

ITEM#: 17  
DATE: 02-23-21

**COUNCIL ACTION FORM**

**SUBJECT: PROFESSIONAL SERVICE AGREEMENT WITH GBA SYSTEMS INTEGRATORS (ITS TRAFFIC NETWORK DESIGN)**

**BACKGROUND:**

The Intelligent Transportation System Program of the 2020/21 Capital Improvements Program identifies the funding to design and construct “Phase 1” of a modernized city-wide traffic network. On October 23, 2020, City staff received statements of qualifications from interested firms to determine a short-list of qualified firms who could be eligible to submit a proposed scope and fee for Phase 1. It should be noted that Phase 1 is a critical phase as it will set the standards and specifications for the all the remaining phases of implementation.

Staff received five statements of qualifications of which the top three firms would be selected to submit proposals. The following table summarizes their qualification rankings:

<b>RFQ: Firm Name</b>	<b>Rank</b>
GBA Systems Integrators (HR Green)	1
Bolton & Menk (Iteris)	2
Strand Associates	3
Snyder & Associates	4
HDR (JEO)	5

On December 18, 2020, staff received all three draft scope and fee proposals from GBA Systems Integrators (GBASI), Bolton & Menk, and Strand Associates. The table below summarizes the rankings.

<b>RFP: Firm Name</b>	<b>Rank</b>	<b>Est. Fee</b>
GBA Systems Integrators (HR Green)	1	\$193,740
Strand Associates	2	\$198,400
Bolton & Menk (Iteris)	3	\$329,798

Staff determined that GBASI had the most complete and responsive proposal for the needs of the project, having the lowest proposed fee as well. Therefore, staff began negotiations with GBASI to finalize the scope, contract, and to refine the actual fee for the project. Attached to this document is the final agreement being recommended for approval. It should be noted that the contract has been written to be able to extend the contract with GBASI for other phases of the traffic network with simple scope and fee addendums to the main contract, thereby not requiring a separate selection process for each phase.

The City of Ames has been notified by the Iowa DOT that we have successfully received ICAAP grants for the first two phases. The information listed below is the current budget for FY 2020/21 (also shown with FY 2021/22):

<b>Budget</b>	FY 2020/21	FY 2021/22*	
	<b>Phase 1</b>	<b>Phase 2*</b>	<b>Phase 1 &amp; 2*</b>
ICAAP	\$1,176,518.00	\$1,400,000.00	\$2,576,518.00
G.O. Bonds	\$141,900.00	\$160,400.00	\$302,300.00
Road Use Tax	\$225,800.00	\$197,600.00	\$423,400.00
	<b>\$1,544,218.00</b>	<b>\$1,758,000.00</b>	<b>\$3,302,218.00</b>

\*FY 21/22 funds and all associated work is not authorized until there is an approved notice to proceed from the City.

As a reminder, Phase 1 will connect City Hall to all traffic signals along South Duff Avenue, Duff Avenue, and 13<sup>th</sup> Street over to the City’s Public Works Warehouse located at 2207 Edison Street (see attached map).

The design of the system will include “state of the art/practice” technologies such as traffic adaptive features, which will automatically adjust signal timings to real-time traffic conditions. The system will also provide a wealth of performance data to allow the City to optimize, track, and forecast transportation performance. It should be noted that cyber security is a major focus of the project. Staff has made the issue of cyber security a priority for the consultant team to address when designing the network. Of the 144 strands of fiber that will be install in these two phases, only 12 strands are anticipated to be needed for this immediate project. The remaining strands will be reserved for other prospective city uses.

**ALTERNATIVES:**

1. Approve the professional service contract with GBA Systems Integrators, LLC, of Lenexa, KS in the amount not to exceed \$193,740 for Phase 1.
2. Reject the agreement and direct staff to renegotiate the agreement.

**MANAGER’S RECOMMENDED ACTION:**

The ITS Program provides for a much-needed modernization of the traffic system infrastructure for the City of Ames. This project is expected to make significant performance improvements to transportation efficiency and therefore reduction in Green House Gases from vehicle emissions. It will also provide ancillary connectivity for all City departments who may also benefit from technology improvements. **Therefore, it is the recommendation of the City Manager that the City Council adopt Alternative No. 1, as noted above.**

## Professional Service Agreement

This Agreement (“Agreement”) is entered into on the 18 February 2021, between City of Ames, IA, City, and GBA Systems Integrators, LLC, Engineering Design Team. The parties to this Agreement are referred to individually as a “Party” and collectively as the “Parties.”

In consideration of the acts and promises contained in this Agreement and other valuable consideration, the Parties agree as follows:

### SECTION 1 - PROJECT

The City of Ames, IA has determined to the satisfaction of its Governing Body that GBA Systems Integrators, LLC is qualified to undertake and perform Ames ATMS ITS Design and hereby selects and hereby employs the Engineering Design Team to perform professional services to Ames ATMS ITS Design (hereinafter referred to as the “Project”).

### SECTION 2 - SCOPE OF SERVICES

- A. BASIC SERVICES.** Upon execution of this Agreement by the City or on such other schedule contained herein, the Engineering Design Team shall provide the following services (“Services”) pertaining to the Project as basic Services (“Basic Services”) Refer to Attachment “A” for a detailed scope of services:
1. System Engineering Review
  2. Communication Network Architectural Design
  3. Phase 1 PS&E Documents
  4. Construction Period Services & Integration Assistance
  5. Those Services not normally self-performed by the Engineering Design Team, but essential to the successful completion of the Project, will be subcontracted by the Engineering Design Team to subconsultants, who will be selected by the Engineering Design Team and the City. Basic Services that are considered essential to the successful completion of the project by both the Engineering Design Team and the City.

### SECTION 3 – Responsibilities of City

- A. City Representative**
1. The City hereby designates the following representative who is authorized to act on City’s behalf with respect to the Project: Damion Pregitzer. The City or such authorized representative will make decisions in a timely manner pertaining to documents and questions submitted by the Engineering Design Team, in order to avoid delay in the orderly and sequential progress of the Services.

2. The City shall establish a Project Steering Committee to provide input and work with the Engineering Design Team to review preliminary findings and concur with the final recommendations.

**B. Authorizations**

1. The City shall furnish approval, consents, and letters of authority as may be necessary for performing the Services in a timely manner.
2. The City shall furnish to the Engineering Design Team a certified copy of the legislation, ordinance or resolution authorizing signing of this Agreement.

**C. INFORMATION**

1. The City shall provide to the Engineering Design Team the following:
  - a. All available reports, plans, specifications, background information, and other data pertinent to the Services.
  - b. All available road maps, topographic maps, plat maps, records, reports, correspondence, previous studies, plans and other data pertinent to the Services, including information previously prepared or obtained by others.
  - c. The names, addresses, and phone numbers of all previous tenants of this facility, including a description of past uses; and. The City's written requirements for the Project including, without limitation, schedule milestones, any financial constraints, and any pertinent criteria, standards, codes, design objectives, or design constraints.
2. The Engineering Design Team shall be entitled to rely on the accuracy and completeness of all information and data provided by the City.

**D. ACCESS TO SITE**

The City shall arrange for access to and make all provisions for Engineering Design Team to enter upon public and private property (subject to City's easements) as required by Engineering Design Team to perform the Services.

**E. EASEMENTS AND LEGAL DESCRIPTIONS.** The City shall be responsible for obtaining all necessary easements and right-of-way for the Project. Engineering Design Team will provide property the necessary legal description(s) and easement form, if necessary.

**F. NOTICE OF DEFICIENCY OR CHANGE.**

1. The City shall report to the Engineering Design Team any suspected deficiency in the Services within twenty-one (21) days after the City becomes aware of the potential defect. City further agrees to impose a similar notification requirement in its contracts with all contractors, design professionals, subcontractors, and consultants involved in the Project. The failure of the City to notify the Engineering Design Team as required herein shall relieve the Engineering Design Team of any liability for costs of remedying the defects.

