

**AGREEMENT FOR PROFESSIONAL SERVICES
(Design Professional)**

THIS AGREEMENT is made and entered into this ____ day of _____, 2017, by and between the City of Merced, a California Charter Municipal Corporation, whose address of record is 678 West 18th Street, Merced, California 95340, (hereinafter referred to as "City") and Mark Thomas & Company, Inc., a California Corporation, whose address of record is 2290 North First Street, Suite 304, San Jose, California 95131, (hereinafter referred to as "Consultant").

WHEREAS, City is undertaking a project to design intersection improvements at Highway 59 and 16th Street; and

WHEREAS, Consultant represents that it possesses the professional skills to provide engineering services in connection with said project.

NOW, THEREFORE, the parties hereto, in consideration of the mutual covenants hereinafter recited, hereby agree as follows:

1. **SCOPE OF SERVICES.** The Consultant shall furnish the following services: Consultant shall provide the engineering services described in Exhibit "A" attached hereto.

No additional services shall be performed by Consultant unless approved in advance in writing by the City, stating the dollar value of the services, the method of payment, and any adjustment in contract time. All such services are to be coordinated with City and the results of the work shall be monitored by the City Engineer or his designee. However, the means by which the work is accomplished shall be the sole responsibility of the Consultant.

2. **TIME OF PERFORMANCE.** All of the work outlined in the Scope of Services shall be completed in accordance with the Schedule outlined in Exhibit "A" attached hereto and incorporated herein by reference. By mutual agreement and written addendum to this Agreement, the City and the Consultant may change the requirements in said Schedule.

3. **RESERVED.**

4. **COMPENSATION.** Payment by the City to the Consultant for actual services rendered under this Agreement shall be made upon presentation of an invoice detailing services performed under the Scope of Services, in accordance with the fee schedule set forth in Exhibit "B" attached hereto and incorporated herein by reference. The Consultant agrees to provide all services required under the Scope of Services in Exhibit "A" within the compensation amount set forth in Exhibit "B". For Consultant's services rendered under this Agreement, City shall pay Consultant the not to exceed sum of Thirty-One Thousand Eight Hundred Fifteen Dollars (\$31,815).

5. **METHOD OF PAYMENT.** Compensation to Consultant shall be paid by the City after submission by Consultant of an invoice delineating the services performed.

6. **RECORDS.** It is understood and agreed that all plans, studies, specifications, data magnetically or otherwise recorded on computer or computer diskettes, records, files, reports, etc., in possession of the Consultant relating to the matters covered by this Agreement shall be the property of the City, and Consultant hereby agrees to deliver the same to the City upon termination of the Agreement. It is understood and agreed that the documents and other materials including but not limited to those set forth hereinabove, prepared pursuant to this Agreement are prepared specifically for the City and are not necessarily suitable for any future or other use.

7. **CONSULTANT'S BOOKS AND RECORDS.** Consultant shall maintain any and all ledgers, books of account, invoices, vouchers, canceled checks, and other records or documents evidencing or relating to charges for services or expenditures and disbursements charged to the City for a minimum of three (3) years, or for any longer period required by law, from the date of final payment to the Consultant to this Agreement. Any records or documents required to be maintained shall be made available for inspection, audit and/or copying at any time during regular business hours, upon oral or written request of the City.

8. **INDEPENDENT CONTRACTOR.** It is expressly understood that Consultant is an independent contractor and that its employees shall not be employees of or have any contractual relationship with the City. Consultant shall be responsible for the payment of all taxes, workers' compensation insurance and unemployment insurance. Should Consultant desire any insurance protection, the Consultant is to acquire same at its expense.

In the event Consultant or any employee, agent, or subcontractor of Consultant providing services under this Agreement is determined by a court of competent jurisdiction or the California Public Employees Retirement System (PERS) to be eligible for enrollment in PERS as an employee of the City, Consultant shall indemnify, protect, defend, and hold harmless the City for the payment of any employee and/or employer contributions for PERS benefits on behalf of Consultant or its employees, agents, or subcontractors, as well as for the payment of any penalties and interest on such contributions, which would otherwise be the responsibility of City.

