THE BOARD OF SUPERVISORS OF THE COUNTY OF STANISLAUS
ACTION AGENDA SUMMARY

DEPT: Public Works MM | **BOARD AGENDA #** *C-1

Urgent ☐ **Routine** ☒ | **AGENDA DATE** October 18, 2011

CEO Concurs with Recommendation YES ☐ **NO** ☐ (Information Attached) | **4/5 Vote Required YES** ☐ **NO** ☒

SUBJECT:

Approval to Award a Contract for Bridge Engineering Services and Project Delivery Services to T.Y. Lin International of Sacramento, California for the Hills Ferry Road Bridge Seismic Retrofit Project in Stanislaus County, Federal Project Number: STPLZ-5938(176)

STAFF RECOMMENDATIONS:

1. Award a contract for bridge engineering services and project delivery services to T.Y. Lin International of Sacramento, California in the amount of $920,983 for the Hills Ferry Road Bridge Seismic Retrofit Project.

2. Authorize the Director of Public Works to execute a contract with T.Y. Lin International in the amount of $920,983 and to sign necessary documents, including any amendments to the agreement not to exceed 10%.

FISCAL IMPACT:

At this time, $920,983 is needed to fund the contract for bridge engineering services. Separate from the contract, a budgeted contingency not to exceed 10% or $92,098 is to be used for any amendments to the agreement per discretion of the Director of Public Works. An Authorization to Proceed (E-76) has been secured from Caltrans for the Preliminary Engineering (PE) phase of the project in the amount of $818,371. These funds are Highway Bridge Program (HBP) funds and are sufficient to fund 88.53% ($815,346) of the preliminary engineering. The left over E-76 balance will be available to fund project contingencies or change orders at 88.53% ratio. The remaining 11.47% ($105,637) will be jointly funded by Merced

(Continued on Page 2)

BOARD ACTION AS FOLLOWS:

No. 2011-637

On motion of Supervisor Chiesa, **Seconded by Supervisor** Withrow
and approved by the following vote,
Ayes: Supervisors: O'Brien, Chiesa, Withrow, DeMartini, and Chairman Monteith
Noes: Supervisors: None
Excused or Absent: Supervisors: None
Abstaining: Supervisor: None

1) X **Approved as recommended**
2) _____ **Denied**
3) _____ **Approved as amended**
4) _____ **Other:**

MOTION:

Christine Ferraro

ATTEST: CHRISTINE FERRARO TALLMAN, Clerk | **File No.**

FISCAL IMPACT (Continued):

County and Stanislaus County local road funds. Funding is available in the Fiscal Year 2011-2012 Road Projects budget. On June 14, 2011, the Stanislaus County Board of Supervisors approved a Memorandum of Agreement between Merced County and Stanislaus County for the PE phase of the Project.

DISCUSSION:

The scope of design services includes:

- Strategy determination and strategy report
- Comprehensive project management services
- Public relations and outreach services
- Geotechnical investigation
- Topographical survey
- Comprehensive environmental services
- Structural engineering services
- Comprehensive civil engineering services
- Traffic system design
- Electrical system design
- Utilities design and relocation coordination
- Comprehensive right of way services
- Bidding and construction support services

The scope of project physical improvements includes, but is not limited to:

- Providing adequate storm drain runoff control
- Erosion abatement
- Liquefaction prevention
- Bridge structural retrofit or replacement
- Approach roadway modification
- Utility adjustments
- Plans, Specifications, and Estimates (PS&E)
- Bidding and construction support

The purpose of the Hills Ferry Road Bridge Seismic Retrofit Project is to retrofit or replace the existing seismically deficient bridge. The Hills Ferry Road Bridge was built in 1961. It consists of reinforced concrete T-beam main spans with reinforced concrete slab approach spans on reinforced concrete pier walls and reinforced concrete pile bents. The bridge is approximately 647 feet long and 32.5 feet wide. The 18-span reinforced concrete structure crosses the San Joaquin River northwest of Newman at the Stanislaus and Merced County lines. There are fine cracks near the abutment and medium diagonal cracks throughout the deck. There is significant erosion due to scour near one of the abutments.

Studies conducted by Caltrans determined that the bridge is subject to collapse if a significant seismic event occurred. In addition, in a separate study dated March 2000, Caltrans concluded that there is a potential for liquefaction to occur at the site. Soil liquefaction phenomenon occurs when a saturated soil gradually loses strength in response to earthquake stresses that occur during earthquake shaking, thus causing soil to suddenly behave like a quicksand potentially leading to structural collapse of the bridge. Thus, this project is eligible to receive seismic retrofit funds under the HBP Program. Additionally, this bridge is one (1) of six (6) Stanislaus County bridge projects programmed with Proposition 1B Local Seismic Safety Retrofit Program (LSSRP) matched dollars. These funds can be used toward the 11.87% local match for construction. Full bridge replacement is another feasible option that will be considered during the initial phase of project design.

Proposals were evaluated based on the following criteria:

- Understanding of the Work to be Performed
- Qualifications and Availability of Staff
- Project Schedule
- Familiarity With State and Federal Procedures
- Demonstrated Technical Ability
- Demonstration of Professional and Financial Responsibility
- References

On August 19, 2011, seven (7) proposals were submitted for review by various consulting firms. Public Works staff reviewed the proposals and selected T.Y. Lin International of Sacramento, California as the most qualified consultant based on the results of the above evaluation criteria. All proposals were evaluated based on qualifications only. Along with the proposal, consultant fees were submitted in a separate sealed fee envelope and were not part of the evaluation process. A sealed fee envelope was opened only for the winning proposal. Below is a list of consultants that submitted proposals:

- AECOM
- Biggs Cardosa Associates, Inc.
- HDR Engineering, Inc.
- Mark Thomas & Company, Inc.
- Quincy Engineering, Inc.
- TRC Engineers, Inc.
- T.Y. Lin International

POLICY ISSUES:

The Hills Ferry Road Bridge Seismic Retrofit Project will meet the Board's priorities of providing A Safe Community, A Healthy Community, and A Well Planned Infrastructure System by moving forward on this project to rehabilitate or replace a deficient bridge in Stanislaus County.

Approval to Award a Contract for Bridge Engineering Services and Project Delivery Services to T.Y. Lin International of Sacramento, California for the Hills Ferry Road Bridge Seismic Retrofit Project in Stanislaus County, Federal Project Number: STPLZ-5938(176)

STAFFING IMPACT:

There are no staffing impacts associated with this item.

CONTACT PERSON:

Matt Machado, Public Works Director. Telephone: (209) 525-4130.

DB:sn
L:\BRIDGES\9203 - River Rd (Hills Ferry Rd) Bridge @ San Joaquin River\Design\Board Items\02_Award Design Contract_BOS10-18-11

STANISLAUS COUNTY
PROFESSIONAL DESIGN SERVICES AGREEMENT
Hills Ferry Road Bridge Seismic Retrofit Project
(aka River Road)

This Agreement is made and entered into by and between the County of Stanislaus, a political subdivision of the State of California, hereinafter referred to as "County" and T.Y. Lin International, hereinafter referred to as "Consultant".