2. The City shall give prompt written notice to Engineering Design Team whenever City becomes aware of any change, fact or circumstance that is likely to affect the scope or timing of the Services.
4. The City shall obtain bids or proposals from Contractor(s).
5. The City shall pay for all filing fees and application fees to and permits from all governmental authorities having jurisdiction over the Project and to or from others as may be necessary for completion of the Project.
6. The Engineering Design Team shall have no obligation to City to execute any document subsequent to the signing of this Agreement, including, without limitation, lender consent or certification, requiring knowledge, services, or responsibilities beyond the scope of this Agreement. The proposed language of any such document will be submitted to Engineering Design Team at least ten (10) days in advance of the requested date of execution. The execution of any such document shall not create any rights in favor of a lender or other third party.

#### **SECTION 4 - COMPENSATION**

**COMPENSATION. (*Fee Based on Standard Hourly Chargeout Rates plus Expenses with a Guaranteed Maximum Fee*)**

1. The City shall compensate the Engineering Design Team for the Basic Services rendered and expenses incurred a maximum of \$ 193,740.00. The maximum compensation shall not be exceeded without further authorization by an Amendment to this as approved by the City.

Compensation to the Engineering Design Team by the City shall be based on actual hours worked plus direct expenses in accordance with the Standard Hourly Chargeout Rates schedule as shown in attached Exhibit "B" (gbaSI) and Exhibit "C" (HR Green), which is incorporated herein.

The Parties agreed that Exhibits "B" and "C" is subject to adjustment on October 1st of each year by the Engineering Design Team to reflect any increase in salaries and overhead costs.

## SECTION 5 – INSURANCE

**A. Required Coverages.** During the performance of the Services, Engineering Design Team shall maintain the following insurance:

1. General Liability Insurance, with a combined single limit of \$1,000,000 for each occurrence and \$2,000,000 in the aggregate;
2. Automobile Liability Insurance, with a combined single limit of \$1,000,000 for each accident;
3. Umbrella Excess Liability Insurance (General and Automobile Liability) with a limit of \$2,000,000 for each occurrence and in the aggregate;
4. Workers' Compensation Insurance in accordance with statutory requirements and Employers' Liability Insurance with a limit of \$1,000,000; and
5. Professional Liability Insurance, with a limit of \$2,000,000 for each claim and annual aggregate.

**B. Mutual Waiver of Subrogation.** To the extent that damages are covered by property insurance maintained during or after the completion of the Services, the City) and the Engineering Design Team waive all rights, including rights of subrogation, against each other and all contractors, consultants, and employees of the other, except for rights they may have to the proceeds of that insurance. The City and the Engineering Design Team shall require the same waiver by their respective contractors, subcontractors, consultants.

## SECTION 6 - TERMINATION

**A. Termination by City.** The City may terminate this Agreement as follows:

1. The City may terminate this Agreement at any time without cause, or with cause due to a material breach of this Agreement, upon giving the Engineering Design Team fourteen (14) calendar days' prior written notice.
2. Within thirty (30) calendar days of a termination for convenience, the City shall pay the Engineering Design Team for all Services rendered to the date of termination and all costs incurred or that Engineering Design Team could not reasonably avoid, including, without limitation, demobilization, reassignment of personnel, and space and equipment costs.

**B. Termination by Engineering Design Team.** The Engineering Design Team may terminate this Agreement for cause upon giving the City fourteen (14) calendar days' prior written notice, for any of the following reasons:

1. A material breach by the City of this Agreement, including, without limitation, failure to make payment as required by this Agreement;

2. A transfer of ownership of the Project by the City to any other persons or entities not a party to this Agreement without the prior written agreement of the Engineering Design Team; and/or
  3. A material change in the conditions under which this Agreement was entered into, coupled with the failure of the Parties to agree on the fees and charges for the Additional Services required because of such change.
- C. Suspension for Non-Payment.** The Engineering Design Team may, at its option and without waiving the right to terminate, suspend all services for non-payment on seven (7) days' written notice to the City.

#### **SECTION 7 - MISCELLANEOUS**

The Engineering Design Team's reports, drawings, specifications, and other deliverables, including all documents on electronic media, are instruments of professional service ("Instruments of Service"). Nevertheless, the Instruments of Services, including the copyrights, shall become the property of the City upon completion of the Services and payment in full amount due to the Engineering Design Team. The Engineering Design Team shall retain all rights to its standard drawing details, specifications, databases, computer software, and other proprietary property. The transfer of ownership upon final payment by City shall not be deemed to be a sale by the Engineering Design Team and the Engineering Design Team makes no warranties, express or implied, of merchantability or fitness for a particular purpose with respect to the Instruments of Service.

- A. Reuse or Modification.** The Instruments of Service prepared by Engineering Design Team are not intended or represented to be suitable for reuse by the City or others on extensions to or modifications of the Project or on any other project. Any reuse or modification without the prior written consent of the Engineering Design Team will be at the City's sole risk and without any liability of Engineering Design Team. The City agrees, to the fullest extent permitted by law, to indemnify and hold the Engineering Design Team harmless from any claim, liability or cost (including reasonable attorneys' fees and defense costs) arising or allegedly arising out of any unauthorized reuse or modification of the Instruments of Service by the City or any person or entity that acquires or obtains the Instruments of Service from or through the City without the written authorization of the Engineering Design Team.
- B. Confidentiality.** The Engineering Design Team agrees to keep confidential and not disclose to any person or entity any data and information not previously known to the Engineering Design Team and marked "CONFIDENTIAL" by the City. These provisions shall not apply to disclosure to the Engineering Design Team's employees and subconsultants, the general contractor, subcontractors, and permit authorities. Confidential information shall not include information that otherwise comes into the public domain. The Engineering Design Team will not be restricted from giving notices required by law, complying with an order to provide information or data when such order is issued by a court, administrative agency or other authority with proper jurisdiction, or reasonably using any information in the defense of any suit or claim.

- C. Limitation of Liability.** To the maximum extent permitted by law and for adequate consideration, the total liability of Consultant and its employees and sub-consultants for City's damages, in any way arising out of the services of Consultant, shall be limited to Consultant's fee. This limitation shall apply regardless of the cause of action or legal theory pled or asserted. Such claims and causes include, but are not limited to, negligence, professional errors or omissions, strict liability, and breach of contract or warranty. The parties acknowledge sufficient consideration has been given for this limitation.
- D. Indemnification by City.** The City agrees, to the fullest extent permitted by law, to indemnify and hold the Engineering Design Team harmless from any loss, damage, or cost, to the extent caused by the negligent acts, errors or omissions of the City or its contractors, subcontractors or consultants or employees.
- E. Mutual Waiver of Consequential Damages.** To the fullest extent permitted by law, the Engineering Design Team and the City waive any and all claims against each other and their employees, consultants and subconsultants whether based on contract, indemnity, warranty, tort, strict liability or otherwise, for indirect, incidental, punitive, or consequential damages, including, without limitation, loss of use, profits, business, reputation or financing, and principal office overhead and expenses, in any way pertaining to or arising out of this Agreement or the Project.
- F. No Construction Phase Services.** If the Engineering Design Team is not authorized to perform Services during the construction phase, if any, of the Project, the City is responsibility for all services including, without limitation, observation of the construction Work ("Work") and interpretation of the Contract Documents. The City shall defend, indemnify, and hold harmless the Engineering Design Team against all claims, losses, damages, injuries, and expenses arising out of or resulting from the performance of such services by City or others.
- G. Construction Phase Services.**
1. If the Services include construction phase Services, the Parties agree the Engineering Design Team shall not be responsible for:
    - a. any change in the responsibilities and liabilities of the Engineering Design Team based upon the terms of the General Conditions or other provisions in the agreement between the City and the construction contractor, unless this Agreement is amended in writing to reflect that change;
    - b. the contractor's construction means, methods, techniques, sequences, procedures, safety precautions, and any programs incidental thereto, which shall remain the sole responsibility of the contractor;
    - c. the contractor's failure to perform the Work in accordance with the Contract Documents;
    - d. acts or omissions of the contractor, its subcontractors or suppliers, or any other persons performing any of the Work.
  2. Observation of the Work of any contractor is for the purpose of becoming generally familiar with the progress and quality of the Work and to determine, in general, if the Work, when



completed, will comply with the applicable Contract Documents. The Engineering Design Team will not be required to make exhaustive or continuous on-site observations. Based on the observations, the Engineering Design Team will endeavor to report to the City any detected deviations from the Contract Documents.

