

EXHIBIT A
CONTRACT FOR SERVICES

THIS CONTRACT is made on _____, 2020, by and between the CITY OF ROCKLIN a municipal corporation ("City"), and

Q-Free America, Inc.
4660 La Jolla Village Dr. Suite 500
San Diego, CA 92122
(503) 577-8940/steve.mager@q-free.com

"Contractor" who mutually agree as follows:

1. SCOPE OF SERVICES

Subject to the terms and conditions set forth in this agreement, Contractor shall provide to the City the services described in the Scope of Work, Exhibit A, as proposed in the Contractor's response to the City's Request for Proposal. Contractor shall provide the services at the time, place and in the manner specified in Exhibits A and/or B. Contractor shall not be compensated for services outside the scope of Exhibit A unless prior to the commencement of the services: (a) Contractor notifies the City and City agrees the services are outside the scope of Exhibit A; (b) Contractor estimates the additional compensation required for these additional services; and (c) City after notice, approves in writing a supplemental agreement specifying the additional services and the amount of compensation therefore. City shall have no obligation whatsoever under this agreement or any supplemental agreement, unless and until the agreement or supplemental agreement is approved by the City Manager, the City Manager's authorized designee, or by the Rocklin City Council, as required by the Rocklin Municipal Code or other local law or policy.

2. COMPENSATION

A. The City shall pay Contractor for the services rendered pursuant to this agreement at the times and in the manner set forth in the Scope of Services, Exhibit A, the Schedule for Performance, Exhibit B, and in accordance with the Schedule of Fees in Exhibit C, but in no event shall the total compensation exceed the **total sum of One Hundred and Fifty-One Thousand, Eight Hundred and Thirty-Three Dollars and Sixty-Six Cents (\$151,833.66)** The payments specified in Exhibits A and/or B shall be the only payments to be made to Contractor for the services rendered pursuant to this Agreement unless pursuant to Section 1, above, City approves additional compensation for additional services.

B. Contractor shall submit all billings/invoices for services to City in the manner specified in Exhibit B. Contractor's fees shall be as specified in the Scope of Work, Exhibit A or the Schedule of Fees as set forth in Exhibit C. All invoices submitted by Contractor shall contain the following information:

- (1) Job/project name or description;
- (2) City's current purchase order and/or work order number (if applicable);
- (3) Contractor's invoice number;
- (4) Date of invoice issuance;
- (5) Description of services billed under invoice, including the

- description of tasks performed and the corresponding rate charged for the completion of that task;
- (6) Amount of invoice, itemizing all authorized reimbursable expenses; and
- (7) Total billed to date under agreement.

C. City shall make payment to Contractor net 30 days from receipt of an acceptable invoice. If Contractor's performance is not in conformity with the Scope of Work, Exhibit A, or the Schedule of Performance, Exhibit B, or the provisions set forth above, payments may be delayed or denied, unless the Contractor's failure to perform is a documented result of the City's failure to conform with the Schedule of Performance, or if the Schedule of Performance is extended pursuant to Section 4. City shall not be responsible for delays in payment to Contractor resulting from Contractor's failure to comply with the invoice format described above, or as set forth in the Schedule of Performance.

D. During performance of the agreement and for a period of three (3) years after completing all services, Contractor shall maintain all accounting and financial records related to this Agreement, including but not limited to records of Contractor's costs for all services performed under this agreement and records of Contractor's reimbursable expenses, in accordance with generally accepted accounting practices, and shall keep and make the records available for inspection and audit by representatives of the City upon reasonable written notice.

E. Contractor shall pay when and as due, any and all taxes incurred as a result of Contractor's compensation hereunder, including estimated taxes, and shall provide City with proof of payment upon request. Contractor hereby agrees to indemnify City for any claims, losses, costs, fees, liabilities, damages or injuries suffered by City arising out of Contractor's breach of this section.

3. FACILITIES AND EQUIPMENT

Contractor shall at its sole cost and expense, furnish all facilities and equipment that may be required for Contractor to perform services pursuant to this agreement. City shall furnish to Contractor, only the facilities and equipment listed in Exhibit A (if any) according to any terms and conditions set forth in Exhibit A.

4. TERM OF CONTRACT

A. This agreement shall become effective on the date that it is approved by both parties, set forth on the first page of the agreement and shall continue in effect until 3 years from the date of final acceptance, unless sooner terminated as provided herein.

B. The services of Contractor are to commence upon receipt of written notice to proceed from the City, and shall be undertaken and completed in accordance with the Schedule of Performance attached hereto and incorporated herein by this reference as **Exhibit B**.

C. The City Manager or his or her designee may, by written instrument signed by the Parties, extend the duration of this Contract for a period equal to the original term of this Contract in the manner provided in Section 7.

5. SUSPENSION/TERMINATION:

This agreement shall become effective on the date that it is approved by both parties, set forth on the first page of the agreement and shall terminate three years from the date of final acceptance, unless sooner terminated as provided herein.

A. City shall have the right at any time to temporarily suspend Contractor's performance hereunder, in whole or in part, by giving written notice of suspension to Contractor. If City gives such notice, Contractor shall immediately suspend its activities under this agreement.

B. This Contract may be terminated by either party, provided that the other party is given not less than **60** calendar days' written notice (delivered by certified mail, return receipt requested) of intent to terminate. If the agreement is terminated by the City:

- i. Contractor shall immediately cease rendering services pursuant to this agreement;
- ii. Contractor shall, not later than five days after such notice of termination, deliver to City copies of all information prepared pursuant to this agreement;
- iii. City shall pay Contractor the reasonable value of services rendered by Contractor prior to termination; provided however, City shall not in any manner be liable for lost profits that might have been made by Contractor had the agreement not been terminated or had Contractor completed the services required by this agreement. Contractor shall furnish to City such financial information as in the judgment of the City is necessary for City to determine the reasonable value of the services rendered by Contractor. The foregoing is cumulative and does not affect any right or remedy that city may have in law or equity.

C. Notwithstanding any provisions of this Contract, Contractor shall not be relieved of liability to the City for damages sustained by the City by virtue of any breach of this Contract by Contractor, and the City may withhold any payments due to Contractor until such time as the exact amount of damages, if any, due the City from Contractor is determined.

6. INDEPENDENT CONTRACTOR

Contractor enters into this Contract as an independent contractor and not as an employee or agent of the City. Contractor shall have no power or authority by this Contract to act on behalf of City in any capacity whatsoever as an agent, or to bind the City in any respect or to any obligations whatsoever. Nothing in this Contract shall be construed to be inconsistent with this relationship or status. All employees, agents, contractors or subcontractors hired or retained by the Contractor are employees, agents, contractors or subcontractors of the Contractor and not of the City. The City shall not be obligated in any way to pay any wage claims or other claims made against Contractor by any such employees, agents, contractors or subcontractors, or any other person resulting from performance of this agreement.

7. AMENDMENTS, CHANGES OR MODIFICATIONS

Amendments, changes or modifications in the terms of this Contract may be made at any time by mutual written agreement between the parties hereto and shall be signed by the persons authorized to bind the parties hereto.

8. EXTENSIONS OF TIME

Contractor may, for good cause, request extensions of time to perform the services required hereunder. Such extensions shall be authorized in advance by the City in writing and shall be incorporated in written amendments to this Contract or the attached Work Program in the manner provided in Section 7.

9. PROPERTY OF CITY

It is mutually agreed that all materials prepared by the Contractor under this Contract shall become the property of the City, and the Contractor shall have no property right therein whatsoever. Immediately upon termination, the City shall be entitled to, and the Contractor shall deliver to the City, all data, drawings, specifications, reports, estimates, summaries and other such materials as may have been prepared or accumulated to date by the Contractor in performing this Contract which is not Contractor's privileged information, as defined by law, or Contractor's personnel information, along with all other property belonging exclusively to the City which is in the Contractor's possession.

Exclusions: Item-specific documentation, including technical data sheets, user and maintenance manuals, technical notes, training guides, and presentations, functional test documentation, and other material for training purposes will be provided to the City under an irrevocable, perpetual use license. All such material is and shall remain the sole intellectual property of Contractor.

10. COMPLIANCE WITH ALL LAWS:

Contractor shall keep itself fully informed of, shall observe and comply with, and shall cause any and all persons, firms or corporations employed by it or under its control to observe and comply with, all applicable laws, ordinances, and codes of federal, State and local governments, which in any manner affect those engaged or employed on the work described by this Contract or the materials used or which in any way affect the conduct of the work, and shall commit no trespass on any public or private property in performing any of the work authorized by this Contract.

For all leases and purchases of materials, equipment, supplies or other tangible personal property used to perform the agreement and shipped from outside California, the Contractor and any subcontractors leasing or purchasing such materials, equipment, supplies or other tangible personal property shall obtain a Use Tax Direct Payment Permit or Seller's Permit from the California State Board of Equalization, in accordance with the applicable SBE criteria and requirements. This provision applies in all instances unless prohibited by the funding source for the agreement.

