to Award* <i>see note below</i>	2.25	July 12, 2016
Completion of Contract Negotiations & Execution of the Contract	2.25	July 21, 2016
Contract Begins	Response 6.2	August 1, 2016
Contract Length Start Date --- End Date --- Renewals	6.2	Start: August 1, 2016 End: June 30, 2018 Renewals: 4 – 12 month

**\*Intent to Award MATCH SECTION 4.2.12**

It is intended that Responses will be evaluated and a notice of intent to award will be issued within thirty (30) days of the Response due date. Response prices, terms and conditions must be held firm for a 180-day period from the date of the notice of intent to award the contract.

**Responder's Conference Details – N/A**



# Solicitation Response

		Response Due Date June 15, 2016	Time 1:00 P.M.	Location 800 Lincoln Way, Ames, IA	
Proposal Number <b>16113</b>	Description Statewide ITS Maintenance				
Contract Begin Date August 1, 2016	Contract Completion Date June 30, 2018	Bid Bond N/A	Performance Bond (Y/N) Y	Liquidated Damages \$5,000/hour	
Purchasing Agent assigned Zach Gillen	E-mail Address zachary.gillen@dot.iowa.gov	Phone 515-239-1347	Fax 515-239-1538		
<b>RESPONDER INFORMATION</b>					
Company Name			Federal Tax ID		
Street Address		City	State	Zip Code	
Contact Name	E-mail Address	Phone	Fax		
Responder agrees to sell goods/services or both at the same prices, terms and conditions to any other Iowa state agency, Regent or Political Subdivision upon request. Please check Yes or No. <input type="checkbox"/> Yes <input type="checkbox"/> No			Responder is an Iowa Targeted Small Business <input type="checkbox"/> Yes <input type="checkbox"/> No		

## GENERAL INFORMATION

This solicitation includes the Solicitation Response cover page, Schedule of Prices, Standard Terms and Conditions, Supplemental terms (if any), Specifications, Plans and Drawings, mailing label and all other information needed to prepare and submit a response to the solicitation. Information in the "Solicitation Response" above must be typed or completed in ink, signed, and returned in a flat style envelope along with any other information required in the solicitation prior to the response due date and time. Please use the furnished mailing label, or label the response as "Iowa Department of Transportation, proposal number and response due date on the outside of the return envelope. Responders may personally deliver, mail, or select a carrier that ensures timely delivery. **Faxed or e-mail responses will not be accepted.**

If required, each response must be accompanied by a bid bond in an accepted form, in the percent amount indicated above. Refer to the Standard Terms and Conditions for the accepted forms in which the bid bond requirement may be fulfilled. **Responses without a required bid bond will not be considered for award.** If the intended awarded responder fails to enter into a formal contract within fifteen (15) days after award is made for any reason on their part, the bid bond may be retained by the State.

The entire contents of this solicitation, Addendums, Schedule of Prices, Specifications, Plans and Drawings, Supplemental Terms and Conditions, Standard Terms and Conditions, shall become part of the contract.

*We certify that we have not, either directly or indirectly, entered into any agreement or participated in any collusion or otherwise taken any action in restraint of free competition; that no attempt has been made to induce any other person or firm to submit or not to submit a response; that this response has been independently arrived at without collusion with any other responder, competitor, or potential competitor; and that this response has not been knowingly disclosed prior to the opening of responses to any other responder or competitor.*

*We certify that all materials, equipment goods and/or services proposed meet or exceed the specifications and will be supplied in accordance with the entire contents of this solicitation including delivery schedules. We promise to complete the contract within the contract period, or pay any liquidated damages, if stipulated, for each calendar day as set forth in the solicitation documents.*

Signed \_\_\_\_\_ Date \_\_\_\_\_

**Iowa Department of Transportation  
Schedule of Prices  
Proposal 16113**

Item	Description	U/M	Qty	Unit Price	Extended Price
1	Mobilization (One time fee)	LS	1		
2	Cabinet Consistency	EA	801		
3	MMS – Installation & Configuration	LS	1		
4	NMS – Installation and Configuration	LS	1		
5	Equipment Installation – Camera	EA	33		
6	Equipment Installation – Vehicle Sensor	EA	36		
7	Equipment Installation – Radio	EA	20		
8	Equipment Removal	EA	36		
9	Ordinary Maintenance – Backbone Network	EA	19		
10	Ordinary Maintenance – Des Moines / Newton	EA	19		
11	Ordinary Maintenance – Boone / Ames / Nevada	EA	19		
12	Ordinary Maintenance – Council Bluffs	EA	19		
13	Ordinary Maintenance – Sioux City	EA	19		
14	Ordinary Maintenance – Iowa City	EA	19		
15	Ordinary Maintenance – Quad Cities	EA	19		
16	Ordinary Maintenance – Cedar Rapids	EA	19		
17	Ordinary Maintenance – Waterloo	EA	19		
18	Ordinary Maintenance – Rural Devices	EA	19		
19	Hourly – Work Truck	HR	*		
20	Hourly – Bucket Truck	HR	*		
21	Regular – Project Manager	HR	*		
22	Regular – Senior Engineer	HR	*		
23	Regular – Staff Engineer	HR	*		
24	Regular – Senior Technician	HR	*		
25	Regular – Technician	HR	*		
26	After-Hours – Project Manager	HR	*		
27	After-Hours – Senior Engineer	HR	*		
28	After-Hours – Staff Engineer	HR	*		
29	After-Hours – Senior Technician	HR	*		
30	After-Hours – Technician	HR	*		
	<b>Total</b>				

I HEREBY CERTIFY THAT THIS PROPOSAL MEETS OR EXCEEDS THE MINIMUM REQUIREMENT INCLUDING SPECIFICATIONS AND ADDENDUMS.

(Please Print)

COMPANY NAME: \_\_\_\_\_ PHONE: \_\_\_\_\_ FAX: \_\_\_\_\_

ADDRESS: \_\_\_\_\_ CITY: \_\_\_\_\_ STATE: \_\_\_\_\_ ZIP: \_\_\_\_\_

CONTACT PERSON: \_\_\_\_\_ E-MAIL: \_\_\_\_\_

SIGNATURE: \_\_\_\_\_ FED TAX ID: \_\_\_\_\_

AVAILABILITY AFTER RECEIPT OF P.O. (IN DAYS): \_\_\_\_\_

I ACKNOWLEDGE RECEIPT OF ADDENDUM NUMBERS: \_\_\_\_\_



## Iowa Department of Transportation Standard Terms and Conditions

For

Submission of Quotations, Bids or Proposals

-FORMAL-

*Formal* is the procurement process required by Iowa law when the estimated, aggregate amount of the purchase equals or exceeds \$50,000.

The entire contents of this solicitation shall become a part of a contract or purchase order. In case of a discrepancy between the contents of the solicitation documents, the following items listed by descending order shall prevail:

- Addendums to the solicitation
- Solicitation
  - Schedule of Prices
  - Specifications
  - Plans and Drawings
- Supplemental Terms and Conditions
- Standard Terms and Conditions

(Example - if a statement in the specifications contradicts a statement in the Standard Terms and Conditions, the statement in the specifications shall apply)

**Preparation of Solicitation or Bid Response:** All responses must clearly address all aspects of the solicitation. Responses must be typed or completed in ink and submitted on the forms supplied by the Iowa DOT.

**Responses must be signed and received prior to the opening date and time indicated on the Solicitation Response page or other specified areas throughout the solicitation document. The Responder's signed Response shall become the official Response to be considered for award.**

**No email, fax or web link bid Responses will be accepted. Responses must be signed, sealed and delivered in person or by a mail courier that ensures timely delivery.**

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### A. Solicitation

1. **Opening:** The openings of responses are made public and conducted at the Iowa DOT, Ames complex unless otherwise specified. Responses received after the time of the opening will be returned unopened and considered non-compliant.
2. **Communications:** Questions concerning this solicitation should be directed to the purchasing agent listed on the Solicitation Response page. Inquiries can be written, phoned, or faxed. In all cases, written communication will take precedence over verbal communication.
3. **Bid Bond:** If required, the Solicitation Response page will indicate the fixed percent of the bid security based on the amount of the Bidder's bid. A Bid Bond can be supplied in one of the following ways: **(1)** Certified check or credit union certified share draft, cashier's check, or bank draft, drawn on a solvent bank or credit union. Certified checks and certified share drafts shall be drawn and endorsed in the amount indicated. Checks or drafts shall be made payable either to the Iowa Department of Transportation (Iowa DOT) or to the bidder. If payable to the bidder, the check or draft shall be endorsed without qualifications to the Iowa DOT by the bidder or an authorized agent. **(2)** An insurance or surety company may be retained to provide a bond in fulfillment of the Bid Bond requirement. A properly completed and signed copy of the Bid Bond (*Form 131084*) must accompany the bid. **The Iowa DOT's Bid Bond form must be used; no other forms or formats will be accepted.**

4. **Pricing and Discount:** Unit prices shown in the response shall be quoted as the price per unit (e.g., gal., case, each, etc.) as requested in the solicitation. If there is a discrepancy between the unit bid prices, extended price, or total amount of response, the unit prices shall prevail. Unless otherwise indicated, prices shall be firm for the duration of the contract or purchase order. Discounts for early payment are allowed, but not considered in award of the contract.
5. **Acceptance/Rejection:** The Iowa DOT reserves the right to accept or reject any or all responses and to waive irregularities or technicalities, provided such waiver does not substantially change the offer or provide a competitive advantage to any supplier(s) or provider. The Iowa DOT also reserves the right to accept that response which is deemed to be in the best interests of the state. Any unauthorized changes, additions, or conditional response including any ties to another response or any reservations about accepting an award or entering into a contract, may result in rejection of the response. Responses must remain available for award for thirty (30) days from opening date and time.
6. **Results & Disclosure:** Tabulation results will be posted on the Iowa DOT website at [www.iowadot.gov/purchasing](http://www.iowadot.gov/purchasing) under the *Bid Award* link referencing the proposal number with an award recommendation indicated. At the conclusion of the selection process, the contents of all received responses will be placed in the public domain and be open to inspection by interested parties, according to state law. Trade secrets or proprietary information that are recognized as such and are protected by law may be withheld if clearly identified as such in the response.
7. **Quality of Goods:** All material shall be new and of first quality. Items which are used, demonstrators, refurbished, obsolete, seconds, or which have been discontinued are unacceptable without prior written approval by the Iowa DOT.
8. **Recycled Content:** The Iowa Code encourages purchase of products and materials with recycled content, including but not limited to paper products, oils, plastic products, compost materials, aggregate, solvents, and rubber products. Recycled items or alternatives must be noted in the Solicitation Response, if known.
9. **Shipping Terms:** Deliveries shall be F.O.B. Destination unless otherwise specified. All deliveries shall be accompanied by a packing slip indicating the Supplier, quantities shipped, and the purchase order number(s). All delivery charges shall be included in the response price and paid by the Supplier. No collect C.O.D. deliveries shall be accepted. When entering into a contract, the Supplier shall notify the freight company that all freight and delivery charges are to be prepaid by the Supplier. Goods delivered to the Iowa DOT Distribution Center at 800 Lincoln Way, Ames, IA shall be received between the hours of 7:00 a.m. and 3:00 p.m. on any day except Saturday, Sunday, or a holiday. For deliveries to other Iowa DOT locations, the Supplier may contact the destination location for available times to deliver as not all Iowa DOT locations have the same business hours. The Iowa DOT will not be liable for any freight claims or unpaid freight bills arising from contract or purchase order issues.

## B. Award

The binding agreement (award) may be issued in the form a purchase order or contract or both depending on the requirements and complexity of the agreement.

1. **Method of Award:** Award shall be made to the responsible, responsive Responder whose Quotation, Bid or Proposal meets the requirements of the solicitation and is the most advantageous to the Iowa DOT. An Iowa company or individual will be given preference over an out-of-state company or individual when responses are equal in all aspects and are tied in price. By virtue of statutory authority preference will be given to products and provisions grown and coal produced within the State of Iowa.
2. **Award Protests:** Protests of award recommendations are to be addressed to the Director of Purchasing, and shall be made in accordance with paragraph 761--20.4(6)"e" of the Iowa Administrative Code.
3. **Contracts:** Successful contractor(s) may be sent either a formal Contract, Notification of Award or Purchase Order as confirmation of acceptance and award. Any of these binding agreements shall be for the term stated in the solicitation or on a purchase order and may be renewed for additional period(s) under the same terms and conditions upon mutual agreement as defined. The successful responder may not assign a contract to another party without written authorization from the Iowa DOT Purchasing Section. The Iowa DOT may offer a contract extension to the Contractor when a scheduled target date cannot be met.

4. **Consumer Price Index (CPI-U):** A CPI may be allowed as specified in the terms of the solicitation and at the discretion of the Iowa DOT based on currently posted CPI-U, US City Average, All Items – non seasonally adjusted unless otherwise specified. This applies each of any subsequent renewals, extensions, amendments issued under the contract for the duration of the contract.
5. **Payment Terms:** The Iowa DOT typically pays properly submitted invoices within thirty (30) days of receipt, providing goods and/or services have been successfully delivered, installed or inspected (if required), and accepted. Invoices presented for payment must be only for quantities received by the Iowa DOT and must reference the purchase order number or contract number to be submitted for processing.
6. **Default (Supplier):** Failure of the Supplier to adhere to specified delivery schedules or to promptly replace rejected materials shall render the Supplier liable for all costs in excess of the bid price when alternate procurement is necessary. This shall not be the exclusive remedy and the Iowa DOT reserves the right to pursue other remedies available to it by law or under the terms of the binding agreement.
7. **Default (Contractor):** Failure of a Contractor other than a Supplier to meet any specified project completion deadline shall render the Contractor liable for all costs incurred by the Iowa DOT that were: a) necessary to meet said deadline; or b) necessary to complete said project after said deadline. This shall not be the exclusive remedy and the Iowa DOT reserves the right to pursue other remedies available to it by law or under the terms of the agreement.

### C. General

1. **Administrative Rules:** For additional details on the rules governing the actions of the Iowa DOT Purchasing Section, refer to 761 IAC, Chapter 20, Iowa Administrative Code, entitled “Procurement of Equipment, Materials, Supplies and Services”.
2. **Affirmative Action:** The Contractor (and also subcontractor, vendor, service provider or supplier) is prohibited from engaging in discriminatory employment practices forbidden by federal and state law, executive orders and rules of the Iowa Department of Management, pertaining to equal employment opportunity and affirmative action. Contractor may be required to have on file a copy of their affirmative action program, containing goal and time specifications. Contractors doing business with Iowa in excess of \$5,000 annually and employing 50 or more full time employees may be required to file with the Iowa Department of Management a copy of their affirmative action plan. Failure to fulfill these non-discrimination requirements may cause the contract to be canceled and the contractor declared ineligible for future state contracts or subject to other sanctions as provided by law or rule.
3. **Applicable Law:** The contract shall be governed under the laws of the State of Iowa. The contractor shall at all times comply with and observe all federal and state laws, local laws, ordinances, and regulations which are in effect during the period of a contract and which in any manner affect the work or its conduct. Any legal action relating to a contract shall only be commenced in the Story County, Iowa, District Court or the United States District Court for the Southern District of Iowa.
4. **Conflict of Interest:** No state or county official or employee, elective or appointive shall be directly or indirectly interested in any contract issued by the Iowa DOT, see Code of Iowa 314.2.
5. **Debarment and Vendor Suspension:** By submitting a response, the contractor is certifying that it and its principals and/or subcontractors are not presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from covered transactions by the State of Iowa or any Federal department or agency.
6. **Equal Opportunity:** Responders to the solicitation must be an “Equal Opportunity Employer” as defined in the Civil Rights Act of 1964 and in Iowa Executive Order Number Thirty-four.
7. **Indemnification-Goods:** To the extent the goods are not manufactured in accordance with Iowa DOT’s designs, Supplier shall defend, indemnify and hold harmless Iowa DOT, its assignees, and other users of the goods from and against any claim of infringement of any letters patent, trade names, trademarks, copyright or trade secrets by reason of sale or use of any articles purchased. Iowa DOT shall promptly notify Supplier of any such claim.
8. **Infringement:** Goods shall be delivered free of the rightful claim of any third party by way of infringement. Contractor shall indemnify and save harmless the State of Iowa and the Iowa DOT against all claims for infringement of, and/or royalties claimed under, patents or copyrights on materials and equipment furnished under this bid.

9. **Iowa Open Records Law:** All Solicitation Responses are subject to terms and provisions of Iowa Code Chapter 22 Examination of Public Records (Open Records), specifically 22.7- Confidential Records.
10. **Records Audit:** The contractor agrees that the Auditor of the State of Iowa or any authorized representative of the state, and where federal funds are involved, the Comptroller General of the U.S. Government, shall have access to and the right to examine, audit, excerpt, and transcribe any directly pertinent books, documents, papers, and records of the contractor relating to orders, invoices, or payments of a contract or purchase order.
11. **Targeted Small Businesses:** The Iowa DOT seeks to provide opportunities for women and/or minority small business enterprises. To apply for certification as an Iowa Targeted Small Business, contact the Iowa Department of Inspection and Appeals (515-281-5796). Contractors shall take documented steps to encourage participation from Targeted Small Businesses for the purpose of subcontracting and supplying of goods or services or both.
12. **Taxes:** Prices quoted shall not include state or federal taxes from which the state is exempt. Exemption certificates will be furnished upon request.
13. **Termination:**
  - **Termination Due to Lack of Funds or Change in Law**

The Iowa DOT shall have the right to terminate this Contract without penalty by giving thirty (30) days written notice to the vendor as a result of any of the following:

    - Adequate funds are not appropriated or granted to allow the Iowa DOT to operate as required and to fulfill its obligations under contract.
    - Funds are de-appropriated or not allocated or if funds needed by the Iowa DOT, at the Iowa DOT's sole discretion, are insufficient for any reason.
    - The Iowa DOT's authorization to operate is withdrawn or there is a material alteration in the programs administered by the Iowa DOT.
    - The Iowa DOT's duties are substantially modified.

Following a 30 day written notice, the Iowa DOT may terminate a binding agreement in whole or in part without the payment of any penalty or incurring any further obligation to the Responder. Following termination upon notice, the Responder shall be entitled to compensation upon submission of invoices and proper proof of claim for goods and services under contract up to and including the date of termination.

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## Section 1 Introduction

### 1.1 Purpose & Overview of the RFP Process

The purpose of this Request for Proposal (RFP) is to solicit responses from responsible Responders to provide the goods and/or services identified on the RFP cover sheet and described further in Section 3 of this RFP to the Iowa Department of Transportation (Iowa DOT). The Iowa DOT intends to award a contract(s) beginning and ending on the dates listed on the Procurement Timetable, and the Iowa DOT may extend the contract(s) for up to the number of annual renewals identified on the Procurement Timetable sheet at the sole discretion of the Iowa DOT. Any contract(s) resulting from the RFP shall not be an exclusive contract.

Responders may be required to submit their responses in hardcopy and (a form of removable media (such as a CD-ROM or flash drive) as indicated on the Procurement Timetable. It is the intention of the Iowa DOT to evaluate Responses from all responsible and timely Responders and award the contract(s) in accordance with Section 5, Evaluation and Selection.

### 1.2 Project Background

Iowa DOT is seeking a qualified Solution Provider that demonstrates the capabilities, experience, and resources required to provide **the services outlined in section 3 of this RFP**.

### 1.3 Definitions

The terms used in individual sections of this document are intended to be consistent with those commonly used in the application field in question. When responding, use the terms and acronyms used in this document, and define any terms or conditions that require further clarification.

**1.3.1 “Cost Proposal”** means the cost of the project as requested on the Schedule of Prices and submitted with the Response under separate cover.

**1.3.2 “Contract” or “Resulting Contract”** means the contract(s) entered into with the successful Responder(s) as described in section 6.1.

**1.3.3 “Responder”** means individual, company or entity submitting a response to this RFP.

**1.3.4 “Iowa DOT”** means the Iowa Department of Transportation identified on the RFP cover sheet as issuer of the RFP. The Iowa DOT will also execute the Resulting Contract.

**1.3.5 “Participating Agency” or “Participating Agencies”** means the Political Subdivision, either City, State, County, Boards or Commission, identified on the RFP cover sheet as Participating Agencies, and any other governmental agency that decides to utilize the executed contract.

**1.3.6 “Procurement Timetable”** (*on the page immediately following the RFP cover*) provide timeline, event and date information.

**1.3.7 “Purchase Order”** means the documentation issued by the State to the successful Responder(s) for a purchase of goods and/or services in accordance with the terms and conditions of the contract. It may include an identification of the items to be purchased, the delivery date and location, the address where the successful Responder will submit the invoices, and any other requirements deemed necessary by the State. Any preprinted contract terms and conditions included on Responder’s forms or invoices shall be null and void.

**1.3.8 “Responsible Responder”** means a Responder that has the capability in all respects to perform the requirements of the RFP specifications. In determining whether a Responder is a responsible, responsive Responder, the Iowa DOT may consider various factors including, but not limited to, the Responder’s competence and qualifications to provide the goods or services requested, the Responder’s integrity and reliability, the past performance of the Responder relative to the quality of the goods or services offered by the Responder, the proposed terms of delivery, and the best interest of the Iowa DOT and Participating Agencies.

**1.3.9 “Response”** means a Responder’s response to the RFP that complies with the material provisions listed in the RFP documents.

**1.3.10 “RFP”** means this Request for Proposal and any attachments, exhibits, schedules or addenda hereto.

**1.3.11 “State”** means the Iowa DOT, State of Iowa, and Participating Agencies identified on the title page and all state agencies, boards, and commissions, and any political subdivisions making purchases off of the resulting contract as permitted by this RFP.

**1.3.12 “Sub-contractor”** means every person furnishing materials, equipment or performing labor as a sublet of any part of contract.

**1.2.13 “Iowa DOT Standard Specifications”** means Standard Specifications for Highway and Bridge Construction Series 2015, General Supplemental Specifications for Highway and Bridge Construction (GS-15002) and Standard Road Plans Section TC.

**1.4 Acronyms** the following list contains acronyms used in the RFP.  
Please refer to Appendix D for a list of Acronyms related to this RFP.

## Section 2 Administrative Information

### 2.1 Issuing Agent

The Issuing Agent, identified on the cover page is the sole point of contact regarding the RFP from the date of issuance until the notice of intent to award is issued (selection of the successful Responder).

### 2.2 Restrictions on Communication

The Purchasing Agent will respond only to questions regarding the procurement process. Questions related to the interpretation of this RFP must be submitted in writing to the Purchasing Agent by the deadline found in the Procurement Timetable listed immediately after the cover sheet. Verbal questions related to the interpretation of this RFP will not be accepted. Questions related to the interpretation of this RFP must be submitted as provided in section 2.5. Responders may be disqualified if they contact any state employee other than the Purchasing Agent. Exception: Responders may access the State Targeted Small Business website for issues related to the preference for Targeted Small Businesses. <https://dia.iowa.gov/tsb/>

In NO CASE shall verbal communication override written communications. Only written communications are binding on the State.

The Iowa DOT assumes no responsibility for representations concerning conditions made by its officers or employees prior to the execution of a contract, unless such representations are specifically incorporated into this RFP. Verbal discussions pertaining to modifications or clarifications of this RFP shall not be considered part of the RFP unless confirmed in writing. All such requests for clarification shall be submitted in writing. Any information provided by a Responder verbally shall not be considered part of Responder's Response. Only written communications from the Responder as received by the Iowa DOT shall be accepted.

With the exception of the written Response which must be submitted by Responders in accordance with Sections 4 and 5 herein, communications between the Purchasing Agent and Responders may be conducted by regular prepaid US mail, courier service, e-mail or facsimile transmission.

### 2.3 Downloading the RFP from the Internet

All correspondence for this RFP will be posted on the Iowa DOT's website at: <http://www.iowadot.gov/purchasing/lettingschedule.htm>

**Responders will be required** to visit the Iowa DOT's website periodically for any and all addendums or other pertinent information.

### 2.4 Procurement Timetable

The dates listed in the Procurement Timetable (on the page immediately following the RFP cover) are set forth for informational and planning purposes; however, the Iowa DOT reserves the right to change the dates. If a change is made to any of the deadlines for Responder submission, the Iowa DOT will issue an addendum to the RFP. All times listed are Central time.

## **2.5 Questions, Requests for Clarification, and Suggested Changes**

Responders are invited to submit written questions and requests for clarifications regarding the RFP. Responders may also submit suggestions for changes to the requirements of this RFP. The questions, requests for clarifications, or suggestions must be in writing and received by the Purchasing Agent on or before the deadline stated in the Procurement Timetable. **Oral** questions will not be permitted. If the questions, requests for clarifications, or suggestions pertain to a specific section of the RFP must be referenced.

Written responses to questions, requests for clarifications or suggestions will be posted to the Iowa DOT's website on or before the deadline stated in the Procurement Timetable. The Iowa DOT's written responses will be considered part of the RFP. If the Iowa DOT decides to adopt a suggestion, the Iowa DOT will issue an addendum to the RFP and post on the website under the proposal number.