3. The Engineering Design Team will not have the authority to stop the Work of a contractor.
4. If the Engineering Design Team is authorized to interpret and decide matters concerning the performance of any contractor or the requirements of the applicable Contract Documents, it shall not show partiality to the City or contractor and shall not be liable to either for interpretations and decisions rendered in good faith.
5. The Engineering Design Team's approval of an application for payment submitted by a contractor shall mean that, to the best of the Engineering Design Team's knowledge and information, the Work has progressed to the point represented by the contractor and it appears to comply with applicable Contract Documents. The Engineering Design Team will not be required to perform a detailed audit of the application or determine how or for what purpose the contractor has used monies previously paid by the City.
6. The Engineering Design Team will review any contractor submittals within a reasonable time, but only for the purpose of checking for conformance with the design concept expressed in the applicable Contract Documents. The Engineering Design Team shall not be responsible for approving or determining the accuracy or completeness of items that are the contractor's responsibility, such as dimensions, quantities, means, methods, techniques, sequences, safety precautions, and installation or performance of equipment or systems. Approval of an item shall not indicate approval of an assembly of which the item is a component. Any deviation from the Contract Documents contained in the submittal must be brought to the attention of the Engineering Design Team in writing by the contractor and approved by the City in a Change Order to the construction contract.
7. When the Engineering Design Team includes a performance specification in its Instruments of Service, or a contractor has a design-build obligation with respect to a portion of the Project, the Engineering Design Team will be entitled to rely upon the services, certifications, and approvals performed or provided by design professionals employed by the contractor.

**H. Delivery of Services.** Except as provided herein, the Services shall be carried to completion without undue interruption. Subject to acquisition of essential data from the City, the Services shall be scheduled with subsequent authorizations and commissions from other clients of the Engineering Design Team.

**I. Delay.** The Engineering Design Team shall not be responsible for a delay in the Project or performance of the Services when the delay is caused by the City, its employees, consultants or contractors, or other circumstance beyond the reasonable control of Engineering Design Team including, without limitation, abnormal weather condition, flood, earthquake, fire, epidemic, war, riot, civil disturbance, terrorism, strike, lockout, work slowdown, and other labor disturbance, judicial restraint, and inability to procure permits, licenses, or authorization from any local, state, or federal agency.

- J. Governing Law.** This Agreement shall be governed by and construed in accordance with the laws of the State of Iowa, without regard to its principles of conflicts of laws.
- K. Opinions of Probable Costs and Schedule.** Opinions of the probable costs and schedule prepared by the Engineering Design Team) are based on the Engineering Design Team's experience, qualifications, and judgment as a professional. Since the Engineering Design Team has no control over weather, cost and availability of labor, cost and availability of material and equipment, cost of fuel or other utilities, labor productivity, construction contractor's procedures and methods, unavoidable delays, construction contractor's methods of determining prices, economic conditions, government regulations and laws (including the interpretation thereof), competitive bidding or market conditions, and other factors affecting such estimates or projections, the Engineering Design Team cannot and does not guarantee that the actual rates, costs, quantities, performance, schedules, etc., will not vary significantly from the estimates and projections prepared by the Engineering Design Team. If the City desires more accurate estimates or projections, it should retain the services of a construction estimator and/or scheduler.
- L. Standard of Care.** Engineering Design Team shall perform its Services in accordance with the standard of care and skill ordinarily exercised under the same or similar circumstances by members of the profession of the Engineering Design Team. No warranty, expressed or implied, is included in this Agreement or in the Instruments of Service produced by Engineering Design Team.
- M. Compliance with Laws.** The Engineering Design Team agrees to comply with applicable federal, state, local laws, regulatory requirements, and codes. The Engineering Design Team shall procure the professional licenses necessary to allow Engineering Design Team to perform the Services. The City shall likewise comply with such laws to the extent applicable to the City's role and performance of this Agreement.
- N. Accrual of Causes of Action.** Causes of action between the Parties shall accrue and applicable statutes of limitation shall commence to run on the earliest of the date the Services are substantially complete under this Agreement the date as provided by law.
- O. Documents Prepared by Others.** The Engineering Design Team shall not be responsible for any plans, specifications, estimates, reports, surveys, tests, or other documents or instruments, or any part thereof, prepared by the City's consultants.
- P. Recommendations of the Engineering Design Team** If the City requires that any assembly, system, product, item of material, or design be included in the Project without (or against) the Engineering Design Team's recommendation, the Engineering Design Team shall have no responsibility for such decision by the City or for the performance of such those items, nor shall the Engineering Design Team be required to issue any opinion or certificate with respect to such items.
- Q. Hazardous Materials.** The Engineering Design Team is not providing any service related to asbestos or hazardous or toxic materials. In the event Engineering Design Team or any other party encounters asbestos or hazardous or toxic materials at the Project, or should it become

known in any way that such materials may be present at the Project or any adjacent areas that may affect the performance of the Services, the Engineering Design Team may, at its option and without liability for any damages, suspend performance of its Services until the City retains the appropriate specialist consultant(s) or contractor(s) to identify, abate, and/or remove the asbestos or hazardous or toxic materials, and verifies that the Project is in full compliance with applicable laws and regulations.

- R. Services in Progress.** Any Service performed by the Engineering Design Team shall not be deemed complete, nor may it be relied upon as complete, until final completion of the Project. Prior to that time, any information or Instruments of Service generated by the Engineering Design Team shall be considered as preliminary work in progress and subject to revision. The Engineering Design Team) cannot guarantee the suitability of this information for anyone's purposes and shall have no liability or responsibility whatsoever for the use of such incomplete and preliminary information by the City or others.
- S. Betterment/Added Value.** If the Engineering Design Team negligently omits a required item or component of the Project from the construction documents, the City will be responsible for the amount it would have paid if the item had been included in the original design. In addition, the Engineering Design Team will not be responsible for any upgrade or enhancement of an item or component.
- T. Not a Municipal Advisor.** Engineering Design Team will not be acting as a fiduciary of the City and will not be serving as a "municipal advisor" to the City within the meaning of the Dodd-Frank Wall Street Reform and Consumer Protection Act and the rules and regulations of the United States Securities and Exchange Commission.
- U. Notices and Communications.** All notices and communications required by this Agreement shall be made in writing and delivered in person by overnight courier, or sent by certified or registered mail, return receipt requested, postage prepaid, to the respective Party at the following address:

**City:**

City of Ames, IA  
515 Clark Ave, Ames, IA 50010  
Attention: Damion Pregitzer, PE, PTOE

**Engineering Design Team:**

GBA Systems Integrators, LLC  
9801 Renner Boulevard  
Lenexa, KS 66219-9745  
Attention: Collin Dyer, PE

## SECTION 8 – DISPUTE RESOLUTION

- A. Direct Discussions.** The parties shall attempt to amicably resolve all disputes through direct discussion and negotiation between the designated representatives of each party. If that is unsuccessful, the dispute shall be submitted to the President, Chief Operating Officer, or equivalent position of the Engineering Design Team and the City) for discussion as a condition precedent to litigation.
- B. Non-Binding Mediation.** If direct negotiation required by the preceding paragraph is not successful, the parties will submit any claim or dispute arising out of or related to this Agreement or the Project to non-binding mediation before a third-party mediator as a condition precedent to litigation. Unless the parties mutually agree otherwise, the mediation shall be in accordance with the Construction Industry Mediation Rules of the American Arbitration Association currently in effect. Each Party shall pay their own legal fees associated with the mediation, but shall equally share the mediator’s fees. It is agreed that all contractors, design professionals, subcontractors, and consultants who are involved in, and potentially liable for any claim being asserted, may participate in the mediation.