9. INDEMNITY. To the fullest extent permitted by law (including, without limitation, California Civil Code Sections 2782 and 2782.8), Consultant shall indemnify, protect, defend (with legal counsel reasonably acceptable to City), save and hold City, its officers, employees, and agents, harmless from any and all claims or causes of action for death or injury to persons, or damage to property, or expense and liability of every kind, nature and description (including, without limitation, incidental and consequential damages, court costs, attorneys' fees, litigation expenses and fees of expert consultants or expert witnesses incurred in connection therewith and costs of investigation), that arise out of, pertain to, or relate to, the negligence, recklessness, willful misconduct of Consultant or its employees, subcontractors, or agents in the performance of this Agreement. It is understood that the duty of Consultant to indemnify and hold harmless includes the duty to defend as set forth in Section 2778 of the California Civil Code. Acceptance by City of insurance certificates and endorsements required under this Agreement does not relieve Consultant from liability under this indemnification and hold harmless clause. This indemnification and hold harmless clause shall survive the termination of this Agreement and shall apply to any damages or claims for damages whether or not such insurance policies shall have been determined to apply. By execution of this Agreement, Consultant acknowledges and agrees to the provisions of this Section and that it is a material element of consideration.

10. INSURANCE. During the term of this Agreement, Consultant shall maintain in full force and effect at its own cost and expense, the following insurance coverage:

a. Workers' Compensation Insurance. Full workers' compensation insurance shall be provided with a limit of at least One Hundred Thousand Dollars (\$100,000) for any one person and as required by law, including Employer's Liability limits of \$1,000,000.00 per accident. The policy shall be endorsed to waive the insurer's subrogation rights against the City.

b. General Liability.

- (i) Consultant shall obtain and keep in full force and effect general liability coverage at least as broad as ISO commercial general liability coverage occurrence Form CG 0001.
- (ii) Consultant shall maintain limits of no less than One Million Dollars (\$1,000,000) per occurrence for bodily injury, personal injury and property damage.
- (iii) The City, its officers, employees, volunteers and agents are to be named as additional insureds under the policy, as respects liability arising out of work or operations performed by or on behalf of the Consultant.
- (iv) The policy shall stipulate that this insurance will operate as primary insurance for work performed by Consultant and its sub-contractors, and that any other insurance or self insurance maintained by City or other named insureds shall be excess and non-contributory.
- (v) Consultant shall maintain its commercial general liability coverage for three (3) years after completion of the work and shall add an additional insured endorsement form acceptable to the City naming the City of Merced, its officers, employees, agents and volunteers for each year thereafter for at least three (3) years after completion of the work. Copies of the annual renewal and additional insured endorsement form shall be sent to the City within thirty (30) days of the annual renewal.

c. Automobile Insurance.

- (i) Consultant shall obtain and keep in full force and effect an automobile policy of at least One Million Dollars (\$1,000,000) per accident for bodily injury and property damage.
- (ii) The City, its officers, employees, volunteers and agents are to be named as additional insureds under the policy, as respects automobiles owned, leased, hired or borrowed by the Consultant.

- (iii) The policy shall stipulate that this insurance will operate as primary insurance for work performed by Consultant and its sub-contractors, and that any other insurance or self insurance maintained by City or other named insureds shall be excess and non-contributory.

d. Professional Liability Insurance. Consultant shall carry professional liability insurance appropriate to Consultant's profession in the minimum amount of One Million Dollars (\$1,000,000). Architects and engineers' coverage is to be endorsed to include contractual liability.

e. Qualifications of Insurer. The insurance shall be provided by an acceptable insurance provider, as determined by City, which satisfies all of the following minimum requirements:

- (i) An insurance carrier admitted to do business in California and maintaining an agent for service of process within this State; and,
- (ii) An insurance carrier with a current A.M. Best Rating of A:VII or better (except for workers' compensation provided through the California State Compensation Fund).

f. Certificate of Insurance. Consultant shall complete and file with the City prior to engaging in any operation or activity set forth in this Agreement, certificates of insurance evidencing coverage as set forth above and which shall provide that no cancellation or expiration by the insurance company will be made during the term of this Agreement, without thirty (30) days written notice to City prior to the effective date of such cancellation—including cancellation for nonpayment of premium. In addition to any other remedies City may have, City reserves the right to withhold payment if Consultant's insurance policies are not current.