11. WARRANTIES AND RESPONSIBILITIES - CONTRACTOR

A. Contractor agrees and represents that it is qualified to properly provide the services set forth in **Exhibit "A"** in a manner which is consistent with the generally accepted standards of Contractor's profession.

B. Contractor is duly licensed, qualified and experienced to perform the services set forth in the Scope of Services, Exhibit A. Contractor represents and warrants that Contractor has all licenses, permits, qualifications and approvals of whatsoever nature that are legally required for Contractor to practice its profession or provide any services under this agreement. Contractor

represents and warrants that Contractor shall, at its sole cost and expense, keep in effect or obtain at all times during the term of this agreement, any licenses, permits and approvals that are legally required for Contractor to practice its profession or provide such services. If Contractor is an out of state corporation, Contractor further warrants and represents that it possesses a valid certification of qualification to transact business in the State of California issued by the California Secretary of State.

C. Contractor shall perform all services required pursuant to this agreement in the manner and according to the standards currently observed by a competent practitioner of Contractor's profession in California. Contractor shall devote such time and effort to the performance of services pursuant to this agreement as is necessary for the satisfactory and timely performance of Contractor's obligations under this agreement. Neither party shall be considered in default of this agreement to the extent that party's performance is prevented or delayed by any cause that is beyond the reasonable control of that party.

D. All products of whatsoever nature that Contractor delivers to City pursuant to this Agreement shall be prepared in a professional manner and conform to the standards of quality normally observed by a person currently practicing in Contractor's profession, and shall be provided in accordance with any scope of services or schedule of performance specified in Exhibits A or B.

E. Contractor shall assign only competent personnel to perform services pursuant to this agreement. Contractor shall designate a project manager who at all times shall represent the Contractor before the City on all matters relating to this Contract. The project manager shall continue in such capacity unless and until he or she is removed at the request of the City, is no longer employed by Contractor, or is replaced with the written approval of the City, which approval shall not be unreasonably withheld. Contractor shall notify City in writing, of any other changes in Contractor's staff assigned to perform the services required under this agreement, prior to any such performance. In the event the City desires the removal of any person assigned by Contractor to perform services pursuant to this agreement, because the City in its sole discretion, determines that such person is not performing in accordance with the standards required herein, Contractor shall remove such person immediately upon receiving notice from the City of the desire for the removal of such person.

F. Contractor agrees and represents that the work performed under this Contract shall be in accordance with applicable federal, State and local law.

G. Contractor shall provide corrective services without charge to the City for services which fail to meet the above professional and legal standards and which are reported to Contractor in writing within sixty (60) days of discovery. Should Contractor fail or refuse to perform promptly its obligations, the City may render or undertake performance thereof and the Contractor agrees it has satisfied itself by its own investigation and research regarding the conditions affecting the work to be done and labor and materials needed, and that its decision to execute this agreement is based on such independent investigation and research. Contractor shall be liable for any expenses thereby incurred.

12. SUBCONTRACTING

None of the services covered by this Contract shall be subcontracted without the prior written consent of the City, which will not be unreasonably withheld. Contractor shall be as fully

responsible to the City for the negligent acts and omissions of its contractors and subcontractors, and of persons either directly or indirectly employed by them, as it is for the negligent acts and omissions of persons directly employed by Contractor.

13. ASSIGNABILITY

Contractor shall not assign or transfer any interest in this Contract whether by assignment or novation, without the prior written consent of the City. The City has a strong interest in the qualifications and capability of the persons and entities that will fulfill the obligations imposed on Contractor under this agreement. However, claims for money due or to become due Contractor from the City under this Contract may be assigned to a financial institution, or to a trustee in bankruptcy, without such approval. Notice of any assignment or transfer whether voluntary or involuntary shall be furnished promptly to the City.

14. INTEREST IN CONTRACT

Contractor covenants that neither it, nor any of its employees, agents, contractors, or subcontractors has any interest, nor shall they acquire any interest, direct or indirect, in the subject of the Contract, nor any other interest which would conflict in any manner or degree with the performance of its services hereunder. Contractor shall make all disclosures required by the City's conflict of interest code in accordance with the category designated by the City, unless the City Manager determines in writing that Contractor's duties are more limited in scope than is warranted by the category designated by the City code and that a narrower disclosure category should apply. Contractor also agrees to make disclosure in compliance with the City conflict of interest code if, at any time after the execution of this Contract, City determines and notifies Contractor in writing that Contractor's duties under this Contract warrant greater disclosure by Contractor than was originally contemplated. Contractor shall make disclosures in the time, place and manner set forth in the conflict of interest code and as directed by the City.

15. MATERIALS CONFIDENTIAL

To the extent permitted by law, all of the materials prepared or assembled by Contractor pursuant to performance of this Contract are confidential and Contractor agrees that they shall not be made available to any individual or organization without the prior written approval of the City, except by court order.

16. LIABILITY OF CONTRACTOR-NEGLIGENCE

Contractor shall be responsible for performing the work under this Contract in a manner which is consistent with the generally-accepted standards of the Contractor's profession and shall be liable for its own negligence and the negligent acts of its employees, agents, contractors and subcontractors. The City shall have no right of control over the manner in which the work is to be done but only as to its outcome, and shall not be charged with the responsibility of preventing risk to Contractor or its employees, agents, contractors or subcontractors.

17. INDEMNITY AND LITIGATION COSTS

Contractor shall indemnify, defend, and hold harmless the City, its officers, officials, agents, and employees against all claims, damages, demands, liability, costs, losses and expenses, including without limitation court costs and reasonable attorneys' fees, arising from Contractor's negligent acts or negligent failure to act, errors, omissions or willful misconduct

incident to the performance of this Contract except such loss or damage caused by the active negligence, sole negligence, or willful misconduct of the City. The provisions of this paragraph shall survive termination or suspension of this Contract.

LIMITATION OF LIABILITY - The total liability of Contractor arising out of or related to this agreement will not exceed the total amount paid to Contractor by the City during the term of this agreement.

18. CONTRACTOR TO PROVIDE INSURANCE

Contractor shall procure and maintain for the duration of the contract insurance against claims for injuries to persons or damages to property which may arise from or in connection with the performance of the work hereunder by the Contractor, its agents, representatives, or employees.

A. *Minimum Scope and limit of Insurance*

1. **Commercial General Liability (CGL):** Insurance Services Office Form CG 00 01 covering CGL on an "occurrence" basis, including products and completed operations, property damage, bodily injury and personal & advertising injury with limits no less than **\$2,000,000** per occurrence. If a general aggregate limit applies, either the general aggregate limit shall apply separately to this project/location (ISO CG 25 03 or 25 04) or the general aggregate limit shall be twice the required occurrence limit.

2. **Automobile Liability:** Insurance Services Office Form Number CA 0001 covering, Code 1 (any auto), or if Contractor has no owned autos, Code 8 (hired) and 9 (non-owned), with limit no less than **\$1,000,000** per accident for bodily injury and property damage.

3. **Workers' Compensation** insurance as required by the State of California, with Statutory Limits, and Employer's Liability Insurance with limit of no less than **\$1,000,000** per accident for bodily injury or disease.

If the Contractor maintains broader coverage and/or higher limits than the minimums shown above, the City requires and shall be entitled to the broader coverage and/or the higher limits maintained by the contractor. Any available insurance proceeds in excess of the specified minimum limits of insurance and coverage shall be available to the City.

B. *Other Insurance Provisions*

The insurance policies are to contain, or be endorsed to contain, the following provisions:

1. **Additional Insured Status.** The City, its officers, officials, employees, and volunteers are to be covered as additional insureds on the CGL policy with respect to liability arising out of work or operations performed by or on behalf of the Contractor including materials, parts, or equipment furnished in connection with such work or operations. General liability coverage can be provided in the form of an endorsement to the Contractor's insurance (at least as broad as ISO Form CG 20 10 11 85 or both CG 20 10, CG 20 26, CG 20 33, or CG 20 38; and CG 20 37 forms if later revisions used).

2. **Primary Coverage.** For any claims related to this contract, the Contractor's insurance coverage shall be primary with coverage at least as broad as ISO CG 20 01 04 13 as respects the City, its officers, officials, employees, or volunteers, and shall be in excess of the Contractor's insurance and shall not contribute to it.

3. **Notice of Cancellation.** Each insurance policy required above shall state that coverage shall not be canceled, except with notice to the City.

4. **Waiver of Subrogation.** Contractor hereby grants to City a waiver of any right to subrogation which any insurer of said Contractor may acquire against the City by virtue of the payment of any loss under such insurance. Contractor agrees to obtain any endorsement that may be necessary to affect this waiver of subrogation, but this provision applies regardless of whether or not the City has received a waiver of subrogation endorsement from the insurer.

5. **Self-Insured Retentions.** Self-insured retentions must be declared to and approved by the City. The City may require the Contractor to provide proof of ability to pay losses and related investigations, claim administration, and defense expenses within the retention. The policy language shall provide, or be endorsed to provide, that the self-insured retention may be satisfied by either the named insured or City.