NOW, THEREFORE, for and in consideration of the mutual covenants and conditions contained herein, the parties hereby agree as follows:

1.0 PROFESSIONAL SERVICES TO BE PROVIDED BY CONSULTANT

1.1. Scope of Services: Consultant shall provide the professional services described in the County's Request for Proposal ("RFP") attached hereto as Exhibit "A" and incorporated herein by reference and Consultant's Response to County's RFP (the "Response"). A copy of said Response is attached hereto as Exhibit "B" and incorporated herein by this reference.

1.2. Professional Practices: All professional services to be provided by Consultant pursuant to this Agreement shall be provided by personnel experienced in their respective fields and in a manner consistent with the standards of care, diligence and skill ordinarily exercised by professional consultants in similar fields and circumstances in accordance with sound professional practices. Consultant also represents that it is familiar with all laws that may affect its performance of this Agreement and shall advise County of any changes in any laws that may affect Consultant's performance of this Agreement.

1.3. Representations: Consultant represents that it has reviewed the RFP and that in its professional judgment the services to be performed under this Agreement can be performed within the maximum fee set forth herein below and within the time specified in the Project Schedule attached hereto. Consultant represents that it is qualified to perform the professional services required by this Agreement and possesses the necessary licenses and permits required to perform said services. Consultant represents that it has no interest and shall not acquire any interest direct or indirect which conflicts, or has the appearance of conflicting, in any manner or degree with the performance of the work and services under this Agreement.

1.4. Compliance with Laws. Consultant agrees that it shall perform the services required by this Agreement in compliance with all applicable Federal and California laws including, but not limited to, those laws related to minimum hours and wages; occupational health and safety; fair employment and employment practices; workers' compensation insurance and safety in employment; and all other Federal, State and local laws and ordinances applicable to the services required under this Agreement.

1.5. Non-Discrimination. During the performance of this Agreement, Consultant and its officers, employees, agents, representatives or subcontractors shall not unlawfully discriminate in violation of any federal, state or local law, rule or regulation against any employee, applicant for employment or person receiving services under this Agreement because of race, religion, color, national origin, ancestry, physical or mental disability, medical condition (including genetic characteristics), marital status, age, political affiliation, sex or sexual orientation. Consultant and its officers, employees, agents, representatives or subcontractors shall comply with all applicable Federal, State and local laws and regulations related to non-discrimination and equal opportunity, including without limitation the County's nondiscrimination policy; the Fair Employment and Housing Act (Government Code sections 12900 et seq.); California Labor Code sections 1101, 1102 and 1102.1; the Federal Civil Rights Act of 1964 (P.L. 88-352), as amended; and all applicable regulations promulgated in the California Code of Regulations or the Code of Federal Regulations.

1.6. Non-Exclusive Agreement. Consultant acknowledges that County may enter into agreements with other consultants for services similar to the services that are subject to this Agreement or may have its own employees perform services similar to those services contemplated by this Agreement.

1.7. Delegation and Assignment. This is a personal service contract, and the duties set forth herein shall not be delegated or assigned to any person or entity without the prior written consent of County. Consultant may engage a subcontractor(s) as permitted by law and may employ other personnel to perform services contemplated by this Agreement at Consultant's sole cost and expense.

1.8. Covenant Against Contingent Fees. Consultant warrants that he/she has not employed or retained any company or person, other than a bona fide employee working for the consultant; to solicit or secure this agreement; and that he/she has not paid or agreed to pay any company or person other than a bona fide employee, any fee, commission, percentage, brokerage fee, gift, or any other consideration, contingent upon or resulting from the award, or formation of this agreement. For breach or violation of this warranty, the local agency shall have the right to annul this agreement without liability, or at its discretion; to deduct from the agreement price or consideration, or otherwise recover the full amount of such fee, commission, percentage, brokerage fee, gift, or contingent fee.

2.0 COMPENSATION AND BILLING

2.1. Compensation. Consultant shall be paid in accordance with the fee schedule set forth in Exhibit "C", attached hereto and made a part of this Agreement (the "Fee Schedule"). Consultant's compensation shall in no case exceed Nine Hundred Twenty Thousand Nine Hundred Eight-Three Dollars ($920,983). Consultant will be compensated on a time and materials basis, based on the hours worked by the Consultant's employees or subcontractors at the hourly rates specified in the Fee Schedule. The Fee Schedule rates include direct salary costs, employee benefits, and overhead. The rates stated in the Fee Schedule are not adjustable

this Agreement. The County may retain ten percent of all periodic or progress payments made to the Consultant until completion and acceptance of all work tasks and County shall have right to withhold payment from Consultant for any unsatisfactory service until such time service is performed satisfactorily.

2.2. Reimbursements. In addition to the aforementioned fees, Consultant will be reimbursed for any expenses specifically set forth in each Project Scope of Work. All such reimbursement amounts are limited to those costs and expenses that are reasonable, necessary and actually incurred by the Consultant in connection with the services provided. The County shall not pay a mark up on any item of reimbursement. The County shall not pay for any item of overhead such as telephone, facsimile, postage, etc. All requests for reimbursement shall be accompanied by a copy of the original invoice.

2.3. Additional Services. Consultant shall not receive compensation for any services provided outside the scope of services specified in Exhibits A and B unless the County or the Project Manager for this Project, prior to Consultant performing the additional services, approves such additional services in writing. It is specifically understood that oral requests and/or approvals of such additional services or additional compensation shall be barred and are unenforceable.

2.4. Method of Billing. Consultant may submit invoices to County's Project Manager for approval on a progress basis, but no more often than once each calendar month. Said invoice shall be based on the total of all Consultants' services that have been completed to County's sole satisfaction. County shall pay Consultant's invoice within forty-five (45) days from the date County receives said invoice. Each invoice shall describe in detail, the services performed and the associated percentage of tasks completed. Any additional services approved and performed pursuant to this Agreement shall be designated as "Additional Services" and shall identify the number of the authorized change order, where applicable, on all invoices.

2.5. Records and Audits. Records of Consultant's services relating to this Agreement shall be maintained in accordance with generally recognized accounting principles and shall be made available to County or its Project Manager for inspection and/or audit at mutually convenient times for a period of three (3) years from the termination of this Agreement.

3.0 TIME OF PERFORMANCE

3.1. Commencement and Completion of Work. The professional services to be performed pursuant to this Agreement shall commence within five (5) days after County delivers its Notice to Proceed. Said services shall be performed in strict compliance with the Project Schedule approved by County as set forth in Exhibit "D", attached hereto and incorporated herein by this reference. The Project Schedule may be amended by mutual agreement of the parties. Failure to commence work in a timely manner and/or diligently pursue work to completion may be grounds for termination of this Agreement.

3.2. Excusable Delays. Neither party shall be responsible for delays or lack of performance resulting from acts beyond the reasonable control of the party or parties. Such acts shall include, but not be limited to, acts of God, fire, strikes, material shortages, compliance with laws or regulations, riots, acts of war, or any other conditions beyond the reasonable control of a party.

4.0 TERM OF CONTRACT AND TERMINATION

4.1. Term. This Agreement shall commence upon approval by the County's Board of Supervisors and continue until the work required herein is completed, unless previously terminated as provided herein or as otherwise agreed to in writing by the parties.