11. ASSIGNABILITY OF AGREEMENT. It is understood and agreed that this Agreement contemplates personal performance by the Consultant and is based upon a determination of its unique personal competence and experience and upon its specialized personal knowledge. Assignments of any or all rights, duties or obligations of the Consultant under this Agreement will be permitted only with the express written consent of the City.

12. **TERMINATION FOR CONVENIENCE OF CITY.** The City may terminate this Agreement any time by mailing a notice in writing to Consultant that the Agreement is terminated. Said Agreement shall then be deemed terminated, and no further work shall be performed by Consultant. If the Agreement is so terminated, the Consultant shall be paid for that percentage of the phase of work actually completed, based on a pro rata portion of the compensation for said phase satisfactorily completed at the time the notice of termination is received.

13. **CONFORMANCE TO APPLICABLE LAWS.** Consultant shall comply with its standard of care regarding all applicable Federal, State, and municipal laws, rules and ordinances. No discrimination shall be made by Consultant in the employment of persons to work under this contract because of race, color, national origin, ancestry, disability, sex or religion of such person.

Consultant hereby promises and agrees to comply with all of the provisions of the Federal Immigration and Nationality Act (8 U.S.C.A. 1101 *et seq.*), as amended; and in connection therewith, shall not employ unauthorized aliens as defined therein. Should Consultant so employ such unauthorized aliens for the performance of work and/or services covered by this Agreement, and should any agency or instrumentality of the federal or state government, including the courts, impose sanctions against the City for such use of unauthorized aliens, Consultant hereby agrees to, and shall, reimburse City for the cost of all such sanctions imposed, together with any and all costs, including attorneys' fees, incurred by the City in connection therewith.

14. **WAIVER.** In the event that either City or Consultant shall at any time or times waive any breach of this Agreement by the other, such waiver shall not constitute a waiver of any other or succeeding breach of this Agreement, whether of the same or any other covenant, condition or obligation. Waiver shall not be deemed effective until and unless signed by the waiving party.

15. **INCONSISTENT OR CONFLICTING TERMS IN AGREEMENT AND EXHIBITS.** In the event of any contradiction or inconsistency between any attached document(s) or exhibit(s) incorporated by reference herein and the provisions of the Agreement itself, the terms of the Agreement shall control.

Any exhibit that is attached and incorporated by reference shall be limited to the purposes for which it is attached, as specified in this Agreement. Any contractual terms or conditions contained in such exhibit imposing additional obligations on the City are not binding upon the City unless specifically agreed to

in writing, and initialed by the authorized City representative, as to each additional contractual term or condition.

16. **AMBIGUITIES.** This Agreement has been negotiated at arms' length between persons knowledgeable in the matters dealt with herein. Accordingly, any rule of law, including, but not limited to, Section 1654 of the Civil Code of California, or any other statutes, legal decisions, or common-law principles of similar effect, that would require interpretation of any ambiguities in this Agreement against the party that drafted this Agreement is of no application and is hereby expressly waived.

17. **VENUE.** This Agreement and all matters relating to it shall be governed by the laws of the State of California and any action brought relating to this agreement shall be held exclusively in a state court in the County of Merced.

18. **AMENDMENT.** This Agreement shall not be amended, modified, or otherwise changed unless in writing and signed by both parties hereto.

19. **INTEGRATION.** This Agreement constitutes the entire understanding and agreement of the parties and supersedes all previous and/or contemporaneous understanding or agreement between the parties with respect to all or any part of the subject matter hereof.

20. **AUTHORITY TO EXECUTE.** The person or persons executing this Agreement on behalf of the parties hereto warrants and represents that he/she/they has/have the authority to execute this Agreement on behalf of their entity and has/have the authority to bind their party to the performance of its obligations hereunder.

21. **COUNTERPARTS.** This Agreement may be executed in one or more counterparts with each counterpart being deemed an original. No counterpart shall be deemed to be an original or presumed delivered unless and until the counterparts executed by the other parties hereto are in the physical possession of the party or parties seeking enforcement thereof.

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IN WITNESS WHEREOF, the parties have caused this Agreement to be executed on the date first above written.