6. **Acceptability of Insurers.** Insurance is to be placed with insurers authorized to conduct business in the state with a current A.M. Best's rating of no less than A:VII, unless otherwise acceptable to the City.

7. **Claims Made Policies.** If any of the required policies provide coverage on a claims made basis:

- i. The Retroactive Date must be shown and must be before the date of the contract or the beginning of contract work.
- ii. Insurance must be maintained and evidence of insurance must be provided for at least five (5) years after completion of the contract of work.
- iii. If coverage is canceled or non-renewed, and not replaced with another claims-made policy form with a Retroactive Date prior to the contract effective date, the Contractor must purchase "extended reporting" coverage for a minimum of five (5) years after completion of contract work.

8. **Verification of Coverage.** Contractor shall furnish the City with original Certificate of Insurance including all required amendatory endorsements (or copies of the applicable policy language effecting coverage required by this clause) and a copy of the Declarations and Endorsement Page of the CGL policy listing all policy endorsements to the City before work begins. However, failure to obtain the required documents prior to the work beginning shall not waive the Contractor's obligation to provide them. The City reserves the right to require complete, certified copies of all required insurance policies, including endorsements required by these specifications, at any time.

9. **Subcontractors.** Contractor shall require and verify that all subcontractors maintain insurance meeting all the requirements stated herein, and Contractor shall ensure that City is an additional insured on insurance required from subcontractors.

10. **Special Risks or Circumstances.** City reserves the right to modify these requirements, including limits, based on the nature of the risk, prior experience, insurer, coverage, or other special circumstances.

19. GENERAL/MISCELLANEOUS PROVISIONS:

A. **Contract Documents.** This agreement and its exhibits shall be known as the "Contract Documents." Terms set forth in any Contract Document shall be deemed to be incorporated in all Contract Documents as if set forth in full therein. In the event of conflict between terms contained in these Contract Documents, the more specific term shall control. If any portion of the Contract Documents shall be in conflict with any other portion, provisions contained in the Contract shall govern over conflicting provisions contained in the exhibits to the Contract. In the event of any conflict between the terms or conditions of this written agreement and any terms or conditions of any document prepared or provided by Contractor and made a part of this agreement, including without limitation any document relating to the scope of services or payment therefor, the written terms of this document shall control over those terms or conditions.

B. **Non-Discrimination in Employment and Equal Employment Opportunity.** Contractor shall not engage in unlawful employment discrimination. Such unlawful employment discrimination includes, but is not limited to, employment discrimination based upon a person's race, color, ancestry, national origin, religious creed, sex (including pregnancy, childbirth breastfeeding or related medical condition), sexual orientation, gender, gender identity, gender expression, age (over 40), disability (mental and physical), medical condition, marital status, citizenship, and military and veteran status.

C. **Inspection of Records.** Contractor shall maintain and make available for inspection by the City and its auditors accurate records of all of its costs, disbursements and receipts with respect to any work under this Contract. Such inspections may be made during regular office hours at any time until six (6) months after the final payments under this Contract are made to the Contractor.

D. **Entire Agreement.** This Contract constitutes the entire agreement between the parties relative to the services specified herein and supersedes whatever oral or written understanding they may have had prior to the execution of this agreement. No alteration or modification of this agreement shall be valid or effective unless and until such modification is evidenced by a writing signed by both parties to this Contract, by persons authorized to act on behalf of the parties. There are no understandings, agreements, conditions, representations, warranties or promises, with respect to this Contract, except those contained in or referred to in the writing.

E. **Severability.** If any portion of this agreement or the application thereof to any person or circumstance shall be held invalid or unenforceable, the remainder of this agreement shall not be affected thereby and shall be enforced to the greatest extent permitted by law.

F. **Waiver.** Neither City's acceptance of, or payment for, any service performed by Contractor, nor any waiver by either party of any default, breach, or condition precedent, shall be construed as a waiver of any provision of this agreement, nor as a waiver of any other default, breach or condition precedent or any other right hereunder.

G. **Notice.** All notices that are required to be given by one party to the other under this Contract shall be in writing and shall be deemed to have been given if delivered personally or enclosed in a properly addressed envelope and deposited in a United States Post Office for delivery by registered or certified mail addressed to the parties at the following addresses:

City: City of Rocklin
4081 Alvis Court
Rocklin, CA 95677

Copy to: City Attorney
City of Rocklin
3970 Rocklin Road
Rocklin, CA 95677
Email: LegalNotices@rocklin.ca.us

Contractor: Q-Free America, Inc.
4660 La Jolla Village Dr. Suite 500
San Diego, CA 92122

H. **Enforcement of Agreement.** This Contract shall be interpreted, governed and enforced in accordance with the laws of the State of California. Venue of any action arising out of this Contract shall be brought and maintained in Placer County California, regardless of where else venue may lie. The parties consent to jurisdiction over their persons and over the subject matter of any such litigation in such court, and consent to service of process issued by such courts.

I. **Attorney's Fees.** In any action brought by either party to enforce the terms of this Contract, each party shall bear responsibility for its attorney's fees and all costs regardless of whether one party is determined to be the prevailing party.

J. **Power and Authority to Enter into Agreement.** All parties to this Agreement warrant and represent that they have the power and authority to enter into this Agreement in the names, titles, and capacities herein stated and on behalf of any entities, persons, or firms represented or purported to be represented by such entity(ies), person(s), or firm(s) and that all formal requirements necessary or required by any state and/or federal law in order to enter into this Agreement have been fully complied with. Furthermore, by entering into this Agreement, Contractor hereby warrants that it shall not have breached the terms or conditions of any other contract or Agreement to which Contractor is obligated, which breach would have a material effect hereon.

K. **Exhibits.** All exhibits referred to herein and attached hereto, are by this reference incorporated as if set forth fully herein.

CITY OF ROCKLIN

By: _____
Chad Butler, Interim City Manager

ATTEST:

By: _____
Hope Ithurburn, City Clerk

APPROVED AS TO FORM:

By: _____
Sheri Chapman, City Attorney

CONTRACTOR

By: _____

Print Name: _____

Title: _____

By: _____

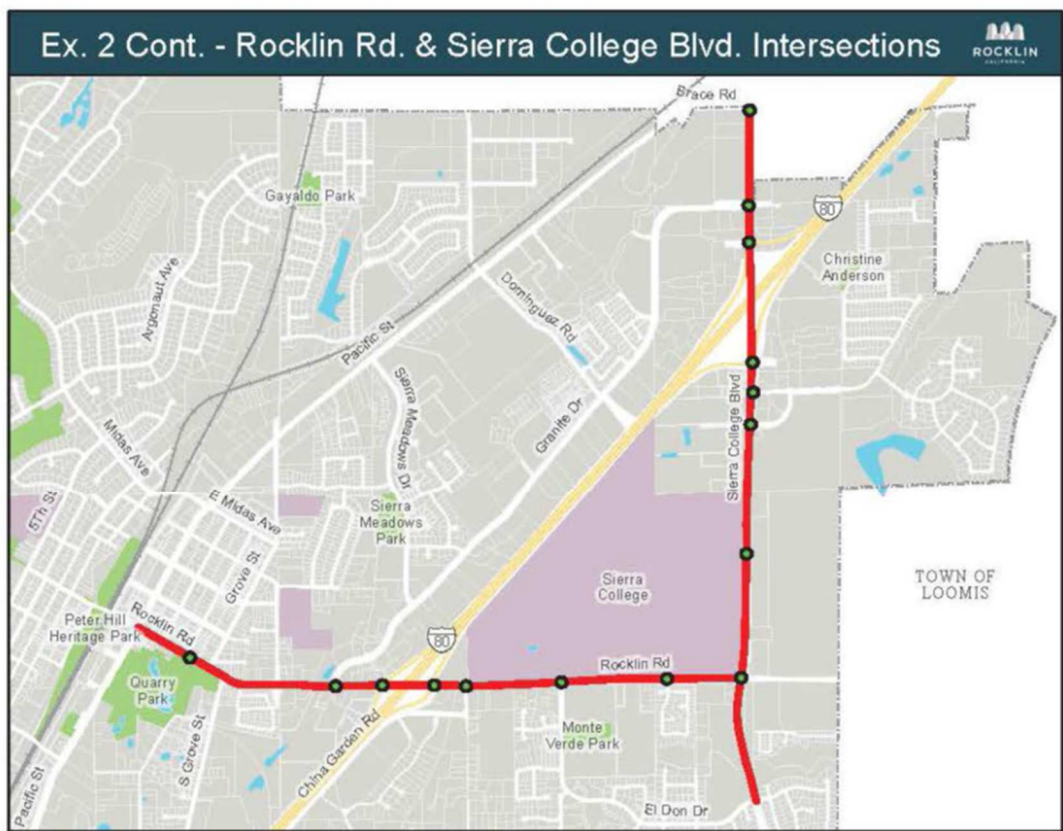
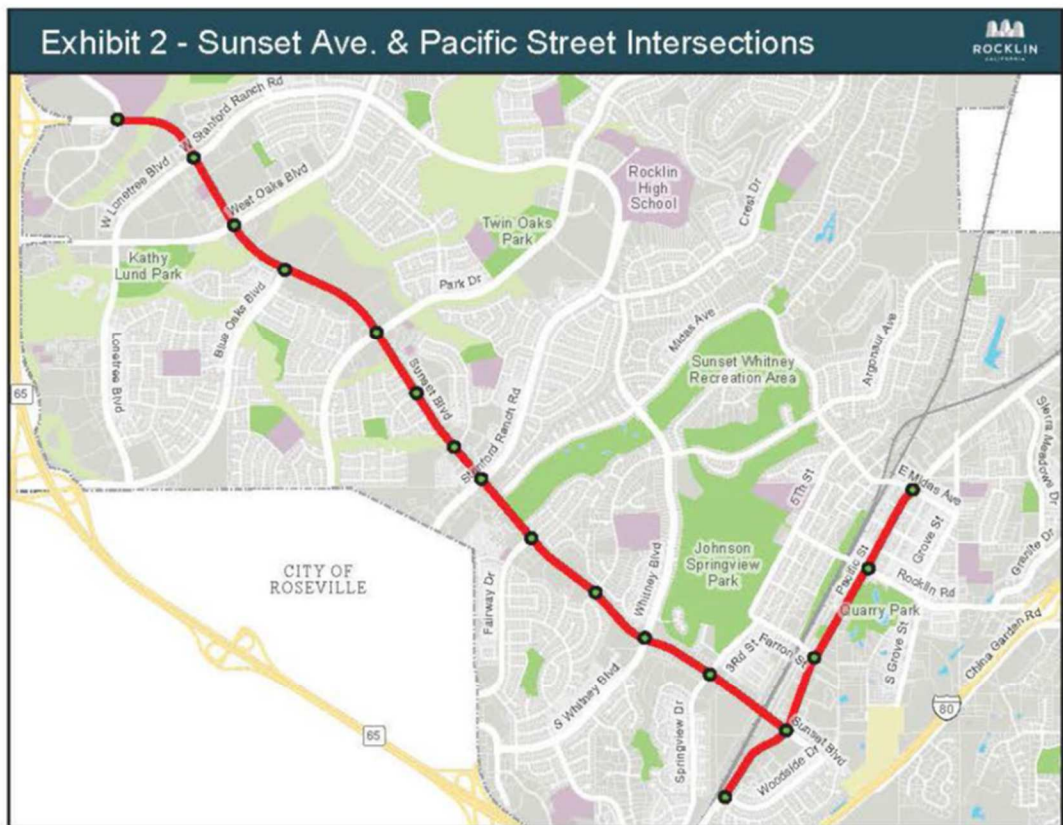
Print Name: _____