The Iowa DOT assumes no responsibility for verbal representations made by its officers or employees unless such representations are confirmed in writing and incorporated into the RFP.

Each Responder must inform themselves fully of the conditions relating to the RFP. Failure to do so will not relieve a successful Responder of their obligation to furnish all services required to carry out the provisions of the RFP and final contract. Insofar, as possible, the successful Responder, carrying out the work, must employ such methods or means as will not cause any interruption of, or interference with the work of any other contractor holder.

If a Responder discovers any significant ambiguity, error, conflict, discrepancy, omission, or other deficiency in this RFP, the Responder should immediately notify Purchasing Agent in writing of such error and request modification or clarification of the RFP document.

## **2.6 Addendum to the RFP**

The Iowa DOT reserves the right to revise the RFP at any time. The Responder shall acknowledge receipt of an addendum in its Response. If the addendum occurs prior to the closing date for receipt of response, the Iowa DOT may, in its sole discretion, allow Responders to amend their response to the addendum.

## **2.7 Revisions to a Response**

Responders who submit Responses in advance of the deadline may withdraw, modify, or resubmit their Response at any time prior to the deadline. Responders must notify the Purchasing Agent in writing if they wish to withdraw their response. A Responder must honor their prices prior to the end of the one hundred and eighty (180) day period immediately following the notice of intent to award a contract.

## **2.8 Submission of Responses**

The Iowa DOT must receive the Response at the Department of Transportation, Purchasing Section, 800 Lincoln Way, Ames, Iowa 50010 before the deadline stated in the Procurement Timetable. This is a mandatory requirement and will not be waived by the Iowa DOT. Any Response received after this deadline will be rejected and returned unopened to the Responder.

Responders mailing Responses must allow ample mail delivery time to ensure timely receipt of Responses by the Iowa DOT. It is the Responder's responsibility to ensure that the Response is received prior to the deadline. Postmarking by the due date will not substitute for actual receipt of the Response. **Electronic mail and faxed Responses will not be accepted.**

Responders must furnish all information necessary to evaluate the Response. Responses that fail to meet the mandatory requirements of the RFP will be disqualified. Verbal information provided by the Responder shall not be considered part of the Responder's Response to the RFP.

## **2.9 Opening of Responses**

The Iowa DOT will open Responses at the deadline stated in the Procurement Timetable. The Responses will remain confidential until the Evaluation Committee has reviewed and considered all successfully submitted Responses and the Iowa DOT has announced a notice of intent to award a contract. See Iowa Code Section 72.3.

The names of the Responders who responded within the time frame permitted will be supplied to any person who requests such information at the time of the opening date. The announcement of names of Responders who submitted a Response **does not** mean that an individual Response has been deemed technically compliant or that it has been accepted for evaluation.

## **2.10 Costs of Preparing a Response**

The costs of preparation and delivery of the Response are solely the responsibility of the Responder.

No payments shall be made by the State to cover costs incurred by any Responder in the preparation of a Response in submission of this RFP or any other associated costs.

## **2.11 Reasonable Accommodations**

The Iowa DOT will provide reasonable accommodations, including the provision of informational material in an alternative format, for qualified individuals with disabilities upon request. If accommodations are required at time of opening of Responses, contact the Purchasing Agent on the cover page.

## **2.12 Rejection of Submitted Response**

The Iowa DOT reserves the right to reject any or all Responses, in whole and in part, received in response to this RFP at any time prior to the execution of a written contract. Issuance of this RFP in no way constitutes a commitment by the Iowa DOT to award a contract. This RFP is designed to provide Responders with the information necessary to prepare a competitive Response. This RFP process is for the Iowa DOT benefit and is intended to provide the Iowa DOT with competitive information to assist in the selection of a Responder to provide good and services or both as described herein.

It is not intended to be comprehensive and each Responder is responsible for determining all factors necessary for submission of a comprehensive Response.

The Iowa DOT reserves the right to negotiate the terms of the contract, including the award amount with the selected Responder prior to entering into a contract. If contract negotiations cannot be concluded successfully with the highest scoring Responder, the Iowa DOT may negotiate with the next highest scoring Responder.

## **2.13 Disqualification**

The Iowa DOT may reject outright and shall not evaluate Responses for any one of the following reasons:

**2.13.1** The Responder fails to deliver the cost proposal in a separate envelope.

**2.13.2** The Responder states that a requirement of the RFP cannot be met.

**2.13.3** The Responder's Response materially changes a requirement of the RFP or the Response is not compliant with the requirements of the RFP.

**2.13.4** The Response limits the rights of the Iowa DOT.

**2.13.5** The Responder fails to include information necessary to substantiate that it will be able to meet a service requirement. A response of "will comply" or merely repeating the requirement is not sufficient. Responses must indicate present capability; representations that future developments will satisfy the requirement are not sufficient.

**2.13.6** The Responder fails to include a Bid Bond or Bid Security, *if required*. See Solicitation Response and Section 2.33.

**2.13.7** The Responder fails to include any signature, certification, authorization, stipulation, disclosure or guarantee requested in Section 4 of this RFP.

**2.13.8** The Responder presents the information requested by this RFP in a format inconsistent with the instructions of the RFP or otherwise fails to comply with the requirements of this RFP.

**2.13.9** The Responder initiates unauthorized contact regarding the RFP with state employees.

**2.13.10** The Responder provides misleading or inaccurate responses.

**2.13.11** The Responder fails to attend the mandatory pre-RFP meeting or conference.

**2.13.12** The Responder's Response is materially unbalanced.

**2.13.13** There is insufficient evidence (including evidence submitted by the Responder and evidence obtained by the Iowa DOT from other sources) to satisfy the Iowa DOT that the Responder is a Responsible Responder.

**2.13.14** The Contractor alters the language in:  
Attachment 1, Certification Letter  
Attachment 2, Authorization to Release Information letter.

## **2.14 Nonmaterial and Material Variances**

The Iowa DOT reserves the right to waive or permit cure of nonmaterial variances in a Response if, in the judgment of the Iowa DOT, it is in the Iowa DOT best interest to do so. Nonmaterial variances include minor informalities that do not affect responsiveness; that are merely a matter of form or format; that do not change the relative standing or otherwise prejudice other Responders; that do not change the meaning or scope of the RFP; or that do not reflect a material change in the services. In the event the Iowa DOT waives or permits cure of nonmaterial variances, such waiver or cure will not modify the RFP requirements or excuse the Responder from full compliance with RFP specifications or other contract requirements upon award. The determination of materiality is in the sole discretion of the Iowa DOT.

## **2.15 Reference Checks**

The Iowa DOT reserves the right to contact any reference provided by the Responder to assist in the evaluation of the Response, to verify information contained in the Response and to discuss the Responder's qualifications and the qualifications of any subcontractor identified in the Response.

## **2.16 Information From Other Sources**

The Iowa DOT reserves the right to obtain and consider information from other sources concerning a Responder, such as the Responder's capability and performance under other Responders, the qualifications of any subcontractor identified in the Response, the contractor's financial stability, past or pending litigation, and publicly available information.

## **2.17 Verification of Response Contents**

The content of a Response submitted by a Responder is subject to verification. Misleading or inaccurate responses shall result in disqualification and rejection.

## **2.18 Criminal History and Background Investigation**

The Responder hereby explicitly authorizes the Iowa DOT to conduct criminal history and/or other background investigation(s) of the Responder, its officers, directors, shareholders, partners and managerial and supervisory personnel retained by the Responder for the performance of the contract.

## **2.19 Clarification Process**

The Iowa DOT reserves the right to contact a Responder after the submission of responses for the purpose of clarifying or ensure mutual understanding. This contact may include written questions, interviews, site visits, a review of past performance if the Responder has provided goods or services to the Iowa DOT or any other political subdivision wherever located, or requests for corrective pages in the contractor's response. The Iowa DOT will not consider information received if the information materially alters the content of the RFP or alters the type of goods and services the Responder is offering to the Iowa DOT. An individual authorized to legally bind the Responder shall sign responses to any request for clarification. Responses shall be submitted to the Iowa DOT within the time specified in the Iowa DOT request. Failure to comply with requests for additional information may result in rejection of the Response as non-compliant.

## **2.20 Disposition of Responses**

All Responders' Responses become the property of the Iowa DOT and shall not be returned to the Responder. At the conclusion of the selection process, the contents of all Responses will be in the public domain and be open to inspection by interested parties except for information for which contractor properly requests confidential treatment or is subject to exceptions provided in Iowa Code Chapter 22 or other applicable law. If RFP is cancelled, Responses shall be destroyed.

## **2.21 Public Records and Requests for Confidential Treatment**

The Iowa DOT may treat all information submitted by a Responder as public information following the conclusion of the selection process unless the Responder properly requests that information be treated as confidential at the time of submitting the Response. The Iowa DOT release of information is governed by Iowa Code chapter 22. Responders are encouraged to familiarize themselves with chapter 22 before submitting a Response. The Iowa DOT will copy and produce public records as required to comply with the public records laws.

Any request for confidential treatment of specific information must be included in the transmittal letter with the Responder's Response. In addition, the contractor must enumerate the specific grounds in Iowa Code Chapter 22 or other applicable law which support treatment of the material as confidential and explain why disclosure is not in the best interest of the public. **Pricing information cannot be considered confidential information.** The request for confidential treatment of information must also include the name, address, and telephone number of the person authorized by the Responder to respond to any inquiries by the Iowa DOT concerning the confidential status of the materials.

Any Response submitted which contains confidential information must be conspicuously marked on the outside as containing confidential information, and each page upon which confidential information appears must be conspicuously marked as containing confidential information. Failure to properly identify specific confidential information shall relieve the Iowa DOT or State personnel from any responsibility if confidential

information is viewed by the public, or a competitor, or is in any way accidentally released. Identification of the entire Response as confidential may be deemed non-responsive and disqualify the contractor.

If the contractor designates any portion of the RFP as confidential, **the contractor must submit one copy of the Response from which the confidential information has been excised. This excised copy is in addition to the number of copies requested in section 4 of this RFP.** The confidential material must be excised in such a way as to allow the public to determine the general nature of the material removed and to retain as much of the Response as possible.

The Iowa DOT will treat the information marked confidential as confidential information to the extent such information is determined confidential under Iowa Code Chapter 22 or other applicable law by a court of competent jurisdiction. In the event the Iowa DOT receives a request for information marked confidential, written notice shall be given to the Responder seven calendar days prior to the release of the information to allow the contractor to seek injunctive relief pursuant to Section 22.8 of the Iowa Code. The Iowa DOT will release the information marked confidential in response to a request for public record records unless a court of competent jurisdiction determines the information is confidential under Iowa Code Chapter 22 or other applicable law.

The Responder's failure to request confidential treatment of material will be deemed by the Iowa DOT as a waiver of any right to confidentiality, which the Responder may have had.

## **2.22 Copyrights**

By submitting a Response, the contractor agrees that the Iowa DOT may copy the Response for purposes of facilitating the evaluation of the Response or to respond to requests for public records. The contractor consents to such copying by submitting a Response and warrants that such copying will not violate the rights of any third party. The Iowa DOT shall have the right to use ideas or adaptations of ideas that are presented in the Response.

## **2.23 Release of Claims**

By submitting a Response, the Responder agrees that it will not bring any claim or cause of action against the Iowa DOT based on any misunderstanding concerning the information provided herein or concerning the Iowa DOT failure, negligent or otherwise, to provide the contractor with pertinent information as intended by this RFP.

## **2.24 Evaluation of Submitted Responses**

The evaluation and selection of an awarded Responder will be based on but not limited to: the information submitted in the written response, references, required demonstrations or presentations; if any, and cost. If further information is requested by the Iowa DOT for clarification, Responders shall respond clearly and completely to all requirements within three (3) days upon request. Failure to respond completely may be the basis for rejecting a response.

All compliant sealed Responses will be evaluated using an evaluation matrix. If a demonstration/presentation is in the Evaluation Matrix (see Section 5.4), the Iowa DOT reserves the right to determine which Responders responses will be "short listed" for further consideration based on the written responses that best meet the requirements of the RFP.

**Short-List upon selection from the overall compliant responses, some Responders** shall be selected to move to the Demonstration or Presentation portion of the evaluation. They will be required to demonstrate or make a presentation illustrating their proposed solution as described and required in the RFP. It is recommended

Responder's engage key personnel to demonstrate their proposed solution, their authority and reporting relationships within their firm, their expertise and their management style.

The successful demonstration or presentation of the Responder's product(s) and/or service(s) is only one segment of the evaluation criteria and does not solely constitute the overall award.

Selected Responders shall be provided no less than one week's notice for the scheduling of a demonstration or presentation to be held in Ames, Iowa unless otherwise specified. The Iowa DOT may offer a web conferencing method as an alternative if desired.

Detailed notes of demonstrations or presentation may be recorded and supplemental information (such as briefing charts, etc) shall be accepted. Additional written information gathered in this manner shall not constitute replacement of response contents. The Iowa DOT reserves the right to record demonstrations or presentations on audio or videotape as desired.

Any cost(s) incidental for the demonstrations or presentations shall be the sole responsibility of the Responder.

#### **2.25 Notice of Intent to Award and Acceptance Period**

Notice of intent to award will be posted on the Iowa DOT's website at [www.iowadot.gov/purchasing/bidaward](http://www.iowadot.gov/purchasing/bidaward). **It is the Responder's sole responsibility to check daily for the final evaluation results.** Final negotiation and execution of the contract(s) shall be completed no later than thirty (30) days from the date of the Notice of Intent to Award or such other time as designated by the Iowa DOT.

If the successful Responder fails to negotiate and deliver an executed contract by that date, the Iowa DOT in its sole discretion may cancel the award and award the contract to the next highest ranked Responder the Iowa DOT believes will provide the best value to the State.

The award shall be granted to the highest scoring responsive, responsible Responder according to the evaluation matrix in Section 5.

#### **2.26 Confidential Information**

Responses containing proprietary information must have the specific information considered proprietary clearly marked. All information included in the Response not indicated as proprietary will be open for inspection. All Responses become property of the Iowa DOT.

#### **2.27 No Contract Rights until Execution**

The full execution of a written contract shall constitute the making of a contract for services and no contractor shall acquire any legal or equitable rights relative to the contract services until the contract has been fully executed by the successful contractor and the Iowa DOT.

#### **2.28 Restrictions on Gifts and Activities**

Iowa Code Chapter 68B restricts gifts which may be given or received by state employees and requires certain individuals to disclose information concerning their activities with state government. Responders are responsible to determine the applicability of this Chapter to their activities and to comply with the requirements. In addition, pursuant to Iowa Code section 722.1, it is a felony offense to bribe or attempt to bribe a public official.

*The laws of Iowa provide that it is a felony to offer, promise, or give anything of value or benefit to a state employee with the intent to influence that employee's acts, opinion,*

*judgment or exercise of discretion with respect to that employee's duties. Evidence of violations of this statute will be submitted to the proper prosecuting attorney.*

## **2.29 No Minimum Guaranteed**

The Iowa DOT anticipates that the successful Responder will provide services as requested by the Iowa DOT. The Iowa DOT will not guarantee any minimum compensation will be paid to the contractor or any minimum usage of the contractor's services.

## **2.30 Conflicts Between Terms**

The Iowa DOT reserves the right to accept or reject any exception taken by the Responder to the terms and conditions contained in this RFP. Should a Responder take exception to the terms and conditions required by the Iowa DOT, the Responder's exceptions may be rejected and the entire Response declared nonresponsive. The Iowa DOT may elect to negotiate with the Responder regarding contract terms that do not materially alter the substantive requirements of the RFP or the contents of the Responder's Response.

## **2.31 News Releases**

News releases or other materials made available to the media or the public, the Responder's clients or potential clients pertaining to this procurement or any part of the Response or RFP shall not be made without the prior written approval of the Iowa DOT.

## **2.32 Responders' Conference**

If the Procurement Timetable indicates a Responders' conference will be held in conjunction with this RFP, it will be held at the date, time, and location listed on the Procurement Timetable. If attendance at the Responders conference is a mandatory requirement, it will be indicated on the Procurement Timetable. The purpose of the Responders' conference is to discuss with prospective Responders the work to be performed and allow prospective Responders an opportunity to ask questions regarding the RFP. Verbal discussions at the Responders' conference shall not be considered part of the RFP unless confirmed in writing by the Iowa DOT and incorporated into this RFP. The conference may be recorded. Questions asked at the conference that cannot be adequately answered during the conference may be deferred and addressed at a later date. A copy of the questions and answers will be sent to Responders who submit a letter of intent to provide a Response.

## **2.33 Bonds**

### **2.33.1 Bid Bond (if required)**

**The Solicitation Response page will indicate the fixed percent of the bid security required based on the amount of the Responder's Response.** See also Standard Terms and Conditions Section A-3.

Bid Bonds must be submitted on **Iowa DOT Form No. 131084** or the bid will be rejected.

The Bid Bond from the qualified responsive Responder will be retained until an executed contract is in place and the required Bonds and Insurance Certificates are in the possession of the Iowa DOT after which the bid security will promptly be returned.

### **2.33.2 Performance and Payment Bond**

If the contracted, estimated value is \$25,000 or more, the successful Responder shall furnish a performance bond covering the faithful performance of 100% of the Contract and the payment of all obligations arising thereunder.

One copy of the bond shall be submitted on Iowa Department of Transportation **Form 131070**. All items must be properly filled in, including Responder's signature. A Resident Commission Agent or attorney-in-fact must file a copy of the power of attorney.

**2.33.3 Power of Attorney**

Attorney-in-fact who signs the Bid Bond and/or Performance Bond must file with each bond a certified and effectively dated copy of the Power of Attorney.

## **Section 3 Specifications and Mandatory Requirements**

### **3.1 Purpose**

The Iowa DOT is seeking a qualified Responder that demonstrates the capabilities, experience, and resources required to provide the maintenance, repair, and overall upkeep of its existing Intelligent Transportation System (ITS) devices. The ITS system consists of sensors and control devices located throughout the state and connected to a central Traffic Management Center (TMC) for the purpose of promoting a safe and efficient transportation system. The Responder shall provide routine and responsive maintenance to keep the system in a highly consistent and dependable state. The Successful Responder will demonstrate the presence of skills and resources necessary to provide these maintenance services reliably. All services provided herein shall be in accordance with and under the direction of the Iowa DOT. Divisions 11, 20, 21, 24, 25, 26 and 41 of Standard Specifications for Highway and Bridge Construction Series 2015 shall apply. If any conflicts arise between the Iowa DOT Standard Specifications and terms, conditions and requirements of this RFP, the RFP shall prevail.

The Iowa DOT's definition of the ITS Infrastructure includes poles, device-ready cabinets, terminated fiber optic or other wired communications networks, servers, network equipment, power supplies, handholes, and other resources needed to install, configure, communicate with, and integrate ITS devices. The maintenance of the full system is a shared responsibility between the Responder, Iowa DOT, partner agencies, and other contractors. Section 3.3 outlines the responsibilities of each party.

### **3.2 Other Entities**

Work on this project will be performed in conjunction and cooperation with other contractors, partner agencies, and Iowa DOT staff. The Responder will coordinate and communicate its operations in an efficient and professional manner and as directed by the Iowa DOT. These organizations include, but are not limited to those described in this section.

#### **3.2.1 Traffic Management Center**

Most of the ITS devices maintained through this project directly support the activities in Iowa DOT's Traffic Management Center (TMC) located in Ankeny, Iowa. The Successful Responder will be required to communicate the status of maintenance work with TMC personnel on a daily basis (see Sections 3.13.3 and 3.13.4). The TMC will have primary responsibility for daily system checking, the creation of maintenance tickets, and configuration of devices in the ATMS software (see Section 3.4.4).

#### **3.2.2 ATMS Software**

The ATMS software is TranSuite currently provided and maintained by TransCore.

The ATMS Software provider manages and maintains the software functionality, servers, data storage, and software interfaces associated with the system operation. The ATMS Software provider will provide up to 24 hours of software usage training per year to the Successful Responder's staff. The ATMS Software provider will also be required to provide occasional technical support as needed for software-related issues.

The operation of the ATMS software relies on a robust communications network, the maintenance of which is the responsibility of the Successful Responder (see Section 3.3.3.3). The Successful Responder is therefore required to cooperate with and support the ATMS Software Provider on demand to maintain communications between servers and other locations through the maintenance and configuration of all switches, routers, firewalls, and other network devices.

### **3.2.3 Iowa Communications Network (ICN)**

The Iowa Communications Network (ICN) is a partner organization that works with Iowa DOT in many areas to share fiber optic infrastructure. ICN provides maintenance on all shared facilities throughout the state, with the exception of Sioux City. Iowa DOT and ICN also use a common Fiber Optic Asset Management Software, NetDesigner by Enghouse Networks.

### **3.2.4 Iowa DOT and Partner Agency Information Technology Divisions**

In addition to connecting the ATMS servers and field devices, the communications system also connects to multiple Iowa DOT and partner agency facilities and their networks. The Successful Responder is required to cooperate with and support Iowa DOT's Information Technology (IT) Division, other partner agency IT personnel, and local facility personnel to maintain these communications through the maintenance and configuration of all relevant network devices.

### **3.2.5 Iowa DOT Local Facilities**

Iowa DOT maintenance garage and district office personnel are users of the ITS system. Staff at these facilities will generally coordinate maintenance needs through the TMC, however the Successful Responder should be prepared to work with local personnel directly to coordinate activities in their areas. As part of this coordination, the Successful Responder will be required to provide daily notice to local maintenance personnel of where they will be performing maintenance activities.

Iowa DOT will work with the Successful Responder to provide access to ITS equipment in secure areas. This may be through a combination of issuing security badges or keys or of providing regular and after-hours contact information for personnel that will grant access.

### **3.2.6 Contractors**

Throughout the contract, the Successful Responder may be required to coordinate its activities with contractors. If a contractor is performing work that is directly affected or adjacent to ITS devices, the Successful Responder will be required to coordinate maintenance activities with the contractor and with the Iowa DOT project manager in order to not conflict with contractor's activities.

As directed by Iowa DOT, the Successful Responder may also be required to coordinate the removal, replacement, and re-integration of devices affected by a contractor's work, or to provide installation services for new ITS device locations. If required, such work is not considered part of ordinary maintenance defined in Section 3.4 and will be negotiated separately.

If any part of maintenance requires the services of an electrical, underground, heavy construction, fiber optic, or other specialty contractor, these services will generally be provided under separate contract with Iowa DOT unless otherwise negotiated. As directed by Iowa DOT, the Successful Responder may be required to coordinate these activities and provide oversight of contractor as they affect the installation, integration, and maintenance of ITS system devices. The time required for such coordination and oversight is not considered part of ordinary maintenance defined in Section 3.4, and will be negotiated on a task-by-task basis.

### **3.2.7 Communications System Partners**

The communication network that supports the ITS system is comprised of infrastructure owned by Iowa DOT as well as many other organizations through infrastructure sharing agreements. These organizations include partner agencies as well as private communications providers. The Successful Responder will be required to know the

specific fiber paths for Iowa DOT-owned infrastructure and the general connection points to and from partner-owned infrastructure. The Successful Responder will be required to coordinate with these partners according to the maintenance agreements and with the Iowa DOT project manager when maintenance activities involve shared communications infrastructure.

### **3.2.8 Center for Transportation Research and Education**

The Iowa DOT Office of Traffic Operations (OTO) works closely with Iowa State University's Center for Transportation Research and Education (CTRE) for research, support, and other functions. Specifically relating to this project, CTRE monitors data quality and consistency from the ITS network vehicle sensors. CTRE will provide vehicle sensor data inconsistency reports to the TMC, for which a trouble ticket will be generated and the Successful Responder required to calibrate the vehicle sensor in question (see Sections 3.3.3.6 and 3.4.4).