CITY OF MERCED
A California Charter Municipal
Corporation

BY: _____
City Manager

ATTEST:
STEVE CARRIGAN, CITY CLERK

BY: _____
Assistant/Deputy City Clerk

APPROVED AS TO FORM:

BY: Kelley Fincher 4/6/17
City Attorney Date

ACCOUNT DATA:

BY: _____
Verified by Finance Officer

CONSULTANT
MARK THOMAS & COMPANY, INC.,
A California Corporation

BY: _____

(Signature)

Robert A. Himes

(Typed Name)

Its: _____

(Title)

BY: _____

(Signature)

(Typed Name)

Its: _____

(Title)

Taxpayer I.D. No. 94-1451490

ADDRESS: 7571 N. Remington Ave.,
Suite 102
Fresno, CA 93711

TELEPHONE: (559) 447-1938

FAX: (559) 447-8586

E-MAIL: enoriega@markthomas.com

PHASE 1 – PROJECT DEFINITION

1.0 Project Management

1.1 Project Development Team (PDT) Meetings/Management

MTCO, with input from the City and Caltrans, will establish PDT meetings for this project. The purpose of the PDT meetings is to provide a forum to share project information, identify critical issues, make decisions, assign project tasks, identify design criteria, or any other items critical to project delivery. MTCO will prepare agendas for each meeting and distribute them to the PDT prior to each meeting. MTCO will facilitate meetings as applicable and prepare meeting minutes with action items. MTCO will prepare and maintain a project CPM schedule for City review. The schedule will be updated regularly, with critical path activities clearly shown for team review purposes. Finally, monthly progress reports will be provided to the City. MTCO assumes that five (5) in-person meetings and two (2) conference calls will be required for this phase of the project.

Meetings scoped for this phase:

- Kick-off meeting
- Caltrans IGR meeting (up to 2 meetings)
- UPRR/CPUC GO-88B Field Diagnostic Meeting (1 meeting)
- UPRR/CPUC Section 130 Field Diagnostic Meeting (1 meeting)
- Conference Calls (up to 2 meetings)

1.2 Client/Subconsultant/Agency Coordination

MTCO will perform ongoing general project coordination with the City, subconsultants and Caltrans including maintaining project files, holding focused design coordination meetings (two conference call meetings assumed), and preparing memo's, letters, e-mail, and phone calls necessary to manage the project.

1.3 Railroad Coordination

MTCO will be responsible for leading railroad coordination, including initial meetings with UPRR and CPUC, and development of design criteria. Coordination activities shall include the following items:

- UPRR Letter for Preliminary Engineering Services
- CPUC General Order 88-B (GO 88-B)
- Section 130 Funding Application
- Railroad Pre-Emption Calculations

1.4 Funding Sheets Update Assistance

MTCO will assist the City in updating funding sheets. MTCO will provide updated project information that allows the City to performed administrative edits to the Transportation Improvement Program.

Deliverables:

- *Agenda and minutes for each PDT meeting*
- *Project schedule & updates*
- *Monthly progress summary*
- *CPUC GO-88B*
- *Section 130 Funding Application*

2.0 Preliminary Engineering

2.1 Geometric Approval Drawings (30% Design)

The 30% roadway design submittal will show the initial design concept and how major components of the project will be addressed to facilitate the City, Caltrans, UPRR, and CPUC approval of the roadway geometrics.

Identification of project impacts, (i.e. right-of-way requirements including temporary easements for construction and utility relocations) are key objectives of the 30% PS&E.

The 30% Roadway Plan will be a stripmap at a scale of 1=100' scale, will show roadway alignment, lane and shoulder widths, cut/fill lines, Right of Way requirements, intersection details, etc. Profiles for roadway will be prepared. It will also include a signing layout.

This submittal is used to show the project area in enough detail for the City, Caltrans, UPRR, and CPUC to give the authorization for CONSULTANT to begin the construction drawings and Right of Way acquisition documents.

2.2 Traffic Signal Timing

This task will be led by JLB. JLB will be responsible for calculating signal timing recommendations. Data will be verified or collected at the study intersection as part of this task. Draft and final technical memorandums discussing proposed cycle lengths, and optimized timing plans. The Draft Signal Timing Recommendations report will include recommendations on pedestrian walk and clearance intervals, yellow time, all red time, minimum/maximum green times and extensions. JLB will revise the draft report based on City and Caltrans comments.