4.2. Notice of Termination. The County reserves and has the right and privilege of canceling, suspending or abandoning the execution of all or any part of the work contemplated by this Agreement, with or without cause, at any time, by providing written notice to Consultant. The termination of this Agreement shall be deemed effective upon receipt of the notice of termination. In the event of such termination, Consultant shall immediately stop rendering services under this Agreement unless directed otherwise by the County.

4.3. Compensation. In the event of termination, County shall pay Consultant for reasonable costs incurred and professional services satisfactorily performed up to and including the date of County's written notice of termination. Compensation for work in progress shall be prorated as to the percentage of work completed as of the effective date of termination in accordance with the fees set forth in Exhibit "C. In ascertaining the professional services actually rendered hereunder up to the effective date of termination of this Agreement, consideration shall be given to both completed work and work in progress, to complete and incomplete drawings, and to other documents pertaining to the services contemplated herein whether delivered to the County or in the possession of the Consultant.

4.4. Documents. In the event of termination of this Agreement, all documents prepared by Consultant in its performance of this Agreement including, but not limited to, finished or unfinished design, development and construction documents, data studies, drawings, maps and reports, shall be delivered to the County within ten (10) days of delivery of termination notice to Consultant, at no cost to County. Any use of uncompleted documents without specific written authorization from Consultant shall be at County's sole risk and without liability or legal expense to Consultant.

5.0 INSURANCE REQUIREMENTS

5.1. Minimum Scope and Limits of Insurance. Consultant, at its sole cost and expense, for the full term of this Agreement (and any extensions thereof), shall obtain and maintain, at minimum, compliance with all of the following insurance coverage(s) and

requirements. If Consultant normally carries insurance in an amount greater than the minimum amount listed below, that greater amount shall become the minimum required amount of insurance for purposes of this Agreement. The insurance listed below shall have a retroactive date of placement prior to, or coinciding with, the date services are first provided that are governed by the terms of this Agreement:

(a) Comprehensive general liability, including premises-operations, products/ completed operations, broad form property damage, blanket contractual liability, independent contractors, personal injury with a policy limit of not less One Million Dollars ($1,000,000.00), combined single limits, per occurrence and aggregate. If Commercial General Liability Insurance or other form with a general aggregate limit is used, either the general aggregate limit shall apply separately to any act or omission by Consultant under this Agreement or the general aggregate limit shall be twice the required occurrence limit.

(b) Automobile liability for owned vehicles, hired, and non-owned vehicles, with a policy limit of not less than One Million Dollars ($1,000,000.00), combined single limits, per occurrence and aggregate.

(c) Workers' compensation insurance as required by the State of California.

(d) Professional errors and omissions ("E&O") liability insurance with policy limits of not less than Two Million Dollars ($2,000,000.00), combined single limit for each occurrence. If Consultant cannot provide an occurrence policy, Consultant shall provide insurance covering claims made as a result of performance of Work on this Project and shall maintain such insurance in effect for not less than three years following Final Completion of the Project.

5.2. Endorsements. The Consultant shall obtain a specific endorsement to all required insurance policies, except Professional Liability insurance and Workers Compensation insurance, naming the County of Stanislaus, its Officers, Directors, Officials, Agents, Employees and Volunteers as additional insureds for at least three years after the completion of the work to be performed under this Agreement, but, to the extent that any insurance issued to Consultant in effect after the expiration of three years provides additional insured coverage to parties Consultant agreed in writing to name as an additional insured, then Consultant shall have the obligation under this contract to obtain such additional insured coverage for the County, under any and all policies Consultant has regarding:

(a) Liability arising from or in connection with the performance or omission to perform any term or condition of this Agreement by or on behalf of the Consultant, including the insured's general supervision of its subcontractors;
(b) Ongoing services, products and completed operations of the Consultant;
(c) Premises owned, occupied or used by the Consultant; and
(d) Automobiles owned, leased, hired or borrowed by the Consultant.
(e) For Workers' Compensation insurance, the insurance carrier shall agree to waive all rights of subrogation against the County, its officers, officials and employees for losses arising from the performance of or the omission to perform any term or condition of this Agreement by the Consultant.

5.3. Deductibles: Any deductibles, self-insured retentions or named insureds must be declared in writing and approved by County. At the option of the County, either: (a) the insurer shall reduce or eliminate such deductibles, self-insured retentions or named insureds, or (b) the Consultant shall provide a bond, cash, letter of credit, guaranty or other security satisfactory to the County guaranteeing payment of the self-insured retention or deductible and payment of any and all costs, losses, related investigations, claim administration and defense expenses. The County, in its sole discretion, may waive the requirement to reduce or eliminate deductibles or self-insured retentions, in which case, the Consultant agrees that it will be responsible for and pay any self-insured retention or deductible and will pay any and all costs, losses, related investigations, claim administration and defense expenses related to or arising out of the Consultant's defense and indemnification obligations as set forth in this Agreement.

5.4. Certificates of Insurance: At least ten (10) days prior to the date the Consultant begins performance of its obligations under this Agreement, Consultant shall furnish County with certificates of insurance, and with original endorsements, showing coverage required by this Agreement, including, without limitation, those that verify coverage for subcontractors of the Consultant. The certificates and endorsements for each insurance policy are to be signed by a person authorized by that insurer to bind coverage on its behalf. All certificates and endorsements shall be received and, in County's sole and absolute discretion, approved by County. County reserves the right to require complete copies of all required insurance policies and endorsements, at any time.

5.5. Non-limiting: Nothing in this Section or the insurance described herein shall be construed as limiting in any way, the indemnification provisions contained in this Agreement, or the liability of Consultant and Consultant's officers, employees, agents, representatives or subcontractors for payments of damages to persons or property.

5.6. Primary Insurance: The Consultant's insurance coverage shall be primary insurance regarding the County of Stanislaus, its Officers, Directors, Officials, Agents, Employees and Volunteers. Any insurance or self-insurance maintained by the County of Stanislaus, its Officers, Directors, Officials, Agents, Employees and Volunteers shall be excess of the Consultant's insurance and shall not contribute with Consultant's insurance. Any failure to comply with reporting provisions of the policies shall not affect coverage provided to the County or its officers, officials and employees. The Consultant's insurance shall apply separately to each insured against whom claim is made or suit is brought, except with respect to the limits of the insurer's liability. Any and all insurances carried by it shall be deemed liability coverage for any and all actions it performs in connection with this Contract.

5.7. Cancellation of Insurance: Each insurance policy required by this section shall be endorsed to state that coverage shall not be suspended, voided, canceled by either party except after thirty (30) days prior written notice has been given to County. The Consultant shall promptly notify, or cause the insurance carrier to promptly notify, the County of any change in the insurance policy or policies required under this Agreement, including, without limitation, any reduction in coverage or in limits of the required policy or policies. Consultant shall maintain such coverage in effect for three (3) years after substantial completion of the project to the extent it is commercially available at reasonable rates.

5.8. California Admitted Insurer: Insurance shall be placed with California admitted insurers (licensed to do business in California) with a current rating by Best's Key Rating Guide of no less than A-:VII; provided, however, that if no California admitted insurance company provides the required insurance, it is acceptable to provide the required insurance through a United States domiciled carrier that meets the required Best's rating and that is listed on the current List of Eligible Surplus Line Insurers maintained by the California Department of Insurance.