## SECTION 9 – OTHER PROVISIONS

- A. Facsimile or Electronic Signatures.** The Parties agree that a facsimile or electronic (PDF) copy of a signature to this Agreement shall be deemed to have the same force and effect as an original signature.
- B. Waiver.** A waiver by either the City or the Engineering Design Team of any breach of this Agreement shall not affect the waiving Party’s rights with respect to any other or further breach.
- C. Severability.** The invalidity, illegality, or unenforceability of any provision of this Agreement or the occurrence of any event rendering any portion or provision of this Agreement void shall in no way affect the validity or enforceability of any other portion or provision of this Agreement. Any void provision shall be deemed severed from this Agreement, and the balance of this Agreement shall be construed and enforced as if this Agreement did not contain the particular portion or provision held to be void.
- D. Integration.** This Agreement and documents made a part hereof by reference represent the entire Agreement between the City and the Engineering Design Team This supersedes all prior and contemporaneous communications, representations, and agreements, whether oral or written, relating to the subject matter of this Agreement. If the City issues a purchase order or work order to the Engineering Design Team at any time, no preprinted terms thereon shall become part of this Agreement. Any purchase order or work order, whether or not signed by the Engineering Design Team will be for the sole purpose of facilitating the City’s operations.

- E. Headings.** The headings of the sections and subparagraphs of this Agreement are inserted for the convenience of the Parties and are neither to be taken to by any part of the provisions hereof nor to control nor affect their meaning, construction, or effect.
- F. Assignment.** Neither Party shall assign this Agreement or any rights or duties under the same without the prior written consent of the other Party. Unless otherwise stated in the written consent to an assignment, no assignment will release or discharge the assignor from any obligation under this Agreement. Nothing contained in this Article shall prevent the Engineering Design Team from employing independent consultants, associates, and subcontractors to assist in the performance of the Services or from assigning any receivables to a third party.
- G. Third Parties.** Nothing in this Agreement shall be construed to provide any rights or benefits to anyone other than the City) and the Engineering Design Team


**IN WITNESS WHEREOF**, the City of Ames, IA and GBA Systems Integrators, LLC, by their authorized representatives, have hereunto subscribed their names this, 18 February 2021. Executed in duplicate with copies to the City and Engineering Design Team.

**City of Ames, IA**

**GBA Systems Integrators, LLC**

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John A. Haila  
Mayor



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James L. Gilbert, PE  
Director of Operations

ATTEST:

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Dianne Voss  
City Clerk



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Jayne Robnett  
Business / Project Manager

I certify that sufficient funds of the City treasury have been appropriated and are otherwise unencumbered to meet the City's financial obligation under this Agreement.

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Name

Title: City Treasurer

## EXHIBIT A

### SCOPE OF SERVICES

Following are the detailed tasks that will be completed by the gbaSI team (ENGINEER) as the Scope of Services for this project.

#### TASK 1 - PROJECT MANAGEMENT / COORDINATION / MEETINGS / QA/QC

The ENGINEER shall be responsible for overall project management and for coordination activities for this project with regard to previous signal and ITS improvement projects. To complete this task, the Engineer will schedule and coordinate design and management activities for the gbaSI team and complete required quality assurance / quality control reviews to ensure compliance with project goals and timelines.

In addition, the ENGINEER will attend required coordination meetings with City staff and Contractors. Coordination meetings will be held monthly with City staff and Contractors for the duration of the design and construction project.

- Progress Meetings. Progress meetings will be held with key project team members including Agency staff (City, Iowa DOT, Ames Area MPO, FHWA as needed) and ENGINEER Team to discuss project status, deliverables, schedule, action items, and issue identification/resolution.
- Technical Meetings. Technical meetings will be held throughout the project to facilitate the timely completion of key tasks. These will be combined, when possible, with other scheduled project meetings to increase efficiency and reduce staff time.
- Quality control will be provided, at the direction of the Project Manager and Quality Control team, throughout the duration of the project and prior to the submittal of key project deliverables based on the Project Quality Control Plan.

To complete these design services, the following list of information will be provided by the City, partner agencies, and/or previous phase engineers and contractors if requested:

- Plans and files denoting fiber infrastructure, fiber splicing, and fiber usage
- GIS databases of streets, signals, communications infrastructure, right-of-way/parcel boundaries, and other facilities
- Plans, lists, and reports detailing previously completed signal and ITS deployment studies or recommendations
- Shop Drawing and/or specifications for previously installed signal and ITS infrastructure devices
- Current City signal, ITS and IT standards

The above is not a comprehensive listing of all data that we will be requesting. Additional requests from the ENGINEER for data are anticipated to be made during the design phase.

## **Task 1 Deliverables**

Design and planning efforts completed as part of Task 1 will result in the following deliverables:

- Monthly invoicing for design service.
- Quality Control Plan
- Project coordination and administration.
- Attendance at required project meetings.
- Meeting minutes and records of decisions that affect this design project

## **TASK 2 – SYSTEMS ENGINEERING REVIEW**

### **TASK 2.1 – Needs Assessment Review and Updates**

The original Needs Assessment was created as part of the Traffic Signal Master Plan. This assessment will be reviewed and updated based upon current City and stakeholder needs. As part of the Needs Assessment update, the Engineer will review with the City current standards for various traffic signal devices and communication system deployments. For devices that the City does not have current standards, the ENGINEER will assist the City in creating standards. This includes, but is not limited to, the following:

- Low Voltage ATC Cabinets, if needed
- LED Signal Heads, if needed
- Review of current ATMS Selection
- Network Switches (Layer II and Layer III)
- Fiber Cable, Termination, and Splicing Specifications

### **TASK 2.2 – Concept of Operations (ConOps)**

A Concept of Operations for the traffic signal improvements and the communication enhancements will be developed that summarizes the systems needs and expectations based upon the completed Traffic Signal Master Plan and the updated Needs Assessment. Roles and responsibilities and operational scenarios will be explored, high-level requirements, issues and constraints will be identified.

In addition, the ConOps document will include a listing of new City policies and standards for the communication network and the modern traffic signal management system proposed to begin deployment in this first Phase of the ITS Program. These policies may include, but not be limited to:

- Fiber Allocation and Allowed Usage
- Fiber Cost Sharing
- ROW Usage Policy for Fiber and Conduits
- Maintenance Responsibilities
- Recording and Retention of any PTZ/CCTV camera feeds



### **TASK 2.3 – Requirements and Verification Plan**

A high-level requirements and verification plan will be developed identifying requirements that must be met for successful traffic management system deployment and implementation. System verification plans will be identified that will ultimately provide traceability back to the Concept of Operations and initial system needs. The requirements and verification plan will identify detailed, component level requirements that will need to be developed as the design and deployment process continues through Phase 1 and into future phases. The Requirements and Verification Plan will include items such as:

- Contractor Fiber Testing requirement – pre-installation
- Contractor Fiber Testing requirements – post installation, splicing and termination
- Communication Device testing and burn-in requirements
- Communication system operational testing and verification
- Signal Improvements Operational Testing
- As-Built Documentation requirements

### **TASK 2.4 – Review ADA Compliance Requirements**

The ENGINEER will support the City with coordination meetings with the Iowa DOT Local Systems Bureau and the Traffic & Safety Bureau regarding ADA implications. The conversations will revolve around the Chapter 12A-02, Section G, 2 of the Iowa DOT Design Manual. The project scope may include the replacement of the traffic signal cabinet and traffic signal vehicular and pedestrian signal indications. It is understood that cabinet or signal head replacements will not occur unless it is determined to be absolutely necessary that these must be completed to accomplish the network improvements. The type and location of the existing pushbuttons is anticipated to be unaltered. The existing pedestrian circulation path is also anticipated to be unaltered. From review of the Design Manual and project context, it is anticipated that the existing pushbuttons and sidewalk ramps will not be modified as part of the Project.