## **3.3 System Description**

### **3.3.1 General**

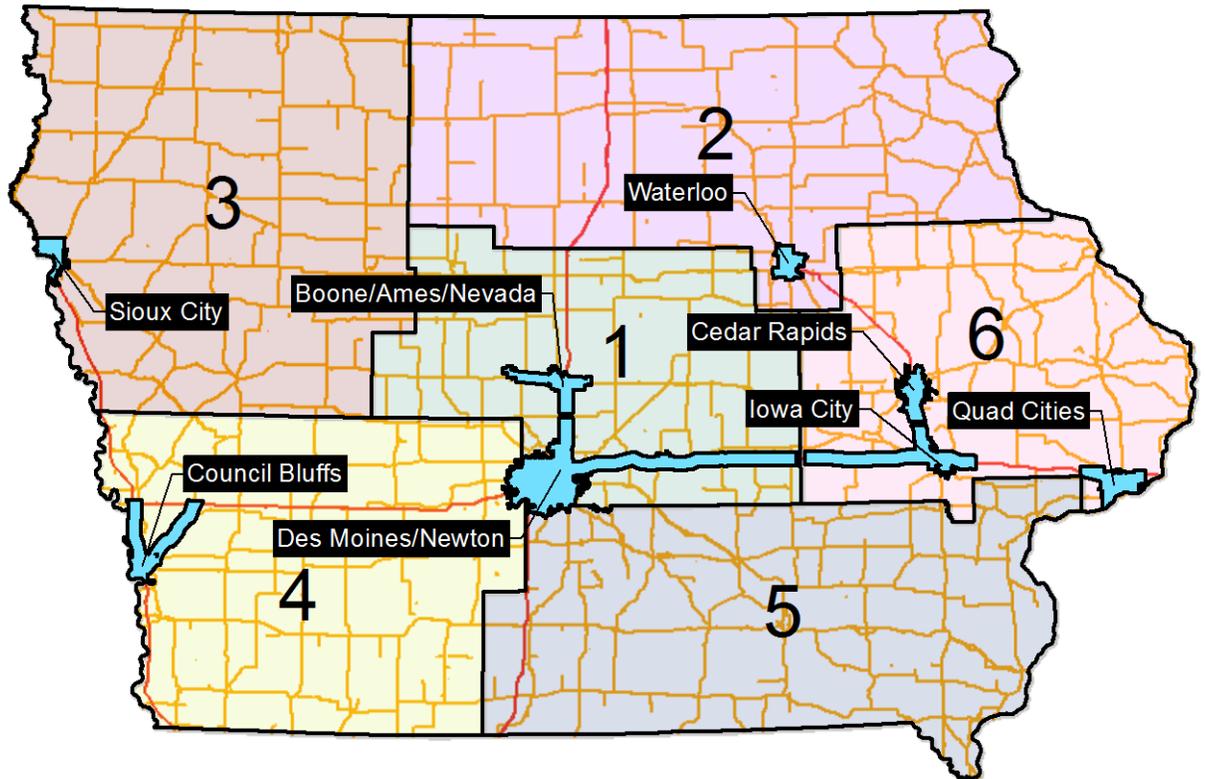
Iowa DOT's operations program has been growing and expanding over the past 10 years. Over that time, the importance of transportation operations has also grown and expanded for both the Iowa DOT and its customers. The list below gives a general timeline for the evolution of Iowa DOT's ITS deployments:

- 1988-2000 Most RWIS sites installed
- 2003-2005 Des Moines Area ITS Deployment
- 2006-2008 Eastern Iowa (Iowa City / Quad Cities)
- 2009-2010 Western Iowa
- 2009-2010 TMC established in Ames
- 2010 Statewide ITS Maintenance Software (SIMS) Deployment
- 2010-2011 Des Moines Camera Upgrade
- 2012 Waterloo
- 2013 Office of Traffic Operations established
- 2015 TMC moves to Ankeny
- 2012-2014 Cedar Rapids, Boone/Ames/Nevada, Newton

With each deployment, Iowa DOT's experience and the capability of the equipment have evolved and improved. This has resulted in some minor differences in device types and the installation setups. As the equipment has aged, much of the originally deployed equipment has been replaced; however, some legacy equipment is still functional and is being replaced as it fails.

### **3.3.2 Physical System Layout**

The ITS network is located throughout the state, with concentrations of devices localized around the more populated areas. A map showing the urban and rural areas is shown in Figure 3-1. To provide Responders an indication of the distribution of rural devices, these are subdivided into Iowa DOT districts, also shown in Figure 3-1. The specific numbers of devices in each area is provided in *Appendix A*.



**FIGURE 3-1: URBAN AND RURAL ITS SYSTEM DEPLOYMENT AREAS**

The distinction between Urban and Rural devices is defined by Iowa DOT largely based on their method of connection to the ITS system. If a site is directly connected to an urban system using fiber optics or a wireless connection to a connected site, it is generally considered part of that urban system. The exceptions to this are for the DMS and Road-Weather Information Systems (RWIS) which are generally connected through wireless modems to carrier networks. They are therefore considered either rural or urban based on their proximity to an urban area. Also, devices installed along the following sections are considered part of the nearest urban areas and are not considered rural for the purposes of this project:

- I-380 between Iowa City and Cedar Rapids
- I-35 between Ames and Des Moines
- I-80 between Des Moines and Iowa City
- US-30 between Boone and Nevada

The system is interconnected through multiple communication hubs that house equipment such as firewalls, routers, switches, servers, or storage devices. These generally coincide with the population centers defined above, but also include installations in various other locations. The TMC is considered the central communications hub, and it is backed up by standby equipment located at the Ames site.

Approximately 30% of the devices are co-located with other devices, which will reduce the total number of required trips for preventative maintenance. The total numbers of devices and sites by urban and rural area is summarized in *Appendix A*.

### **3.3.3 System Elements**

The following sections describe the composition for each of the ITS system components. If maintenance of a specific system component is shared, the sections also define the responsibility of the Successful Responder and the responsibility of others.

#### **3.3.3.1 Device Equipment Cabinets**

Device control equipment and access to power is generally located in a nearby pole-mounted or pedestal-mounted NEMA 3R cabinet. Cabinets include electrical back-panels with breakers, busses, outlets, and other electrical equipment, and some cabinets also include adjacent or attached transformers and meter pedestals. The responsibilities below apply to all device types unless specifically noted.

*Successful Responder Responsibility:* The Successful Responder is required to provide maintenance of the cabinet equipment and back panel up to and including the breakers (lubrication, filter replacement, fiber panel, lights, thermostats, heaters, cable management, organization, outlets, surge protectors, and cabinet breakers, connectors, conduit, etc.). When new cabinets are provided to the Successful Responder, they will include the shell, empty back panel, and mounting rails. The Successful Responder will be responsible to build the cabinet out with components provided by Iowa DOT.

*Responsibility of Others:* Iowa DOT's electrical contractor will be responsible for cabinet installation and termination of electrical service onto the back panel and any maintenance that involves replacement or modification of the electrical components leading up to the breakers inside of the cabinet.

#### **3.3.3.2 Intermittent Power Systems**

##### **Solar Power**

Many permanent and portable devices use solar power. These consist of solar panels, mounting brackets, cabling, a solar charge controller, and batteries. The sites have been engineered and designed based on light exposure in Iowa.

*Successful Responder Responsibility:* The Successful Responder is required to maintain all aspects of the solar power sites in the ITS system, including the solar panels, cabling, mounting brackets, and charge controllers.

##### **Intermittent Lighting Power**

Many sites have been designed to draw and store energy from the highway lighting systems when the lights are powered, then draw stored energy during daylight hours. These systems consist of a charge controller, cabling, batteries, and in some cases a transformer.

*Successful Responder Responsibility:* The Successful Responder will be responsible to maintain all equipment inside the cabinet up to and including the breakers.

*Responsibility of Others:* Iowa DOT's electrical contractor will be responsible for all elements of the electrical service and circuit leading up to the breakers inside of the cabinet.

#### **3.3.3.3 ITS Communication Network**

The ITS system is connected through a network of leased, shared, and agency owned communications paths, all connected to a common ITS network. This section will describe the network generally in order to give Responders sufficient information to gauge the level of effort and expertise that will be required to

maintain the system, however, a detailed system architecture will not be provided as part of the RFP documents.

### **Communications Protocols Currently In Use**

Various network protocols are used, and the Responder is required to have knowledge and expertise with each of them, certifications where applicable, and demonstrated similar network design and maintenance experience. These protocols include but are not limited to the following:

- IPv4 (RFC 791)
- STP (IEEE 802.1D)
- RSTP (IEEE 802.1w)
- MSTP (IEEE 802.1s)
- VRRP (RFC 5798)
- HSRP (Cisco proprietary similar to VRRP, described in RFC 2281)
- VLAN (IEEE 802.1Q)
- LACP (IEEE 802.3ad)
- SPB (IEEE 802.1aq)
- OSPF (RFC 2328)
- IS-IS (RFC 1142)
- RFC 2544 testing
- SNMP (various RFC)
- IPSec VPN
- SSL VPN
- IGMPv2 (RFC 2236)
- PIM (various RFC)
- QOS (IEEE 802.1p)
- QOS (various RFC)

### **Backbone Network**

The entirety of the ITS system is organized into an IPv4 Class B network, with each urban area assigned a block of Class C subnets. Each urban area is connected to other urban areas in a mesh configuration using Cisco ASA5500 series firewalls.

A direct fiber path is also established between Ames, Ankeny, Iowa City, and Cedar Rapids using fiber infrastructure shared with ICN. This is configured as a 10 GB redundant ring over a single fiber using DWDM equipment, and a 1 GB network access link also over a single fiber. The high-bandwidth backbone is configured using the Avaya 4800 series routing switches and the redundancy is managed using the Shortest Path Bridging (SPB) protocol (IEEE 802.1aq).

The system's backbone equipment consists of the equipment listed in Table 3-1, installed along the path at locations in Ames, Ankeny, Iowa City, Cedar Rapids, and two ICN regeneration locations along I-80 between Des Moines and Iowa City.

**TABLE 3-1: SYSTEM BACKBONE EQUIPMENT**

<b>Device</b>	<b>Quantity</b>	<b>Description</b>
Cisco ASA5500 series	9	One or more in each deployment area.
Avaya 4800 series	12	10 GB fiber ring between Ames and Cedar Rapids
Telco Systems TMC 380 series	6	Distribution fiber between Ames and Cedar Rapids

Champion One DWDM Equipment	6	Four-channel chassis, circulator, amplifier
Champion DWDM Transceivers	24	10 Gbps SFP transceivers for each DWDM frequency
Pro Labs Single and Dual fiber transceivers	28	1 Gbps and 10 Gbps SFP transceivers

The Responder is required to maintain a high level of security to protect against penetrations and attacks from the field network and through interfaces with the public internet and other networks. Because the ITS and the Iowa DOT networks interface in several locations and are comingled across the same network equipment (separated by VLAN) along the backbone from Ames to Cedar Rapids, the ITS network is subject to some of the same security requirements as the Iowa DOT's network. This includes participation in annual penetration testing and risk assessments conducted by the State of Iowa OCIO Information Security Office, which largely consists of providing information and documentation on all endpoint interfaces to outside networks.

*Successful Responder Responsibility.* The Successful Responder is required to maintain all aspects of the backbone communications system. This includes maintaining up-to-date all documentation of communications system configuration.

### **Urban Area Networks**

The network within each urban area is managed by one or more routing switches. Most urban networks are connected to local Iowa DOT facilities, partner networks, and local field devices through Iowa DOT owned fiber and wireless paths as well as leased and shared infrastructure.

The network equipment used in each area is listed in Table 3-2. Each urban area network is controlled by a routing switch (Cisco 3750x), and in some cases additional layer 2 distribution switches are used in the server rooms. Environmentally hardened layer 2 field switches are used in field cabinets and in some partner facilities. Additionally, a small number of 4 and 8 port unmanaged switches are in use in specific applications where a managed switch is unnecessary or its current draw makes it undesirable (such as at permanent and portable solar sites).

**TABLE 3-2: URBAN AREA NETWORK EQUIPMENT**

<b>Equipment</b>	<b>Quantity</b>
<i>Server Room</i>	
Cisco 3750x	12
Cisco ME-3400G	1
Cisco SF500/SG500/SG200	23
APC UPS	8
<i>Managed Field Switches</i>	
Comtrol RocketLinx	228
RuggedCom RS900	134
RuggedCom RMC2200	2
Etherwan 9808S	8
GarretCom 6K Series	20

<i>Unmanaged Switches</i>	10
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*Successful Responder Responsibility:* The Successful Responder is required to maintain all aspects of the urban communications system. This includes maintaining up-to-date all documentation of communications system configuration.

**Fiber Optic Communications**

Most urban areas include Iowa DOT owned fiber optic infrastructure. This includes underground conduit, hand holes, and splice enclosures as well as in-cabinet termination panels and conduit paths.

*Successful Responder Responsibility:* The Successful Responder will be responsible to manage and maintain jumper connections between switches and termination panels. The Successful Responder will be responsible to have sufficient training in fiber optics to properly handle, clean, and maintain fiber connections, to correctly select and maintain fiber optic transceivers, and to perform basic troubleshooting using light source/optical power meters, visual fault locators, fiber inspection scopes, and traffic identifiers. The Successful Responder is also responsible to coordinate work with partner agencies as described in Sections 3.2.3 and 3.2.7. This includes notifying Iowa DOT of any configuration changes within 1 business day in order to maintain up-to-date the fiber configuration documentation.

*Responsibility of Others:* Underground work relating to conduit and hand holes will be the responsibility of Iowa DOT’s on-call underground contractor. Fiber splicing, fiber termination, termination panels, patch panels, OTDR testing, and other work requiring trained and certified fiber technicians and specialty equipment will be the responsibility of Iowa DOT’s on-call fiber maintenance provider(s).

**Wireless Communications**

All urban areas include some wireless communications, much of which was originally designed as the “last hop” to terminal devices, although some backhaul wireless links are also installed in some locations. The wireless links largely consists of unlicensed IP radios in the 5.x GHz range, with three high-bandwidth FCC licensed links in the Council Bluffs area, and a WiMAX system is in use in the Waterloo urban area. The number and types of wireless devices in the system are shown in Table 3-3.

**TABLE 3-3: WIRELESS COMMUNICATIONS EQUIPMENT**

<b>Device</b>	<b>Quantity</b>
Alvarion BreezeAccess	74
Alvarion BreezeNet	24
Radwin 2000 series	118
Radwin 5000 series	132
Encom COMMPAKI08	4
Motorola Canopy	46
Alvarion Breeze Max 3000 (WiMAX base station)	1
Alvarion Pro 3000 CPE (WiMAX subscriber)	13
Trangolink / Trango Apex Plus (licensed)	6

*Successful Responder Responsibility:* The Successful Responder is required to maintain all aspects of the wireless communications system, including frequency analysis, monitoring performance trends, and design of new connections or re-design of existing connections to improve stability. This includes maintaining up-to-date all communications system configuration documentation.

#### **Rural and Portable Device Communications**

All rural devices are connected through modems connecting to carrier networks. These modems consist of various models manufactured by Sierra Wireless.

*Successful Responder Responsibility:* The Successful Responder is required to maintain all aspects of the rural and Iowa DOT owned portable communications system.

*Responsibility of Others:* Iowa DOT will purchase, activate, and pay monthly service fees for each modem, and provide it to the Successful Responder. Portable device communications for devices owned by other contractors will be maintained by those contractors.

#### **3.3.3.4 Dynamic Message Signs**

Iowa DOT uses DMS extensively to convey safety-related and informational messages to travelers. Nearly all DMS communicate with the ATMS software over wireless modems connected to carrier networks.

DMS from the following manufacturers are currently in use:

- 83 - Daktronics Permanent
- 79 - Skyline Permanent
- 8 - Addco Permanent
- 80 - Addco Portable
- 5 - Ver-Mac Portable

There are 4 general classifications of DMS, described as follows:

- *Overhead:* Installed above freeway and highway lanes on a custom sign structure. Most include a pedestal-mounted cabinet near the base of the structure near the outside lanes. Some are outfitted with a ladder and/or catwalk from which a technician can enter the sign enclosure through a door in order to perform sign maintenance. These must be accessed either with a bucket truck or a ladder. Access to five overhead signs also requires a lane closure, which will be provided by Iowa DOT.
- *Side-Mount:* These DMS are installed along the side of the roadway on standard or custom sign structures. Some side-mount DMS have a nearby ground-mounted cabinet, others have a cabinet attached to one of the sign supports, and approximately 50% do not have an exterior cabinet, but have the sign equipment inside of the DMS itself.
- *Rest Area:* These are small DMS installed inside of each Iowa DOT Rest Area. They are accessed by ladder inside of the rest area building, with the controllers located in the rest area maintenance office. Access to these controllers must be coordinated with Iowa DOT.
- *Portable:* Iowa DOT has assigned portable DMS to each district to be deployed as needed for construction and many other activities. The Successful Responder is required to maintain the signs and communications (including the solar power system and batteries), while Iowa DOT will provide maintenance of the trailers. (See Section 3.3.3.9)

DMS can be monitored and maintained using Successful Responder-specific DMS sign software for each sign type. This software resides on a server inside of the Iowa DOT network. The Successful Responder will be provided remote access to that server so that it may be used for maintenance and troubleshooting purposes.

*Successful Responder Responsibility:* The Successful Responder is required to maintain all aspects of the DMS field system, central server, and software with exceptions noted below.

*Responsibility of Others:* Iowa DOT will coordinate maintenance of permanent DMS structures and of the maintenance of portable device trailers (mechanical, structural, tires, paint, etc.). Iowa DOT will provide the DMS maintenance server hardware, operating system, and DMS Successful Responder software for the Successful Responder to operate and maintain.

### **3.3.3.5 CCTV Cameras**

Iowa DOT maintains an extensive system for video transport, recording, and distribution to a wide range of users including the TMC, other Iowa DOT personnel, transportation and law enforcement partners, the news media, and the public.

The CCTV cameras are located throughout the state, and consist of IP cameras and analog cameras with video encoders. Video passes through a video distribution server and to a video recording server located in each urban center. All CCTV video is currently encoded into the H.264 format, though the video distribution server serves it out in multiple other formats. Cameras are installed statewide at many locations along highways and freeways, rest areas, and on RWIS towers. The field video equipment to be maintained under this contract is by the following manufacturers:

- 327 - Axis Q6032/Q6035/Q6045/232D+
- 58 - Vicon SVFT-W22/W23 (analog CCTV located in Western Iowa)
  - Impath i4110/i5120E/vsg5000-b (video encoders)
  - Control DeviceMaster (IP to Serial terminal server for Pan/Tilt/Zoom (PTZ) control)

*Successful Responder Responsibility:* The Successful Responder is required to maintain all aspects of the CCTV cameras and the transport of video streams across the network.

*Responsibility of Others:* The ATMS software provider will maintain the video distribution and video recording servers.

### **3.3.3.6 Vehicle Sensors**

The ITS network includes roadside vehicle sensors that collect speed, volume, occupancy, and classification data. This data is brought back to the ATMS Software and used for various applications such as calculating and displaying Travel Time information on DMS, wrong way detection, automatic incident detection, and engineering studies. It is also distributed to a large number of users for various other purposes. Vehicle sensors are installed statewide at many locations along highways and freeways and on RWIS towers. The following makes and models are installed:

- 201 - Wavetronix HD
- 161 - Wavetronix 105/V
- 32 - ESS RTMS G4 (located in Western Iowa)

- 8 - Autoscope Solo Pro/ACIP (located on the I-74 Bridge in Quad Cities)

The accuracy of vehicle sensor readings is required to be within the following parameters for speed and volume when compared with manual counts and radar speeds, using a minimum of 30 vehicles in a sample. The Successful Responder must recalibrate each vehicle sensor annually at a minimum.

- Within 10% for a single lane
- Within 5% of the average of all lanes of a lane group

*Successful Responder Responsibility:* The Successful Responder is required to maintain all aspects of the vehicle sensor system.

*Responsibility of Others:* Iowa DOT also uses traffic flow data from commercially available probe data sources, the interfaces to which are maintained by the ATMS software provider.

### 3.3.3.7 Road Weather Information Systems

Iowa DOT maintains a system of Road-Weather Information System (RWIS) /Environmental Sensor Stations (ESS) throughout the state. These provide detailed atmospheric and roadway-related weather information to enhance forecasts and winter maintenance operations.

#### Permanent RWIS

The permanent RWIS are generally installed on 30-foot fold-down towers with concrete footings and attached control cabinets. Most of the permanent sites are also co-located with a CCTV and a Vehicle Sensor, and communicate via modem over a carrier network back to the central RWIS database. Table 3-4 lists equipment currently in use:

**TABLE 3-4: RWIS EQUIPMENT**

Equipment Type	Manufacturer	Make/Model	Quantity
Controllers, including Remote Processing Units (RPU) and Data Loggers	Viasala	LX RPU	69
Surface condition	Vaisala	FP2000	176
Surface condition	Vaisala	DSC-111	6
Surface condition	Vaisala	Groundhog G10	1
Surface condition	Energy Absorption Systems Inc.	Sensit	2
Subsurface temperature	Vaisala	DTS12G	48
Subsurface temperature	Vaisala	TDP	10
Wind speed and direction	Vaisala	WMS 301	1
Wind speed and direction	Vaisala	WMT 700	3
Wind speed and direction	RM Young	5103	60
Precipitation and visibility	Lufft	R2S	3
Precipitation and visibility	OSI	OWI-120	16
Precipitation and visibility	OSI	WIVIS-430	39
Precipitation and visibility	Vaisala	PWD-12	6

Air Temperature and humidity	RM Young	41382	60
Air Temperature and humidity	Vaisala	HMP-155 AIR	4
All-in-one RWIS	Zydax	ZyPST	1
All-in-one RWIS	High Sierra	5721	1
All-in-one RWIS	Rainwise	IP100 / MK-III long range	8
Portable RWIS	Viasala	MAWS Logger	1

*Successful Responder Responsibility:* The Successful Responder is required to maintain all aspects of the RWIS system, including the RWIS servers and associated software.

*Responsibility of Others:* Iowa DOT will provide the RWIS server hardware and the operating system, database, and ScanWeb software.

### **3.3.3.8 Other Devices**

The following elements are part of the ITS System, but are not included in ordinary maintenance. Any maintenance of these devices will be requested specifically by the Iowa DOT project manager. If maintenance is requested, hours and vehicles will be reimbursed using the Successful Responder's established hourly rates, and any authorized materials used by Successful Responder will be reimbursed by the Department.

#### **Freeway and Ramp Gates**

Iowa DOT owns and maintains 4 mainline freeway gates located in various areas of the state which are generally used to close freeways during major freeway closure events, such as winter storms. In addition, there are 2 ramp closure gates installed at onramps along I-74, used by maintenance personnel for I-74 Mississippi bridge closure events.

#### **Highway Advisory Radios**

Iowa DOT owns and maintains 10 Highway Advisory Radio transmitters and multiple static signs with flashing beacons in Des Moines, Quad Cities, Iowa City, Council Bluffs, Sioux City, Adair, Urbana, and DeSoto. Two portable HAR servers are also owned and maintained by Iowa DOT.

#### **Intersection Conflict Warning Systems**

Iowa DOT has installed several rural intersection conflict warning systems that include a traffic signal style controller, in-pavement detection loops, and flashing beacons.

#### **Sioux City Railroad Warning System**

A system is currently being installed in Sioux City that includes a connection to the railroad crossing controller. Once an idling train is detected, the ITS system will warn travelers heading to downtown Sioux City that a train is blocking the path and direct them to an off-ramp with a grade-separated railroad crossing.

### **3.3.3.9 Portable ITS**

Portable devices are an essential part of Iowa DOT's ITS system, and the maintenance responsibilities for each type of portable device has been covered throughout Section 3.3.3. This section addresses the three general applications for portable devices, and provides a summary of responsibilities for devices in each category in Table 3-5.

**Iowa DOT-Owned Portable Devices**

Iowa DOT owns and maintains the following portable devices:

- 85 - Portable DMS
- 8 - Portable CCTV / Vehicle Sensor
- 1 - Portable RWIS
- 2 - Portable HAR

When not in use, these devices are stored at Iowa DOT maintenance garages and other facilities. They are typically deployed by Iowa DOT maintenance staff as needed for work zones, maintenance operations, emergency responses, and special events. These portable devices are equipped with GPS which is connected to the ATMS Software in order to know their location at any time.

**Contractor-Provided Portable Devices**

Many projects require traffic control devices, including portable DMS, to be provided by the contractor. Generally, these include communications services also provided by the contractor or the traffic control company.

**TABLE 3-5: PORTABLE DEVICE MAINTENANCE RESPONSIBILITIES**

Maintenance Item	Portable Device Owner	
	Iowa DOT	Contractor
Unlicensed Wireless Communications	ITS Maint. Successful Responder	ITS Maint. Successful Responder
Power System	ITS Maint. Successful Responder	Contractor
End Device (CCTV, Sensor, etc.)	ITS Maint. Successful Responder	Contractor
Modem Communications	ITS Maint. Successful Responder	Contractor
Trailer / Structure	Iowa DOT	Contractor
Physical Device Placement	Iowa DOT	Contractor
ATMS Device Configuration (Std)	Iowa DOT	Iowa DOT
ATMS Device Configuration (IWZ)	Iowa DOT	Iowa DOT
IWZ Programming	Iowa DOT	Iowa DOT

**3.3.4 Maintenance History**

To give Responders a general idea of the level of maintenance required for the current system, Table 3-6 provides the average number of tickets recorded per month for the year 2015. The number of tickets for the maintenance of communications, vehicle sensors, and cameras is derived from the existing maintenance management databases, while the number of tickets for RWIS maintenance is an approximation only. The number of tickets per maintenance area is approximately proportional to the total number of devices in that area.

**TABLE 3-6: CURRENT AVERAGE MONTHLY SYSTEM RESPONSE MAINTENANCE**

Equipment Type	Average Tickets per Month
General / unknown	106
Communications	83
CCTV	37
Vehicle sensor calibration	1

DMS	41
RWIS	12

Among these tickets, the number of emergency after-hours maintenance callouts is estimated to be 3-5 per month statewide.