5.9. Subcontractors: Consultant shall require that all of its subcontractors are subject to the insurance and indemnity requirements stated herein, or shall include all subcontractors as additional insureds under its insurance policies.

6.0 INDEMNIFICATION

6.1. Indemnification: To the fullest extent allowed by law, Consultant shall defend, indemnify, and hold harmless the County and its officers, directors, officials, agents, employees, volunteers and representatives (collectively, "Indemnitee") from and against any and all claims, suits, actions, losses, injuries, damages or expenses of every name, kind, and description, including litigation costs and reasonable attorney's fees incurred, (collectively, "losses") which are founded upon, arise out of, pertain to, or relate to, directly or indirectly, in whole or in part, the alleged negligence, recklessness, or willful misconduct of Consultant, its officers, agents, employees, volunteers, representatives, contractors and subcontractors, excluding, however, such liabilities caused in part by the sole negligence, active negligence or willful misconduct of the County, its agents, employees, and representatives. These indemnification obligations shall not be limited by any assertion or finding that (1) the person or entity indemnified is liable by reason of non-delegable duty, or (2) the losses were caused in part by the negligence of, breach of contract by, or violation of law by Indemnitee. Nothing in this Agreement, including the provisions of this paragraph, shall constitute a waiver or limitation of any rights which Indemnitee may have under applicable law, including without limitation, the right to implied indemnity.

6.2. Duty to Defend: The duty of Consultant to indemnify and save harmless as set forth herein, shall include both the duty to indemnify and at Consultant's own cost and expense the duty to defend as set forth in Section 2778 of the California Civil Code and as limited in section 2782.8 of the California Civil Code. This duty to defend arises immediately when such claim is made and shall be independent of any finding of negligence and shall arise regardless of any claim or assertion that Indemnitee caused or contributed to the Losses. Consultant shall provide legal counsel acceptable to the County.

6.3. Duty to Cooperate: Each party shall notify the other party within ten (10) days in writing of any claim or damage related to activities performed under this Agreement. The parties shall cooperate with each other in the investigation and disposition of any claim arising out of the activities under this Agreement. Specifically, Consultant shall take all steps necessary to assist

the County in the defense of any claim brought by a contractor hired to construct the Project regarding any errors, flaws, and/or omissions in the plans or specifications of the Project.

6.4. Patent Rights: Consultant represents that professional services provided by Consultant pursuant to this Agreement does not infringe on any other copyrighted work. Consultant shall defend, indemnify and hold harmless the County from all loss, cost, damage, expense, liability or claims, including attorneys' fees, court costs, litigation expenses and expert consultant or witness fees, that may at any time arise for any infringement of the patent rights, copyright, trade secret, trade name, trademark, service mark or any other proprietary right of any person or persons in consequence of the use by the County of any articles or services supplied under this agreement.

6.5. The foregoing provisions shall survive the term and termination of this Agreement.

7.0 GENERAL PROVISIONS

7.1. Entire Agreement: This Agreement constitutes the entire Agreement between the parties with respect to any matter referenced herein and supersedes any and all other prior writings and oral negotiations. This Agreement may be modified only in writing, and signed by the parties in interest at the time of such modification. The terms of this Agreement shall prevail over any inconsistent provision in any other contract document appurtenant hereto, including exhibits to this Agreement.

7.2. Representatives. The Director of the Stanislaus County Department of Public Works, or his designee, shall be the representative of County for purposes of this Agreement and may issue all consents, approvals, directives and agreements on behalf of the County, called for by this Agreement, except as otherwise expressly provided in this Agreement. Consultant shall designate a representative for purposes of this Agreement who shall be authorized to issue all consents, approvals, directives and agreements on behalf of Consultant called for by this Agreement, except as otherwise expressly provided in this Agreement.

7.3. Project Managers. County shall designate a Project Manager to work directly with Consultant in the performance of this Agreement. Consultant shall designate a Project Manager who shall represent it and be its agent in all consultations with County during the term of this Agreement. Consultant or its Project Manager shall attend and assist in all coordination meetings called by County.

7.4. Designated Personnel: A material covenant of this agreement is that the Consultant shall assign the individuals designated below to perform the functions designated so long as they continue in the employ of the Consultant. The designated individuals shall, so long as their performance continues to be acceptable to County, remain in charge of the services for the Project from beginning through completion of services.

a. Project Manager: Mark Ashley, P.E., Senior Vice President
b. Lead/Manager: N/A

7.5. Removal of Personnel or Sub-Consultants: If the County, in its sole discretion at any time during the term of this agreement, desires the removal of any person or sub-consultant assigned by Consultant to perform services, then the Consultant shall remove such person or consultant immediately upon receiving notice from the County.

7.6. Notices: Any notices, documents, correspondence or other communications concerning this Agreement or the work hereunder may be provided by personal delivery, facsimile or mail and shall be addressed as set forth below. Such communication shall be deemed served or delivered: a) at the time of delivery if such communication is sent by personal delivery; b) at the time of transmission if such communication is sent by facsimile; and c) 48 hours after deposit in the U.S. Mail as reflected by the official U.S. postmark if such communication is sent through regular United States mail.

If to County:
Stanislaus County Department of Public Works
Attn: Linda Allsop, Contracts Administrator
1716 Morgan Road
Modesto, CA 95358
Phone: (209) 525-4157
Fax: (209) 541-2506

If to Consultant:
T.Y. Lin International
Attn: Mark Ashley, P.E., Senior Vice President
3301 C Street, Bldg. 100-M
Sacramento, CA 95816
Phone: (916) 366-6331, ext. 2263
Fax: (916) 366-6536

7.7. Attorneys' Fees: In the event that litigation is brought by any party in connection with this Agreement, the prevailing party shall be entitled to recover from the opposing party all costs and expenses, including reasonable attorneys' fees, incurred by the prevailing party in the exercise of any of its rights or remedies hereunder or the enforcement of any of the terms, conditions, or provisions hereof.

7.8. Governing Law: This Agreement shall be governed by and construed under the laws of the State of California without giving effect to that body of laws pertaining to conflict of laws. In the event of any legal action to enforce or interpret this Agreement, the parties hereto agree that the sole and exclusive venue shall be a court of competent jurisdiction located in Stanislaus County, California.

7.9. Assignment: Consultant shall not voluntarily or by operation of law assign, transfer, sublet or encumber all or any part of Consultant's interest in this Agreement without County's prior written consent. Any attempted assignment, transfer, subletting or encumbrance shall be void and shall constitute a breach of this Agreement and cause for termination of this Agreement. Regardless of County's consent, no subletting or assignment shall release Consultant of Consultant's obligation to perform all other obligations to be performed by Consultant hereunder for the term of this Agreement.

7.10. Independent Contractor: Consultant is and shall be acting at all times as an independent contractor and not as an employee of County. Consultant shall secure, at his expense, and be responsible for any and all payment of Income Tax, Social Security, State Disability Insurance Compensation, Unemployment Compensation, and other payroll deductions for Consultant and its officers, agents, and employees, and all business licenses, if any are required, in connection with the services to be performed hereunder. Consultant hereby indemnifies and holds County harmless from any and all claims that may be made against County based upon any contention by any third party that an employer-employee relationship exists by reason of this Agreement.