It is understood that the City of Ames maintains an ADA Transition Plan and that any required modification to the pedestrian push button and crosswalk will be accomplished as part of the ADA Transition Plan deployment and is not included in this project.

Coordination Meetings:

- The ENGINEER shall coordinate and facilitate two (2) meetings, involving two (2) representatives of the ENGINEER, to coordinate the ADA implications of the project.

### **Task 2 Deliverables**

Design and planning efforts completed as part of Task 2 will result in the following deliverables:

- Any required updates to existing Needs Assessment
- ConOps document with proposed policies and standards
- Requirements and Verification Plan to guide improvement design efforts

### **TASK 3 – COMMUNICATION NETWORK ARCHITECTURAL DESIGN**

Flexibility and scalability is particularly important for traffic signal system, ITS, and city-wide communications infrastructure deployments so these systems can easily accommodate future system expansion and functionality, not just serve the initial Phase 1 deployment. It is important that the planned and implemented system have the ability to accommodate changes in field equipment as devices are replaced, new devices or systems are identified for deployment, equipment becomes obsolete, or the system simply needs to expand in geographic coverage. It is virtually impossible to finance and construct the simultaneous enhancements to a large number of traffic signals; therefore a multi-year, phased deployment is required and the network architectural design must be flexible to accommodate intermediate phases.

#### **TASK 3.1 IP/VLAN Schema and Design**

The ENGINEER will create the required IP Schema and virtual local area network (VLAN) design for the traffic communication network. The VLANs will logically separate critical data and allow for IP subnets to flexibly span the communication system in a secure manner. When the design is approved, all network settings and configurations will be tested by the ENGINEER in a bench environment before deployment to the field. The utilized IP address ranges and numbering scheme will be logically defined for both device types and locations.

#### **TASK 3.2 - VLANs, Firewall and Security Design**

The ENGINEER will work with CITY and other agencies to update and maintain the physical and logical network design that routes all traffic system communication between network elements and devices. All new hardware and software shall be tested in the gbaSI lab environment prior to physical and logical security deployment at each location.

#### **TASK 3.3 –Network Communication Device Standards**

The ENGINEER will recommend communication equipment that will be used to build the traffic signal communication network. The equipment will include Layer III switches/routers, Layer II switches, Point-to-Point radios, fiber optic cabling, and other equipment that is determined necessary to create a fully functional network.

#### **TASK 3.4 –Switch Programming Templates and Configurations**

The ENGINEER will create and maintain the templates and configurations for the various communication network devices and switches to be deployed as part of the Phase 1 project. These configurations will be updated throughout the life of the project and maintained by the ENGINEER for use in future phases of the Ames ITS Program.

### **TASK 3.5 Network Topology Design**

The ENGINEER will create and maintain the detailed high level network layouts and exhibits that depict communication network hub locations utilizing Single-Mode (SM) fiber optic strands, cross-connects with other agencies fiber infrastructure, and other significant network connection items or locations.

### **TASK 3.6 Fiber Splice Diagrams and Design**

The ENGINEER will update and maintain the fiber optic splice diagrams and schematics for network connections between existing, modified existing, and proposed fiber optic cable installations. The ENGINEER will prepare detailed layouts of new fiber optic connections and routes that will be used in the development of the fiber optic cable improvement plans and documents, and for the detailed logical VLAN design documents.

### **TASK 3.7 – Fiber Standard Details**

Details required for fiber splicing, fiber allocation, fiber terminations and port assignments shall be created by the gbaSI team. Standardizing typical details and diagrams allow for consistent construction and operations across the network. This is important during maintenance periods where technicians can reference a general template for repairs.

### **Task 3 Deliverables**

Design and planning efforts completed as part of Task 3 will result in the following deliverables to Owner:

- Identification and layout of any existing fiber optic network in place and functioning before the design of this project.
- Develop Network Architecture document that details the network topology, IP schema, VLAN design and usage criteria, minimum Layer 2 switch specification, network security protocols, and fiber splicing and connection information required for completion of this project.
- Typical fiber termination and splice diagrams for all cross-connect, connection hubs, and signalized intersections on the communications network.
- Tabulation of ITS and signal cabinets, detailing installed equipment and connections.
- gbaSI will evaluate and recommend a specification for Layer II and Layer III field switches, as well as any other network communication devices or systems. These specifications will identify minimum operational standards and network capabilities of required devices. gbaSI will identify at least three (3) types of devices or system that meet the requirements of the Ames ITS Program.

## **TASK 4 - PHASE 1 PS&E DOCUMENTS**

The ENGINEER shall design and prepare plans, special provision, and estimate (PS&E) documents for the deployment of Phase 1 upgrades for purposes of public bidding. It is understood that the project will utilize funding from the Iowa DOT Iowa Clean Air Attainment Program (ICAAP), will require Iowa DOT letting, development of Iowa DOT special provisions, and plan set review by Iowa DOT. It is understood that this scope of services applies to Phase 1 design documents. Additional network improvement phases are anticipated to be added to this project as amendment(s) to this agreement.

### **TASK 4.1 - Preliminary (60%) Phase 1 Construction Plans**

The ENGINEER shall design and prepare 1" =40' scale / color preliminary Phase 1 – Plans for the project associated intersections and network topology update areas. The preliminary plans shall include title sheet, general notes sheet, layout sheets, fiber/communication topology details, and detail sheets. The layout sheets shall include approximate existing locations of communication pull boxes/handholes, controller cabinets, and conduit runs. The traffic signal plans shall be based upon aerial imagery and right-of-way/parcel boundary shapefiles provided by the CITY. The ENGINEER shall coordinate with the CITY to obtain the aerial base mapping, right-of-way/parcel boundary, and fiber conduit routing shapefiles.

The proposed Phase 1 plan design shall be based upon the following assumptions:

- Conduit installations shall be installed within existing right-of-way/parcel boundary lines. The traffic signal system interconnect conduit/handhole layout will be cognizant of existing right-of-way/parcel boundary lines and all efforts will be made to design improvements within existing boundary lines if possible. It is not anticipated that right-of-way and/or temporary easement acquisitions will be necessary as part of the project; however, if found to be necessary as part of the design process, can be added as an amendment to this Scope of Services.
- Boundary, topographic, legal, or property survey services are not included in this scope of services.
- Existing traffic signal poles, traffic signal cabinet foundations, and power services at the project intersection locations to remain as constructed.
- Existing traffic signal system and adjacent signal wiring “home-run” handhole in the current locations will be utilized (as feasible).
  - Existing traffic signal cabinet & controller will be replaced
  - New Layer 2 ethernet switch will be installed in each cabinet
  - New fiber terminations enclosure/panel(s) will be installed in each cabinet and fiber terminations completed
- At project intersection locations where a dedicated interconnect pull box adjacent to the traffic signal cabinet does not exist, a new dedicated interconnect pull box will be installed.
- Where necessary, existing mid-block interconnect pull boxes will be upgraded to new larger boxes to accommodate slack fiber.