2.3 Estimate

MTCO will prepare preliminary construction cost estimates for one (1) alternative of the intersection improvements. The estimate for the project will be prepared using the most recent and relevant Caltrans Cost Data, and CONSULTANTs cost data. At this level, decisions on critical design elements should be approved and the project should be defined.

The construction costs will be presented in a standard Caltrans 6-page cost estimate form.

PHASE 2 – FINAL DESIGN

1.0 Project Management

1.1 Project Development Team (PDT) Meetings/Management

MTCO will continue to lead the PDT in managing the project during final design. For this phase of the project MTCO anticipates two (2) in-person meetings with Caltrans and up to four (4) conference call meetings with the City, Caltrans, UPRR, and CPUC. MTCO will prepare agendas for each meeting and distribute them to the PDT prior to each meeting. MTCO will facilitate meetings as applicable and prepare meeting minutes with action items. MTCO will prepare and maintain a project CPM schedule for City review. The schedule will be updated regularly, with critical path activities clearly shown for team review purposes. Finally, monthly progress reports will be provided to the City.

Meetings scoped for this phase:

- Caltrans Permit Office meeting (up to 2 meetings)
- Conference Calls (up to 4 meeting)

1.2 Client/Subconsultant/Agency Coordination

MTCO will perform ongoing general project coordination with the City, subconsultants and Caltrans including maintaining project files, holding focused design coordination meetings (two meetings assumed), and preparing memo's, letters, e-mail, and phone calls necessary to manage the project.

1.3 Caltrans R/W Certification and Encroachment Permit

MTCO will coordinate project requirements with Caltrans to obtain a project encroachment permit. Conditions of the permit will be discussed with the City prior to inclusion in the plan package. This task assumes 1 meeting with Caltrans will be required to obtain the encroachment permit. Comments from Caltrans will be solicited at the 65% design level and will be incorporated into the 90% plans.

MTCO will prepare the paperwork Caltrans will require to approve the R/W certification document. In general, the following items must be in order:

- Right of Way must be acquired or "in control", and access control rights must be secured for Caltrans review and approval.
- A C&M agreement with Union Pacific Railroad (UPRR) must be executed. Approval from the California Public Utilities Commission (CPUC) of proposed improvements that affect railroad operations must also be obtained.
- Utility relocation is taken care of with an approved relocation plan, utility reimbursement agreement, utility-approved relocation schedule, and a statement by the utility absolving the City and Caltrans of any financial obligations. MTCO will prepare the Project Engineers statement for Utility Certification.
- Copy of CEQA and NEPA environmental document or exclusion.

1.4 Railroad Coordination

MTCO will be responsible for leading railroad coordination, including initial meetings with UPRR and CPUC, and development of design criteria. Coordination activities shall include the following items:

- UPRR License Agreement and Easement
- UPRR Construction and Maintenance Agreement

Deliverables:

- *Agenda and minutes for each PDT meeting*
- *Project schedule & updates*
- *Monthly progress summary*
- *UPRR Right of Entry (2 copies)*
- *UPRR License Agreement and Easement (2 copies)*
- *UPRR Construction and Maintenance Agreement (2 copies)*
- *Caltrans Right of Way Certification*

2.0 Surveys and Base Mapping

These tasks will be completed under the direct supervision of a California Licensed Land Surveyor and will comply with the provisions of the Professional Land Surveyors Act, Sections 8700 to 8805 Business, and Professions Code, and the provisions of the California Coordinate System, Sections 8801 through 8819 of the Public Resources Code. The accuracy of all surveys shall meet U.S. National Mapping Standards.

2.1 Data Gathering / Record Research

MTCO will collect publicly available records and mapping including records of survey, subdivision maps, parcel maps, corner records, and as-built plans. MTCO will also review previously completed topographic and boundary survey data provided by the City and identify areas for which supplemental topography data is needed.

2.2 Obtain Survey Encroachment Permits

MTCO will coordinate with the City, Caltrans, Union Pacific Railroad, or any other applicable agency to obtain appropriate encroachment permits prior to any field work.