Title: _____

Exhibit A

Contractor Proposal/Scope of Work

1	An Advanced Traffic Management System (ATMS) to be housed at a City facility to be decided at a later date, capable of managing up to 100 signalized intersections.
	Deliverables
	<i>Project Coordination</i>
	<i>Project Schedule, Critical Path items, and any schedule sequence changes</i>
	<i>Project Progresses and upcoming tasks</i>
	<i>Forecast completion dates based on current progress</i>
2	Questions related to project including Technical aspects of system schedule, staff, and cost
	A workstation and/or installation of software onto existing laptops for engineering staff that is capable of connecting directly to controller units at intersections and serving as an ATMS workstation.
	Ethernet Switches (rated for high temperature deployments) or other communications equipment as required in all traffic signal controller cabinets shown in exhibit 2. The selected ATMS vendor/consultant shall complete all controllers addressing special programming of configuration required to establish communications with each intersection. The City will define a single IP subnet to be used for network devices installed at the intersections, including managed switches, signal controllers and traffic cameras. The city will give the vendor/consultant a block of IP addresses to use for the devices and other necessary information including the subnet mask, default gateway IP address, and DNS server IP addresses.
	Deliverables
	<i>Equipment orders, conversions, system setup</i>
	<i>Hardware and Software Delivery</i>
	<i>NEMA ATC traffic Controllers</i>
	<i>Ethernet Communications Equipment</i>
	<i>Workstations</i>
	<i>Monitors</i>
	<i>Maxview Server Hardware</i>
	<i>Maxview and Maxtime Software Licenses</i>
3	Detection Evaluation: Evaluate the City's existing detection configuration at each intersection and advise the City of proposed detection needs for the use of ATSPM's and Maxtime adaptive system.
	(ATSPM = Automated Traffic Signal Performance Measures)
	Deliverables
	<i>Draft Report</i>
	<i>Final Report</i>
4	Provide software, software support, equipment, and furniture at the ATMS and implementation of Adaptive interconnect at intersections shown in Exhibit 2 of the RFP (to be completed by selected consultant.
	Complete all configuration and programming work required to allow City staff to monitor SPMs, Particularly the arrival -on-green, green utilization, approach volumes, arrivals on Red, and cycle length features.
	Use the Purdue/UDOT Signal Performance Measures (SPMs) as described in "Performance Measures for Traffic Signal Systems/An Outcome-Oriented Approach" (2014, Darcy, et. Al.)
	Deliverables
	<i>Convert the City's existing signal timing databases to Maxtime Local signal controller timing databases. 20780LX traffic signal controllers will be loaded with the converted databases and staged for cabinet installation. Maxview serves, workstations, and monitors will be installed at the City's traffic management center. Following this installation the maxview system will be configured for the City's intersections.</i>
5	Training and Documentation
	Provide a minimum of 60 hours of classroom and webinar-based trainings on Maxtime local, Maxtime adaptive, Maxview ATMS, and Maxview cv. Trainings will be designed to address system operations, administration, and maintenance. Proposed training outlines for the ATMS are provided in Appdx V. Ten copies of the training manuals will be provided to the City. In addition a 4-hour field training will be provided for techs. 20 hours of training to be provided at end of warranty period (3 years).
	Deliverables
	<i>40 hrs. of classroom style training</i>
	<i>draft training outlines (30 days before training sessions)</i>
	<i>40 hours of informal On-call training</i>
	<i>4 hours field training</i>
	<i>20 additional hours of training (to be provided at end of warranty period)</i>
6	<i>10 copies of training manuals</i>
	<i>10 copies of documentation package</i>
	Acceptance Testing Activity
	Acceptance testing conducted as specified in the RFP. Subtasks include:
	Deliverables
	1. Preparation of System Test Plan (STP) which will document the test procedures
	2. Preparation of the System Test Cases document which will provide the detailed steps to be followed in conducting the system tests
	3. Submitting the System Test Plan to the City of Rocklin for review and approval at least thirty (30) days before the acceptance test is to begin.



A3.1: SPECIFICATIONS FOR ATMS

This specification sets forth minimum requirements for a TCP/IP based client/server application providing multi-user access to traffic signal and related field devices as part of an overall Advanced Traffic Management System (ATMS). A detailed communications system interfacing the ATMS with the field devices is not provided in this specification, except for a description of existing equipment and statement that the ATMS provider must upgrade modems to suit the needs of the proposed ATMS. However, the ATMS shall be capable of supporting both asynchronous and Ethernet based data communications that comply with current NTCIP specifications.

The primary field devices supported by this specification shall include traffic signal controllers that comply with Caltrans TEES 170E based controllers, 2070, and 2070N specifications. The ATMS shall support the functional requirements of these devices incorporated into the system.

A3.1.1: Minimum Required System Performance:

1. System-wide, corridor, or user-specified grouping adaptive signal coordination
2. Continuous central system monitoring of all controllers a. As often as once-per-second.
3. Central system transmits and receives status data (once-per-second) to all local controllers.
4. Operational failure logging, indicating control and communications failures by date, times of occurrence and location of failure.
5. Real-time status including phase status, mode of operation, and equipment status, displayed on system or laptop monitor.
6. Historical status information including coordination status, cycle length by time-of-day, to be stored for a minimum of seven calendar days.
7. System level status display with real-time information in graphic form using user-provided graphic maps, Bing or Google Maps for all intersections. Displays shall include main street phase status and real-time signal operation status.
8. Intersection status displays with real-time information in both tabular and graphic form for operator selected intersections. Displays shall include vehicle and pedestrian signal phase status, flash status, local and master cycle timers, preempt on or off and the operational plan mode in effect.
9. Automatic uploading and downloading of all controller timing data parameters to/from field controllers via the communications network.
10. Central-distributed topology that allows operation of free or time-of-day coordination at the controller level in case of communications failure.
11. In the event of ATMS master failure, operation after restoration of proper function shall be time-of-day/day-of-week.
12. Automatic reporting of user-specified failures and malfunction.
13. Controller data base management.
14. The system shall support the viewing of CCTV and Video detection video streams over RTSP.
15. The system shall permit users to broadcast data/time to any number of signal controllers defined in the system.