7.11. Confidentiality: The Consultant agrees to keep confidential all information obtained or learned during the course of furnishing services under this Agreement and to not disclose or reveal such information for any purpose not directly connected with the matter for which services are provided, unless such disclosure is required by law.

7.12. Ownership of Documents: Any interest, including copyright interests, of Consultant or its contractors or subconsultants in studies, reports, memoranda, computational sheets, drawings, plans or any other documents, including electronic data, prepared in connection with the Services, shall be the property of County. To the extent permitted by law, work product produced under this Agreement shall be deemed works for hire and all copyrights in such works shall be the property of the County. In the event that it is ever determined that any works created by Consultant or its subconsultants under this Agreement are not works for hire, Consultant hereby assigns to County all copyrights to such works. With the County's prior written approval, Consultant may retain and use copies of such works for reference and as documentation of experience and capabilities.

7.13. Reuse of Design Documents: Should the County desire to reuse the documents specified above and not use the services of the Consultant, then the County agrees to require the new consultant to assume any and all obligations for the reuse of the documents, and the County releases Consultant and its subconsultants from all liability associated with the reuse of such documents.

7.14. Public Records Act Disclosure: Consultant has been advised and is aware that all reports, documents, information and data including, but not limited to, computer tapes, discs or files furnished or prepared by Consultant, or any of its subcontractors, and provided to County may be subject to public disclosure as required by the California Public Records Act (California Government Code Section 6250 et. seq.). Exceptions to public disclosure may be those documents or information that qualifies as trade secrets, as that term is defined in the California Government Code Section 6254.7, and of which Consultant informs County of such trade secret. The County will endeavor to maintain as confidential all information obtained by it that is designated as a trade secret. The County shall not, in any way, be liable or responsible for the disclosure of any trade secret including, without limitation, those records so marked if disclosure is deemed to be required by law or by order of the Court.

7.15. Responsibility for Errors: Consultant shall be responsible for its work and results under this Agreement. Consultant, when requested, shall furnish clarification and/or explanation as may be required by the County's representative, regarding any services rendered under this Agreement at no additional cost to County. In the event that an error or omission attributable to Consultant occurs, then Consultant shall, at no cost to County, provide all necessary design drawings, estimates and other Consultant professional services necessary to rectify and correct the matter to the sole satisfaction of County and to participate in any meeting required with regard to the correction.

7.16. Order of Precedence: In the event of an inconsistency in this Agreement and any of the attached Exhibits, the terms set forth in this Agreement shall prevail. If, and to the extent this Agreement incorporates by reference any provision of the RFP or the Response, such provision shall be deemed a part of this Agreement. Nevertheless, if there is any conflict among the terms and conditions of this Agreement and those of any such provision or provisions so incorporated by reference, this Agreement shall govern over both the Response and the RFP and the Response shall govern over the RFP.

7.17. Costs: Each party shall bear its own costs and fees incurred in the preparation and negotiation of this Agreement and in the performance of its obligations hereunder except as expressly provided herein.

7.18. No Third Party Beneficiary Rights: This Agreement is entered into for the sole benefit of County and Consultant and no other parties are intended to be direct or incidental beneficiaries of this Agreement and no third party shall have any right in, under or to this Agreement.

7.19. Construction: The parties have participated jointly in the negotiation and drafting of this Agreement. In the event an ambiguity or question of intent or interpretation arises with respect to this Agreement, this Agreement shall be construed as if drafted jointly by the parties and in accordance with its fair meaning. There shall be no presumption or burden of proof favoring or disfavoring any party by virtue of the authorship of any of the provisions of this Agreement.

7.20. Amendments: This Agreement may be amend only by a writing executed by the parties hereto or their respective successors and assigns.

7.21. Waiver: The delay or failure of either party at any time to require performance or compliance by the other of any of its obligations or agreements shall in no way be deemed a waiver of those rights to require such performance or compliance. No waiver of any provision of this Agreement shall be effective unless in writing and signed by a duly authorized representative of the party against whom enforcement of a waiver is sought. The waiver of any right or remedy in respect to any occurrence or event shall not be deemed a waiver of any right or remedy in respect to any other occurrence or event, nor shall any waiver constitute a continuing waiver.

7.22. Severability: If any provision of this Agreement is determined by a court of competent jurisdiction to be unenforceable in any circumstance, such determination shall not affect the validity or enforceability of the remaining terms and provisions hereof or of the offending provision in any other circumstance. Notwithstanding the foregoing, if the value of this Agreement, based upon the substantial benefit of the bargain for any party is materially impaired, which determination as made by the presiding court or arbitrator of competent jurisdiction shall be binding, then both parties agree to substitute such provision(s) through good faith negotiations.

7.23. Counterparts: This Agreement may be executed in one or more counterparts, each of which shall be deemed an original. All counterparts shall be construed together and shall constitute one agreement.

7.24. Corporate Authority: The persons executing this Agreement on behalf of the parties hereto warrant that they are duly authorized to execute this Agreement on behalf of said parties and that by doing so, the parties hereto are formally bound to the provisions of this Agreement.

IN WITNESS WHEREOF, the parties hereto have caused this Agreement to be executed by and through their respective authorized officers:

COUNTY OF STANISLAUS

By: _____
Matt Machado, Director
Department of Public Works

T.Y. LIN INTERNATIONAL

By: _____
Mark Ashley, P.E.
Senior Vice President

APPROVED AS TO FORM:
John P. Doering
County Counsel

By: _____
Thomas E. Boze
Deputy County Counsel

Board Resolution No.: 2011-637
Item No. and Date: C-1 10-18-2011

EXHIBIT A

COUNTY'S REQUEST FOR PROPOSAL

Stanislaus County
Striving to be the Best

DEPARTMENT OF PUBLIC WORKS

Matt Machado, PE
Director

Laurie Barton, PE
Deputy Director, Engineering/Operations

Diane Haugh
Assistant Director, Business/Finance

1716 Morgan Road, Modesto, CA 95358
Phone: 209.525.4130 Fax: 209.541.2509

www.stancounty.com/publicworks

STANISLAUS COUNTY
DEPARTMENT OF PUBLIC WORKS

REQUEST FOR PROPOSALS FOR
HILLS FERRY ROAD BRIDGE SEISMIC RETROFIT PROJECT
ALL-INCLUSIVE BRIDGE ENGINEERING SERVICES

Federal Project No.: STPLZ-5938(176)
State Bridge No.: 39C-0001

Invitation Date:	July 20, 2011
Questions Deadline:	5:00 PM, August 10, 2011
Last Addendum:	5:00 PM, August 12, 2011
Proposal Due Date:	5:00 PM, August 19, 2011