2.3 Supplemental Topographic Surveys / Base Mapping

This task will be led by ESP. ESP will perform a field topographic survey to supplement the existing mapping provided by the City. The field survey will locate additional topographic features within the project limits that may affect design. These features may include edge of pavement, curbs, traffic stripes, railroad features, trees (6" dbh and larger), utility poles, fences, signs, driveways, ditches, culverts, manholes, storm drain inlets, visible evidence of underground utilities (including valves, paint marks, pin flags, trench patches), and overhead wires. Data collected from the supplemental topographic survey will be incorporated with the City provided topographic survey data. A digital terrain model and topographic mapping at a scale of 1" = 40' with one-foot contour interval will be prepared for the project.

3.0 Preliminary Engineering

3.1 Geotechnical Design Report

This task will be led by CAInc. CAInc will be responsible for the following items:

3.1.1 Coordination, Preliminary Review

CAInc will meet with the design team to review preliminary and/or final design plans, and discuss the project design needs, issues and schedules. CAInc will visit the site to determine accessibility and traffic control requirements. Traffic control will likely consist of shoulder closures without flagmen. CAInc. will obtain a Caltrans Encroachment Permit.

3.1.2 Subsurface Sampling

To collect samples of the subgrade soil for R-value and other soil tests we will hand auger to depths ranging from three to five feet below existing grade within the proposed widening areas at about 3 to 4 locations.

3.1.3 Laboratory Testing

CAInc will perform laboratory tests (R-value, Plasticity Index, and Grain Size) for pavement design on representative soil samples obtained.

3.1.4 Pavement Design Report

Following completion of laboratory testing and analysis, CAInc will prepare a Pavement Design Report. This report will include new pavement section recommendations including deep lift HMA and traditional HMA and AB sections. Laboratory testing results, grading recommendations, and a vicinity map showing sampling locations will also be included in the report.

Deliverables:

- *Draft and final traffic signal timing technical memorandums (3 copies each)*
- *Draft and Final Pavement Design Report (3 copies each)*

4.0 Utility Coordination

4.1 Utility Coordination/Relocation

MTCO will provide utility coordination services. Due to the federal funding associated with the project, utility coordination services will be conducted in general conformance with Caltrans' Local Assistance and Utility Relocation Manuals. The MTCO team will follow the Utility A-B-C process:

- **Utility "A" Letter** - A USA list is generated that shows all possible utility companies located within the project limits. A letter is sent to the respective utility company informing them about the project and asking them for as-built mapping and liability claims within the project area.
- **Utility Kickoff Meeting** - Once the 65% design is complete, a utility kickoff meeting is held with the utility companies to discuss project impacts. At the meeting, a preferred approach is recommended to the utility companies and a consensus is reached regarding various items including clear recover zone requirements, overhang easements, and vertical clearance requirements over underground utilities.

- **Utility "B" Letter** - Letter is issued to the utility companies with 65% plans that show utility impacts. The utility companies are instructed to begin relocation plans at this time. Frequent follow ups with utility companies are required from this point forward.
- **Utility "C" Letter (Notice to Owner)** - Once utility relocation plans are received and approved from the utility companies, the notice to owner letter authorizes the company to relocate their utilities. Right of way acquisition must be cleared for this letter to be issued. As part of conducting utility mapping, MTCO will determine horizontal location of existing utilities and prepare a list of those utilities which have a potential for physical conflicts with proposed improvements. Although not included in this scope of work, MTCO can obtain a potholing company to perform non-intrusive vacuum excavation at critical locations to determine the positive location of conflicting utilities.

Deliverables:

- **Utility A, B and C Plan letters for City Signature (2 copies)**

5.0 PS&E Design

MTCO will complete the design tasks for final plans, specifications and estimates for the project. Plans will be prepared to City or Caltrans format and will be submitted at the 65%, 90% and final stages of design. Following each design submittal, City comments will be reviewed and addressed.