A3.1.2: Communication Standards and Interfaces

NTCIP Communications for Actuated Signal Controllers

1. The system shall support the use of dynamic objects via NTCIP 1103.
2. The system shall support mandatory NCTIP 1201 objects.
3. The system shall support mandatory and optional NTCIP 1202 objects.

Other proprietary communications to support existing equipment or messaging not supported by NTCIP.

NTCIP Communications for Center-to-Center Interfaces

1. The system shall support center-to-center communication via NTCIP 2306 (TMDD).
2. The system shall support center-to-center communications for ICMS applications.

Center-to-Center Communications for Connected Vehicle Applications.

1. The system shall support a standard interface for connected applications/subscribers.
2. The system shall support an interface to "Traffic Technology Services (TTS)"
3. The system shall support an interface to "Connected Signals, Inc"
4. The system shall support an interface to "LiveTrafficData, LLC"

A3.1.3: Displays and System Functionality

Graphical User Interface (GUI):

1. The user interface shall be intuitive and provide a uniform and consistent scheme of buttons, menus, and forms.
2. The user interface shall provide common operation elements such as dialog boxes, main menus, sub-context menus, reports, device summaries, and real-time status displays.
3. The user interface shall provide controls for stacking, docking, un-docking, hiding, or splitting the window panes which can be easily organized on multiple monitors in an advanced traffic management center.
4. The user interface shall provide a list of active alarms from each device. a. The active alarms window shall automatically update as alarms are triggered and/
5. The user interface shall prevent users from performing conflicting command actions. a. The system shall prevent two users from performing concurrent signal timing modifications.
b. The system shall prevent two users from issuing concurrent phase, pedestrian, and/or preemption calls.
6. The user interface shall permit authorized users to "unlock" control of commands from users.
7. The user interface shall provide a means for labeling the following elements: a. External Controller Alarms
b. Vehicle Detectors
c. Pedestrian Detectors
d. Overlaps
e. Phases

A3.1.4: System Wide Map Displays

1. The system shall support the import of GIS map files for display of device inventory, location and status.
a. The system shall incorporate industry standard ESRI vector and/or image files.
b. The system shall permit users to define the map layers.
2. The system shall support a Web-based system map for display of device inventory, location and status.
a. Users shall be able to change the background view of the Web-map to: Aerial, Physical, Shaded Relief, Road View, Terrain Base, or Topographic View.
b. Users shall be able to easily add devices to the Web-map by clicking on the location of the device within the map.
3. The GIS and Web-based system maps shall support common GIS map navigation controls (i.e. panning, zooming, small/large scale hiding).
4. The GIS and Web-based system maps shall provide a legend detailing status color indications.
5. The system shall support the use of static background images for system maps and sub-system displays.
6. The system shall permit users to "un-dock" system maps from the main application and display maps on separate monitors/screens.
7. On mouse hover, a tool-tip shall appear, displaying intersection name, operational status and alarm status.

8. The system maps shall provide the following status indicators:
 - a. Controller operational status (inactive, free, coordinated, preempt, flash, transition, offline).
 - b. Active Pattern Number
 - c. Controller alarm status (Critical alarms, Minor alarms, Non-critical alarms, offline).
 - d. Link status (volume, occupancy, congestion index color).
 - e. Detection cameras (location).
 - f. CCTV cameras (location).
 - g. Field devices – such as battery backup units, etc. (location).

A3.1.5: Device Lists

1. The system shall provide a list of devices currently configured within the system.
2. The device list shall provide the operational status of the devices.
3. The device list shall be easily sorted or filtered by the properties of the devices.
4. The device lists shall be printable providing the user with the ability to define the data included in the printed report.

A3.1.6: Groups

1. The system shall permit users to create coordination, adaptive, and jurisdiction groups.
2. The system shall permit users to assign a traffic controller to one or many groups.
3. The system shall permit users to define any number of groups with any number of traffic controllers as members of the group.
4. The system shall enable operators to manually issue pattern change commands to signals within a coordination group.
 - a. Commands issued by the system shall override conflicting commands issued by other command sources.

A3.1.7: Signal Control Source

1. The system shall provide an interface detailing a list of active operational commands.
2. The list of operational command sources shall be listed in order of categorical priority.
3. Command sources with the same categorical priority shall be listed in order of relative priority.
4. The list of operational command sources shall include:
 - a. Current
 - a. Current pattern and command source
 - b. Manual pattern
 - c. Regional patterns
 - d. Special events
 - e. Responsive patterns
 - f. Adaptive patterns
 - g. Time-of-day patterns

A3.1.8: Time-Space Diagram

1. The system shall support the display of a time-space diagram.
2. The user shall be provided with a graphical interface for the creation of routes to be used in the time-space diagram.
 - a. Users shall be able to create routes by selecting intersections from a map display of device inventory.
 - b. Users shall be able to identify any phase as the phase of interest within the route.
3. The time-space diagram shall display the relative distance between intersections within the user-defined route.
4. The time-space diagram shall display the green times produced by the phases configured within the route.

5. The time-space diagram shall display the green band between intersections based on the design speed of the route.
6. The time-space diagram shall display either two-way or one-way progression.

A3.1.9: Traffic Controller Timing Editor

1. The system shall provide a timing editor displaying all programmable timing supported by the traffic controller software.
2. The timing editor shall provide an intuitive and nested navigation scheme for displaying timing parameters.
3. The timing editor shall print all or a subset of timing parameters.
4. The timing editor shall support timing any number of archives and restoration of previously archived parameters.
5. The timing editor shall permit users to copy timing parameters.
6. The timing editor shall enable users to create timing templates for multiple intersection configurations.
7. The timing editor shall permit users to import and export timing.
 - a. Exported timing shall be capable of being applied to USB memory and applied to traffic controllers supporting import of timing from USB memory.
 - b. System hardware shall include a USB port for easy copying of timing to a Data Key as described in Section 9.2.6 of the Caltrans TEES.
8. The timing editor shall permit users to run a full timing audit of timing parameters.
 - a. The timing audit shall output a report displaying mismatches between the central and controller databases of timing parameters.
 - b. The timing audit report shall include the values of the mismatched parameters.
 - c. The timing audit shall permit users to select the mismatch timing parameters and
 - d. The system shall permit the user to schedule the timing audits and receive notification of timing parameter mismatches between the central and controller databases.
9. The timing editor shall provide immediate feedback when users have entered invalid data.
10. The timing editor shall provide immediate feedback when users have unsaved changes.
11. The timing editor shall support single page or full timing database uploads/downloads to and from the traffic controller.
12. Upon downloading timing from the central system to the local controller, the system shall display any and all errors encountered by the system and/or controller during the transaction.
13. The timing editor shall display side-by-side comparison of timing parameters from different sources.
14. The timing editor shall permit users to compare timing parameters between:
 - a. Central database vs. controller database
 - b. Controller "A" database vs. controller "B" database
 - c. Controller database vs. archived timing
 - d. Controller database vs. imported timing from external source
15. The system shall permit users to import and export timing parameters from any number of controllers.

A3.1.10: Real-time Status Displays for Individual Intersections

1. The system shall be capable of displaying detailed individual intersection status. A minimum capability of four individual intersections in individual windows is highly desired.
2. The system shall present detailed real-time signal controller status displays which include:
 - a. Operational status (free, coordinated, adaptive coordination)
 - b. Active pattern
 - c. Active cycle length
 - d. Active offset
 - e. Master cycle timer
 - f. Local cycle timer
 - g. Vehicle phase calls

- h. Pedestrian calls
 - i. Vehicle detector status
 - j. Pedestrian detector status
 - k. Phase status
 - l. Overlap status
 - m. Preemption status (emergency vehicle, transit, and/or rail)
 - n. Alarm status
 - o. Current date-time
 - p. Configured SPM status
3. The real-time signal controller status shall be viewable within an aerial depiction of the intersections geometry.
- a. The aerial display shall support user-defined backgrounds in format of png, bitmap, jpeg, gif, and/or tiff.
 - b. The aerial display shall permit users to place the precise location of status objects.
 - c. The aerial display shall depict the actuation of individual vehicle detectors.
4. The system shall permit the user to activate the aerial display from within the system wide and/or sub-system displays.
5. The real-time signal controller status displays shall permit users to issue the following commands to test intersection performance:
- a. Phase calls (detector inputs)
 - b. Pedestrian calls
 - c. Emergency preemption calls

A3.1.11: Event Notifications

- 1. The system shall provide event notifications for traffic controller and arterial link alarms.
- 2. System administrators shall be permitted to select users to receive special event notifications.
- 3. Users shall receive notifications when alarms are added and removed.
 - a. Users shall receive notification via their system assigned email address or via text messaging.
- 4. System administrators shall be permitted to identify the controllers and arterial links for which notifications will be issued.
- 5. Traffic controller events from which notifications shall be issued include:
 - a. Coordination alarms (coord. fail and coord. fault)
 - b. Cycle fail
 - c. Critical alarms
 - d. Vehicle detector fault
 - e. Pedestrian detector fault
 - f. External alarms
 - g. Local override
 - h. Manual plan activation
 - i. Preemption
 - j. Cabinet Flash
- 6. Arterial link events from which notifications shall be issued include:
 - a. Congestion events
 - b. Occupancy events
 - c. Speed events

A3.1.12: Failure Notification

- 1. The system shall immediately notify maintenance and operations staff of alarms and alerts.
- 2. The system shall maintain a complete log of alarms and failure events.