- Existing traffic signal related cabling/wiring, conduits, handholes will be utilized (as feasible).
- New conduit may be required to be installed across roadway approaches and existing curb returns and sidewalk ramps may be impacted and need to be repaired. Bid items will be used for discretionary concrete bid items for sidewalk repair. This Scope of Services does not include the design of sidewalk ramp replacement sheets.
- New stock equipment will be used for proposed equipment.
- The ENGINEER shall develop the necessary splice diagrams for the in-field splice enclosures associated with Phase 1 activities. The ENGINEER shall include the developed splice enclosure diagrams for inclusion within the Plans, Specifications, and Estimate (PS&E) document for the Contractor to make necessary in-field splices within the splice enclosures.

The ENGINEER shall prepare the project special provisions for the Phase 1 plans. The special provisions shall adhere to the Iowa DOT standard specifications, particularly Section 2525, Traffic Signalization. Specifications are subject to the non-proprietary requirements associated with federal and state funding. The ENGINEER shall prepare “Public Interest Findings” (PIF) memorandum for any City of Ames specified proprietary equipment as necessary.

#### Coordination Meetings:

- The ENGINEER shall coordinate and facilitate two (2) meetings, involving two (2) representatives of the ENGINEER, to coordinate the Preliminary (60%) Phase 1 Plans.

#### **Task 4.2 - Utility Coordination & Permitting**

The ENGINEER shall submit preliminary documents to the CITY and affected utility companies for review and comment. The ENGINEER shall submit design request inquires through 1-800 One-Call to prepare a list of affected utility companies in the areas of construction. The ENGINEER shall coordinate utility relocation for conflicts with the project. The ENGINEER shall keep a record/log of all communication and coordination efforts and provide the record/log to the CITY at the preconstruction conference. As requested by the CITY, the ENGINEER shall participate in special fiber utility coordination meetings for the purposes of this project.

The CITY shall complete and submit all applicable project permit applications including necessary permits to be submitted with any and all utility companies. It is anticipated that the ENGINEER will assist the CITY with the development and coordination of the Iowa DOT Work Within Right-of-Way permit.

The City shall be responsible for any and all costs and permits required by the railroad and associated right or ways. The ENGINEER will assist with permit applications and coordination as needed.

Coordination Meetings:

- The ENGINEER shall coordinate and facilitate two (2) meetings, involving two (2) representatives of the ENGINEER, for utility coordination.

#### **TASK 4.3 – Phase 1 Check Plans (100% Unsigned)**

The ENGINEER shall prepare Check Plans for submittal to the CITY and Iowa DOT for review. Check Plans shall include:

- **A Sheets**
  - Title sheet
- **C Sheets**
  - Estimated quantities tabulations, estimate reference notes,
  - Communications/Fiber Details
- **J Sheets**
  - Traffic control sheet
- **N Sheets**
  - General notes sheet,
  - Layout sheet,
  - Detail sheets, and
  - Specific quantities sheets.
- **U Sheets**
  - Fiber optic termination and splice diagrams (diagrams to be provided to the awarded Contractor)

The ENGINEER shall revise the project special provisions as prepared as part of the preliminary design, as necessary. The ENGINEER shall develop an engineer's opinion of probable construction cost for the Phase 1 – ITS Integration deployment and will prepare the Traffic Signalization bill of materials form.

Coordination Meetings:

- The ENGINEER shall coordinate and facilitate one (1) meeting, involving two (2) representatives of the ENGINEER, to coordinate Check Plans development.
- The ENGINEER shall coordinate and facilitate one (1) meeting, involving two (2) representatives of the ENGINEER, to review Iowa DOT review comments with the Iowa DOT and CITY.

#### **TASK 4.4 – Phase 1 Final Plans (100% Signed)**

The ENGINEER shall incorporate CITY and Iowa DOT review comments into the plans, estimates and special provisions; and provide signed and sealed documents to the CITY and Iowa DOT Contracts Review and for bidding purposes.

#### **TASK 4.5 – Phase 1 Front End Documents**

The CITY shall coordinate with the Iowa DOT to prepare the front-end contractual documents and specifications as part of the Iowa DOT's bidding process. The Iowa DOT shall let the project through the Iowa DOT's bid letting system. A letting date of November 16, 2021 is anticipated.

#### **Task 4 Deliverables**

Design and planning efforts completed as part of Task 4 will result in the following deliverables to City:

- Preliminary (60%) Plans, color PDF format
- Check Plans, color PDF format
- Final Plans, color PDF format
- Special Provisions
- Opinion of Probable Construction Cost

#### **Proposed Design and Bidding Schedule**

Anticipated 60% Schedule:

- March 2021 – May 2021

Anticipated ROW Plan Schedule:

- March 2021 – May 2021

Anticipated Utility Coordination and Permitting Schedule:

- March 2021 – May 2021

Anticipated Schedule:

- May 2021 – July 2021 (July 13, 2021 Check Plan Submittal Date to Iowa DOT)

Anticipated Schedule:

- July 2021 – August 2021 (August 24, 2021 Final Plans Submittal Date to Iowa DOT)

Anticipated Bidding Schedule:

- August 2021 – November 2021
- Letting Date of November 21, 2021

### **TASK 5.0 - PHASE 1 CONSTRUCTION PERIOD SERVICES & INTEGRATION ASSISTANCE**

While not specifically included in the preliminary budget developed as part of the Ames Traffic Signal Master Plan, management of the installation and integration of the communication network devices, and overall construction activities, is critical for the successful deployment of the Phase 1 improvements. Our team has all the expertise and skill required to assist the City at any requested level during the construction period. Following are the detailed tasks that the ENGINEER proposes to provide to the City as

part of this overall project. The proposed construction period and integration tasks listed following can be reviewed and tailored to meet the specific needs of the City.

The ENGINEER shall provide support to the LPA (e.g. the CITY) construction and integration assistance personnel on an as-requested basis. Support may include response to Contractor Requests for Information (RFI) such as providing clarification of design intent when issues cannot be readily resolved from the plans and providing background calculations.

### **TASK 5.1 - Pre-Letting Support**

The ENGINEER shall provide responses to pre-letting questions about the plans and specifications from the LPA, the Iowa DOT, and contractors bidding the project.

The ENGINEER shall review the material submittals for traffic signal improvements, communication equipment, and fiber optic network related materials and equipment for acceptability and will note any observed discrepancies with the Phase 1 project specifications.

### **TASK 5.2 Periodic Construction Period Services**

The Engineer shall assist the LPA representative with administering the terms of the construction contract between LPA and their Contractor. The ENGINEER will assist the LPA and will endeavor to protect the LPA against defects and deficiencies in workmanship and materials in work by the Contractor. The ENGINEER will complete required tasks and work with LPA and construction personnel to verify reasonable conformity to plans and specifications. Work items to be completed as part of this task include:

- Make site visits at intervals appropriate to the stage of construction, or as otherwise agreed to in writing by the LPA and the ENGINEER in order to observe the Contractor's progress and quality of work, and to determine if the work conforms to the contract documents. It is contemplated that survey staking and layout will be accomplished by the contractor's forces.
- Review shop drawings submitted by the Contractor for the limited purpose of checking for conformance with the design concept and the information shown in the Construction Documents. One (1) review will be provided as part of this contract, multiple reviews will be considered additional services.
- Make recommendations to the LPA regarding work not conforming to the project documents.
- Prepare a maximum of three (3) change orders documents for issuance by the LPA as necessary so proper approvals are made prior to work being performed.
- Review materials, review material certifications furnished by Contractor. Keep and maintain project files of the contractor's certifications of materials incorporated into



the project. The LPA will approve all materials certifications prior to their incorporation into the project.