5.1 65% Roadway Plans

MTCO will prepare draft engineering plans for the intersection. The plans will include typical sections, layouts, profiles, construction details, drainage plans, traffic control plans, signing and striping plans, and traffic signal plans. It is anticipated that the following plan sheets will be prepared:

Roadway Plans	Estimated Number of Sheets
Title Sheet	1
General Notes	1
Typical Sections	1
Project Control	1
Layout	1
Construction Details	4
Utility Plan	1
Traffic Handling	4
Signing and Striping	1
Total Estimated Roadway Plan Sheets	15

5.2 65% Electrical Plans

JLB will coordinate with MTCO and City staff, as necessary, to review intersection concept drawings and develop electrical plans. Plans will be developed for compliance with current CA MUTCD and Caltrans Plans. Electrical plans will show proposed traffic signals, proposed interconnect, and safety lighting. Location of proposed equipment will be coordinated with the City and Caltrans. The conduit runs to the advance loop detection points will be designed to provide the capability for future signal interconnect cable.

5.3 90% Roadway Plans

This submittal will represent a complete, biddable plan package. Major design features will have been reviewed; however, because of the review comments received for the 65% submittal, there may be some plan details that will be submitted for the first time. From this point, all minor "clean-up" revisions will occur.

5.4 90% Electrical Plans

JLB will coordinate with MTCO and City staff, as necessary, for review of the 65% estimate submittals. JLB will incorporate changes in the design between the 65% level and the 90% level designs.

5.5 Final Plans

This submittal represents a completed Bid Set, ready for bidding. Major design features have been reviewed at least twice at this stage.

5.6 Special Provisions

MTCO and JLB will develop project special provisions using Caltrans Standard Special Provisions (2015 version). The special provisions will be prepared using Microsoft Word. Special Provisions will be submitted at the 90%, and final submittals.

5.7 Engineer's Estimate

To verify programmed funding matches the anticipated construction costs, MTCO and JLB will prepare preliminary construction cost estimates and submit them at the 95% and final submittals. The estimates will be comprised of unit prices placed on detailed quantity and check quantity calculations. Unit prices will be developed using current bid results from similar projects, Caltrans data base information and Caltrans latest Construction Cost Manual. All estimates will be done in Caltrans BEES format using Microsoft Excel.

5.8 RE Pending File

MTCO will prepare the RE Pending File for the project. File will include list of project contacts, memos to Resident Engineer, Quantity Calculations for use in releasing progress payments, utility agreements, permits, right of way contracts, and copies of relevant reports.

Deliverables:

- *Plans (65%, and 90%) – 3 copies – 11"x17"; 1 electronic copy*
- *Final Plans – 1 copy – full size Mylar full size bond*
- *Special Provisions (90% and Final) – 3 copies; 1 electronic copy*
- *Estimate (90% and Final) – 3 copies; 1 electronic copy*
- *RE Pending File*
- *CAD files in AutoCAD Civil 3D (2015)*

6.0 Bidding & Construction Assistance

6.1 Bid Support

MTCO and subconsultants will provide assistance, as required, to the City during bidding of the project. The work may include answering bid inquiries of prospective bidders and preparing addenda to the PS&E during the advertisement period.

6.2 Construction Support

MTCO and subconsultants will provide assistance, as required, to the City during construction of the project. The work may include responding to Request for Information (RFI) by the contractor, providing consultation and interpreting the construction documents, preparing contract change orders, reviewing shop drawings and attending construction meetings.

6.3 As-built Plan Preparation

MTCO will complete the as-built drawings after receiving red-lined mark-ups from the contract manager after completion of construction.

Deliverables:

- *1 copy full size Mylar As-built plans*

7.0 Utility Potholing

7.1 Utility Potholing

To satisfy Caltrans' Policy on High and Low Risk Underground facilities with Highway Right of Way, all high risk utilities underneath proposed widening will need to be positively identified through potholing ahead of project construction. MTCO will retain a potholing company to positively identify the depths, material type, and size of known critical utilities. For budgeting purposes, a total of five potholes have been assumed at \$1000 a piece.

8.0 Pavement Rehabilitation Recommendations

8.1 Pavement Rehabilitation Recommendations

During the site visit, areas of pavement rutting, alligator cracking, block cracking, and overall pavement deterioration were observed. If the City desires to improve these areas of pavement distress, CALnc can provide optional pavement rehabilitation recommendations as part of this optional task.