A3.1.13: Central Scheduler

- 1. The system shall provide a single interface for all centrally scheduled events.

2. The central scheduler shall permit users to purge and aggregate data from the system database.
3. The central scheduler shall permit users to collect logs from signal controllers on a recurring interval defined by the user.
 - a. Logs collected by the central scheduler shall include:
 - i. Volume, occupancy, and speed
 - ii. Split MOE
 - iii. Speed
 - iv. General traffic controller log of all events
 - b. Users shall be permitted to identify and select any number of controllers from which to collect logs.
4. The central scheduler shall permit users to issue a date/time broadcast to any number of signal controllers.
5. The central scheduler shall permit users to audit the date/time from any number of signal controllers.
6. The central scheduler shall permit users to automatically audit signal timing and report discrepancies between the central database and controller database.
7. The central scheduler shall permit users to run traffic adaptive and/or traffic responsive operations.
8. The central scheduler shall permit users to execute user-defined coordination patterns/plans.
9. The central scheduler shall permit users to define special events which have higher priority over normal time-based operations.

A3.1.14: Security

The traffic signal system software shall provide and maintain a security system to prevent unauthorized access to the system. Operator privileges shall be definable on a functional level. The security levels shall include, at a minimum: view only, upload only, download only, and full access and System Supervisor Administration Access.

Each operator shall have a privilege level defined by the traffic management center supervisor. The level shall define the specific functions that the particular operator is authorized to perform. For example, a particular operator may be given the ability to view all reports, but not to modify some or all levels of the database. This shall allow for any number of different levels of operator access capability. The system administrator level shall have full access to the system as well as the responsibility for maintaining account and privilege level masks.

The traffic signal system software shall validate the code against an encrypted database of authorized operators. Successful completion of the log-in shall result in execution of a session start-up procedure. The start-up procedure shall establish the privileges, object menu options, windows, and tools the operator may utilize. Any functions that a particular operator is not authorized to access shall either not be shown or shall be "grayed out" so that the operator can easily distinguish the functions to which he/she has access.

Local area network (LAN) access shall support full functionality for engineering and field staff to access system functions in the same fashion they could access them from the AMTS master. Unsuccessful log-in attempts shall be logged to the traffic signal system software log.

A3.1.15 Preemption and Priority

1. The system shall accommodate emergency vehicle preemption technology used by the Agency (Opticom/GTT).
2. The system shall accommodate and support transit signal priority operations.

A3.2: MODES OF OPERATION

A3.2.1: Time-of-Day Schedule

1. The system shall permit users to define time-based traffic controller operations.
2. Time-based operations may be downloaded to each signal controller and implemented by the controller.
3. Controller time clocks shall be synchronized with the ATMS master once per day at a User-programmable time.
4. The system shall permit users to issue patterns/plans from the central scheduler.
5. The system shall permit users to define levels of priority for each time-based schedule.

A3.2.2: Pedestrians

1. The system shall permit the use of phase splits smaller than pedestrian time to accommodate smaller cycle lengths where pedestrian service is infrequent. Upon servicing the full duration of pedestrian time, the controller shall recover coordination.
 - a. The system shall permit users to reduce specific phases when servicing pedestrian time longer than the programmed phase split time. This option provides the ability to avoid a cycle-overflow and subsequent recovery when servicing pedestrian time that is longer than phase split time;
 - b. The system shall permit users to define the amount of time to be reduced from each phase upon servicing a pedestrian cycle over-run.
2. The system shall permit the use of phase split times that accommodate the full duration of pedestrian walk and clearance time as to prevent the need for cycle recovery.
3. The system shall accommodate early or delayed start of walk and exclusive pedestrian phases.

A3.2.3: Non-Adaptive Situations

1. The system shall detect traffic conditions during which adaptive control is not the preferred operation, and implement a pre-defined operation while that condition is present. For example, running free when volumes drop below an operator defined threshold.
2. The system shall permit scheduling of pre-determined operations by time of day.
3. The system shall permit the operator to over-ride adaptive operation.
4. The system shall permit implementation of Peer-to-Peer synchronization.
 - a. The system shall be capable of implementing Peer-to-Peer synchronization when traffic conditions meeting user-defined criteria;
 - b. The system shall be capable of implementation Peer-to-Peer synchronization per time-of-day schedule;
 - c. The system shall permit users to manually implement Peer-to-Peer synchronization.

A3.2.4: System Responsiveness

The system shall modify the ATCS operation to closely follow changes in traffic conditions.

1. The system shall constrain the selection of cycle lengths to those that provide acceptable operations, such as when two-way progression solutions are desired;
2. The system shall permit users to define the frequency of changes in adaptive signal timing parameters;
3. The system shall permit users to define the number of phase demand events that shall indicate the presence of a trend in phase demand;
4. The system shall permit users to define the amount of split utilization that results in no change to phase split time.

A3.2.5: Complex Coordination and Controller Features

The system shall implement the following advanced controller features while maintaining adaptive operation:

1. Operate at least 4 overlap phases;
2. Permit different phase sequences under different traffic conditions;
3. Allow one or more phases to be omitted under certain traffic conditions or signal states;
4. Prevent one or more phases being skipped under certain traffic conditions or signal states;

5. Allow detector logic at an intersection to be varied depending on local signal states;
6. Allow any phase to be designated as the coordinated phase;
7. Allow the operator to specify unused time from a preceding phase to be used by the next phase in sequence or coordinated phases;
8. Allow the controller to respond independently to individual lanes of an approach. This may be implemented in the signal controller using extension/passage timers, which may be assignable to each vehicle detector input channel. This may allow the adaptive operation to be based on data from a specific detector, or by excluding specific detectors;
9. Allow flexible timing of non-coordinated phases (such as late start of a phase) while maintaining coordination;
10. Allow Protected/permissive phasing and alternate left turn phase sequences;
11. Use of flashing yellow arrow to control permissive left turns and right turns.

A3.2.6: Monitoring and Control

1. The system shall monitor and control all required features of adaptive operation from the following locations:
 - a. Agency's Traffic Management Center;
 - b. Agency Yard/Maintenance facility;
 - c. Remote facilities operated by Agency;
 - d. Local controller cabinets (local intersection only).
2. The system shall provide user access to the database management, monitoring and reporting features and functions of the signal controllers and any related signal management system from the access points defined for those system components.
3. The system shall provide access to the traffic signal system and adaptive with the aid of graphics, menus and tables.

A3.2.7: Traffic Responsive Operations

1. The system shall support traffic responsive operations.
2. Users shall define the groups of intersections for traffic responsive coordination
3. The traffic responsive routine shall utilize data collected from user-defined system detectors to select a timing pattern/plan that is best suited for the traffic conditions.
4. Users shall be able to define the volume and occupancy thresholds that best suit each coordination pattern/plan.
5. Traffic responsive shall utilize a user-defined "lockout" period to prevent excess transitions.
6. The system shall provide a graphical interface depicting the user-defined volume or occupancy thresholds and reported volume or occupancy from field detectors.
7. Traffic responsive features shall include a capability to keep an arterial in coordination beyond the scheduled times if volume and occupancy thresholds indicate the plan should remain in operation

A3.2.8: Traffic Adaptive Operations

Adaptive traffic control systems (ATCS) shall conform to "Adaptive Control Systems: Domestic and Foreign State of the Practice", Chapter 3, (NCHRP Synthesis 403). Specific system names mentioned in NCHRP 403 will be ignored by City staff when evaluating proposals. ATCS use detector data to determine the characteristics of traffic approaching a traffic signal and then adjust the signal timings according to real-time predictive algorithms in order to optimize their performance. Adjustments shall be made approximately once per cycle.

The main benefits of ATCS technology to be provided include:

1. Continuously distribute green light time equitably for all traffic movements according to volume-to-capacity ratios or saturation;

2. Improve travel time and travel time reliability by progressively moving vehicles through green lights;
3. Reduce congestion by creating smoother flow;
4. Accommodating planned or unplanned events in real time such as collisions, special events, or lane closures for construction.
5. Provide cycle lengths that are appropriate for the shoulders of the peak periods and peak-of-the-peak, as may not be possible with time-of-day interconnect.

In the case where a traffic signal operated by another agency is in the middle of a coordinated grouping, and that agency is not willing to participate in adaptive coordination, the ATMS shall allow switching to time-of-day coordination with minimal key strokes.

A3.2.8.1: Network Characteristics

1. The system shall be capable of running adaptive signal control of all traffic signals concurrently.
2. The system shall adaptively control a minimum of 8 independent groups of signals.
3. The system shall adaptively control a minimum of 30 individual signals.