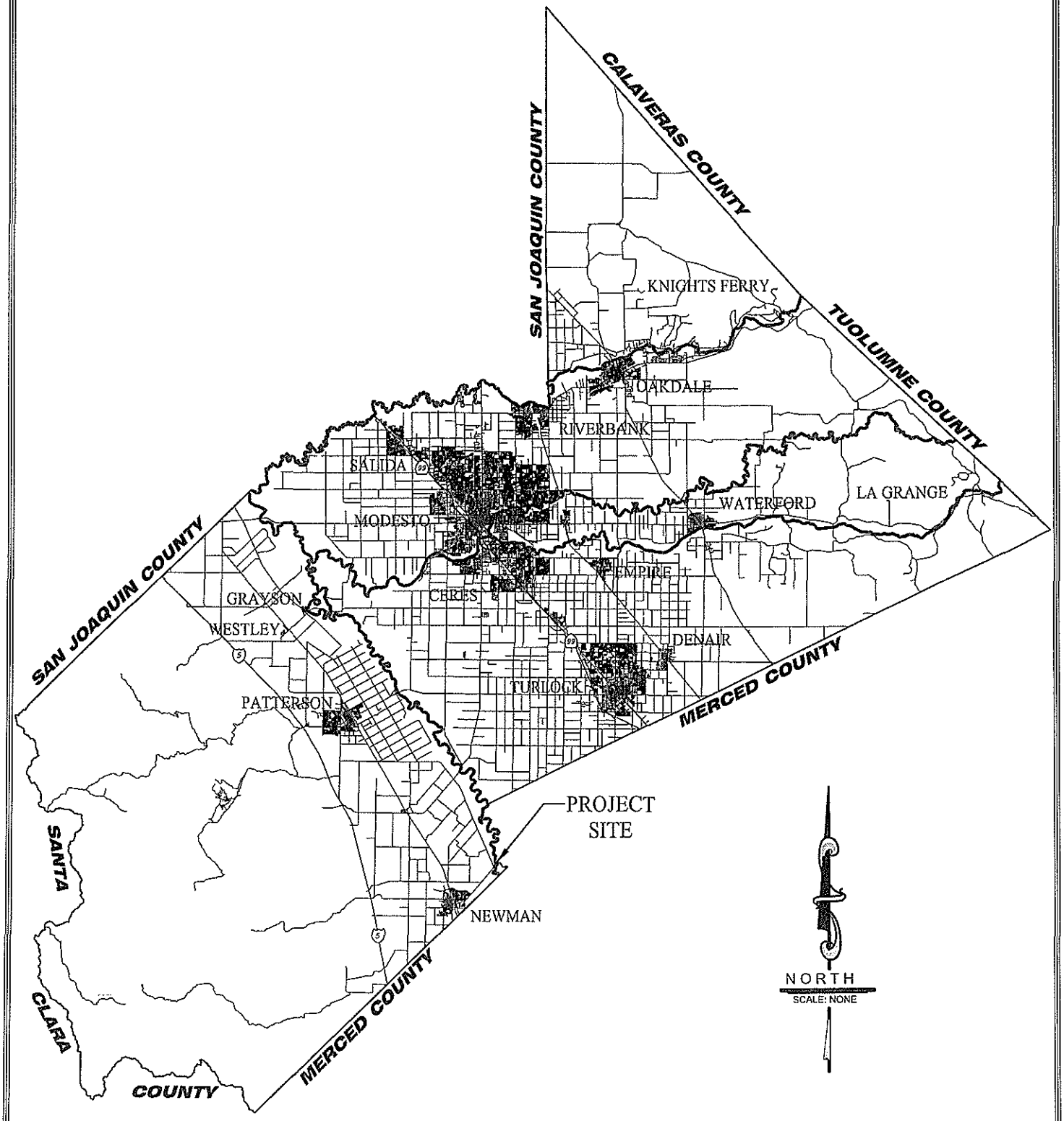
Stanislaus County Department of Public Works is soliciting a Request for Proposal (RFP) for All Inclusive Bridge Engineering Services from pre-qualified consultants for Hills Ferry Road (aka River Road) Bridge Seismic Retrofit Project located in Stanislaus County at San Joaquin River.

If you should have any questions regarding this request for proposal, contact me via email me at bazyukd@stancounty.com. All questions regarding this proposal must be submitted in writing either by fax or email.

Please note, the selection process will follow Public Works' procedures for consultant selection, which generally follow Caltrans procedures. Consultants are chosen based on qualifications and the quality of the proposal as shown in the attached "Sample Proposal Evaluation Sheet".

Sincerely,

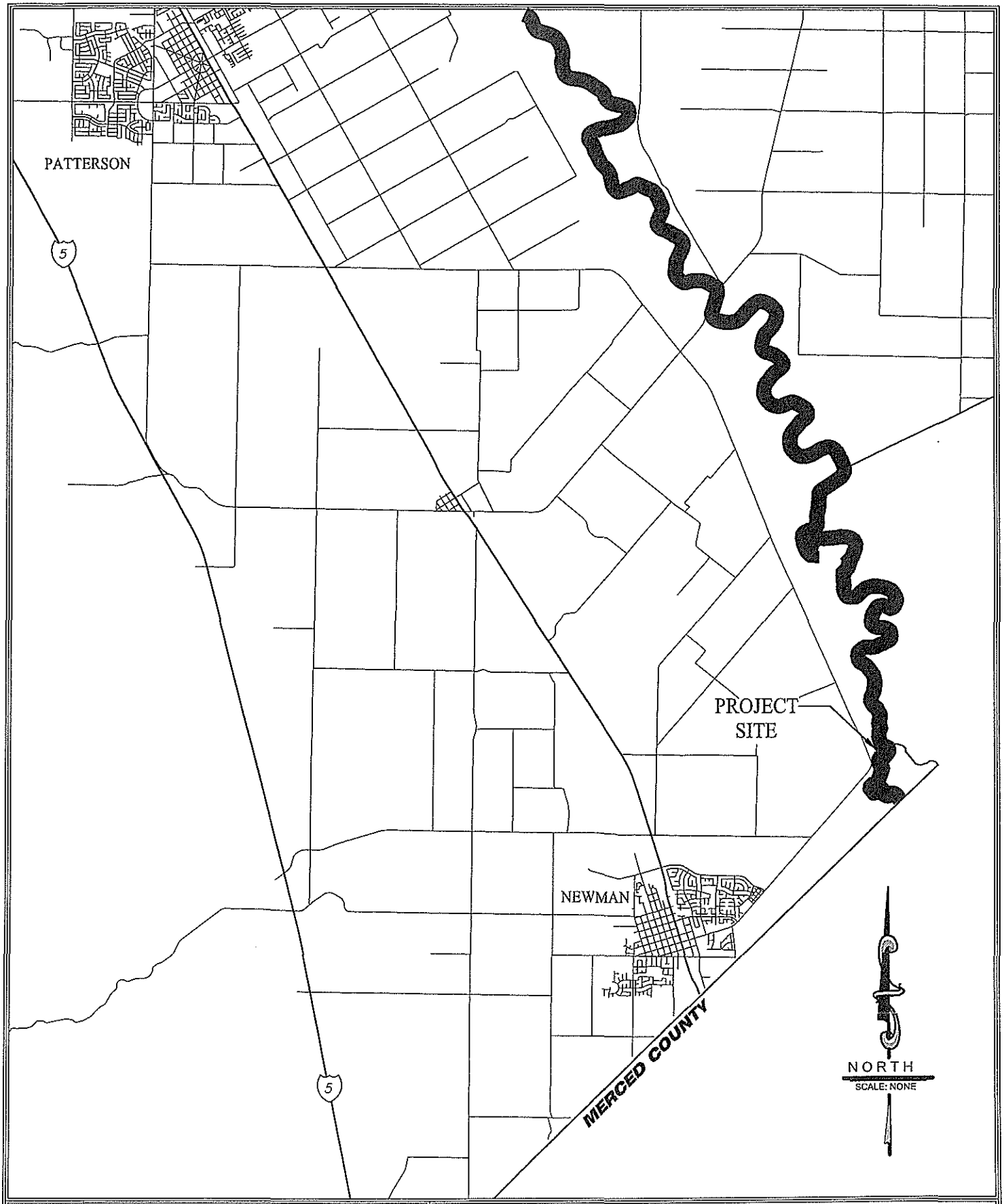
Denis Bazyuk, P.E.