This task will be led by CALnc. CALnc will be responsible for the following items:

8.1.1 Coordination, Preliminary Review

CALnc will meet with the design team to review preliminary and/or final design plans, and discuss the project design needs, issues and schedules. CALnc will visit the site to determine accessibility and traffic control requirements. Traffic control will likely consist of temporary lane closure with flagmen. We will obtain a Caltrans and City of Merced encroachment permit.

8.1.2 Pavement Coring

To measure the existing pavement structural section (AC and AB), CALnc will perform six (6) pavement cores to determine existing pavement section conditions along each approach. The engineer/geologist will direct the coring and sampling.

To collect samples of the subgrade soil for R-value and other soil tests we will hand auger to depths ranging from three to five feet below existing grade within the proposed widening areas and coring locations.

8.1.3 Laboratory Testing

CALnc will perform laboratory tests (R-value, Plasticity Index, and Grain Size) for pavement design on representative soil samples obtained. CALnc will complete laboratory testing to determine percent cement/lime and optimum moisture to obtain the required unconfined compressive strength result. Samples of the AC, AB, and subgrade in conjunction with admixtures will be mixed, compacted, cured and strength tested. We will perform one mix design for this intersection project.

8.1.4 Pavement Design Report

Following the results of our pavement coring and R-value testing, CALnc will analyze and present several pavement options to meet the city's needs. Typical options for the existing conditions are mill and overlay or full depth recycling.

8.1.5 Pavement Design Report

Following completion of laboratory testing and analysis, CALnc will prepare a Pavement Design Report with pavement rehabilitation recommendations. This report will include new pavement section recommendations including deep lift HMA and traditional HMA and AB sections and overlay recommendations based on existing section and assumed gravel factors. Laboratory testing results, grading recommendations, and a vicinity map showing core locations will also be included in the report.

9.0 Advance Flashing Beacon (AFB) Plans

9.1 Advance Flashing Beacon Plans

As the intersection of SR 59 at 16th Street contains the connection between southbound State Route 99 and State Route 59, it may be desirable to implement as part of the traffic signal design the inclusion of an advance yellow flashing beacon for the SR 99 Southbound Connector to SR 59 as an auxiliary measure to improve the

safety of the intersection to be signalized. Therefore, JLB proposes to include the design of a yellow advance flashing beacon (AFB) as an optional service for the City's consideration. If the AFB is included into the final scope of work, JLB would propose that we utilize slip base plate(s) as the AFB's will very likely be located within the clear recovery zones of the roadways.

JLB will take the lead on this optional task. AFB plans will be submitted as part of the plan package for the 65%, 90% and final submittals. Comments made from the City and Caltrans will be incorporated into the 90% and final submittals. Specifications and engineers estimate will also reflect this addition.

ASSUMPTIONS

This scope of work has been prepared using the following assumptions:

- This project will be advertised, awarded, and administered by the City and the City will coordinate reproductions of the bid package.
- Supplemental topography required for this project will be limited in scope, and will require no more than 8-hours of a two-man survey crew to complete.
- All fees associated with City permits or other documents will be waived.
- All drainage inlets and storm drain pipes will not require adjustment
- Traffic signal interconnect is included between the proposed traffic signal and the railroad controller.
- Traffic studies are not included in the scope of work.
- ISO illumination studies are not included in the scope of work.
- Preparation of traffic signal warrants are not included in the scope of work.

COST PROPOSAL FOR PROJECT SCOPE: City of Merced - Intersection Improvement Project #CML-5085 (040)

[illegible]

PHASE 2 - FINAL DESIGN												
2.0 Project Management												
2.1	1	1										
4	10	10										
4	8	8	10									
4	10	10	8									
4	8	8										
16	36	36	8	10								
Subtotal Task 1												
2.0 Surveys and Base Mapping												
2.1												
4												
2.2												
8												
4	4	8										
Subtotal Task 2												
2.0 Preliminary Engineering												
2.1												
2	4											
2	4											
Subtotal Task 3												
2.0 Utility Coordination												
2.1												
4	20	40	20									
4	20	40	20									
Subtotal Task 4												

COST PROPOSAL FOR PROJECT SCOPE: City of Merced - Intersection Improvement Project #CML-5085 (040)

SUBCONSULTANT FEES											

GRAND TOTAL (PHASE 1 AND PHASE 2)

\$176,169