### 3.4 Ordinary Maintenance

#### 3.4.1 Overview

Ordinary Maintenance is defined as all actions performed as part of day-to-day operations required to deliver a working ITS system during the Ordinary Maintenance hours (see Section 3.4.3). For purposes of this RFP, a device is defined as “working” when it is able to supply the functionality associated with that device (e.g., a camera providing high quality video and PTZ capabilities, a vehicle sensor is providing accurate speed and volume information, etc.).

The Successful Responder shall provide Maintenance Management System (MMS) software to manage and document all maintenance activities, inventory, and system configuration. The Successful Responder shall maintain up-to-date all MMS records as maintenance occurs. Functional requirements for this software are provided in Section 3.8.1.

#### 3.4.2 Ordinary Maintenance Groups

The intent of the Ordinary Maintenance item is for the Successful Responder to be responsible for the routine and response maintenance of all system elements as defined in *Appendix A*.

#### 3.4.3 Ordinary Maintenance Hours

The Iowa DOT's expectation is that most, if not all, items of work outlined in Ordinary Maintenance can be completed during ITS Maintenance hours, defined as 6:00 AM to 6:00 PM Monday through Friday and excluding Iowa DOT recognized holidays. See Section 1108.03 of Iowa DOT Standard Specifications and GS-15002 for other restrictions.

#### 3.4.4 System Monitoring

Desired and expected maintenance of the system will require regular checking and monitoring of the system functionality to identify issues as soon as possible after they arise. This monitoring of system functionality will take place using four methods, described below:

##### 3.4.4.1 TMC Daily Checks

The TMC will perform a high-level daily check of each system device, and will enter a response maintenance ticket for any discovered issues. The daily checks will include the following steps:

- Checking the online/offline/error status for CCTV, DMS, RWIS, Vehicle Sensors, and other devices as reported through the ATMS Software
- Checking the CCTV video presence and quality, and exercising PTZ controls
- Checking the relative accuracy of Vehicle Sensor data
- Verification that tickets closed throughout the day successfully resolved the reported issue

##### 3.4.4.2 CTRE Vehicle Sensor Consistency

CTRE has developed an automated method of monitoring vehicle sensor data consistency. The TMC will use this tool to verify relative sensor accuracy and generate a maintenance ticket. The Successful Responder is required to investigate and as necessary re-calibrate the vehicle sensor, and to use the

CTRE developed-tools and the ATMS software to verify that the sensor is calibrated correctly.

#### **3.4.4.3 RWIS Sensor Accuracy Checks**

Iowa DOT's RWIS coordinator will regularly perform a remote check of the accuracy of the RWIS sensors. The coordinator will generate maintenance tickets for discovered issues, and will verify closed issues have been corrected adequately.

#### **3.4.4.4 Successful Responder Detailed Checking**

The Successful Responder will perform detailed system checks that extend beyond the high-level checks performed by TMC personnel. Some examples include checking device logs, network ring status, radio signal strength, and other similar items. *Appendix B* outlines the minimum required detailed checking steps and their frequency for each device type. The Successful Responder may use the ATMS software as well as other tools to perform these checks.

If the checks require interrupting the operation of any device (e.g. taking a device offline, performing a diagnostic test on a DMS that interrupts the current message being displayed, or moving a CCTV), the Successful Responder shall first verify with the TMC that the specific device is not in active use. The Successful Responder shall not perform its detailed check on CCTV or DMS during weekday morning and afternoon peak periods (6:30A – 9:30A, 4:00P – 7:00P).

#### **Available Tools**

**RWIS** – The RWIS server software includes some tools that can be helpful for troubleshooting. A user guide will be provided upon award with instructions.

**DMS** – the DMS maintenance server noted in Section 3.3.3.4 exists in order to provide the Successful Responder with access to the manufacturer-provided software for each type of DMS. These software packages provide advanced troubleshooting and maintenance tools specific for each type of DMS.

The following reports and tools are available to the Successful Responder from within the TransSuite ATMS software:

- *Device Status* – Users can quickly identify device status by color. For example, the system will show devices in one color if they are “online” and another for “communications failure”.
- *Vehicle Sensor Configuration* – The system will identify vehicle sensors that have a mismatch in the number of lanes configured in the field device vs. the number configured in the ATMS software by color.
- *DMS detailed status* – The system allows users to pull a detailed report from each DMS controller, which provides the status of power supplies, fans, pixels, and numerous other items that are available as configured by the DMS manufacturer and messages defined in the NTCIP.
- *Event Log* – The software includes a log of detailed events occurring with the software and with individual devices that can be queried as needed. The events useful for maintenance may include changing communications status and records of configuration changes, though other uses may be derived from the data by the Successful Responder if desired.

#### **3.4.4.5 Network Monitoring Software (NMS)**

The Successful Responder shall configure, maintain, and use NMS for automated system monitoring, by generating warning and failure alerts for

network elements of the system. Detailed requirements for this software are provided in Section 3.8.2.

### 3.4.5 Routine Maintenance

The Successful Responder shall perform routine maintenance for all devices included in Ordinary Maintenance. The minimum steps required for routine maintenance of each device type are included in *Appendix C*. The required minimum frequency of routine maintenance visits varies by device type, and is shown in Table 3-7.

**TABLE 3-7: REQUIRED ROUTINE MAINTENANCE FREQUENCY**

<b>Device Type</b>	<b>Routine Maintenance Frequency (months)</b>
Permanent DMS	6
Permanent CCTV	3
Permanent Vehicle Sensor	6
Permanent RWIS (between July 1 and Oct 1)	12
Permanent Network Device (switch, radio, FTC, etc.)	12
Intermittent Power Service (intermittent lighting, solar)	6
Portable Device	4
Device Cabinet	12

The Successful Responder shall document routine maintenance visits certifying that the basic routine maintenance steps were carried out, noting any additional steps or exceptions, resolving any discovered issues, and creating response maintenance tickets for discovered issues requiring additional response.

As part of the System Maintenance Plan (see Section 3.11.2), the Successful Responder shall prepare and submit a detailed schedule for routine maintenance visits to the Iowa DOT Project Manager for review and approval. The format shall be acceptable to the Iowa DOT Project Manager. If at any time scheduled activities for any device become delayed by more than two (2) weeks, the Successful Responder is expected to notify the Iowa DOT Project Manager and provide a plan acceptable to the Iowa DOT Project Manager to resolve the delays within two (2) weeks.

### 3.4.6 Response Maintenance

The Successful Responder shall respond to and resolve issues with system devices in a timely and efficient manner. Resolution is defined as restoration of a device back to working condition.

The Successful Responder is expected to maintain adequate parts inventory, tools, equipment, vehicles, personnel, expertise, and organization to meet these resolution times for all reasonably anticipated issues. This expectation includes reasonable backup planning for issues such as the unavailability of personnel due to illness or vacation, maintenance vehicles in the shop, tools out for repair, etc.

In the event that the issue cannot be resolved within the required time, the Successful Responder shall communicate a resolution plan to the Iowa DOT project manager. Within one business day, the Successful Responder must also submit the resolution plan in writing to the Iowa DOT project manager outlining the plan and schedule, and

detailing the reasons why the repair could not be completed within the required time (this documentation could consist of detail added to a response maintenance ticket).

The required resolution times are listed in Table 3-8.

**TABLE 3-8: REQUIRED MAINTENANCE RESOLUTION TIMES**

<b>Category</b>	<b>Resolution Time</b>
Backbone network / major portion of urban area	4 hours
Server / software failure (RWIS, NMS, MMS)	24 hours
Single issue causing multiple device outage (>5 end devices)	Following business day
DOT-owned portable device in use*	Following business day
Overhead DMS	Following business day
Vehicle sensor used in Queue Detection or Travel Times**	2 business days
Side-mount DMS	5 business days
CCTV	5 business days
Vehicle sensor	5 business days
One or more devices at an RWIS site	5 business days
Portable device in storage	10 business days

\* Up to 10% of portable devices are in locations critical to the operations and safety of vehicles and workers and may require immediate response. Iowa DOT will communicate information in advance for planned changes, and may work with the Successful Responder to escalate the device failure priority when necessary.

\*\* Approximately 50% of permanent vehicle sensors

The Iowa DOT project manager, at their discretion, will have the ability to review the Successful Responder's maintenance schedule and make the repair of specific devices high priority. Generally, this will be for devices critical to Iowa DOT operations due to upcoming construction projects or other such events. Iowa DOT will strive to exercise this ability in such a way to not disrupt the Successful Responder's ability to meet standard response time requirements, however if this becomes the case, the Iowa DOT project manager will grant exceptions on a case-by-case basis. Although a maximum frequency for these changes will not be provided, under the current contract this prioritization occurs approximately once per week for all areas (i.e., once for the entire state, not once per week per area).

Any proposed fiber optic communication change (moving jumpers in cabinets, splicing, etc.) must be reported to the Iowa DOT to ensure other networks will not be impacted by the change. After implementing any change, an updated panel termination diagram shall be placed in the device cabinet and submitted within 1 business day to the Iowa DOT in PDF form for entry into the NetDesigner software.

### **3.5 Hourly Maintenance**

Iowa DOT will occasionally have need for maintenance services in addition to those covered under Ordinary Maintenance. The Iowa DOT project manager will coordinate with the Successful Responder when such services are necessary. The Successful Responder shall respond to these requests within 5 business days unless otherwise agreed upon based on the nature of the specific request. Examples of this requested services are:

- Coordination with and oversight of electrical or fiber contractors for the repair or replacement of devices
- Coordination with agency IT personnel to establish a new partner network connection
- Installation of new system devices, removal and installation of existing devices, and the associated integration with each, including portable ITS devices as described in Section 3.3.3.9
- Maintenance of other devices described in Section 3.3.3.8, and other devices not included in Ordinary Maintenance

It is expected that the Successful Responder shall accomplish Hourly Maintenance Work without requiring overnight stays. If an On-Demand Work assignment is anticipated to require overnight stays, the Successful Responder shall receive prior approval from the Iowa DOT Project Manager. If approved, the Iowa DOT shall reimburse the Successful Responder for daily meals and lodging only when overnight stays are required using federal reimbursement rates. See <http://www.gsa.gov/portal/category/21287> for additional details.

### **3.6 After-hours Maintenance**

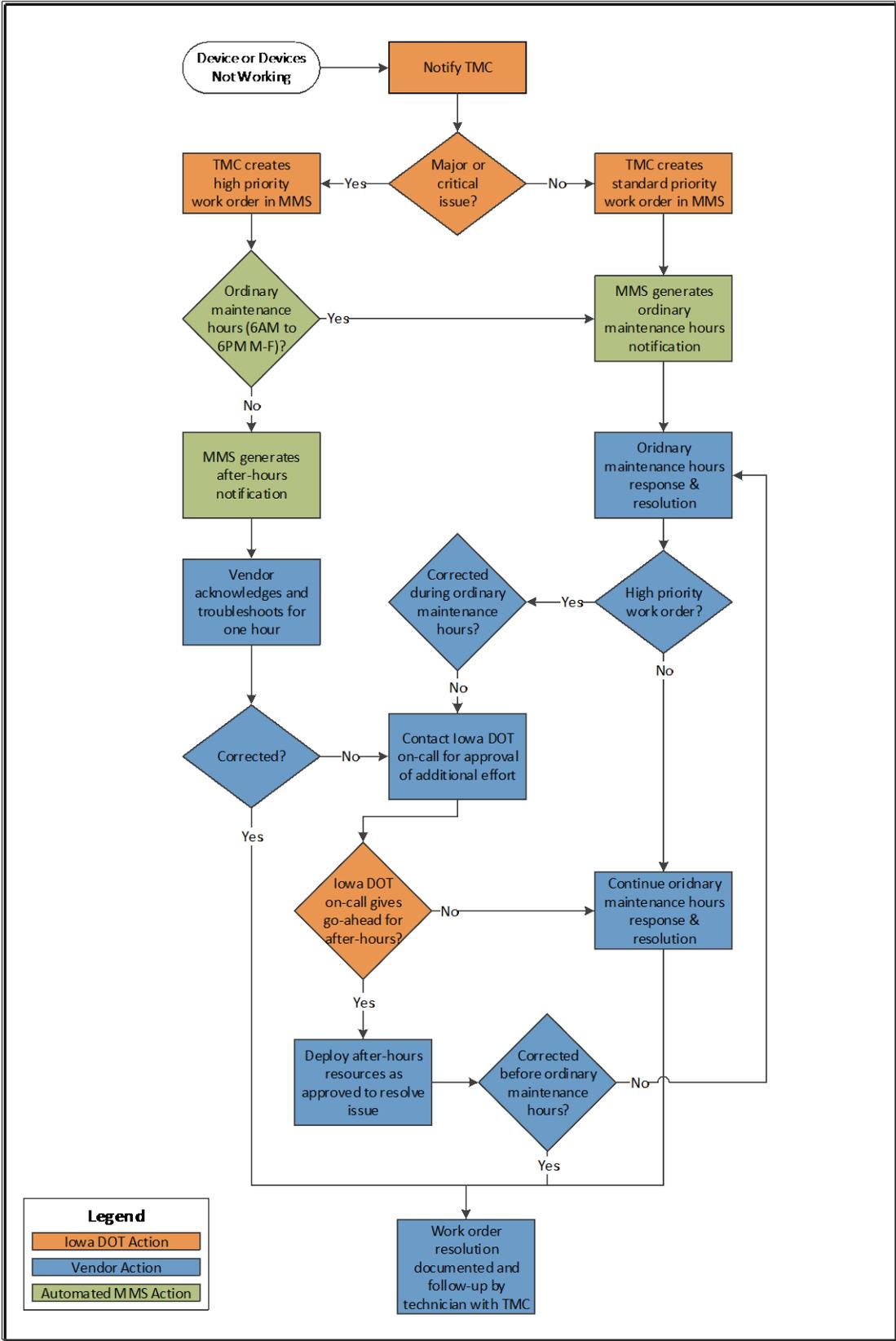
The Successful Responder shall provide after-hours and emergency maintenance as needed. Examples of events that may require this service are as follows:

- Communications system failures affecting multiple devices
- Communications system failures or changes needed for the operation of the ATMS Software and servers
- Natural disasters, incidents, or other events that affect the ITS system
- Failed individual devices or other situations identified as critical by the Iowa DOT project manager or their designee

Primary notification for after-hours maintenance will be from the Iowa DOT project manager or their designee to the Successful Responder through submission of a high priority ticket in the MMS. The Successful Responder shall maintain a single after-hours telephone number for Iowa DOT. Once a call is placed, the Successful Responder shall respond within 15 minutes.

Secondary notification for possible required after-hours maintenance will be from the NMS. In the context of after-hours maintenance, the NMS shall be configured to provide alerts to the Successful Responder and selected Iowa DOT personnel for network failures of backbone equipment and routing switches, or other failures that affect large portions of the system.

Upon notification, the Successful Responder will attempt to assess and remotely troubleshoot the issue. If the issue requires additional response personnel or a site visit, the Successful Responder will communicate this information to the Iowa DOT project manager or their designee. The Iowa DOT project manager or their designee will make the final determination on whether or not additional emergency response is warranted. This after-hours process is summarized in Figure 3-2.



**FIGURE 3-2: AFTER HOURS MAINTENANCE PROCESS**

After-hours maintenance will be based on hourly rates for personnel and vehicles. Creation of a high priority MMS ticket to the Successful Responder will result in the Successful Responder being paid for a minimum of 1 hour at the after-hours technician rate. If the call results in more than one man-hour of actual effort, the Successful Responder will be paid for actual time for personnel and vehicles as approved by the Iowa DOT.

It is expected that the Successful Responder shall accomplish After-Hours Maintenance Work without requiring overnight stays. If an On-Demand Work assignment is anticipated to require overnight stays, the Successful Responder shall receive prior approval from the Iowa DOT Project Manager. If approved, the Iowa DOT shall reimburse the Successful Responder for daily meals and lodging only when overnight stays are required using federal reimbursement rates. See <http://www.gsa.gov/portal/category/100120> for additional details.

### 3.7 Device Installation and Removal

Various devices have been identified to be installed, removed, or relocated. All of these activities will take place within the urban areas defined in Figure 3-1. The estimated number of installations is shown in Table 3-9. This number is estimated only, and the actual number may vary.

**TABLE 3-9: ESTIMATED INSTALLATIONS AND REMOVALS**

<b>Activity</b>	<b>Anticipated Number</b>
Equipment Installation – Camera	33
Equipment Installation – Vehicle Sensor	36
Equipment Installation – Radio	20
Equipment Installation – DMS	3
Equipment Installation – RWIS	2
Equipment Removal	36

Upon the removal or installation of any device, the Successful Responder shall immediately notify the TMC of these changes in order for the configuration changes to be made as appropriate in the ATMS software.

#### 3.7.1 Equipment Installation – Camera

For new camera installations, the Successful Responder shall provide all labor, equipment, mobilization and consumable items to install and configure an Iowa DOT provided camera and mounting hardware in accordance with Iowa DOT accepted practices. This may include installation and configuration of an Iowa DOT provided field network switch or modem (wireless network devices are covered under a separate item).

The Successful Responder shall assume that prior to installation of devices the following will be available at each device location:

- Pole for mounting camera
- Device cabinet with power terminated
- Terminated fiber optic in a fiber termination panel (for devices connected directly to the ITS fiber network)
- Conduit available for installation of serial and/or other communications and low voltage cabling for connection to other ITS devices

All other materials (e.g., communications cable and conduit on device pole, straps, cable ties), other than materials listed in Section 3.9.1, shall be considered incidental to the installation of the camera.

When approved by the Iowa DOT Project Manager, the Successful Responder may drill a hole in existing camera poles to allow communications and power cable entrance in accordance with Sections 2525 and 2509 of Iowa DOT Standard Specifications and provided with wiring grommet and boot.

The Successful Responder may be responsible for mounting cameras on existing poles that are equipped with lowering devices. The camera installations shall be designed as to not interfere with the functioning of the lowering device. The Successful Responder shall coordinate with the lowering device manufacturer as to the required mounting brackets and couplings needed to allow for correct operation of the lowering devices.

For cameras that are to be mounted to existing overhead sign structures, the Successful Responder may use external conduit mounted to the sign structures for the camera power and communication cables. Mounting Extensions may be required for cameras on sign structures. The Iowa DOT shall reimburse the Successful Responder separately for labor and materials related to mounting extensions on overhead sign structures.

Subsequent to installation of the camera the Successful Responder shall coordinate with the Iowa DOT project manager to schedule a FAT.

The FAT shall verify and document successful installation of the camera to include: functionality of camera (e.g., PTZ capabilities, focus, quality of video), general workmanship of the installation (e.g., no loose cabling or conduit, clean-up of installation site), and other items as mutually agreed to by the Successful Responder and Iowa DOT Project Manager. The FAT shall also verify and document the ability to communicate with and control a camera through the ITS communications network from the central network switch.

### **3.7.2 Equipment Installation – Vehicle Sensor**

For new vehicle sensor installations, the Successful Responder shall provide all labor, equipment, mobilization and consumable items to install and configure an Iowa DOT provided vehicle sensor, terminal server and mounting hardware in accordance with Iowa DOT accepted practices. This may include termination of existing serial cables, and installation and configuration of an Iowa DOT provided field network switch or modem (wireless network devices are covered under a separate item).

The Successful Responder shall assume that prior to installation of devices the following will be available at each device location:

- Pole for mounting sensor
- Device cabinet with power terminated
- Terminated fiber optic in a fiber termination panel (for devices connected directly to the ITS fiber network)
- Conduit containing unterminated serial / low voltage communications and power cable available for device termination.

The Iowa DOT shall reimburse the Successful Responder for charge controllers, batteries, and/or solar panels where they are required. All other materials (e.g., communications cable and conduit on device pole, straps, cable ties), excluding items listed in Section 3.9.1, shall be considered incidental to the installation of the vehicle sensor.

When approved by the Iowa DOT Project Manager, the Successful Responder may drill a hole in existing poles to allow communications and power cable entrance in accordance with Sections 2525 and 2509 of Iowa DOT Standard Specifications and provided with a wiring grommet and boot.

Sensors shall be mounted at heights consistent with manufacturer recommendations for maximum vehicle sensor accuracy unless otherwise directed by the Iowa DOT Project Manager.

For vehicle sensors that are to be mounted to existing overhead sign structures, the Successful Responder may use external conduit mounted to the sign structures for the camera power and communication cables.

Subsequent to installation of a field sensor the Successful Responder shall coordinate with the Iowa DOT project manager to schedule a FAT.

The FAT shall verify successful installation and configuration of the sensor to include: Verify speed, volume, and occupancy recording for each specified lane of travel depicted by the field sensor using a laptop in the field, general workmanship of the installation (e.g., no loose cabling or conduit, cleanup of installation site), and other items as mutually agreed to by the Successful Responder and Iowa DOT Project Manager. The FAT shall also verify the ability to communicate with and receive data from a sensor through the ITS communications network at the central network switch.

### **3.7.3 Equipment Installation – Radio**

For the installation of new wireless radio communications, the Successful Responder shall provide all labor, equipment, mobilization and consumable items to install and configure an Iowa DOT provided wireless radio in accordance with Iowa DOT accepted practices. Installation of a radio refers to a single site where a single radio is installed. Installing a pair of radios on separate poles to establish a new wireless communications link shall be considered two installations. Installation includes all wireless, network, security, and other configuration parameters. This may also include installation and configuration of an Iowa DOT provided field network switch or modem.

Costs associated with the design, path analysis, and verification of field conditions prior to final installation shall be considered Hourly Maintenance.

The Successful Responder shall assume that prior to installation of devices the following will be available at each device location:

- Pole for mounting a radio
- Device cabinet with power terminated
- Terminated fiber optic in a fiber termination panel (for radios connected directly to the ITS fiber network)
- Conduit available for installation of serial and/or other communications and low voltage cabling for connection to other ITS devices

In addition to the items listed in Section 3.9.1, the Iowa DOT shall reimburse the Successful Responder for charge controllers, batteries, and/or solar panels where they are required. All other materials (e.g., communications cable and conduit on device pole, straps, cable ties) shall be considered incidental to the installation of the radio.

When approved by the Iowa DOT Project Manager, the Successful Responder may drill a hole in existing poles to allow communications and power cable entrance in accordance with Sections 2525 and 2509 of Iowa DOT Standard Specifications and provided with a wiring grommet and boot.

Subsequent to installation of a sensor the Successful Responder shall coordinate with the Iowa DOT project manager to schedule a FAT to verify connectivity between the radio and the ITS communications network, and between the ITS communications network and the end devices that communicate through the radio.

#### **3.7.4 Equipment Installation – DMS**

For the installation of new DMS, the Successful Responder shall provide a representative to witness factory, delivery, and commissioning tests and inspections. The primary responsibility for the installation of a DMS will be by an electrical contractor, however because the Successful Responder is responsible to maintain the DMS after commissioning, they are expected to witness the tests and inspections. The Successful Responder is responsible to install an Iowa DOT provided modem, configure communications parameters in the DMS controller, and verify communications with the TMC as they configure the ATMS software.

The Successful Responder will be reimbursed for DMS installation activities under Hourly Maintenance.

#### **3.7.5 Equipment Installation – RWIS**

For the installation of RWIS, the Successful Responder shall provide all labor, equipment, mobilization and consumable items to install and configure Iowa DOT provided RWIS equipment in accordance with Iowa DOT accepted practices. Installation of an RWIS includes the following activities:

- Install and configure an Iowa DOT provided RPU
- Connect, configure, and calibrate one or more Iowa DOT provided in-pavement sensors (installed by others)
- Install, configure, and calibrate other Iowa DOT provided RWIS sensors
- Install and configure a modem or field network switch
- Configure the RWIS central software to communicate with the device

The Successful Responder is not responsible for installation of the tower, cabinet, electrical service, and in-pavement sensors, as these will be completed by others.

Subsequent to installation of an RWIS the Successful Responder shall coordinate with the Iowa DOT project manager to schedule a FAT to verify connectivity between the radio and the ITS communications network, and between the ITS communications network and the end devices that communicate through the radio.

The Successful Responder will be reimbursed for RWIS installation activities under Hourly Maintenance.

#### **3.7.6 Equipment Removal**

When a site must be removed, the Successful Responder shall provide all labor, equipment, mobilization and consumable items to remove the devices at that site (radio, sensor, camera, solar panels, batteries, charge controllers, etc.) and associated cabinet equipment (power supplies, switches, surge suppressors, etc.). The cabinet and pole (if present) will be removed by others, and electrical service will be disconnected by others. The Successful Responder will store the removed equipment either as spare, or until it can be re-deployed to the same site.

The Successful Responder shall provide a per-site cost for this item, which includes all devices installed at a site.

If the removal impacts the communications system such that a reconfiguration is necessary (e.g. modification of jumper configurations or VLANs, etc.) the Successful Responder is required to carefully document these changes. If such communications system modifications are required, they will not be considered part of the Equipment Removal task, and will be reimbursed under Hourly Maintenance.

### 3.8 Maintenance Support Software

#### 3.8.1 Maintenance Management System (MMS)

The Iowa DOT will require the Successful Responder to utilize a maintenance management system for ticketing and inventory management functions. Responders shall provide the name of the software to be used for the service and indicate what baseline requirements the software meets as well as what desired functionality is available. Responders shall provide the features and functionality of the software application in the submitted response.