- Coordinate with the LPA's material testing contractor. Independent assurance samples and tests may be performed by Iowa DOT personnel and such sampling and testing is excluded from the work to be performed by the LPA under this contract.
- Assist the LPA by witnessing testing of the fiber optic cable on the first day of testing to observe if the contractor is following testing procedures that are in accordance with project specifications and industry standards, and that testing equipment is calibrated and configured to provide accurate testing results. The ENGINEER shall advise the CITY of fiber testing results and advise the CITY of any issues or concerns.
- Complete periodic field reviews of temporary traffic control measures, including obtaining traffic control plans from contractor prior to actual construction activities.
- Be present, if requested by the LPA, in field during critical construction operations, including but not limited to the following:
  - excavation and backfilling
  - checking of reinforcing steel prior to concrete placement
  - concrete batching and pouring.
- The ENGINEER is not expected to be present full time during the installation of conduit, pull boxes, and cable. ENGINEER will field review work completed for workmanship and to verify quantities on an appropriate basis. Periodic checks will be completed for fiber installation and modifications during key construction elements
- Final Installation checks will be completed for traffic signal improvements and fiber optic communications network installation
- Respond to contractor RFI's

### **TASK 5.3 - GIS and As-Builts**

The ENGINEER will develop As-built Plans for the fiber optic network and ITS device deployment portion of the project based on contractor supplied information as well as ENGINEER collected data. As construction work is completed, field reviews will be completed and plans updated to represent as-built conditions. As-built plans will be submitted in pdf plan sheets.

The ENGINEER shall also provide GIS mapping updates of City fiber optic network. This includes GPS locating of Interconnect Handholes, conduit paths, fiber cable fiber counts, signal cabinet locations, photos of cabinets and handholes, and a detailed fiber termination and splicing diagram at each splice and termination point.

### **TASK 5.4 – OTDR Reviews**

The ENGINEER shall review submitted fiber optic testing results (Optical Time Domain Reflectometer (OTDR) reports) for compliance to project specifications and advise the LPA of issues or concerns. The Contractor shall provide the reports in the native OTDR

software format along with a temporary user license to the software that allows the ENGINEER to view and analyze these results.

### **TASK 5.5 - COMMUNICATION NETWORK OPERATIONS AND MANAGEMENT**

The ENGINEER will monitor and maintain the communication device configurations and logical network framework, completing both routine and emergency maintenance activities as needed for the duration of this project. Network issues will be addressed by the ENGINEER if configuration or programming can correct, or corrective measures will be coordinated with a City hired contractor to address any physical network issues that are identified or that occur. The ENGINEER will manage and update the communication architectural design and exhibits throughout the Phase 1 construction period of the project to ensure that as each sub-system comes online, they are compatible with future CITY deployments and all improvements or network changes are documented.

### **TASK 5.6 - INTEGRATION & ACCEPTANCE TESTING**

To ensure acceptable network installation and operation, the ENGINEER will develop an Integration & Acceptance Testing Plan, detailed in the subtasks below. At a high level, systems are comprised of subsystems which are comprised of individual components or units. In order to have a fully functional and integrated system, thorough testing at each level (subsystem and unit) is required.

- ✓ Unit testing is defined as the testing of individual system components (e.g., Ethernet switch, signal controller, and CCTV) to ensure they operate correctly.
- ✓ Subsystem testing is defined as the testing of collections of units which have been integrated into subsystems. For example, the communications subsystem is comprised of Ethernet switches in the field and fiber optic and copper cables connecting them to both other devices in the field and to switches and routers at the Hub.
- ✓ Functional System testing is defined as the testing of interactions between subsystems to ensure the overall project requirements are met.
- ✓ Reliability testing is defined as the testing of systems to verify that functions demonstrated operate reliably in ongoing usage.

Integration & Acceptance Testing Plan. Successful execution of the resulting detailed Testing Plan will ensure the complete end-to-end testing of the signal system and lead to a system that properly operates to meet the needs and requirements of the region. The ENGINEER's network engineers and technicians understand that the responsibility for the proper operation of Ames communication network system rests with gbaSI, the project integrator.

To support this project, the ENGINEER team proposes the establishment of a bench testing facility (BTF) utilizing gbaSI office space. This facility will be a defined space to test new systems proposed for the City of Ames. As each new device, new subsystem, or major upgrade is proposed for installation in the field, the component would be

integrated into the BTF to demonstrate proper functioning in the Ames network. The BTF would also support isolation of faults and confirmation of proper component configuration.

Functional Testing. Upon confirmation that all Unit and Subsystem Tests were successfully completed and that installation of signals in a group or phase have been completed to the satisfaction of the installation contractor, the ENGINEER will execute the functional tests of this subsystem of signals. The ENGINEER will document the testing in a report that summarizes the overall results and highlighting the general conclusions of the testing.

Reliability Testing. Following completion of the functional testing, the system will enter a period of reliability testing. Reliability tests will continue for a period of 30 consecutive days without major system failure or extensive component or subsystem failure. While the focus of reliability testing is the signals included in the current phase, reliability testing is inclusive of any other network connections. The reliability testing primarily consists of monitoring behavior of the system in routing operation, but any unit, subsystem, or functional test can be repeated as determined necessary by the integrator.

Task 5.6 Deliverables:

- System Test Plan for each corridor of construction phase
- Functional Test Results for each corridor or construction phase
- Reliability Test Results for each corridor or construction phase

## **TASK 5.7 – Project Documentation**

Final project documentation will be provided by the ENGINEER to City staff as required.

- Assist with the resolution of project related issues in the field or escalate to the next level of management if issue cannot be resolved on a timely basis
- Review and approve project submittals (as required)
- Provide timely processing of project related documents
- Submit final project documents and assist with project closeout documentation

## **TASK 6 – TRAINING ASSISTANCE (OPTIONAL SERVICE)**

The proposed City traffic signal and communication system is designed to be continually expanding and allow new equipment to be installed as part of the existing Phase 1 construction project and future deployments. It is critical that all new devices are properly integrated into the system and verified as operational. The ENGINEER will provide training and operational assistance to the City to ensure the proper setup and use of the system in general, and to maximize the benefit of the proposed improvements.

The ENGINEER will provide training on the following topics:

- Communication Network Management and Operations
- Traffic Signal and ITS Devices - configuration and programming
  - Layer II Switches
  - Layer III Switches

- Security Appliances (if required)
- Comm System Monitoring (SNMPc) setup and use
- ATMS configuration and setup assistance
- GIS Input and Database Management
- Customized Training Programs upon request

## SECTION 3

### FEE PROPOSAL

Attached as a separate document in a sealed envelope.

- Tasks 1- 4 are the Required Services for the Phase 1 project that meets the specific requirements of the RFP published by the City.
- While not specifically included in the preliminary budget developed as part of the Ames Traffic Signal Master Plan, Task 5 – the management of the installation and integration of the communication network devices, and overall construction activities, is critical for the successful deployment of the Phase 1 improvements. As such, we have included the expected costs for these services in our proposal. Please note that the proposed construction period and integration tasks listed in Task 5 above can be tailored and budgeted to meet the specific needs of the City.
- Task 6 includes optional training services the Engineer team can provide to the City to ensure the City Traffic and technical staffs utilizes the Phase 1 improvements, and future phases of the Ames ITS Program, at their highest capacity.



## EXHIBIT B STANDARD HOURLY RATES

<b>Employment Classification</b>	<b>Hourly Rate</b>
President / Director of Operations	\$ 300.00
Senior Associate	\$ 245.00
Associate	\$ 215.00
Project Manager	\$ 155.00
Director of Business Development	\$ 160.00
Senior System Integrator	\$ 180.00
System Integrator I	\$ 165.00
System Integrator II	\$ 150.00
System Integrator III	\$ 135.00
Technical Services Manager	\$ 155.00
Senior Communications Technician	\$ 145.00
Communications Design Tech I	\$ 125.00
Communications Design Tech II	\$ 95.00
Product Development Tech I	\$ 90.00
Product Development Tech II	\$ 75.00
Research & Development Intern	\$ 50.00
Technical Services Intern	\$ 90.00
Level 1 IMSA / Safety / Maintenance Trainer	\$ 150.00
Level 2 Comm / Networks Trainer (CCND/CCNP/CCNA)	\$ 160.00
Level 3 Certified Engineer Trainer	\$ 180.00
<b>Expenses</b>	
Personal and Company Vehicles	\$ 0.56 per mile
Reimbursable expenses (printing and plotting, long distance telephone, travel, per diem, etc.) incurred will be charged at cost plus 10% to cover administrative overhead, unless otherwise stipulated by contract.	