STANISLAUS COUNTY
DEPARTMENT OF PUBLIC WORKS
ENGINEERING AND OPERATIONS DIVISION
1716 MORGAN ROAD – MODESTO, CA 95358

HILLS FERRY ROAD BRIDGE SEISMIC RETROFIT PROJECT

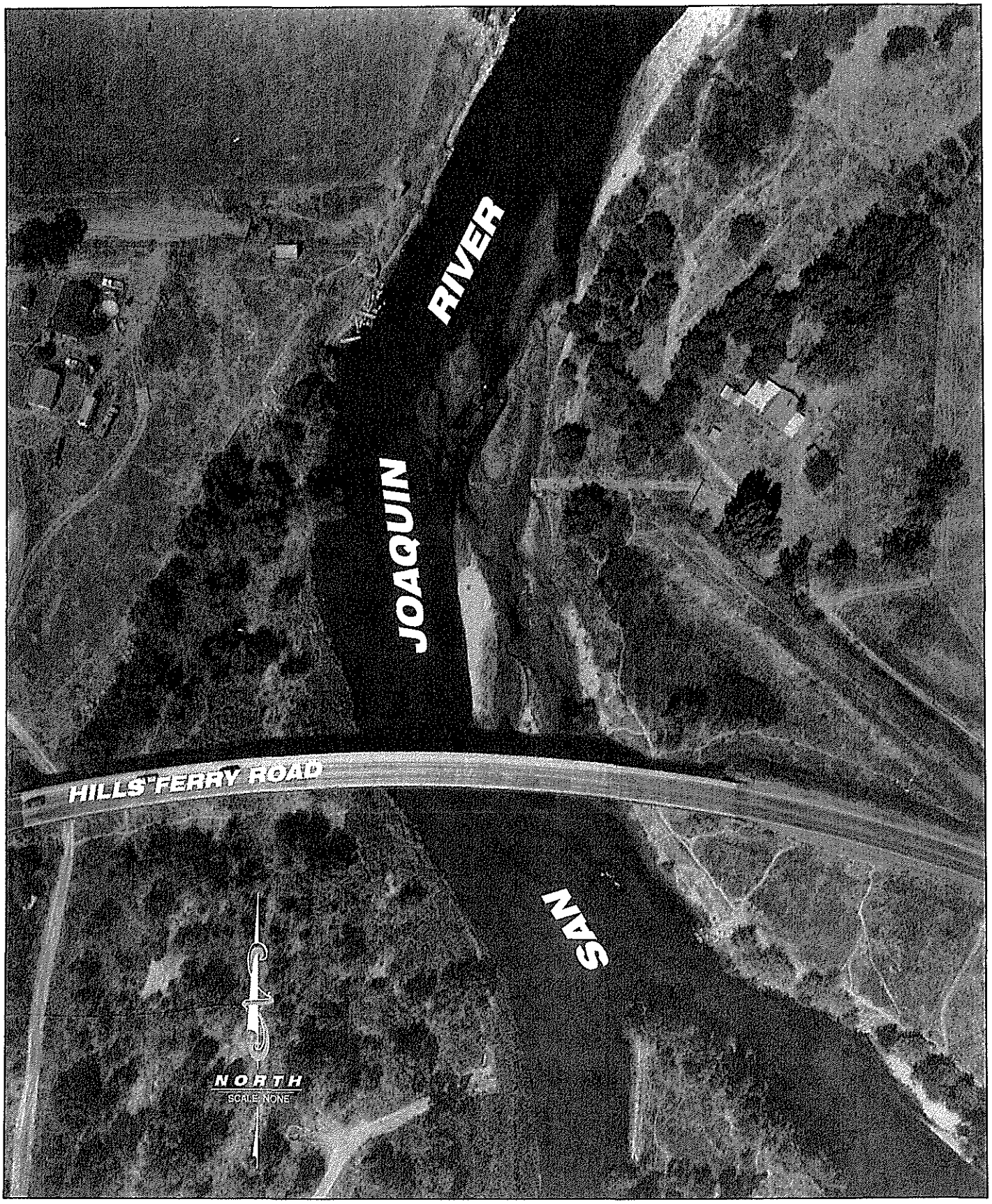
STATE BRIDGE NO.: 39C-0001



STANISLAUS COUNTY
DEPARTMENT OF PUBLIC WORKS
ENGINEERING AND OPERATIONS DIVISION
1716 MORGAN ROAD – MODESTO, CA 95358

HILLS FERRY ROAD BRIDGE SEISMIC RETROFIT PROJECT

STATE BRIDGE NO.: 39C-0001



Stanislaus County
Striving to be the best

STANISLAUS COUNTY
DEPARTMENT OF PUBLIC WORKS
ENGINEERING AND OPERATIONS DIVISION
1716 MORGAN ROAD – MODESTO, CA 95358

HILLS FERRY ROAD BRIDGE SEISMIC RETROFIT PROJECT

STATE BRIDGE NO.: 39C-0001

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STANISLAUS COUNTY
DEPARTMENT OF PUBLIC WORKS

REQUEST FOR PROPOSALS FOR
HILLS FERRY ROAD BRIDGE SEISMIC RETROFIT PROJECT
ALL-INCLUSIVE BRIDGE ENGINEERING SERVICES

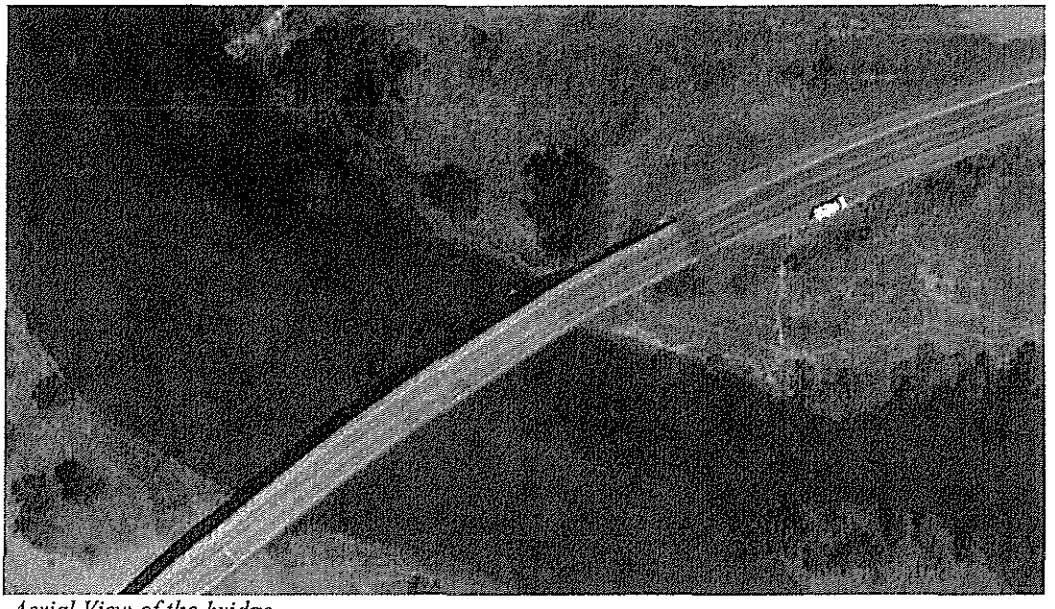
Federal Project No.: STPLZ-5938(176)
State Bridge No.: 39C-0001

The Stanislaus County Public Works Department (County) is the lead agency for the Hills Ferry Road Bridge Seismic Retrofit Project and is soliciting a proposal from the previously qualified bridge consultants for the proposed work identified in the project description and scope of work in this request for proposals.

The selection committee will evaluate all proposals submitted. The selection considerations for evaluating the proposal are included in this request following the "Proposal Requirements" section.

AECOM USA, Inc. performed much of the conceptual work relevant to this project, see attached "AECOM USA, Inc. Records". These records are for the use of potential bidders for this project.

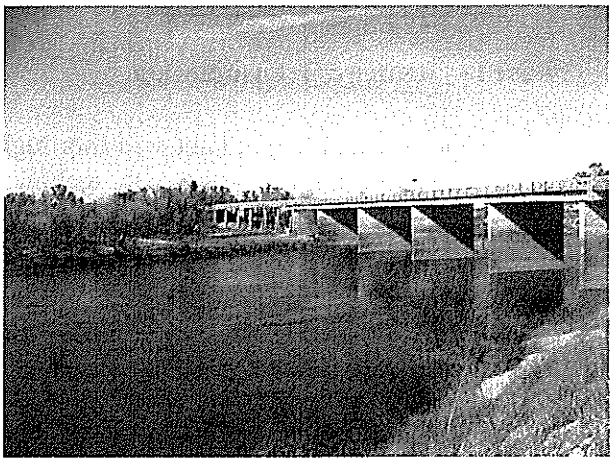
1. INTRODUCTION



Aerial View of the bridge

The Hills Ferry Road Bridge was built in 1961. It consists of reinforced concrete T- beam main spans with reinforced concrete slab approach spans on reinforced concrete pier walls and reinforced concrete pile bents. The bridge is founded on reinforced concrete open-end diaphragm abutments, reinforced concrete piles and steel shell Portland cement concrete piles. The bridge is approximately 647 feet long and 32.5 feet wide. The 18-span reinforced concrete structure crosses the San Joaquin River at the Stanislaus and Merced County lines.

Engineering Issues



There are fine transverse soft cracks near the abutments. Both steel sliding joints are full of dirt and crushed rock. Both AC approaches are about an inch lower than the structure and cracked transversely. Approximately 90% of the chip seal material on the reinforced concrete deck has worn off. There are fine to medium diagonal cracks thru-out the deck. There is a scour hole at the upstream side of pier 15. During the flood season, the stream does not flow perpendicular to the structure. The water hits the pile extensions at about a twenty-degree angle. The steel piles at Bent 16 are exposed approximately 7 to 8 feet below the adjacent embankment level. The pieces of concrete hanging on the steel piles may have been placed previously to protect them from scour, but at this time the ground level is much lower than the concrete.

Studies conducted by Caltrans determined that the bridge is subject to collapse if a significant seismic event occurred. In addition, in a separate study dated March 2000, Caltrans concluded that there is a potential for liquefaction to occur at the site[1].

Project History

- 04-20-93 field review held with Caltrans
- 12-15-94 Merced County agreed with County's proposal for replacing existing bridge railing in conjunction with seismic retrofit