Required Functionality	Yes/No
Capabilities for database connections with other database applications, such as Oracle	
Accommodate a minimum of 15 concurrent users	
Reporting capabilities including standard and ad-hoc reports <ul style="list-style-type: none"> <li>ability to export lists and reports in various formats including text-based and Portable Document Format (PDF)</li> <li>ability to include the following standard fields in reports: inventory levels, failure trends, maintenance history, inventory by site, inventory by device type</li> <li>capabilities for user to define fields, attributes, and calculations for reporting</li> </ul>	
Customizable dashboard capabilities. This may include information such as high-priority or overdue maintenance tickets, average response times, low inventory alerts, etc	
Tracking of routine and response maintenance activities	
Ticket creation must be easily accessible, with straightforward and easy-to-use drop-down menus and/or type-ahead functionality to allow a user (including TMC operators) to create a ticket (see Section 3.4.4)	
Easily accessible and clear filtering of ticket information such as open/closed status, created/closed date, area, priority, device type, failure type, etc	
Provide activity logs for each ticket, including timestamps, user identification, updates and status changes	
Provide automatic notification that a new ticket was created to the appropriate technician, including various criteria such as priority, device type, area, etc	
Inventory management component, including the tracking of all devices in the system and all attribution such as location, field sites, warehouses, vehicles, out-for-repair, date of purchase, maintenance and location history, serial number, make, model, manufacturer, Successful Responder, purchase order, and other configuration data as appropriate	
Ability to establish re-order thresholds, and provide alerts to maintenance personnel when part inventories reach those thresholds	

Desired Functionality	Yes/No
Browser-based user interface accessible through credentials and without needing to establish a VPN or similar connection	
Mobile application interface for tablets or smartphones	
Allow the use of custom alphanumeric site identifiers (matching the current site identification scheme) for use in the maintenance ticket creation, inventory, and reporting functions	
Allow the grouping, sorting, and filtering of maintenance tickets, sites, and	

devices by type, area, site, failure type, etc. for effectively managing maintenance tickets and inventory, and for reporting	
Allow the customization of various fields such as device types, failure types, issue types, priority levels, etc. to accurately reflect the maintenance needs and characteristics of the Iowa DOT ITS system	
Provide fields for the addition of updated information and notes regarding the issue and its resolution	

**3.8.1.1 Software Training**

Responders shall describe training options available to the Iowa DOT for use of the product and describe what training materials or tutorials will be included.

**3.8.1.2 Software Licensing**

Responders shall provide the Iowa DOT with all licensing agreements that may be required to be included in the overall contract.

**3.8.2 Network Monitoring Software (NMS)**

The Iowa DOT will require the Successful Responder to utilize a network monitoring system to monitor the current number of network devices (2,200) and a future increase of up to 50% additional devices at no additional cost. Responders shall provide the name of the software to be used for the service and indicate what baseline requirements the software meets as well as any additional functionality available. Responders shall provide the features and functionality of the software application in the submitted response.

<b>Required Functionality</b>	<b>Yes/No</b>
<i>Network Availability and Performance Monitoring</i> – The system shall include various monitor types such as ping, ftp, bandwidth utilization, packet loss, latency, errors, discards, CPU usage, and memory usage for Simple Network Management Protocol (SNMP) enabled devices	
<i>Alerts</i> – The system shall include a method of automatically to alert technicians upon network failures. The thresholds for alerts shall be flexible and configurable such that no alerts are sent for minor failures, multiple alerts are not sent for multiple failed devices that tie back to a single failure point, and multiple alerts are not sent when device communications are intermittent (“flapping”)	
<i>Reports</i> – The system should provide standard and ad-hoc network performance reports, customizable by characteristic, area, device type, monitor type, etc	
<i>Data Storage</i> – Network usage data should be stored for a minimum of one year	
<i>User Interface</i> – The system shall have a browser-based user interface accessible through credentials and without needing to establish a VPN or similar connection. An administrator interface is not required to be browser-based	
<i>Exporting</i> – The system shall provide the ability to simply export lists and reports to various formats including text-based and Portable Document Format (PDF)	

**3.8.2.1 Software Training**

Responders shall describe training options available to the Iowa DOT for use of the product and describe what training materials or tutorials will be included.

**3.8.2.2 Software Licensing**

Responders shall provide the Iowa DOT with all licensing agreements that may be required to be included in the overall contract.

### 3.9 Materials

The supply of materials for this project will be covered jointly by the Successful Responder and by Iowa DOT. Iowa DOT has (or will have by the time the Successful Responder is required to begin full maintenance services) purchasing contracts in place for many standard items, while the Successful Responder will be required to supply all “incidental” items as defined in the following subsections.

#### 3.9.1 Iowa DOT Provided Materials

Iowa DOT has or will have purchasing agreements for the following standard equipment:

- *Equipment Cabinets* – including the cabinet shell, lock, and keys.
- *Network Equipment*
  - *Central and Backbone Network Equipment* – Routing switches, firewalls, 10 Gbps switches, DWDM equipment.
  - *Field Network Switches* – Field Ethernet network switch, power supply, din-rail mounting bracket.
  - *Wireless Equipment* – Licensed and unlicensed radios, antennas, pole-mount brackets, and power supplies.
- *DMS* – DMS sign shell, sign panels, power supplies, fans, light sensors, electrical distribution panels, cabinet (as described above), and any other element of the DMS sign supplied by the DMS sign Successful Responder. Iowa DOT will also provide for the sign structures including foundations and other structural elements.
- *IP CCTV Camera Assemblies* - including the camera, housing, pan-tilt-zoom unit, dome, wall-mount bracket and arm, pole-mount adapter, and power supply.
- *Vehicle sensors* – Vehicle sensor, power supply, terminal server, surge suppressor, and pigtail cable (up to 80 ft).
- *RWIS Equipment* – RPU, RPU cabinet, surface condition sensor, subsurface temperature sensor, wind speed and direction sensor, precipitation and visibility sensor, air temperature and humidity sensor, aerial device mounting brackets
- *Portable Device Trailers* – trailer structure, tires, batteries
- *Intermittent Power Sites* – charge controllers, solar panels, batteries
- *Equipment Surge Suppressors* – Including field equipment and rack UPS devices
- *Fiber Optic Jumpers*

When a device of an older make or model fails, if the device is not repairable or the Iowa DOT project manager determines otherwise, the Successful Responder should assume that it will replace the device with one that is on the current Iowa DOT purchasing contract. If there are other costs associated with such a replacement, these additional costs will be negotiated with the Iowa DOT project manager.

#### 3.9.2 Successful Responder Provided Materials

The Successful Responder shall provide all incidental materials for maintenance. All materials used for the project shall be new, of high quality, corrosion resistant, and rated for installation in a harsh roadside environment when appropriate. Any materials or equipment proposed to become part of ITS system shall be submitted to the Iowa DOT project manager for approval prior to purchase. The following provides a sample of the types of materials required to be provided by the Successful Responder as part of Ordinary Maintenance, but should not be considered an all-inclusive list:

- Din rail
- Din rail mounting brackets for items that are not supplied with them
- General hardware for mounting, splicing, and binding.
- Electrical hardware – fuses, splicing, breakers, other misc. electrical hardware
- Brackets

- Banding
- Cable and wire used to jumper connections
- Above-ground conduit and connections
- Terminations (non-fiber optic)
- Connectors (non-fiber optic)
- Ethernet Jumpers
- Cabinet filters
- Cable pulling equipment and materials
- Cable management materials
- All other incidental materials

### **3.9.3 Other Materials or Equipment**

For all other materials and equipment not covered in Sections 3.9.1 or 3.9.2, the Iowa DOT will either negotiate with the contractor to provide the material, which will be reimbursed at actual costs plus 15%, will or purchase the needed equipment directly and provide it to the Successful Responder.

### **3.10 Traffic Control / Lane Closure Restrictions**

All traffic control work shall comply with Section 2528 of Iowa DOT Standard Specifications. The Successful Responder shall anticipate performing most of the work using a shoulder closure unless directed or approved by the Iowa DOT. The costs associated with traffic control for a shoulder closure shall be considered subsidiary to the work contained in the Contract.

If a lane closure, multiple lane closure, or unique traffic control configuration is required, and approved by the Iowa DOT Project Manager to perform the required or requested work, the Successful Responder will be reimbursed at the Hourly Rate (if self-performing), or direct cost plus 10% (if using a traffic control subcontractor) up to an amount acceptable to the Iowa DOT Project Manager.

No lane closures allowed from 6:00 AM to 9:00 AM or 3:30 PM to 6:00 PM. All other lane closures require one week's advance notice and approval from the Iowa DOT project manager.

### **3.11 Mobilization / Transition Period**

The Successful Responder will work closely with the existing maintenance contractors (TransCore, Baker Electric, and Vaisala) to transition maintenance services as smoothly as possible. The anticipated timeline for the transition of services will be as follows:

- NTP begin mobilization
- October 3, 2016 shadow existing maintenance contractors
- December 1, 2016 assume full maintenance responsibilities

Iowa DOT will provide the Successful Responder with all system documentation, including as-builts, upon award.

#### **3.11.1 Transition Plan**

Within 15 calendar days from NTP, the Successful Responder shall submit a detailed transition plan. The plan shall detail the activities that the Successful Responder will undertake to prepare to assume full responsibility for the system maintenance, along with a schedule for those activities. The following activities shall be included at a minimum:

- Acquisition or relocation of physical resources, including facilities, vehicles, tools, and other needed equipment

- Acquisition or relocation of human resources, including staff members, training, and any required certifications
- Installation, population, and configuration of maintenance support software
- Relocation of spare system inventory from the current maintenance contractors
- Development of a System Maintenance Plan

### **3.11.2 System Maintenance Plan**

Within 45 calendar days of NTP, the Successful Responder will submit a full System Maintenance Plan. This plan will outline the structure for an effective maintenance program for Iowa, and demonstrate how the program will meet the requirements outlined in this RFP. At a minimum it should include the following sections:

- *Communications Plan* – outline meeting schedule, identify regular activity and accountability reports, structure for regular and after-hours communications, including backup communications when the project manager is not available
- *Safety Plan* – general safety procedures and responsible personnel, safety training plan, OSHA compliance, safety procedure compliance documentation
- *Notification processes* – call-lists, triggers, etc.
- *Inventory Management* – storage, tracking, repair, retirement, documentation
- *Maintenance Schedules* – detailed checking schedules, routine maintenance schedules, etc.
- *Maintenance Checklists* – final detailed checklists, routine maintenance checklists, verification processes
- *Field Acceptance Test Procedures* – acceptance test procedures for the installation and verification of new or relocated devices
- *Vehicle Fleet Management* – number and type of vehicles, location, maintenance, safety, security, inspection, driver qualification, and registration

### **3.12 Cabinet Consistency**

The Successful Responder shall make each permanent site consistent with Appendix E for cabinet layout. The Successful Responder shall ensure correct cable labeling, layout, tidiness, and general organization, including field sites, server rooms, and other locations with system equipment. Upon award, Iowa DOT will provide the Successful Responder with standard cabinet layout diagrams and standards for the labeling of switch ports, cables, fiber patch panels, etc. The Successful Responder shall assume 1 technician-hour per permanent location site for this task. This task shall be completed prior to December 1, 2016.

### **3.13 Project Management**

#### **3.13.1 Staffing**

The Successful Responder shall assign to this project a sufficient number of qualified individuals to maintain a properly functioning ITS Network and meet the required maintenance response times.

#### **Project Manager**

The Successful Responder shall designate a Project Manager to be responsible for oversight of all aspects of the project. The Project Manager shall be an individual authorized to represent the company in any business discussions about the project including the ability to negotiate any extra work recognized or requested by the Iowa DOT Project Manager. The Project Manager is expected to have a working knowledge of or be technically proficient in most, if not all, of the services required and shall have successful experience managing similar projects, both in scope and size.

The Successful Responder may opt to utilize one or more Assistant Project Managers, Project Coordinators, Superintendents or other intermediate managers or supervisors to assist the Project Manager in accomplishing the work and executing the Management Plan. If utilized, these individuals shall have relevant technical qualifications appropriate for the roles and responsibilities assigned, and shall be approved by the Iowa DOT.

Because of the size and scope of the project, Successful Responder is required to identify a Project Manager who resides in Iowa or in a metro area immediately adjacent to Iowa and has a majority of their time devoted to this project. If the Successful Responder proposes a project manager without these qualifications, the Response must include a satisfactory alternate plan demonstrating how the project will be managed successfully.

During regular maintenance hours, the Successful Responder's project manager shall respond to Iowa DOT communications within 4 hours. If the project manager is not available, the Successful Responder shall identify one or more individuals authorized to make scheduling, emergency maintenance, and other decisions that require urgent attention on behalf of the project manager.

**Staff Certifications**

The Successful Responder is required to maintain project staff (either directly employed or through a subcontract) with the certifications listed in Table 3-10:

**TABLE 3-10: REQUIRED STAFF CERTIFICATIONS**

<b>Certification / Role</b>	<b>One for Project</b>	<b>One per Office Location</b>	<b>One per Crew</b>
Cisco CCNA Routing and Switching*	X		
Cisco CCNP Security*	X		
Light Brigade® Fiber Optic Technician Level I (or equivalent)			X
Radwin product certification		X	
Trango product certification	X		
Alvarion product certification (BreezeMax, BreezeAccess)	X		
Vaisala Product Maintenance Certification		X	
DMS Product Maintenance Certification		X	
ATSSA Traffic Control Supervisor		X	
ATSSA Traffic Control Technician			X
Aerial Lift Certification			X
Electrical Safety Trained			X
Safety Officer	X		
Safety Lead		X	

\* Certification must be held at NTP

For proposed personnel that do not have the required certifications at the start of the project, the Successful Responder must demonstrate that the individual's experience qualifies them to be enrolled in a certification course (e.g. if a technician does not have a Radwin certification but has experience working with other manufacturers' wireless technology). These proposed staff members must complete the required certification courses one month prior to assuming full responsibility for maintenance, and completion certificates must be submitted to the Iowa DOT project manager. Failure to demonstrate compliance certifications will result in a delay to assuming this responsibility without additional compensation. The Successful Responder must explain in their Response the

existing certifications of proposed personnel and the plan for acquiring additional required certifications.

Each certification must be kept current through the continuing education or recertification process appropriate for that certification. Recertification certificates must be provided to the Iowa DOT project manager. In addition, the Successful Responder shall periodically submit a summary report of all certifications with personnel names, expiration dates, and renewal schedules. The first report shall be due 45 days after NTP, the second on December 1, 2016, and annually thereafter.

In the event that a certified individual becomes no longer assigned to the project, the Successful Responder will promptly notify the Iowa DOT Project Manager. The Successful Responder will be allowed up to 3 months to re-assign a certification holder to the project, excluding the CCNP certified individual which shall be replaced within 2 weeks. Updates to the certification summary shall be submitted within two weeks of any change in personnel with any certification required by this project.

For personnel that will be granted access to maintain ITS equipment in secured areas, Iowa DOT conducted background checks may be required.

### **3.13.2 Management Meetings**

The Successful Responder's Project Manager and any staff the Iowa DOT Project Manager or Successful Responder deems appropriate shall schedule and participate in monthly management meetings with the Iowa DOT Project Manager. The meetings will be in person in Ames, Iowa unless otherwise determined by the Iowa DOT Project Manager. The meeting agenda will include discussion of general project status, upcoming special events or other items potentially affecting the upcoming work, work accomplished and planned, system status, any anticipated new work, contract administration, system inventory, and maintenance ticket status.

In addition to the monthly status meetings the Successful Responder's project manager shall hold weekly status calls with the Iowa DOT project manager and others that they may invite.

### **3.13.3 Project Reporting**

Project reports are required throughout the course of this project in order to maintain excellent communications. It is not intended that the Successful Responder spend an inordinate amount of time compiling these reports, and is encouraged to use standard output from the MMS provided that it shows the needed information as determined by the Iowa DOT project manager. The Successful Responder shall propose report formats and content for approval by the Iowa DOT project manager prior to beginning full maintenance responsibility.

The following project reports are required:

#### **Monthly**

The Successful Responder is required to submit a regular monthly project report with the following sections. This report will be reviewed at each monthly progress meeting.

- A "dashboard" summarizing the general status of the system in each area, and the maintenance performance of the Successful Responder
- A more detailed page for each area, including operational status, open and completed maintenance tickets, inventory status, routine maintenance status, and any other open tasks for that area
- Spare parts, including parts used and parts nearing re-order thresholds
- An updated organization chart, including names, roles, and titles for all personnel (including technicians) working on the project

### **Weekly**

The Successful Responder is required to submit a brief weekly report on proposed activities during that week describing a general work plan for each area and lane closure requests for the following week. This report will be reviewed during the weekly status calls with the Iowa DOT Project manager.

### **Daily**

The Successful Responder shall provide a brief daily report of tickets created and resolved on the previous day, outstanding tickets in progress, and a report of locations where they will be working during the day of the report and the following day. This report will be submitted via email to the Iowa DOT Project manager and the TMC manager (which they will distribute to other Iowa DOT personnel, including District maintenance staff), and will be discussed during a daily in-person report at the TMC (described in Section 3.13.4).

#### **3.13.4 Daily In-Person Reports at the TMC**

To facilitate excellent communication during the course of the project, the Successful Responder is required to provide an in-person report at the TMC each business day. This is intended to be a brief meeting with designated TMC staff members where the Successful Responder can report on the status of existing tickets, discuss any new tickets or other issues identified by TMC staff, and provide information about the schedule for maintenance activities across the state. TMC staff may provide input about priority repairs, upcoming changes to devices in IWZ projects, or any other feedback on the maintenance process.

In addition to the daily reports, a designated workspace can be made available upon request at the TMC for a single Successful Responder staff member to work from on a regular basis to facilitate close coordination between the TMC and the Successful Responder. This will only be made available by mutual agreement and requires:

- the Successful Responder's proposed staff uses the space on a regular frequent basis
- follows all applicable policies, procedures, and standards for TMC personnel, (dress, conduct, etc.)
- is subject to the direction and discretion of the TMC manager (e.g. in the event of an emergency response, the seat may become temporarily relocated or unavailable)

#### **3.13.5 Project Management Plan**

Within 30 days from the Notice to Proceed, the Successful Responder is required to submit a Project Management Plan, outlining the project management processes that will be followed to meet the requirements of this RFP and result in a successful project. The plan shall include the following sections at a minimum:

- *Performance Management* – performance measures, accountability reports, quality control processes
- *Personnel Management* – organizational structure, personnel distribution, training and certification
- *Cost Management* – overall project cost control and reporting
- *Hourly Rate Task Management* – estimation, tracking, documentation, cost management, reporting, etc.
- *Facilities* – location, security

## 3.14 Project Resources

### 3.14.1 Tools and Equipment

The Successful Responder shall provide all equipment, tools, and incidental items required to perform its duties and maintain a functioning ITS Network. The following items identify a list of some of the anticipated tools and equipment needed to accomplish the work. This list is not intended to be complete and the Successful Responder shall provide additional tools and equipment as needed.

- Laptops with device configuration software
- LAN/Network testing tools/equipment, cables, connectors
- CAT 5 patch cables, connectors
- Electrical multi-meters and other typical electrician tools and cleaning/maintenance supplies for accessing, troubleshooting, servicing, and maintaining devices and connections associated with the ITS Network
- Hand tools, including screwdrivers, wrenches, pliers, banding tools, crimpers, etc.
- Electrical hand tools such as drills with bits and hole saws, reciprocating saws, wrenches, soldering irons, etc.
- Labeling tools and materials

In addition, the Successful Responder must provide the following Fiber Optic troubleshooting tools in a location accessible within 2 hours of each urban area. The certification described in Section 3.13.1 must include training on the proper use of this equipment.

- OLTS Meters (Optical Source: 1310/1550 FP Laser, Power Output:  $\geq 8$  dBm minimum, Optical Power Meter: measurement accuracy + 0.25 dB, Detector Type: InGaAs)
- 40 Megawatt Visual Fault Locators (visual up to 40 km)
- Fiber Inspection Scopes (must have ability to visually inspect end face and take a minimum 2 megapixel resolution snapshot image)
- Fiber Cleaning Kits (Wet/Dry and Bayonet style capable of cleaning end face and bulkhead ferrules)

### 3.14.2 Vehicles

The Successful Responder shall provide work vehicles necessary to meet the requirements of this project. All Successful Responder vehicles must be in good repair, meet all required safety and registration standards, and include the Successful Responder's company identification on the exterior of the vehicle. The Successful Responder is expected to maintain and follow a driver and vehicle safety program, including running initial and periodic driver's license safety checks, drug tests, and safety reviews. The Successful Responder shall equip all machinery and vehicles with a revolving amber light, installed so the illumination is visible from all directions.

Parking of personal vehicles within the interstate right-of-way will be strictly prohibited. Parking of construction equipment within the right-of-way will be permitted only at locations approved by the Iowa DOT project manager.

The use of the median crossover or the construction of a median crossover for maintenance and construction purposes is strictly prohibited.

Vehicles anticipated to be needed by the Successful Responder for this project include:

- *Work trucks* – Pick-up Truck or similar vehicle used for transporting personnel, equipment, supplies, fuel, etc. to device locations and equipped with appropriate safety equipment

- *Bucket trucks* – standard bucket trucks allowing workers to reach normal device heights (40-45 feet) with at least one truck having a minimum 60 vertical foot working height

### **3.14.3 Facilities**

Iowa DOT will provide materials to the Successful Responder as spare inventory to use for response maintenance activities, which the Successful Responder shall keep safe, secure, and organized. The Successful Responder is required to maintain facilities suitable for the storage of these materials that include appropriate climate control, indoor and outdoor security, and insurance sufficient to cover all onsite Iowa DOT owned materials. The Successful Responder should plan for sufficient storage space to maintain up to approximately 10% of the total system inventory as spare parts. A summary of these locations and their characteristics should be outlined in the Response.

## Section 4 Form and Content

### 4.1 Instructions

The following instructions prescribe the format and content of the Response. They are designed to facilitate a uniform review process. Failure to adhere to the RFP format may result in the rejection of the Response.

It is the request of the Iowa DOT that the following section headings be used in the Responder responses to this RFP and that they be arranged in the order as listed in the RFP. Responders should provide a table of contents and should label divider tabs. Responses must be in sufficient detail to permit an understanding and comprehensive evaluation of the Responder's response.

**4.1.1** The Response shall be typewritten on 8.5" x 11" paper (bound securely, double sided is allowed) and sent in a sealed envelope.

**4.1.2** The Response shall be divided into two parts: (1) the Technical Response and (2) the Cost Proposal. **The Cost Proposal shall be in a separate sealed envelope.**

#### **Example:**

Technical Envelope(s) Contain(s):

Original Technical Response & Copies  
Electronic copy of the Technical Response  
Public Copy if submitted  
Electronic Public Copy on same removable media if submitted

Cost Proposal Envelope Contains:

Original Cost Proposal & Copies  
Electronic Copy of the Cost Proposal

The envelopes shall be labeled with the information found on the cover sheet:

***[RFP Title] [RFP Number]  
[Issuing Officer's Name]  
[Responder's Name and Address]  
Iowa Department of Transportation  
800 Lincoln Way  
Ames, Iowa 50010***

The Iowa DOT shall not be responsible for misdirected packages or premature opening of Responses if a Response is not properly labeled.

**4.1.3** One (1) original, one (1) removable media (example: flash drive) each in a sealed envelope, **and** the additional number of copies of the Response defined on the Procurement Timetable in the cover section, shall be timely submitted to the Issuing Agent.

**4.1.4** If the Responder designates any information in its Response as confidential pursuant to Section 2.20, the Responder must also submit one (1) copy of the Response from which confidential information has been excised as provided in Section 2.20 marked "**Public Copy**".

**4.1.5** Responders may include promotional materials as company information but they shall not take the place of the Response and will not be considered for the award unless they enhance the Response to a specific requirement.

**4.1.6** Attachments shall be referenced in the Response.

**4.1.7** If a Responder proposes more than one method of meeting these requirements, each shall be labeled and submitted separately. Each will be evaluated separately.

## **4.2 Technical Response**

The following documents shall be included in the Technical Response in the order given below:

### **4.2.1 Transmittal Letter (Required) Please limit response to 1 page**

An individual authorized to legally bind the Responder shall sign the transmittal letter. The letter shall include the Responder's mailing address, electronic mail address, fax number, and telephone number.

Any request for confidential treatment of information shall be included in the transmittal letter in accordance with the provisions of Section 2.20. In addition to the specific statutory basis supporting the request, an explanation why disclosure of the information is not in the best interest of the public is required. The transmittal letter shall also contain the name, address, electronic mail address and telephone number of the individual authorized to respond to the Iowa DOT about the confidential nature of the information.

### **4.2.2 Table of Contents (Please limit response to 1 page)**

The Responder should include a table of contents of its Response and submit the check list of submittals per Attachment # 3.