Effective Dates: September 26, 2020 to September 24, 2021



**EXHIBIT C**  
**HR GREEN**  
Billing Rate Schedule  
Effective January 1, 2021

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<b>Professional Services</b>	<b>Billing Rate Range</b>
Principal	\$215- \$310
Senior Professional	\$195- \$300
Professional	\$125- \$200
Junior Professional	\$85- \$145
Senior Technician	\$120- \$160
Technician	\$75- \$130
Senior Field Personnel	\$140- \$205
Field Personnel	\$90- \$170
Junior Field Personnel	\$75- \$100
Administrative Coordinator	\$70-\$115
Administrative	\$65- \$100
Corporate Admin	\$80- \$150
Operators/Interns	\$50- \$120

**Reimbursable Expenses**

1. All materials and supplies used in the performance of work on this project will be billed at cost plus 10%.
2. Auto mileage will be charged per the standard mileage reimbursement rate established by the Internal Revenue Service. Survey and construction vehicle mileage will be charged on the basis of \$0.85 per mile or \$65.00 per day.
3. Charges for sub-consultants will be billed at their invoice cost plus 15%.
4. A rate of \$6.00 will be charged per HR Green labor hour for a technology and communication fee.
5. All other direct expenses will be invoiced at cost plus 10%.



TASK / SUBTASK	TOTAL LABOR COSTS	DIRECT EXPENSES	TOTAL TASK FEE
1. Project Management	\$19,390.00	\$2,850.00	\$22,240.00
2. Systems Engineering Review	\$19,850.00	\$0.00	\$19,850.00
3. Communication Network Arrchitectural Design	\$21,240.00	\$0.00	\$21,240.00
4. Phase 1 PS&E Documents	\$62,520.00	\$0.00	\$62,520.00
5. Phase 1 Construction Period Service & Integration Assistance (Note 1)	\$51,200.00	\$0.00	\$51,200.00
Sub-Total: Tasks 1-5	<b>\$174,200.00</b>	<b>\$2,850.00</b>	<b>\$177,050.00</b>
6. Training Assistance (Optional Service - Note 2)	\$15,690.00	\$1,000.00	\$16,690.00
Sub-Total: Optional Task 6	<b>\$15,690.00</b>	<b>\$1,000.00</b>	<b>\$16,690.00</b>
<b>OVERALL PROJECT TOTAL</b>			<b>\$193,740.00</b>

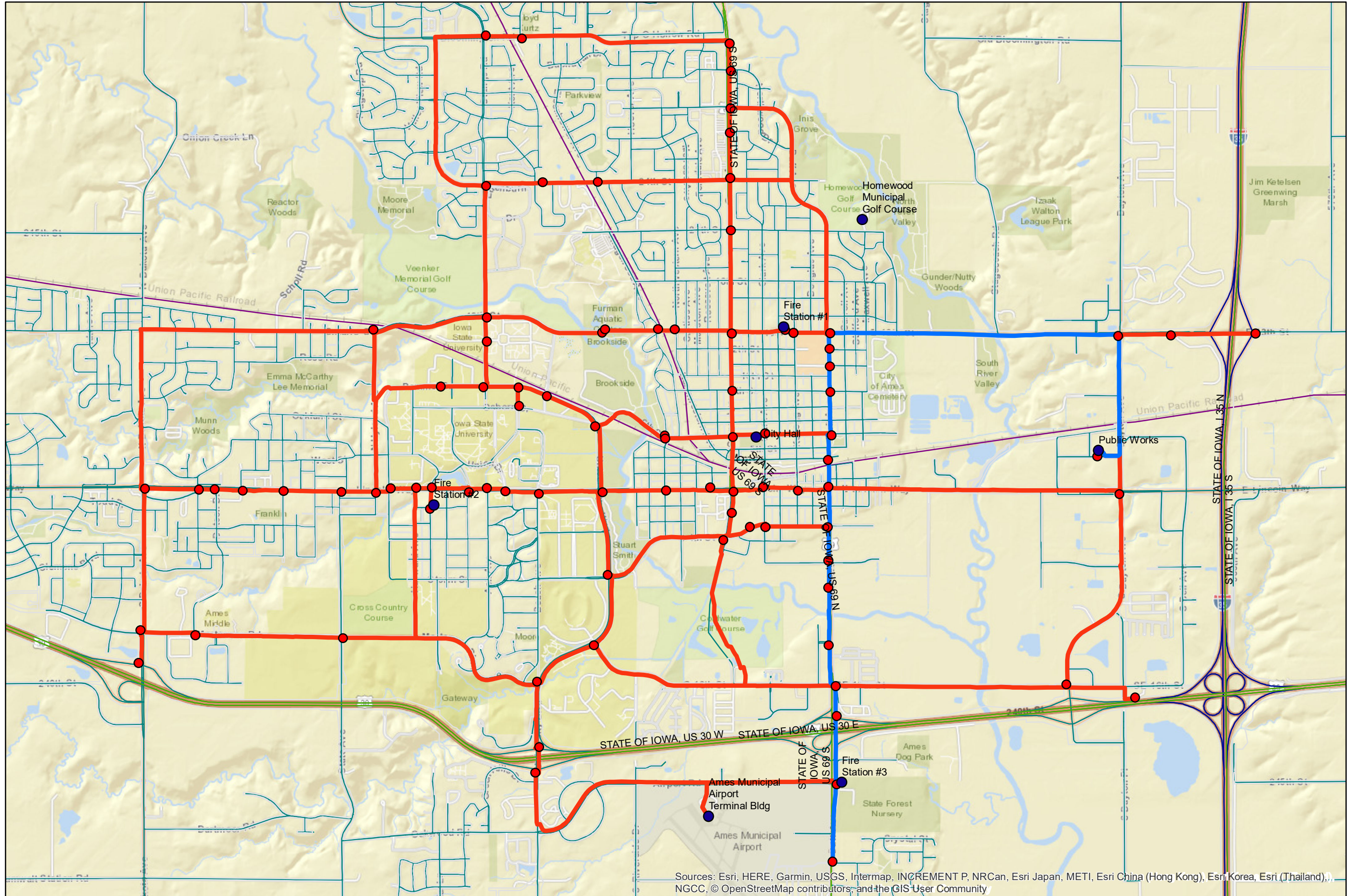
**Note 1:** While not specifically included in the preliminary budget developed as part of the Ames Traffic Signal Master Plan, Task 5 – the management of the installation and integration of the communication network devices, and overall construction activities, is critical for the successful deployment of the Phase 1 improvements. As such, we have included the expected costs for these services in our proposal. Please note that the proposed construction period and integration tasks listed in Task 5 above can be tailored and budgeted to meet the specific needs of the City.

**Note 2:** Task 6 includes optional training services the Engineer team can provide to the City to ensure the City Traffic and technical staffs utilizes the Phase 1 improvements, and future phases of the Ames ITS Program, at their highest capacity.



# City of Ames - Phase 1 Fiber Interconnect

Date: 9/13/2019



## Legend

- Traffic\_Signal
- New\_Traffic\_Signal
- COA\_ROW
- New 144 Count Fiber**
- Proposed Future Fiber
- Proposed Phase 1

Sources: Esri, HERE, Garmin, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri (Thailand), NGCC, © OpenStreetMap contributors, and the GIS User Community