A3.2.8.2: Cycle Length Optimization

The system shall calculate optimum cycle length according to the user specified coordination strategy.

1. The system shall limit cycle lengths to a user-specified range (minimum/maximum cycle length);
2. The system shall limit changes in cycle length to not exceed a user specified value;
3. The system shall permit the user to program different maximum cycle lengths for different levels of traffic volumes;
4. The system shall permit the cycle length increase or decrease beyond the incremental change limit when traffic conditions meet user specified criteria.

A3.2.8.3 Phase Split Optimization

1. The system shall calculate phase lengths for all phases at each signal controller to suit the current coordination strategy.
2. The system shall be capable of adjusting the phase split-cycle ratio as the phase demand increases or decreases (equitable distribution).
3. The system shall be capable of calculating phase green times in splits or force-offs.
4. The system shall be capable of adjusting splits so left turn pocket queues are served and queue spillover into adjacent through lanes is eliminated within one cycle.

A3.2.8.4 Offset Optimization

1. The system shall calculate offsets to suit the current coordination strategy for each signal controller within a coordinated group.
2. The system shall measure the ratio of directional volume and calculate the appropriate mode of progression.
 - a. The system shall determine if progression shall be preferential for the favored direction, semi-preferential or balanced for each direction.
 - b. The system shall make use of real-time link speed or user-defined design speed in offset optimization.

A3.2.8.5 Benefit requirements for Adaptive:

1. Performance Requirements
 - a. Provide travel times equal to or better than time-of-day during average peak period conditions, as indicated by peak hour volumes
 - b. Provide reduced average daily travel times of five percent or more compared to current conditions.

2. Verification Plan

a. The selected vendor shall collect travel time information for at least three runs in each direction during the morning, midday, and evening peak hours, and one run per hour during the remaining hours of the day from 6:00 am to 8:00 pm. Travel time data of current conditions, the “Before” runs, shall be collected no earlier than 30 calendar days before the Adaptive system is initiated. Travel time data of conditions with the adaptive system in operation, the “After” runs, shall be collected no later than 30 calendar days after the adaptive system is initiated, and at the same times of day the “Before” data was collected.

3. Validation Plan

a. Reporting shall include a summary report of the findings with an appendix of travel time data presented in an easy to follow format.

b. Reporting shall also include a plot of cycle lengths selected by the adaptive system from 6:00 am to 8:00 pm on a typical day.

c. City staff will conduct independent travel time runs to validate vendor data.

d. If the selected system fails to meet performance requirements, the vendor will be notified and given 30 days to improve the system performance. Additional travel time data collection and reporting will be provided at no cost to the City. Should the selected system continue to fail to meet performance requirements, City reserves the right to withhold further payments to vendor until performance is improved.

A3.3: ACCESS AND SECURITY

A3.3.1 User Access

1. The system shall require users to login before gaining access to the application.

2. The system shall require System Administrators to create unique usernames and passwords for each system user.

3. The system shall permit System Administrators to define password complexity and length.

4. The system shall permit System Administrators to define password expiration timeframes.

5. The system shall allow System Administrators to assign user to Access Levels which define the user’s permissions within the application.

6. At a minimum, CSS shall enforce the following user permissions:

a. System configuration

b. Broadcast controller date/time

c. Import/Export device timing

d. Save/edit device timing

e. Set vehicle/pedestrian calls

f. Set preemption calls

A3.4 EVENT LOGS AND REPORTS

A3.4.1 System event logs

1. The system shall store a database record of the following events:

a. Signal controller alarms: i. Cabinet flash

ii. Stop-time

iii. External alarms

iv. Local override

v. Keyboard entry

vi. Coordination alarm (NTCIP controllers only)

vii. Detector fault

viii. Offline

b. Signal controller operating mode: i. Coordinated

ii. Transition

- iii. Free
 - iv. Software flash
 - v. Preempt
 - vi. EV preempt
 - vii. Transit priority
- c. The system shall log events related to user activity, such as:
 - i. Login/logoff
 - ii. Timing parameter modifications
 - iii. User commands to traffic controller
 - iv. System configuration changes
- d. The system shall provide a communication error log.
- i. The communications error log shall depict the total number of polls, poll errors, total messages, and total message errors of each signal controller defined in the system.

A3.4.2 Performance Reporting

1. The system shall automatically monitor the adaptive signal control operation.
2. The system shall store and report data used to calculate signal timing and have the data available for subsequent analysis. Data shall be stored for a minimum of 30 calendar days, with a user-settable schedule for deleting older data.
3. The system shall store and report data that can be used to measure traffic performance under adaptive control.
4. The system shall store all operational data and signal timing parameters calculated by the adaptive system, including cycle lengths, splits, and offsets. Data shall be stored for a minimum of 30 calendar days, with a user-settable schedule for deleting older data.
5. The system shall be able to report the exact state of signal timing and input data for a specified period, to allow historical analysis of the system operation.
6. The system shall generate historic and real time reports that effectively support operation, maintenance and reporting of system performance and traffic conditions.

A3.4.2.1 Volume Occupancy Speed Reports

1. The system shall store and provide reports for System Detector Volume, Occupancy, and Speed.
 - a. The system detector VOS report shall permit users to define the date/time period of the report.
 - b. The system detector VOS report shall permit users to define the period for which system detector data will be aggregated ranging from 1 minute to 60 minute intervals.
 - c. The system detector VOS report shall permit users to select the central system or signal controller as the source of the VOS records.
2. The system shall store and provide reports for Arterial Link Volume, Occupancy, and Speed.
 - a. The link VOS report shall permit users to define the date/time period of the report.
 - b. The link VOS report shall permit users to define the period for which system detector data will be aggregated ranging from 1 minute to 60 minute intervals.
 - c. The link VOS report shall permit users to select the central system or signal controller as the source of the VOS records.

A3.4.2.2 Split Measures of Effectiveness

1. The system shall provide a split MOE report containing the following information:
 - a. Programmed split of each phase for each cycle
 - b. Split utilization of each phase for each cycle
 - c. Active pattern for each cycle
 - d. Cycle length of each cycle
2. Reason for phase termination of each phase for each cycle, including:
 - a. Phase not serviced

- b. Coord. force-off
- c. Vehicle gap out
- d. Vehicle max out
- e. External force-off
- f. Ped extend

A3.4.2.3 Turning Count Movement Report

1. The system shall provide a turning count movement report to the extent possible given detection capabilities.
 - a. The system shall permit users to define the date and time range of the turning count movement report.
 - b. The turning count movement report shall be exportable to PDF.
 - c. The turning count movement report shall aggregate data in 15 minute intervals.
 - d. The turning count movement report shall provide a graphical chart illustrating the volume of each movement/approach for the time period specified by the user.
2. At intersections with video detection, the system shall be capable of reporting up to 64 counted volumes per intersection, including bicycle and detection.

A3.4.2.4 Peak Hour Volume Report

1. The system shall provide a peak hour volume report.
 - a. The system shall permit users to define the date of the peak hour volume report.
 - b. The peak hour volume report shall be exportable to PDF.
 - c. The peak hour volume report shall aggregate data in 15 minute intervals.
 - d. The peak hour volume report shall automatically identify the peak hour volume for A.M., Midday, and P.M.
 - e. The peak hour volume report shall sum the volume of each approach for the peak hours.
 - f. The peak hour volume report shall provide a graphical chart illustrating the volume of each 15 minute period for the date specified by the user.

A3.5 SYSTEM INTEGRATION AND TRAINING

Vendor shall provide software, hardware and integration services that allow fully functional operations as described herein, including:

1. ATMS workstation where the equipment is located including two monitors with a minimum 24-inch diagonal size with monitor stands capable of raising the monitors above the desktop up to 12-inches
2. Engineering laptop connected to the ATMS workstation via the City's computer network with 15-inch minimum screen size
3. Field laptop connected to the ATMS workstation via an Ethernet port at a City intersection or wireless through a LAN or cell connection, within minimum 15-inch screen size
4. Purdue SPM reporting

Training shall include:

1. An eight-hour session for City staff on all system features and components excluding adaptive operations.
2. A four-to-eight hour session on configuring and using SPM information.
3. A four-hour session for field staff focused on individual intersection operations including uploading and downloading timing plans.
4. A four-hour session with City IT staff discussing ATMS communications protocols, troubleshooting, and password parameters.

The Contractor shall be responsible for the complete connection and integration of all the systems and subsystems described in this Request. This includes the communications and interaction between and

across the different systems as described below. In general, the systems connection and integration for this item shall include, but not be limited to the following:

1. Make all the physical and logical connections between each of the TMC systems and subsystems.
2. Configure, integrate and test all TMC network switches.
3. Prepare network IP address assignments using the IP block address that shall be provided by the City.
4. Integrate all TMC systems and subsystems to function as a complete and fully operational TMC system between and across all subsystems.
5. Integrate all the TMC systems and subsystems with all the intersections and field equipment that are interconnected within the City's ITS system.