### **4.2.3 Executive Summary (Please limit response to 1 page)**

The Responder shall prepare an executive summary and overview of the goods and/or services it is offering, including all of the following information:

**4.2.3.1** Statements that demonstrate that the Responder has read, understands and agrees with the terms and conditions of the RFP including the contract provisions in Section 6.

**4.2.3.2** An overview of the Responder's plans for complying with the requirements of this RFP. (Including project management approach).

**4.2.3.3** Any other summary information the Responder deems to be pertinent.

### **4.2.4 Company Background Information (Please limit response to 1 page for Prime Contractor and each Subcontractor)**

Provide the following general background information:

**4.2.4.1** Name, address, telephone number, fax number and e-mail address of the Responder including all d/b/a's or assumed names or other operating names of the Responder.

**4.2.4.2** Form of business entity, i.e., corporation, partnership, proprietorship, limited liability company.

**4.2.4.3** State of incorporation, state of formation, or state of organization.

**4.2.4.4** The location(s) (including address and telephone numbers) of the offices and other facilities that relate to the Responder's performance under the terms of the RFP.

**4.2.4.5** Local office address and phone number (if any).

**4.2.4.6** Number of employees.

**4.2.4.7** Type of business.

**4.2.4.8** Name, address, e-mail address and telephone number of the Responder's representative to contact regarding all contractual and technical matters concerning the Response.

**4.2.4.9** Name, address, e-mail address and telephone number of the Responder's representative to contact regarding scheduling and other arrangements.

**4.2.4.10** Name, contact information and qualifications of any sub-Contractors who will be involved with this project.

**4.2.4.11** Responder's accounting firm.

**4.2.4.12** The successful Contractor will be required to register to do business in Iowa before payments can be made. For contractor registration documents, go to: <http://www.iowadot.gov/purchasing>.

**4.2.5 Experience (Please limit response to 5 pages)**

The Responder must provide the following information regarding its experience:

**4.2.5.1** Number of years in business.

**4.2.5.2** Number of years' experience with providing the types of goods and/or services sought by the RFP for each system element category described in section 3.3.3.

**4.2.5.3** The level of technical experience in providing the types of goods and/or services sought by the RFP.

**4.2.5.4** A detailed list of goods and/or services similar in size and scope to those sought by this RFP that the Responder has provided to other businesses or governmental entities within the past three years.

**4.2.5.5** References from five (5) previous or current customers or clients knowledgeable of the Responder's performance in providing goods and/or services similar to the goods and/or services described in this RFP and a contact person, e-mail address and telephone number for each reference.

**4.2.6 Personnel (Please limit response to 15 pages)**

The Responder shall provide a brief overview of the proposed staffing plan, an organizational chart for key personnel including staffing classifications, location and indicate whether or not the staff is dedicated to Iowa DOT ITS Maintenance or if they are assigned to other jurisdictions. The Responder must provide resumes for all key personnel who will be involved in providing the goods and/or services contemplated by this RFP.

The following information must be included in the resumes:

**4.2.6.1** Full name.

**4.2.6.2** Education.

**4.2.6.3** Years of experience and employment history particularly as it relates to the requirements of the RFP.

**4.2.7 Financial Information (short list Responders only)**

The Responder may be asked to provide the following financial information:

Short listed Responders at the time of presentation, see Section 2.24.

**4.2.7.1** Audited financial statements for the last 3 years. Privately held companies may substitute Credit reports.

**4.2.7.2** A minimum of three (3) financial references. Privately held companies may substitute: Letters of Reference from the bank.

#### **4.2.8 Terminations, Litigation, Debarment**

The Responder must provide the following information for the past five (5) years: (also see Attachment 1)

**4.2.8.1** Has the Responder had a contract for goods and/or services terminated for any reason? If so, provide full details regarding the termination.

**4.2.8.2** Describe any damages or penalties assessed against or dispute resolution settlements entered into by the Responder under any existing or past contracts for goods and/or services. Provide full details regarding the incident, including the dollar amount of damages, penalties and settlement payments.

**4.2.8.3** Describe any order, judgment or decree of any Federal or State authority barring, suspending or otherwise limiting the right of the Responder to engage in any business, practice or activity.

**4.2.8.4** A list and summary of all litigation or threatened litigation, administrative or regulatory proceedings, or similar matters to which the Responder or its officers have been a party, if any. The Responder must also state whether it or any owners, officers, or primary partners have ever been convicted of a felony. Failure to disclose these matters may result in rejection of the Response or in termination of any subsequent contract.

**4.2.8.5** Any irregularities discovered in any of the accounts maintained by the Responder on behalf of others, describe the circumstances and disposition of resolving the irregularities.

The above disclosures are a continuing requirement of the Responder. The Responder shall provide written notification to the Iowa DOT of any such matter commencing or occurring after submission of a Response, and with respect to the successful Contractor, following execution of the Resulting Contract.

#### **4.2.9 Certification Letter (Attachment 1)**

The Responder shall sign and submit with the Response the document included as Attachment 1 (Certification Letter) in which the Responder shall make the certifications included in Attachment 1.

#### **4.2.10 Acceptance of Terms and Conditions**

The Responder shall specifically agree that the Response is predicated upon the acceptance of all terms and conditions stated in the RFP. If the Responder objects to any term or condition, the Responder must specifically take exception per the RFP page and section and provide the reason for the objection. Objections or responses that materially alter the RFP may be deemed non-responsive and result in rejection of the Response.

#### **4.2.11 Authorization to Release Information (Attachment 2)**

The Responder shall sign and submit with the Response the document included as Attachment #2 (Authorization to Release Information Letter) in which the Responder authorizes the release of information to the Iowa DOT.

#### **4.2.12 Firm Terms**

The Responder shall guarantee in writing the availability of the goods and/or services offered and that all Response terms, including price, will remain firm a minimum of 180 days following the deadline for submitting Responses.

#### **4.2.13 Work Plan (Please limit response to 15 pages)**

The work plan should be the Responder's overall approach to meeting or exceeding the requirements of the RFP. In addition to the detail in Section 3, Responder's work plans should include items such as timeline, additional functionality and any other pertinent information that would assist the evaluators in making the final recommended award.

Any deviations from the requirements of the RFP or any requirement of the RFP that the Responder cannot satisfy may disqualify the Responder.

### **4.3 Schedule of Prices – Cost Proposal**

Responders shall provide a cost proposal for the proposed items listed in the **Schedule of Prices**. If applicable, Responders may submit additional pages to the Schedule of Prices to accurately reflect the overall costs of the goods or services proposed.

The Iowa DOT reserves the right to purchase any or all items on the Schedule of Prices either individually or as bundled throughout the contract period.

The amounts should exclude state and federal taxes except for taxes required to be withheld for employment purposes. The Iowa DOT is a tax exempt entity. **Cost proposals must be submitted in a separate envelope.**

#### **4.3.1 Mobilization**

The Successful Responder shall provide a lump sum price for mobilization. See Section 2533 of Iowa DOT Standard Specifications. Mobilization will be paid one time and does not apply to any subsequent years.

#### **4.3.2 Cabinet Consistency**

The Successful Responder shall provide a per-each price for the system consistency task, assuming an average of one-technician hour per permanent location. This item is **not** eligible to be renewed if the option to extend the contract for additional 12 month periods is exercised.

#### **4.3.3 MMS – Installation and Configuration**

The Successful Responder shall provide a lump-sum price for the cost of the initial installation, population, configuration, and required hardware of the MMS. This item is **not** eligible to be renewed if the option to extend the contract for additional 12 month periods is exercised.

#### **4.3.4 NMS – Installation and Configuration**

The Successful Responder shall provide a lump-sum price for the cost of the initial installation, population, configuration, and required hardware of the NMS. This item is **not** eligible to be renewed if the option to extend the contract for additional 12 month periods is exercised.

#### **4.3.5 Equipment Installation**

For the installation services requested herein, the Successful Responder shall provide a per device price for the installation, configuration, and integration of each Iowa DOT provided camera, sensor, or wireless radio communications device at a new device location. A separate price shall be provided for the installation of a camera, a sensor, and a radio system in any of the urban areas. The prices shall include installing, connecting and configuring a switch (provided by the Iowa DOT) and any incidentals (e.g., cabling, connectors, bands) required to configure, install, and access the device. Separate prices will be required for the following:

- Equipment Installation – Camera
- Equipment Installation – Vehicle Sensor
- Equipment Installation – Radio

#### **4.3.6 Equipment Removal**

For the removal services requested herein, the Successful Responder shall provide a per site price for the removal and storage of devices at a site that includes one or more cameras, sensors, or wireless radios. The prices shall include all labor, equipment, and materials to remove and store the device, and to provide appropriate configuration of the device within the ATMS software.

#### **4.3.7 Ordinary Maintenance**

For the items defined below, the Successful Responder shall provide a price in accordance with the following for routine response maintenance activities that will take place during the defined ITS Maintenance Hours. This price shall include all costs associated with providing the described routine and response maintenance activities, including, but not limited to management time, staff time, tools, consumables, vehicles, facilities, equipment, Successful Responder provided materials, software, and any anticipated travel/per diem costs. For Urban and Rural area deployments, the price provided shall allow for a variation of up to 10% (rounded up) of the total number of existing units as identified in *Appendix A* for an individual device category (e.g., DMS, camera, vehicle sensor, switch, radio, etc.).

The Successful Responder shall provide a per month price to provide these Ordinary Maintenance services as defined in Section 3.4 of this RFP for the following areas:

- Backbone Network
- Des Moines/Newton
- Boone/Ames/Nevada
- Council Bluffs
- Sioux City
- Iowa City
- Quad Cities
- Cedar Rapids
- Waterloo
- Rural Devices

#### **4.3.8 Hourly Rates**

The Successful Responder shall provide unit rates for Hourly Vehicle Usage in the categories below. These hourly rates will be used as described in Sections 3.5 and 3.6.

##### **4.3.8.1 Equipment**

The Successful Responder shall provide hourly equipment rates for the following vehicular equipment. These rates shall include Successful Responder determined ownership costs, rental costs, maintenance, mileage, and configurations required to operate the piece of equipment on an hourly basis. No additional compensation will be made for mileage for use of this equipment.

- Work Truck
- Bucket Truck

##### **4.3.8.2 Labor**

The Responder shall provide hourly labor rates for the staffing classifications identified in the Schedule of Prices.. These rates shall be loaded rates and inclusive of salary, benefits, overhead, and profit and will cover time required within and outside of the defined ITS Maintenance Hours Adjustments to rates for premium overtime pay (pay over normal hourly pay) will not be allowed.

## Section 5 Evaluation and Selection

### 5.1 Introduction

This section describes the evaluation process that will be used to determine which Response provides the greatest benefit to the Iowa DOT based on the evaluation criteria in Section 5.4.

### 5.2 Evaluation Committee

The Iowa DOT shall conduct a comprehensive, fair, and impartial evaluation of all compliant Responses received. The Iowa DOT will use an evaluation committee to review and evaluate the Responses. The Evaluation Committee shall consist of members with technical knowledge of the desired goods and/or services, users of the solution and other appropriate persons to best evaluate the Responses.

### 5.3 Overview of Evaluation

All submitted Responses will be first evaluated by the Purchasing Agent to determine if they comply with the mandatory requirements of the RFP. To be deemed a responsible Responder any proposed Response must comply with the mandatory requirements. Failure to meet the mandatory requirements will result in the rejection of the Response. In the event that all Responders do not meet the mandatory requirement, the Iowa DOT reserves the right to continue the evaluation of the Responses and to select the Response most closely meeting the requirements specified in this RFP or may choose to reject all responses and consider the RFP closed.

### 5.4 Evaluation Criteria

The RFP evaluation criteria below shall be used by the Evaluation Committee for purposes of award. Items are not listed in any particular order of importance. If a demonstration/presentation is included in the evaluation criteria, only those short listed Responders shall be given a point rating and total score to be considered for award.

<b>Evaluation Criteria</b>
<b>Overall content of written Response</b>
<ul style="list-style-type: none"><li>○ Understand the requirements and scope as defined in the</li></ul>
<b>Project Manager and Staff Experience</b>
<ul style="list-style-type: none"><li>○ Qualifications and Experience of Project Manager, key staff (including subcontractors) experience and qualifications relative to the requested services.</li><li>○ Availability of Project Manager and key staff for this project</li></ul>
<b>Company Experience and References</b>
<ul style="list-style-type: none"><li>○ Experience with projects similar in scope and size</li><li>○ Regular equipment available to use during the prosecution of the work</li><li>○ Specialized tools and equipment available to use during the prosecution of the work</li><li>○ References</li></ul>
<b>Project Approach</b>
<ul style="list-style-type: none"><li>○ Work Plan</li><li>○ Management approach, schedule adherence, , performance management / performance measurement, appropriate resource allocation</li><li>○ Regular and Specialized tools and equipment available to use during the prosecution of the work</li></ul>
<b>Interview</b>
<ul style="list-style-type: none"><li>○ Scoring is based on the Responder's presentation and responses to Iowa DOT questions</li></ul>
<b>Cost – See Schedule of Prices</b>

Weighting of evaluation categories is not available to the Responders prior to the opening of all submitted Responses.

**5.5 Recommendation of the Evaluation Committee**

The final evaluation will be based on the criteria as listed in Section 5.4.

**5.6 Protest of Award**

Protest of award shall be made in accordance with the Iowa Administrative Code 761-20.4(6)"e".

## Section 6 Contract Terms and Conditions

### 6.1 Contract Terms and Conditions

The contract(s) that the Iowa DOT expects to award as a result of this RFP will be based upon the Response submitted by the successful Contractor and the RFP. The contract between the Iowa DOT and the successful Contractor shall be a combination of the specifications, terms and conditions of the RFP, including the terms contained in the Iowa DOT's attachment(s), the offer of the Contractor contained in the Response, written clarifications or changes made in accordance with the provisions of the RFP herein and any other terms deemed necessary by the Iowa DOT, except that no objection or amendment by a Contractor to the RFP requirements shall be incorporated by reference into the Contract unless the Iowa DOT has explicitly accepted the Contractor's objection or amendment in writing.

The contract terms contained in Section 6 are not intended to be a complete listing of all contract terms but are provided only to enable contractors to better evaluate the costs associative with the RFP and the potential resulting contract. Contractors should plan on such terms being included in any contract awarded as a result of this RFP. All costs associated with complying with these requirements should be included in the cost proposal or any pricing quoted by the contractor.

**By submitting a Response, each Contractor acknowledges its acceptance of the RFP specifications and the contract terms and conditions without change except as otherwise expressly stated in its Response. If a Contractor takes exception to a provision, it must state the reason for the exception and set forth in its Response the specific contract language it proposes to include in place of the provision. Exceptions that materially change the contract terms and conditions or the requirements of the RFP may be deemed non-responsive by the Iowa DOT, in its sole discretion, resulting in possible rejection of the Response.** The Iowa DOT reserves the right to either award a contract(s) without further negotiation with the successful Contractor or to negotiate contract terms with the successful Contractor if the best interests of the State would be served.

### 6.2 Contract Period

The term of the Contract will begin and end on the dates indicated in the RFP Procurement Timetable, unless extended or terminated earlier in accordance with the termination provisions of this Contract. The Iowa DOT shall have the sole option to renew the Contract for up to the number of annual renewals specified on the Procurement Timetable.

### 6.3 Contractor Qualification Requirement

Prior to execution of a contract with a contractor, the contractor must qualify to do business with the State of Iowa.

### 6.4 Scope of Work (Services)

The services to be performed pursuant to and as a result of this contract by the contractor are described in Project Specifications, Section 3, and in the Appendices and are made a part hereof by this reference.

The contractor shall prepare and deliver specifications to the Iowa DOT which will detail the design, technical and functional capabilities, and other attributes related to the project, all as more fully described in Section 3.

**Amendments to Scope of Services and Specifications.** The parties agree that the Scope of Services and the specifications may be revised, replaced, amended or deleted

at any time during the term of this Contract to reflect changes in service or performance standards upon the mutual written consent of the parties.

**Industry Standards.** Services rendered pursuant to this Contract shall be performed in a professional and workmanlike manner in accordance with the terms of this Contract and with generally acceptable industry standards of performance for similar tasks and projects. In the absence of a detailed specification for the performance of any portion of this Contract, the parties agree that the applicable specification shall be the generally accepted industry standard.

As long as the Iowa DOT notifies the contractor promptly of any services performed in violation of this standard, the contractor will re-perform the services, at no cost to Iowa DOT, such that the services are rendered in the above-specified manner.

**Non-Exclusive Rights.** This Contract is not exclusive. The Iowa DOT reserves the right to select other contractors to provide services similar or identical to the Scope of Services described in this Contract during the term of this Contract.

## **6.5 Licenses**

The Contractor shall include the cost for all software licenses and annual software maintenance fees required for its work. The Contractor must furnish a written copy of the software Terms and Conditions of software agreement with the submitted Response.

## **6.6 Labor Regulations**

The Contractor shall give all notices and comply with all codes, laws, ordinances, rules and regulations of any public authority having jurisdiction that bears on the performance of its work.

All contractors, before entering into a contract with the Iowa Department of Transportation, must be registered with the Division of Labor in the Workforce Development Department, 515-281-3606 according to chapter 91C, Code 1993.

## **6.7 Contract Termination**

It is imperative that the contractor consistently provides high quality services. Below are procedures that will be utilized in the event that the contract must be terminated due to the contractor's lack of ability to produce required results:

### **6.7.1 Immediate Termination by the Iowa DOT**

The Iowa DOT may terminate this contract in writing for any of the following reasons effective immediately without advance notice:

**6.7.1.1** In the event the contractor is required to be certified or licensed as a condition precedent to providing services, the revocation or loss of such license or certification will result in immediate termination of the Contract effective as of the date on which the license or certification is no longer in effect;

**6.7.1.2** The Iowa DOT determines that the actions, or failure to act, of the contractor, its agents, employees or subcontractors have caused, or reasonably could cause, a client's life, health or safety to be jeopardized;

**6.7.1.3** The contractor fails to comply with confidentiality laws or provisions;

**6.7.1.4** The contractor furnished any statement, representation or certification in connection with this Contract or the RFP which is materially false, deceptive, incorrect or incomplete

### **6.7.2 Termination for Cause**

The occurrence of any one or more of the following events shall constitute cause for the Iowa DOT to declare the contractor in default of its obligations under this Contract.

**6.7.2.1** The contractor fails to perform to the Iowa DOT's satisfaction, per Section 3 Project Specification requirements.

**6.7.2.2** The Iowa DOT determines that satisfactory performance of this Contract is substantially endangered or that a default is likely to occur.

**6.7.2.3** The contractor fails to make substantial and timely progress toward performance and deliverables within the contract.

**6.7.2.4** The contractor consistently misses deadlines agreed upon with the Iowa DOT project managers.

**6.7.2.5** The contractor replaces key personnel with individuals who have less experience, knowledge and skills in the areas of their responsibilities.

**6.7.2.6** The contractor staff's knowledge, skills, and experience are unacceptable to the Iowa DOT and do not reflect what the contractor represented the skill sets of their staff that would be assigned to this engagement.

**6.7.2.7** The contractor's staff turnover is unacceptably high to Iowa DOT.

**6.7.2.8** The contractor fails to effectively manage contractor staff time and/or assignments.

**6.7.2.9** The contractor's quality of work is unacceptable to Iowa DOT (i.e. incorrect results, standards are not followed).

**6.7.2.10** The contractor's quantity of work is unacceptable to Iowa DOT. The contractor fails to perform additional assignments as requested.

**6.7.2.11** The contractor does not respond to critical issues and/or fails to participate in problem resolution when asked. This includes requests for support in the evenings and weekends.

**6.7.2.12** The contractor's deliverable(s) cause a major outage to the Iowa DOT's IT infrastructure.

**6.7.2.13** The contractor becomes subject to any bankruptcy or insolvency proceeding under federal or state law to the extent allowed by applicable federal or state law including bankruptcy laws; the contractor terminates or suspends its business; or the Iowa DOT reasonably believes that the contractor has become insolvent or unable to pay its obligations as they accrue consistent with applicable federal or state law.

**6.7.2.14** The contractor has failed to comply with applicable federal, state and local laws, rules, ordinances, regulations and orders when performing within the scope of this Contract.

**6.7.2.15** The contractor has engaged in conduct that has or may expose the Iowa DOT to liability, as determined in the Iowa DOT's sole discretion.

**6.7.2.16** The contractor has infringed any patent, trademark, copyright, trade dress or any other intellectual property right.

### **6.7.3 Notice of Default**

If there is a default event caused by the contractor, the Iowa DOT shall provide written notice to the contractor requesting that the breach or noncompliance be remedied within

the period of time specified in the Iowa DOT's written notice to the contractor. If the breach or noncompliance is not remedied by the date in the written notice, the Iowa DOT may either:

**6.7.3.1** Immediately terminate the contract without additional written notice.

**6.7.3.2** Enforce the terms and conditions of the contract and seek any legal or equitable remedies.

#### **6.7.4 Termination Upon Notice**

Following 30 days written notice, the Iowa DOT may terminate this Contract in whole or in part without the payment of any penalty or incurring any further obligation to the contractor.

Following termination upon notice, the contractor shall be entitled to compensation, upon submission of invoices and proper proof of claim, for services provided under this Contract to the Iowa DOT up to and including the date of Termination.

#### **6.7.5 Termination Due to Lack of Funds or Change in Law**

The Iowa DOT shall have the right to terminate this Contract without penalty by giving thirty (30) days written notice to the contractor as a result of any of the following:

**6.7.5.1** Adequate funds are not appropriated or granted to allow the Iowa DOT to operate as required and to fulfill its obligations under this Contract.

**6.7.5.2** Funds are de-appropriated or not allocated or if funds needed by the Iowa DOT, at the Iowa DOT's sole discretion, are insufficient for any reason.

**6.7.5.3** The Iowa DOT's authorization to operate is withdrawn or there is a material alteration in the programs administered by the Iowa DOT.

**6.7.5.4** The Iowa DOT's duties are substantially modified.

#### **6.7.6 Remedies of the Contractor in Event of Termination by the Iowa DOT**

In the event of termination of this Contract for any reason by the Iowa DOT, the Iowa DOT shall pay only those amounts, if any, due and owing to the contractor for services actually rendered up to and including the date of termination of the contract and for which the Iowa DOT is obligated to pay pursuant to this Contract. Payment will be made only upon submission of invoices and proper proof of the contractor's claim. This provision in no way limits the remedies available to the Iowa DOT under this Contract in the event of termination. However, the Iowa DOT shall not be liable for any of the following costs:

**6.7.6.1** The payment of unemployment compensation to the contractor's employees.

**6.7.6.2** The payment of workers' compensation claims, which occur during the contract or extend beyond the date on which the contract terminates.

**6.7.6.3** Any costs incurred by the Successful Responder in its performance of the contract, including, but not limited to, startup costs, overhead or other costs associated with the performance of the contract.

**6.7.6.4** Any taxes that may be owed by the contractor in connection with the performance of this Contract, including, but not limited to, sales taxes, excise taxes, use taxes, income taxes or property taxes.

### **6.7.7 Successful Responder Termination Duties**

The contractor, upon receipt of notice of termination or upon request of the Iowa DOT, shall:

**6.7.7.1** Cease work under this Contract and take all necessary and appropriate steps to limit disbursements and minimize costs, and furnish a report within thirty (30) days of the date of notice of termination, describing the status of all work under the contract, including, without limitation, results accomplished, conclusions resulting therein, any other matters the Iowa DOT may require.

**6.7.7.2** Immediately cease using and return to the Iowa DOT any personal property or materials provided by the Iowa DOT to the contractor.

**6.7.7.3** Comply with the Iowa DOT's instructions for the timely Transfer of any active files and work product produced by the contractor under this Contract.

**6.7.7.4** Cooperate in good faith with the Iowa DOT, its employees, agents and contractors during the transition period between the notification of termination and the substitution of any replacement contractor.

**6.7.7.5** Issue credit to the Iowa DOT for any payments made by the Iowa DOT for services that were inappropriately billed for services that were not rendered by the contractor.

**6.7.7.6** Immediately deliver to the Iowa DOT any and all Deliverables for which the Iowa DOT has made payment (in whole or part) that are in the possession or under the control of the Contractor or its agents or subcontractors in whatever stage of development and form of recordation such property is expressed or embodied as that time.

### **6.7.8 Unacceptable Deliverables**

The contractor shall be required to perform the work for each deliverable in accordance with the terms, conditions, and representations of this Contract.

## **6.8 Contractor's Insurance Requirements**

The resulting Contract will require the successful Contractor to maintain insurance coverage(s) of the type and in the amounts set forth below.

- It shall be the Contractor's responsibility to have liability insurance covering all of the project operations incident to contract completion and the Contractor(s) must have on file with the Contracting Authority a current "Certificate of Insurance" prior to award of contract. The certificate shall identify the insurance company firm name and address, contractor firm name, policy period, type of policy, limits of coverage, and scope of work covered (single contract or statewide). This requirement shall apply with equal force, whether the work is performed by persons employed directly by the Contractor(s) including a subcontractor, persons employed by a subcontractor(s), or by an independent contractor(s).

- In addition to the above, the Contracting Authority shall be included as an insured party, or a separate owner's protective policy shall be filed showing the Contracting Authority as an insured party.

- The liability insurance shall be written by an insurance company (or companies) qualified to do business in Iowa. For independent contractors engaged solely in the transportation of materials, the minimum coverage provided by such insurance shall be not less than that required by Chapter 325A, Code of Iowa, for such truck operators or contract carriers as defined therein. For all other contractors, subcontractors,

independent contractors, and the Contracting Authority, the minimum coverage by such insurance shall be as follows:

- *Commercial General Liability* including Contractual Liability;
- Contingent Liability; Explosion, Collapse and Underground Drainage;
- Damage; Occurrence Basis Bodily Injury; Broad Form Personal Injury; Broad Form Property Damage.

### **Bodily Injury**

The contractor will purchase and maintain throughout the term of this contract the following minimum limits and coverage:

• Each person	\$750,000
• Each accident/occurrence	\$750,000
• Workers Compensation	\$750,000
• Statutory Limits	\$750,000
• Employer's liability	\$750,000
• Pollution Liability	\$750,000
• Occupation Disease	\$750,000

### **Operations**

- Property Damage \$250,000 each occurrence

The Contractor(s) shall require all subcontractor(s) meet the above insurance requirements.

### **The Certificate of Insurance must include the following;**

- Iowa Department of Transportation must be listed as an additional insured
- Proposal Number
- Proposal Description
- Response Date and Contract Period

## **6.9 Force Majeure**

Neither Contractor nor the Iowa DOT shall be liable to the other for any delay or failure of performance of this Contract; and no delay or failure of performance shall constitute a default or give rise to any liability for damages if, and only to the extent that, such delay or failure is caused by a "force majeure". As used in this Contract, "force majeure" includes acts of God, war, civil disturbance and any other causes which are beyond the control and anticipation of the party effected and which, by the exercise of reasonable diligence, the party was unable to anticipate or prevent.

Failure to perform by a subcontractor or an agent of the Contractor shall not be considered a "force majeure" unless the subcontractor or supplier is prevented from timely performance by a "force majeure" as defined in this Contract. "Force majeure" does not include: financial difficulties of the Contractor or any parent, subsidiary, affiliated or associated company of Contractor; claims or court orders which restrict Contractor's ability to deliver the goods or services contemplated by this Contract.

If a "force majeure" delays or prevents Contractor's performance, the Contractor shall immediately commence to use its best efforts to directly provide alternate, and to the extent possible, comparable performance. Comparability of performance and the possibility of comparable performance shall be reasonably determined solely by the Iowa DOT.

During any such period, the Contractor shall continue to be responsible for all costs and expenses related to alternative performance.

This Section shall not be construed as relieving the Contractor of its responsibility for any obligation which is being performed by a subcontractor or supplier of services unless the subcontractor or supplier is prevented from timely performance by a "force majeure" as described here.

#### **6.10 Indemnification by Contractor**

The Contractor agrees to defend, indemnify and hold the Iowa DOT, and the State of Iowa, its employees, agents, board members, appointed officials and elected officials, harmless from any and all demands, debts liabilities, damages, loss, claims, suits or actions, settlements, judgments, costs and expenses, including the reasonable value of time expended by the Attorney General's Office, and the costs and expenses and attorney fees of other counsel required to defend the Iowa DOT or the State of Iowa related to or arising from: Any violation or breach of this Contract including without limitation any of the Contractor's representations or warranties; or Any acts or omissions, including, without limitation, negligent acts or omissions or willful misconduct of Contractor, its officers, employees, agents, board members, contractors, subcontractors, or counsel employed by Contractor in the performance of this Contract, or any other reason in connection with the goods and services provided under this Contract; or Claims for any violation of any intellectual property right including but not limited to infringement of patents, trademarks, trade dress, trade secrets, or copyrights arising from the any of the goods or service performed in accordance with this Contract; or The Contractor's performance or attempted performance of this Contract; or *Any failure by the Contractor to comply with all local, State and Federal laws and regulations*; or Any failure by the Contractor to make all reports, payments and withholdings required by Federal and State law with respect to social security, employee income and other taxes, fees or costs required by the Contractor to conduct business in the State of Iowa.

The Contractor's duty to indemnify as set forth in this section shall survive the expiration or termination of this Contract and shall apply to all acts taken in the performance of this Contract regardless of the date any potential claim is made or discovered by the STATE.

#### **6.11 Indemnification by Iowa DOT**

The State shall, only to the extent consistent with Article VII, Section 1 of the Iowa Constitution and Iowa Code Chapter 669, indemnify and hold harmless the Contractor from and against any and all costs, expenses, loses, claims, damages and liabilities arising directly out of the negligence or wrongful acts or omissions of any employee of the Iowa DOT while acting within the scope of the employee's office of employment in connection with the performance of this Contract.

At the option of the Iowa DOT, the Contractor shall be represented by the Attorney General of the State or special counsel retained by the Iowa DOT or the Attorney General of the State with respect to any litigation brought by or against the Contractor or such persons with respect to any claims, damages, judgments, liabilities or causes of action to which such persons may be subject and to which they are entitled to be indemnified hereunder.

Indemnification under this Section shall survive the termination of this Contract and shall include reasonable fees and expenses of counsel and expenses of litigation. If the Iowa DOT shall have made any indemnity payments pursuant to this Section and the person to or on behalf of whom such payments are made thereafter shall collect any of such amounts from others, such person shall promptly repay such amounts to the Iowa DOT, without interest.

## **6.12 Payment**

Contractor shall invoice monthly for work performed.

## **6.13 Liquidated Damages**

The backbone communications connection from Ames to Cedar Rapids provides important connectivity to several Iowa DOT facilities and other related service locations. An outage on this link prevents many employees from performing their job function. An outage along this network is defined as the absence of or a reduction in the consistency, quality, or throughput along the link. If the resolution of the network functionality is related to the equipment or services provided by the Successful Responder as defined in this RFP, and that resolution is not complete within the required resolution time, liquidated damages will be assessed.

## **6.14 Travel Expenses**

Travel expenses shall not be allowed.

## **6.15 Care of Property**

The contractor shall be responsible for the proper custody and care of any the State-owned tangible personal property furnished for the contractor's use in connection with the performance of the contract, and the contractor will reimburse the Iowa DOT for such property's loss or damage caused by the contractor, normal wear and tear excepted.

## **6.16 Contractor Conduct**

The contractor shall adhere to State and other written established work rules. The Iowa DOT Workplace Environment Policies and Procedures will be provided to the contractor. These rules consist of commonly accepted, professional business conduct.

## **6.17 Public Contract Termination**

The Provisions of Iowa Law as contained in Chapter 573A of the Code of Iowa, an Act to provide for termination of contracts for the construction of public improvements when construction or work thereon is stopped because of national emergency shall apply to and be a part of this Contract, and shall be binding upon all parties hereto including sub-contractors and sureties upon any bond given or filed in connection herewith.

**Legislative Changes.** The Contractor expressly acknowledges that the contracted Deliverables are subject to legislative change by either the federal or state government. Should either legislative body enact measures which alter the project, the Contractor shall not hold the Agency liable in any manner for the resulting changes. The Agency shall use best efforts to provide thirty (30) days' written notice to the Contractor of any legislative change. During the thirty (30) – day period, the parties shall meet and make a good faith effort to agree upon changes to the Contract to address the legislative change. Nothing in this Subsection shall affect or impair the Agency's right to terminate the Contract pursuant to the termination provisions.

**Repayment Obligation.** In the event that any State and/or federal funds are deferred and/or disallowed as a result of any audits or expended in violation of the laws applicable to the expenditure of such funds, the Contractor shall be liable to the Agency for the full amount of any claim disallowed and for all related penalties incurred. The requirements of this paragraph shall apply to the Contractor as well as any subcontractors.

## **6.18 Confidential Information**

**6.18.1** The Contractor's employees, agents and subcontractors may have access to confidential information maintained by the Iowa DOT to the extent necessary to carry out its responsibilities under the Contract.

The Contractor shall presume that all information received pursuant to this Contract is confidential unless otherwise designated by the Iowa DOT. The Contractor shall provide to the Iowa DOT a written description of its policies and procedures to safeguard confidential information. Policies of confidentiality shall address, as appropriate, information conveyed in verbal, written, and electronic formats. The Contractor must designate one individual who shall remain the responsible authority in charge of all data collected, used, or disseminated by the Contractor in connection with the performance of the Contract. The Contractor shall provide adequate supervision and training to its agents, employees and subcontractors to ensure compliance with the terms of this Contract. The private or confidential information shall remain the property of the Iowa DOT at all times.

**6.18.2** No confidential information collected, maintained, or used in the course of performance of the Contract shall be disseminated by Contractor except as authorized by law and only with the prior written consent of the Iowa DOT, either during the period of the Contract or thereafter. Any data supplied by the Iowa DOT to the Contractor or created by the Contractor in the course of the performance of this Contract shall be considered the property of the Iowa DOT. The Contractor must return any and all data collected, maintained, created or used in the course of the performance of the Contract in whatever form it is maintained promptly at the request of the Iowa DOT. The Contractor may be held civilly or criminally liable for improper disclosure of confidential information.

**6.18.3** In the event that a subpoena or other legal process is served upon the Contractor for records containing confidential information, the Contractor shall promptly notify the Iowa DOT and cooperate with the Iowa DOT in any lawful effort to protect the confidential information.

**6.18.4** The Contractor shall immediately report to the Iowa DOT any unauthorized disclosure of confidential information.

**6.18.5** The Contractor's obligations under this section shall survive termination or expiration of this Contract.

## **6.19 Contractor Warranties**

Construction of Warranties Expressed in this Contract with Warranties Implied by Law. All warranties made by the Contractor in all provisions of this Contract and the Response by the Contractor, whether or not this Contract specifically denominates the Contractor's promise as a warranty or whether the warranty is created only by the Contractor's affirmation or promise, or is created by a description of the materials and services to be provided, or by provision of samples to the Iowa DOT shall not be construed as limiting or negating any warranty provided by law, including without limitation, warranties which arise through course of dealing or usage of trade. The warranties expressed in this Contract are intended to modify the warranties implied by law only to the extent that they expand the warranties applicable to the goods and services provided by the Contractor.

The Contractor warrants that all the concepts, materials produced, the work product and the information, data, designs, processes, inventions, techniques, devices, and other such intellectual property furnished, used, or relied upon by the Contractor or the Iowa DOT will not infringe any copyright, patent, trademark, trade dress, or other intellectual property right of the Contractor or others. Any intellectual property provided to the Iowa DOT pursuant to the terms of this Contract, shall be wholly original with the Contractor or the Contractor has secured all applicable interests, rights, licenses, permits, or other intellectual property rights in such concepts, materials and work.

The Contractor represents and warrants that the concepts, materials and the Iowa DOT's use of same and the exercise by the Iowa DOT of the rights granted by this Contract shall not infringe upon any other work, other than material provided by the Iowa DOT to the Contractor to be used as a basis for such materials, or violate the rights of publicity or privacy of, or constitute a libel or slander against, any person, firm or corporation and that the concepts, materials and works will not infringe upon the copyright, trademark, trade name, literary, dramatic, statutory, common law or any other rights of any person, firm or corporation or other entity.

The Contractor warrants that all of the services to be performed hereunder will be rendered using sound, professional practices and in a competent and professional manner by knowledgeable, trained and qualified personnel. The Contractor warrants that the deliverables under this Contract will operate in conformance with the terms and conditions of this Contract.

The Contractor warrants that it has full authority to enter into this Contract and that it has not granted and will not grant any right or interest to any person or entity, which might derogate, encumber, or interfere with the rights granted to the Iowa DOT.

The Contractor warrants that all obligations owed to third parties with respect to the activities contemplated to be undertaken by the Contractor pursuant to this Contract are or will be fully satisfied by the Contractor so that the Iowa DOT will not have any obligations with respect thereto.

The Contractor warrants that it is the owner of or otherwise has the right to use and distribute the software, the materials owned by the Contractor and any other materials, and methodologies used in connection with providing the services contemplated by this Contract.

The Contractor warrants that any software used in connection with the Internet Service shall not contain any Trojan horses, worms, viruses or other disabling devices.

The Contractor expressly warrants to the standards in the industry all aspects of the goods and services provided by it or used by the Contractor and the Iowa DOT in performance of this Contract.

Contractor warrants that during the term of this Contract and any extension or renewal term, the Contractor shall continually use and integrate the most current and up-to-date technology commercially available into the Internet Service and any components necessary for the Internet Service to function subject to the prior written approval of the Iowa DOT.

**Attachment # 1 – Certification Letter**  
**Alterations to this document are prohibited (see Section 2.13.14)**

*Note: Effective Date follows signature of last page*

Ms. Renee R. Shirley, Director of Purchasing  
Iowa Department of Transportation  
Office of Finance  
Purchasing Section  
800 Lincoln Way  
Ames, Iowa 50010

Re: PROPOSAL CERTIFICATIONS

Dear Ms. Shirley:

I certify that the contents of the Response submitted on behalf of authorized Vendor/Contractor Company name designated in response to Iowa Department of Transportation's Request for Proposal (RFP) designated on the cover page and specified following the signature line of this document are true and accurate. I also certify I have not knowingly made any false statements in its Response as the representative for the Vendor/Contractor.

**Certification of Independence**

I certify that I am a representative of the Contractor expressly authorized to make the following certifications on behalf of the Contractor. By submitting a Response to the RFP, I certify on behalf of the Contractor the following:

1. The Response has been developed independently, without consultation communication or agreement with any employee or consultant to the Iowa DOT or any Participating Agency, or with any person serving as a member of the evaluation committee.
2. The Response has been developed independently, without consultation, communication or agreement with any other contractor or parties for the purpose of restricting competition.
3. Unless otherwise required by law, the information found in the Response has not been and will not be knowingly disclosed directly or indirectly prior to the Iowa DOT's issuance of the Notice of Intent to Award the contract.
4. No attempt has been made or will be made by the Contractor to induce any other Contractor to submit or not to submit a Response for the purpose of restricting competition.
5. No relationship exists or will exist during the contract period between the Contractor and the Iowa DOT or any Participating Agencies that interferes with fair competition or constitutes a conflict of interest.

**Certification Regarding Debarment**

6. I certify that, to the best of my knowledge, neither Contractor nor any of its principals: (a) are presently or have been debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from covered transactions by a Federal Agency or State Agency; (b) have within a three year period preceding this Response been convicted of, or had a civil judgment rendered against them for commission of fraud, a criminal offense in connection with obtaining, attempting to obtain, performing a public (federal, state, or local) transaction or contract under a public transaction, violation of antitrust statutes commission of embezzlement, theft, forgery, falsification or destruction of records, making false statements, or receiving stolen property; (c) are presently indicted for, or criminally or civilly charged by a government entity (federal, state, or local) with the commission of any of the offenses enumerated in (b) of this certification; and (d) have not within a three year period preceding this RFP had one or more public transactions (federal, state, or local) terminated for cause. This certification is a material representation of fact

upon which the Iowa DOT has relied upon when this transaction was entered into. If it is later determined that the Contractor knowingly rendered an erroneous certification, in addition to other remedies available, the Iowa DOT may pursue available remedies including suspension, debarment, or termination of the contract.

**Certification Regarding Registration, Collection, and Remission of Sales and Use Tax**

7. Pursuant to Iowa Code Sections 423.2(10) and 423.5(8) (2009) a retailer in Iowa or a retailer maintaining a business in Iowa that enters into a contract with a state agency must register, collect, and remit Iowa sales tax and Iowa use tax levied under Iowa Code chapter 423 on all sales of tangible personal property and enumerated services. Contractors are required to certify their compliance with sales tax registration, collection, and remission requirements and provides potential consequences if the certification is false or fraudulent.

By submitting a Response to the RFP, the Contractor certifies the following: (check the applicable box)

Contractor is registered with the Iowa Department of Revenue, collects, and remits Iowa sales and use taxes as required by Iowa Code chapter 432; or

Contractor is not a “retailer” or a “retailer maintaining a place of business in this state” as those terms are defined in Iowa Code subsections 423.1(42) and (43).

Contractor also acknowledges that the Iowa Department of Transportation may declare the Contractor’s Response or resulting contract void if the above certification is false. The Contractor also understands that fraudulent certification may result in the Iowa Department of Transportation or its representative filing for damages for breach of contract in addition to other remedies available to Iowa Department of Transportation.

Sincerely,

\_\_\_\_\_  
[Signature of authorized representative]

\_\_\_\_\_  
[Print Name and Title]

\_\_\_\_\_  
[Printed Name of Contractor Organization]

\_\_\_\_\_  
[Date]

Request for Proposal Number: \_\_\_\_\_

## Attachment #2 – Authorization to Release Information Letter

**Alterations to this document are prohibited (see Section 2.13.14)**

*Note: Effective Date follows signature of last page*

Ms. Renee R. Shirley, Director of Purchasing  
Iowa Department of Transportation  
Office of Finance  
Purchasing Section  
800 Lincoln Way  
Ames, Iowa 50010

Re: AUTHORIZATION TO RELEASE INFORMATION

Dear Ms. Shirley:

I certify that I am an authorized representative of the Vendor/Contractor and hereby authorize the Iowa Department of Transportation or a member of the Evaluation Committee to obtain information regarding its performance on other contracts, agreements or other business arrangements, its business reputation, and any other matter pertinent to evaluation and the selection of a successful Contractor in response to Request for Proposal Number (RFP) designated on the cover page and specified following the signature line of this document.

The Contractor acknowledges that it may not agree with the information and opinions given by such person or entity in response to a reference request. The Contractor acknowledges that the information and opinions given by such person or entity may hurt its chances to receive contract awards from the State or may otherwise hurt its reputation or operations. The Contractor is willing to take that risk. The Contractor hereby releases, acquits and forever discharges the State of Iowa, the Iowa DOT, Participating Agencies, their officers, directors, employees and agents from any and all liability whatsoever, including all claims, demands and causes of action of every nature and kind affecting the undersigned that it may have or ever claim to have relating to information, data, opinions, and references obtained by the Iowa DOT or the Evaluation Committee in the evaluation and selection of a successful Contractor in response to the RFP.

The Contractor authorizes representatives of the Iowa DOT or the Evaluation Committee to contact any and all of the persons, entities, and references which are, directly or indirectly, listed, submitted, or referenced in the Contractor's Response to the RFP.

The Contractor further authorizes any and all persons, entities to provide information, data, and opinions with regard to its performance under any contract, agreement, or other business arrangement, its ability to perform, business reputation, and any other matter pertinent to the evaluation of the Contractor's Response. The Contractor hereby releases, acquits and forever discharges any such person or entity and their officers, directors, employees and agents from any and all liability whatsoever, including all claims, demands and causes of action of every nature and kind affecting the Contractor that it may have or ever claim to have relating to information, data, opinions, and references supplied to the Iowa DOT or the Evaluation Committee in the evaluation and selection of a successful contractor in response to the RFP.

A photocopy or facsimile of this signed Authorization is as valid as an original.

Sincerely,

\_\_\_\_\_  
[Signature of authorized representative]

\_\_\_\_\_  
[Print Name and Title]

\_\_\_\_\_  
[Printed Name of Contractor Organization]

\_\_\_\_\_  
[Date]

Request for Proposal Number: \_\_\_\_\_

### Attachment # 3 Requirements Check List

Section	RFP REFERENCE	PAGE NUMBER IN RESPONDER'S RESPONSE
Cover	Response Sheet	
4.3	Schedule of Prices -Cost Proposal	<i>In separate sealed envelope</i>
2.3/2.6	Vendor signed Addenda <i>if issued</i> . Posted on internet website: <a href="http://www.iowadot.gov/purchasing">http://www.iowadot.gov/purchasing</a>	
3	Mandatory/Desired Requirements	
4.1.3	One (1) Original hard copy (marked), and 1 Removable Media and the number of copies as specified (Procurement Timetable)	
4.1.4	One (1) Public Copy with Confidential Information Excised – If Applicable	
4.2.1	Transmittal Letter	
4.2.4	Company Background Information	
4.2.4.10	Sub-Contractors	
4.2.5	Experience – Including 5 References	
4.2.6	Personnel	
4.2.8	Termination, Litigation, Debarment	
4.2.9	Certification Letter ( <b>Attachment 1</b> )	
4.2.10	Acceptance of Terms and Conditions	
4.2.11	Authorization to Release Information ( <b>Attachment 2</b> )	
4.2.13	Work Plan	

**This page is supplied as a checklist and is not intended to be used as an all-inclusive Response requirement.**

Appendix A: Devices and Sites by Area

Component	Des Moines/ Newton	Boone/Ames/Nevada	Council Bluffs	Sioux City	Iowa City	Quad Cities	Cedar Rapids	Waterloo	Rural District 1	Rural District 2	Rural District 3	Rural District 4	Rural District 5	Rural District 6	Total Rural	Total
<b>Power</b>																
Power - Intermittent	17	0	7	3	6	11	0	0	0	0	0	0	0	0	0	44
Power - Permanent Solar	31	0	3	3	0	0	0	0	1	0	0	0	0	0	1	38
Power - Portable Solar	15	3	3	4	2	1	1	26	5	5	10	8	6	5	39	94
<i>Total Intermittent and Solar</i>	<i>63</i>	<i>3</i>	<i>13</i>	<i>10</i>	<i>8</i>	<i>12</i>	<i>1</i>	<i>26</i>	<i>6</i>	<i>5</i>	<i>10</i>	<i>8</i>	<i>6</i>	<i>5</i>	<i>40</i>	<i>176</i>
<b>Fiber Termination Locations</b>																
Fiber Termination Locations	35	29	46	35	20	12	73	0	0	0	0	0	0	0	0	250
<b>Radios</b>																
Radios - Unlicensed Permanent	168	28	52	34	35	32	11	20	1	0	0	1	2	0	4	384
Radios - WiMAX	0	0	0	0	0	4	0	19	0	0	0	0	0	0	0	23
Radios - Licensed	0	0	4	0	0	1	0	0	0	0	0	0	0	0	0	5
<i>Total Radios</i>	<i>168</i>	<i>28</i>	<i>56</i>	<i>34</i>	<i>35</i>	<i>37</i>	<i>11</i>	<i>39</i>	<i>1</i>	<i>0</i>	<i>0</i>	<i>1</i>	<i>2</i>	<i>0</i>	<i>4</i>	<i>412</i>
<b>Network Switches</b>																
Switches - Routing	4	1	3	1	1	1	1	0	0	0	0	0	0	0	0	12
Switches - Distribution	8	2	5	3	1	2	2	1	0	0	0	0	0	0	0	24
Switches - Managed Field	107	34	64	39	24	26	60	27	1	2	4	1	2	0	10	391
<i>Total Switches</i>	<i>119</i>	<i>37</i>	<i>72</i>	<i>43</i>	<i>26</i>	<i>29</i>	<i>63</i>	<i>28</i>	<i>1</i>	<i>2</i>	<i>4</i>	<i>1</i>	<i>2</i>	<i>0</i>	<i>10</i>	<i>427</i>
<b>Cellular Modems</b>																
Modem - Permanent Site	32	6	15	8	9	7	14	4	22	22	16	22	15	44	141	236
Modem - Portable Site	6	3	3	2	2	1	1	16	5	15	10	10	6	5	51	85
<i>Total Cellular Modems</i>	<i>38</i>	<i>9</i>	<i>18</i>	<i>10</i>	<i>11</i>	<i>8</i>	<i>15</i>	<i>20</i>	<i>27</i>	<i>37</i>	<i>26</i>	<i>32</i>	<i>21</i>	<i>49</i>	<i>192</i>	<i>321</i>

<b>Component</b>	<b>Des Moines/ Newton</b>	<b>Boone/Ames/Nevada</b>	<b>Council Bluffs</b>	<b>Sioux City</b>	<b>Iowa City</b>	<b>Quad Cities</b>	<b>Cedar Rapids</b>	<b>Waterloo</b>	<b>Rural District 1</b>	<b>Rural District 2</b>	<b>Rural District 3</b>	<b>Rural District 4</b>	<b>Rural District 5</b>	<b>Rural District 6</b>	<b>Total Rural</b>	<b>Total</b>
<b>DMS</b>																
DMS - Overhead	18	5	12	4	6	10	12	5	3	1	0	0	0	2	6	78
DMS - Side-Mount	14	1	7	5	8	8	0	0	4	8	0	0	0	4	16	59
DMS - Rest Area	0	0	0	2	0	2	2	0	6	2	2	8	3	6	27	33
DMS - Portable	6	3	3	4	2	1	1	26	5	5	10	8	6	5	39	85
<i>Total DMS</i>	<i>38</i>	<i>9</i>	<i>22</i>	<i>15</i>	<i>16</i>	<i>21</i>	<i>15</i>	<i>31</i>	<i>18</i>	<i>16</i>	<i>12</i>	<i>16</i>	<i>9</i>	<i>17</i>	<i>88</i>	<i>255</i>
<b>CCTV</b>																
CCTV - Permanent	81	29	42	28	21	21	52	27	12	15	9	9	19	12	76	377
CCTV - Portable	8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	8
<i>Total CCTV</i>	<i>89</i>	<i>29</i>	<i>42</i>	<i>28</i>	<i>21</i>	<i>21</i>	<i>52</i>	<i>27</i>	<i>12</i>	<i>15</i>	<i>9</i>	<i>9</i>	<i>19</i>	<i>12</i>	<i>76</i>	<i>385</i>
<b>Vehicle Sensors</b>																
Vehicle Sensors - Permanent	99	34	58	24	27	25	56	21	5	9	8	9	9	10	50	394
Vehicle Sensors - Portable	8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	8
<i>Total Vehicle Sensors</i>	<i>107</i>	<i>34</i>	<i>58</i>	<i>24</i>	<i>27</i>	<i>25</i>	<i>56</i>	<i>21</i>	<i>5</i>	<i>9</i>	<i>8</i>	<i>9</i>	<i>9</i>	<i>10</i>	<i>50</i>	<i>402</i>
<b>RWIS</b>																
RWIS - Permanent	10	1	2	1	3	2	2	1	6	10	11	7	13	9	56	78
RWIS - Portable	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
<i>Total RWIS</i>	<i>11</i>	<i>1</i>	<i>2</i>	<i>1</i>	<i>3</i>	<i>2</i>	<i>2</i>	<i>1</i>	<i>6</i>	<i>10</i>	<i>11</i>	<i>7</i>	<i>13</i>	<i>9</i>	<i>56</i>	<i>79</i>
<b>Total Sites</b>																
Total Portable Sites	15	3	3	4	2	1	1	26	5	5	10	8	6	5	39	94
Total Permanent Sites	138	65	116	70	72	62	114	35	27	26	14	18	19	25	129	801
<i>Total Sites</i>	<i>153</i>	<i>68</i>	<i>119</i>	<i>74</i>	<i>74</i>	<i>63</i>	<i>115</i>	<i>61</i>	<i>32</i>	<i>31</i>	<i>24</i>	<i>26</i>	<i>25</i>	<i>30</i>	<i>168</i>	<i>895</i>

## **Appendix B: Sample Detailed Checklist**

### **Network Monitoring Service (weekly)**

- Review NMS reports for alarms, intermittent communications, bandwidth issues, or other general alarms indicating potential communications issues

### **RWIS (weekly)**

- Verify each RWIS is reporting to the central server every 10 minutes. Intermittent report skips may indicate a problem with consistent communications or the RPU.
- Review atmospheric and pavement sensor readings to find sensors that have stopped reporting or are reporting out-of-bounds, or seem 'stuck' at one value.