Provide any required traffic signal controllers and associated software for each intersection connected to the central traffic signal system plus five (5) additional spare traffic signal controllers and software to facilitate communications to the field units.

The Contractor shall prepare Integration Test Plans for all end to end functions between and across each of the subsystems. The Test Plans shall thoroughly test all functions that relate to the full integration and connection of the various ATMS subsystems and systems. The Test Plans shall test the following items at a minimum:

1. Connectivity tests
2. Data Exchange Tests
3. Load tests
4. Functionality tests

The Test Plans shall include details for the following:

1. Test Setup
2. Test Scripts
3. Test Oversight and Witnessing (i.e., roles and responsibilities)
4. Test Reports
5. Pass/Fail Criteria
6. Test Dependencies

During the system connection and integration testing, the City may verify correct operation or configuration of the subsystem with other operational equipment or infrastructure owned by the City.

EXHIBIT B

Schedule of Performance

This agreement shall become effective on the date that is approved by both parties, set for on the first page of the agreement and shall continue in effect until both parties have fully performed their respective obligations under this agreement or June 30, 2021, unless sooner terminated as provided herein.

ATMS Project Schedule

Project Management	220 Days (October 2020 – May 2021)
Detection Evaluation	46 Days (October 2020– December2020)
Equip. Orders, Conversion, & System Setup	65 Days (October 2020– January 2021)
Training	145 Days (October 2020 – May 2021)
Acceptance Testing	85 Days (January 2021 – May 2021)
<u>Dates shall be adjusted to reflect actual date notice to proceed is issued.</u> Some tasks run concurrent with others.	

EXHIBIT C

Schedule of Fees

The fees for services listed in Exhibit A shall not exceed One Hundred and Fifty- One Thousand, Eight Hundred and Thirty-Three Dollars and Sixty-Six Cents.

City of Rocklin					
Advanced Traffic Management Systems & ATSPM					
PRICE PROPOSAL FORM					
Item	Description	QTY	Unit	Unit Price	Row Price
1. Advanced Traffic Management System					
1.1	Controller Units and Local Software	30	EA	\$ 2,285.23	\$ 68,556.90
1.2	Central System	30	EA	\$ 900.00	\$ 27,000.00
1.3	Furnish Ethernet Switches	30	EA	\$ 1,083.33	\$ 32,499.90
1.3	Workstations	2	EA	\$ 935.00	\$ 1,870.00
1.4	Hardened Laptop	2	EA	\$ 902.00	\$ 1,804.00
1.7	Server	1	LS	\$ -	\$ -
1.8	System Testing and Acceptance	1	LS	\$ 16,502.86	\$ 16,502.86
1.9	Training and Documentation	1	LS	\$ 3,600.00	\$ 3,600.00
1.10A	System License, Warranty, and Support (Monthly)	36	Inc	\$ -	\$ -
1.10B	System License, Warranty, and Support (Annual)	3	Inc	\$ -	\$ -
SUBTOTAL					\$ 151,833.66

The fees for work performed and items listed above are to be paid upon completion according to the tasks below.

Payment Schedule		
Task	Description	Invoice
1	Central system installed on city server and communicating with workstations and hardened laptop (workstations configured and delivered)	\$ 38,925.43
2	Ethernet switches configured and installed (by sub-contractor)	\$ 34,150.19
3	Signal controllers converted and installed	\$ 61,573.94
4	Training course delivered	\$ 3,600.00
5	SPMs configured, final acceptance complete	\$ 13,584.10

EXHIBIT D

CERTIFICATE OF COMPLIANCE WITH LABOR CODE § 3700
[Labor Code § 1861]

I am aware of the provisions of Section 3700 of the Labor Code which require every employer to be insured against liability for workers' compensation or to undertake self-insurance in accordance with the provisions of that code, and I will comply with such provisions before commencing the performance of the work of this contract.

CONTRACTORS

By: _____
[Title]

EXHIBIT E

LABOR COMPLIANCE

1. PREVAILING WAGE

A. The Work contemplated herein constitutes a public work within the meaning of Labor Code sections 1720 and 1771. It shall be mandatory upon the Contractor and upon any Subcontractor, to pay not less than the said specified prevailing rates of wages to all workers employed by them under the Contract in accordance with Labor Code section 1774. The Director of the Department of Industrial Relations ("DIR") of the State of California has determined the general prevailing rate of wages of per diem wages in the locality in which the work is to be performed for each craft or type of worker needed to execute the Contract. The Contractor acknowledges that it has examined the prevailing rate of per diem wages as established by the DIR. Copies of the current schedules for prevailing wages are on file at City Hall, and the contents of those schedules are incorporated herein as if set forth in full. The Contractor shall post a copy of the applicable prevailing wage determinations at each job site, along with any other work place posters required by law.

B. The City will not recognize any claims for additional compensation because of the payment of prevailing wages. The possibility of wage increases is one of the elements to be considered by the Contractor in determining its proposal, and will not under any circumstances be considered as the basis of a claim against the City.

C. By executing this Contract Contractor warrants that it has registered with the Department of Industrial Relations in accordance with Labor Code section 1725.5.

2. PREVAILING WAGE RECORDS

A. The Contractor and each subcontractor shall keep an accurate payroll record which shows the name, address, social security number, correct work classification (in accordance with the wage decision), both straight and overtime worked each day and week, and hourly rate of pay, gross wages earned, deductions made and net wages paid to each journeyman, apprentice, worker or other employee paid by the Contractor /subcontractor in connection with the Work. These payroll records shall be certified and shall be made available at Contractor's principal office. These records shall be maintained during the course of the Work. The Contractor and all subcontractors shall make the certified payroll records available for inspection by City representatives upon request and shall permit such representatives to interview employees during the work hours on the job site.

B. The City shall notify the Contractor in writing of any discrepancies or violations that are discovered during such inspections. Written notification pursuant to this Section shall include the actions that will be necessary to resolve the discrepancies and/or violations. The Contractor shall be held entirely responsible for the prompt resolution of all non-compliances with the prevailing wage laws, including those pertaining to all subcontractors and any lower-tier subcontractors. The Contractor shall forfeit as penalty to the City the amount specified by law for each calendar day or portion thereof for each worker (whether employed by the Contractor or any subcontractor) paid less than the stipulated prevailing rates for any work done under the Contract in violation of the provisions of the Labor Code and in particular, Section 1775.

C. To the extent applicable, Contractor and subcontractors shall maintain and furnish to the Department of Industrial Relations ("DIR"), a certified copy of each weekly payroll (but no less often than monthly), with a statement of compliance signed under penalty of perjury. Such certified payroll reports shall be transmitted electronically to the DIR.

D. The City will not recognize any claims for additional compensation because of the payment of the prevailing wages. The possibility of wage increases is one of the elements to be considered by the Contractor

in entering into the Contract, and will not under any circumstances, other than delays caused by the City, or the City's agents, be considered as the basis of a claim against the City.

3. Labor Discrimination

Attention is directed to Section 1735 of the Labor Code, which reads as follows:

"No discrimination shall be made in the employment of persons upon public works because of their race, color, national origin or ancestry, physical handicap, mental condition, marital status, or sex of such person, except as provided in Section 12940 of the Government Code, and every General Contractor for public works violating this section is subject to all the penalties imposed for a violation of this chapter."

4 Eight-Hour Day Limitation

(a) In accordance with the provisions of the Labor Code, and in particular, Sections 1810 to 1815 thereof, inclusive, incorporated herein by reference, eight hours labor shall constitute a day's work, and no worker in the employ of Contractor, or any Subcontractor, doing or contracting to do any part of the work contemplated by the Contract, shall be required or permitted to work more than eight (8) hours in any one calendar day and forty (40) hours in any one calendar week in violation of those provisions; provided that subject to Labor Code Section 1815, a worker may perform work in excess of either eight (8) hours per day or forty (40) hours during any one week upon compensation for all hours worked in excess of eight (8) hours per day or forty (40) hours during any one week at not less than one and one-half times the basic rate of pay.

(b) The Contractor and each Subcontractor shall also keep an accurate record showing the names and actual hours worked of all workers employed by them in connection with the Contract. This record shall be open at all reasonable hours to the inspection of the City. It is hereby further agreed that, except as provided in (a) above, the Contractor shall forfeit as a penalty to the City the sum of twenty-five dollars (\$25) for each worker employed in the performance of the Contract by the Contractor or by any of its Subcontractors for each calendar day during which such worker is required or permitted to labor more than eight (8) hours in and one calendar day and forty (40) hours in any one calendar week in violation of Sections 1810 through 1815.

5. Compliance with State Requirements for Employment of Apprentices

(a) The Contractor's attention is directed to Section 1777.5 of the Labor Code. Provisions of said Section pertaining to employment of registered apprentices are hereby incorporated by reference into this Contract. As applicable, the Contractor or any Subcontractor employed by the Contractor in the performance of this Contract shall take such actions as necessary to comply with the provisions of Section 1777.5.