### **CCTV (monthly)**

- Verify video presence and quality for each video stream – verify video stream settings if needed.
- Verify correct on-screen information (CCTV name, direction indicator, date, time).
- Verify snapshot quality and frequency (CCTV at RWIS sites).
- Verify responsive PTZ controls.

### **Vehicle Sensor (monthly)**

- Verify the number and type of lanes configured in the vehicle sensor match the number and type of lanes in the ATMS software.
- Verify reasonable speeds for each lane using available CCTV if needed.
- Verify the vehicle sensors are correctly mapped to the ATMS Software's "link layer", and that the segments in the link layer are correctly drawn and configured.

### **DMS (monthly)**

- Run and review a pixel test.
- Run and review a detailed device status report.

### **Wireless Network Devices (monthly)**

- Review signal strength and packet error rate indicators.
- Review error and intrusion indicator logs.

### **Field Switches (monthly)**

- Review switch logs for errors, flapping ports, redundant ring topology changes, intrusion indicators, port status.
- Verify memory and CPU usage are within expected ranges.

### **Central Router / Firewalls (monthly)**

- Verify Bandwidth is within expected ranges.
- Review intrusion alarm report.
- Verify CPU and memory are within expected ranges.
- Review error or other available logs.
- Verify VPN tunnel stability.
- Verify correct operation of redundancy and other used protocols.

## Appendix C: Sample Routine Maintenance Tasks

### Field Cabinets

Ensure lock, hinges, and handles are operable and lubricate as needed
Ensure proper cable management inside and outside of enclosure conform to current DOT standard configuration
Ensure all access plates are present and secure
Ensure air vents are clean and allow air movement – replace filter if needed
Vacuum cabinet as needed
Ensure all external penetrations are weather tight
Ensure all hardware connections are tight
Ensure all conduits are sealed with steel wool and duct seal for rodent protection
Ensure equipment is secured in cabinet
Ensure cables are electrically sound. (e.g., no visible cut cable jackets, no exposed wiring, no inappropriate voltages present in cabinet)
Ensure electrical safety shield is intact and secure with no cracks or breaks. (replace if needed)
Conduct battery load test to confirm proper battery voltage and load capacity.(if applicable)
Clean and weatherproof battery terminals (if applicable)
Replace batteries on a bi-annual schedule (if applicable)
Ensure solar panels are providing the correct voltage (if applicable)
Ensure solar panels are pointing in the correct azimuth and angle (if applicable)
Ensure solar controller / charge controller are operating correctly (if applicable)
Ensure all solar mounting hardware is in place and secure
Ensure proper labeling of associated IP addresses
Verify all connections are secure and free of corrosion
Ensure serial numbers of all cabinet devices match MMS database
Conduct site housekeeping around cabinet

## CCTV

Ensure proper cable management
Clean camera dome inside and out
Inspect camera lens for damage, replace if necessary
Ensure all mounting hardware is in place and secure
Ensure camera blind spot is appropriate
Ensure camera set screw is secure
Ensure all penetrations are weather tight and without defect. (replace if needed)
Ensure cables are electrically sound. (e.g., no visible cut cable jackets, no exposed wiring).
Verify all connections are secure and free of corrosion
Ensure on-screen directional indicator is correct
Ensure presets are appropriate and have not changed
Confirm video stream settings are correct
Ensure banner time and date are correct
Ensure device has current firmware (upgrade if needed)
Ensure serial numbers of all camera devices match MMS database
Prior to leaving the site connect to the central server and verify CCTV functionality

## Vehicle Sensors

Ensure proper cable management throughout
Clean VIDS camera lens (if applicable)
Ensure all mounting hardware is in place and secure
Ensure all penetrations are weather tight and without defect. (replace if needed)
Ensure proper labeling of associated IP addresses
Verify all connections are secure and free of corrosion
Ensure estimated speed per lane is reported by the vehicle sensor (visual check)
Verify Serial Port Serial Settings are as follows; <ul style="list-style-type: none"><li>• Click! ID = _____</li><li>• Baud Rate = Auto Detect</li><li>• Data bits = 8</li><li>• Parity = None</li><li>• Stop Bits = 1</li><li>• IP Port = 3101</li></ul>
Verify vehicle sensor speeds and counts are reasonable and approximately correct
Perform vehicle sensor re-calibration (annual)
Ensure serial numbers of all vehicle sensor devices match MMS database
Prior to leaving the site connect to the central server and verify vehicle sensor functionality

### Wireless Communications

Ensure proper cable management throughout
Ensure all mounting hardware is in place and secure
Ensure all penetrations are weather tight and without defect. (replace if needed)
Ensure proper labeling of associated IP addresses
Verify all connections are secure and free of corrosion
Ensure all designed devices are associated
Ensure radio signal strength of all associated devices is within operating parameters
Conduct spectrum analysis to ensure optimum operating frequency
Ensure device has current firmware (upgrade if needed)
Ensure serial numbers of all radio devices match MMS database
Prior to leaving the site connect to the central server and verify radio functionality

### Data Communications

Ensure proper cable management throughout
Ensure all mounting hardware is in place and secure
Ensure proper labeling of associated IP addresses
Verify all connections are secure and free of corrosion and dust (clean with industry standard fiber cleaning tools if needed)
Verify the following: <ul style="list-style-type: none"><li>• Port communications statistics to identify anomalies</li><li>• Port speed and duplex</li><li>• VLAN configurations</li><li>• Spanning Tree status</li><li>• Current firmware (upgrade if needed)</li></ul>
Verify running configuration against the remotely stored backup configuration. Notify System Engineer of anomalies
Review and clear all system logs. Notify System Engineer of anomalies
Ensure device has current firmware (upgrade if needed)
Ensure serial numbers of all switch devices match MMS database
Prior to leaving the site connect to the central server and verify the switch and all associated devices are reachable

### Central System

Ensure proper cable management throughout
Ensure all hardware is in place and secure
Ensure proper labeling of equipment
Verify all connections are secure
Verify UPS battery voltage
Check central switch port statistics to identify any anomalies
Ensure that all backup device configuration files are up-to-date on the remote storage location
Verify the configuration backup system is operating correctly and backup files are up-to-date

## **RWIS**

Ensure proper cable management throughout
Ensure all mounting hardware is in place and secure
Ensure proper labeling of associated IP addresses
Verify all connections are secure and free of corrosion and dust
Replace wind speed shafts/bearings
Calibrate all atmospheric instruments
Clean precipitation sensor
Remove nests or spider webs from shield
Grease tower hinges
Check foundation for rodents around base
Note visible problems with tower and foundation
Grease Crank Cable
Check surface sensor and cable, check for cracks, fill with epoxy if needed
Wash the screen around the relative humidity sensor (if applicable)
Update the RPU software to current revision
Ensure serial numbers of all devices match MMS database

## **DMS**

Ensure proper cable management inside the sign, the equipment cabinet, and along cable pathways
Ensure all mounting hardware is in place and secure
Inspect the mounting structure thoroughly for signs of corrosion, loose connections, and overall stability
Verify hand crank is present in the ground cabinet (side mounted DMS)
Ensure proper labeling of associated IP addresses
Verify all connections are secure and free of corrosion and dust
Check for evidence of water intrusion into the sign, and seal any leaks
Inspect door gaskets for damage or wear and repair as necessary
Verify drain holes are unobstructed
Paint visible exposed metal on the sign front with approved corrosion resistant paint
Clean and vacuum cabinet
Change rodent poison
Verify ladder freely opens and closes and that ladder is secure
Inspect temperature and light sensor assemblies to ensure they are clean and clear from obstructions to light and airflow
Calibrate DMS internal and external temperature readings as necessary
Verify all fans are clean and operational
Clean or replace filters as appropriate
Verify earth ground resistance is 10 ohms or less
Update controller firmware as needed
Run all available controller-based diagnostic tests and make corrections as necessary
Verify brightness control is functioning properly
Return the sign to remote control, and verify with the TMC that the the DMS is online prior to leaving the site

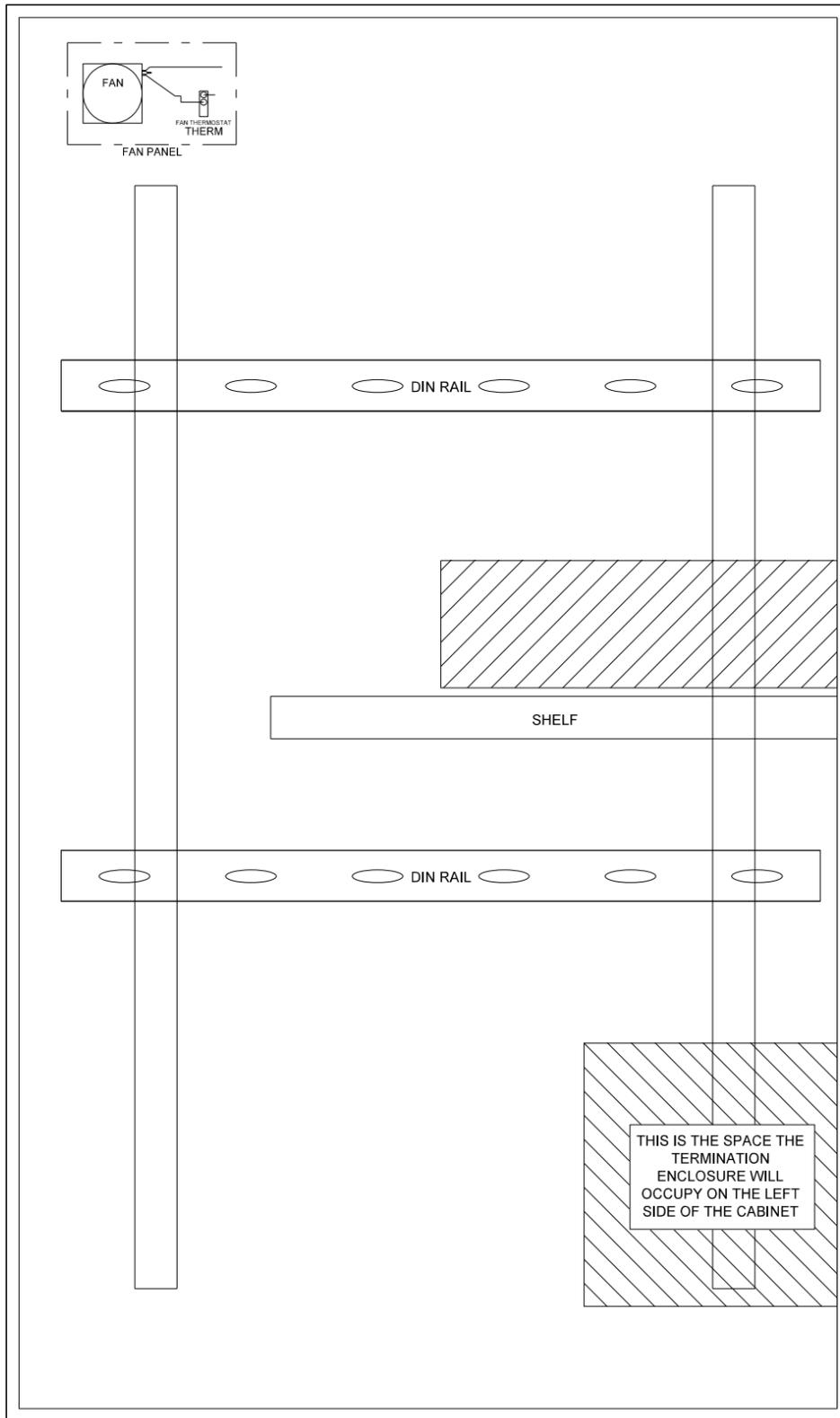
### Portable Devices

Ensure proper cable management inside the sign, the equipment cabinet, and along cable pathways
Ensure all mounting hardware is in place and secure for all devices mounted to the trailer
Ensure proper labeling of associated IP addresses
Verify all connections are secure and free of corrosion and dust
Check for evidence of water intrusion into the sign, and seal any leaks
Inspect door gaskets for damage or wear and repair as necessary
Verify drain holes are unobstructed
Verify the tire wear is even, no belts are showing, and that there is adequate tread
Grease hinges with white lithium grease before opening any compartments
Top off hydraulic fluid until approximately $\frac{3}{4}$ full. Use standard hydraulic oil or transmission fluid as appropriate for the pump
Conduct battery load test to confirm proper battery voltage and load capacity.(if applicable)
Check battery acidity levels with a hydrometer, and fill with distilled water if necessary (if applicable)
Charge batteries for 48 hours, or replace if necessary
Clean solar panels with water and a soft cloth
Verify proper tilt and rotate operation for solar panels, lubricate if needed
(for portable DMS) verify proper lift and rotation operation of the display
(for portable DMS) clean DMS sign face with water and a soft cloth
Verify trailer lights are working properly
Verify all latches work properly
Perform routine maintenance on any other devices on the trailer according to the routine maintenance checklists for each device type

## Appendix D – Acronyms

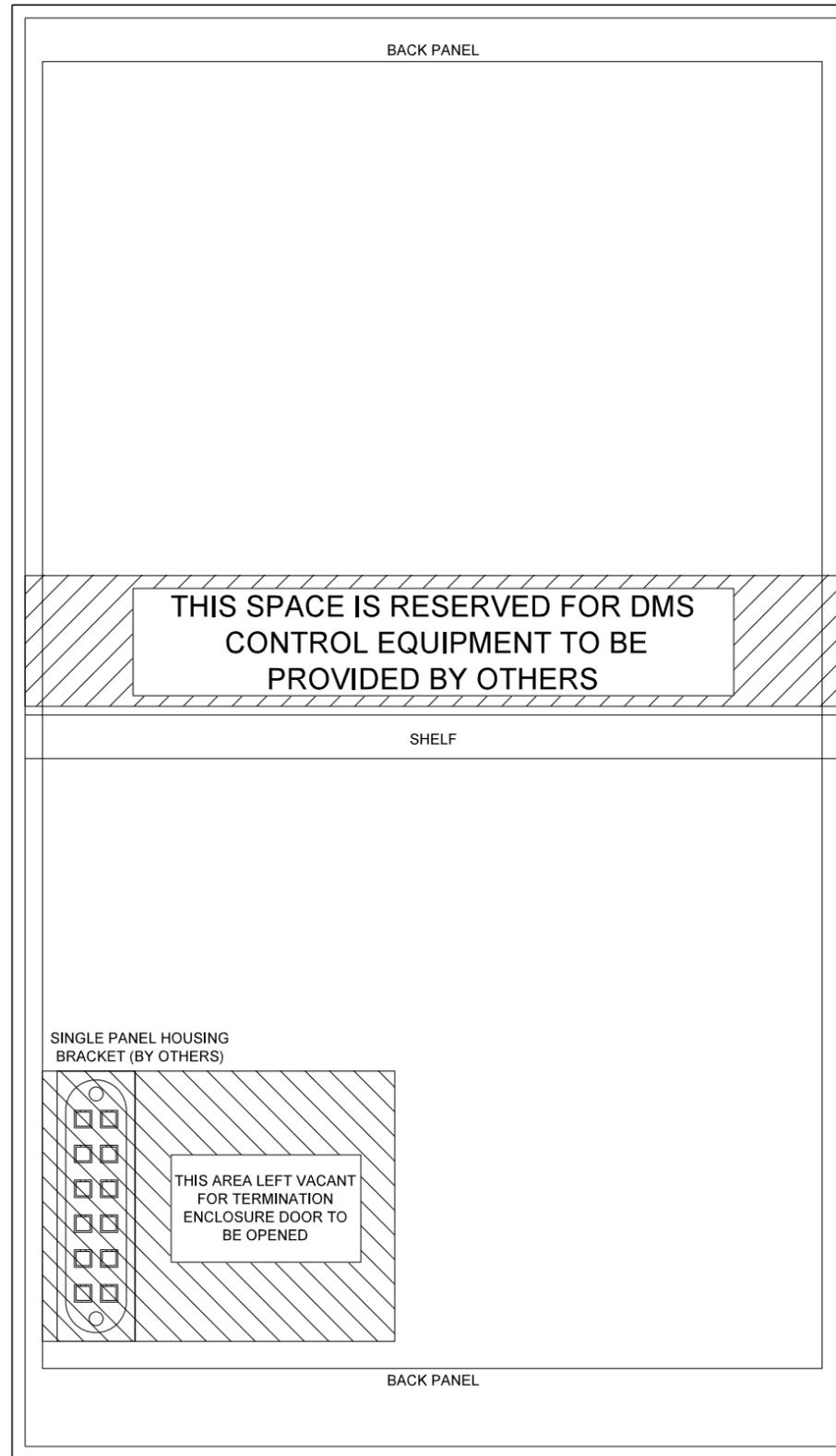
<b>Acronym</b>	<b>Definition</b>
ATMS	Advanced Traffic Management Software
ATSSA	American Traffic Safety Service Association
CCNA	Certified Cisco Network Associate
CCNP	Certified Cisco Network Professional
CCTV	Closed Circuit Television
CTRE	Center for Transportation Research and Education
DMS	Dynamic Message Sign
DOT	Department of Transportation
DWDM	Dense Wave Division Multiplexing
FAT	Field Acceptance Test
FCC	Federal Communications Commission
HAR	Highway Advisory Radio
ICN	Iowa Communications Network
IEEE	Institute of Electrical and Electronics Engineers
IP	Internet Protocol
IT	Information Technology
ITS	Intelligent Transportation Systems
IWZ	Intelligent Work Zone
MMS	Maintenance Management System
NEMA	National Electrical Manufacturer Association
NMS	Network Monitoring Software
NTCIP	National Transportation Communications for Intelligent Transportation System Protocol
NTP	Notice to Proceed
OCIO	Office of the Chief Information Officer
OSHA	Occupational Safety and Health Administration
OLTS	Optical Loss Test Set
OTO	Office of Traffic Operations
PCI DSS	Payment Card Industry Data Security Standard
PDF	Portable Document Format
PTZ	Pan-Tilt-Zoom
RFP	Request for Proposals
RPU	Remote Processing Unit
RWIS	Road Weather Information Systems
SNMP	Simple Network Management Protocol
SPB	Shortest Path Bridging
TMC	Traffic Management Center
TCP	Traffic Critical Projects
UPS	Uninterruptable Power Supply
VLAN	Virtual Local Area Network

LEFT SIDE



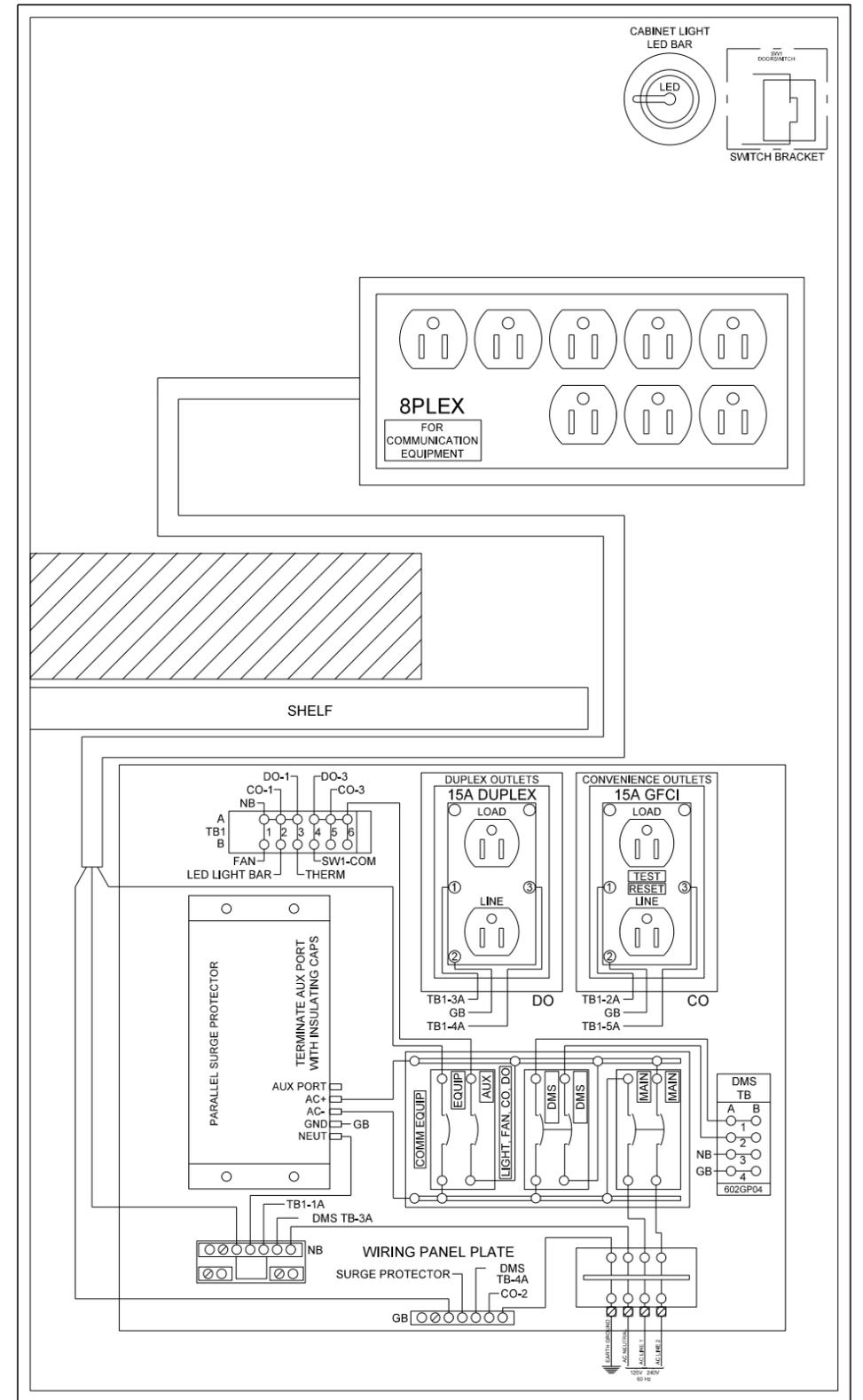
LEFT SIDE

BACK SIDE



BACK SIDE

RIGHT SIDE



RIGHT SIDE

U.5-1- DMS DEVICE CABINET LAYOUT  
NOT TO SCALE

Bidder \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

## **SEALED BID**

**LETTING DATE:** June 15, 2016  
**PROPOSAL NO:** 16113  
**PROPOSAL DESCRIPTION:** Statewide ITS Maintenance

**Iowa Department of Transportation  
PURCHASING - SEALED BID PROPOSAL  
800 Lincoln Way  
Ames, IA 50010**