- 09-23-97 Merced and Stanislaus Counties enter into Cooperative Agreement for project with Board of Supervisors approval and Stanislaus County as Lead Agency
- 03-11-98 letter to Caltrans by County raises concern about project site may be in an area of possible liquefaction
- 09-23-99 County submits investigation report to Caltrans from Taber Consultants that liquefaction should be considered
- 03-15-00 Caltrans Division of Structures Maintenance and Investigations concludes that potential liquefaction is evident at site

[1]See attached Seismic Evaluation – Liquefaction & Ground Stability Report dated September 1999

- 06-19-01 County enters into agreement for consulting services with DMJM+Harris for engineering design services
- 05-28-02 County submits Draft Strategy Report to Caltrans
- 10-10-02 Caltrans accepts findings regarding significant risk for liquefaction
- 10-17-02 Seismic Retrofit Strategy approved by Caltrans

2. PROJECT DESCRIPTION

Phase I – Strategy Determination

- The selected Consultant will thoroughly review all available project information. Based on the available information, technical expertise of the Consultant, and the cost benefit analysis, the Consultant will recommend to the County the best project alternative.

- The Consultant will analyze various project options including seismic retrofit and bridge replacement options. The total possible options will be reduced to one or two alternatives considered to be feasible. The cost of retrofitting a structure is often significant, when compared to replacement. Consideration of the environmental constraints and the remaining useful life of the bridge, should be considered.

- **Strategy Meeting:** The Consultant shall be responsible for coordinating and scheduling a strategy meeting. At a minimum, representatives from the following fields shall attend the strategy meeting:

  Caltrans Structures
  Caltrans Earthquake Engineering
  Caltrans Hydraulics
  Caltrans Geotechnical
  Stanislaus County
  Merced County
  Consultant and relevant sub consultants

- **Strategy Report:** A draft Strategy Report, identifying and comparing all feasible project alternatives, shall be submitted to the County for review. The Consultant will also coordinate with Caltrans to determine the most practical project alternative. Once the County and Caltrans approves a specific project alternative, the Consultant will prepare a final Strategy Report thus completing Phase – I of the project.

Phase II – Project Design

- Based on the selected project alternative, the Consultant will conduct preliminary engineering, environmental determination, final design, bid and construction support for the project. It is County's desire to begin construction by the winter of 2017.

3. SCOPE OF WORK

The scope of services will consist of the engineering design and preparation of 100% contract documents consisting of plans, specifications and cost estimates for the construction of this project. The scope of services will also include the necessary environmental studies and work scopes to assist the County to obtain required State and Federal environmental permits and authorizations.

When determining the required tasks for this project, the Consultant shall follow Caltrans Work Breakdown Structure (WBS). The Consultant must be knowledgeable and experienced in the substantive and procedural requirements for applicable environmental, and project permitting. The proposal should contain a detailed scope of work that demonstrates the requisite knowledge and experience and addresses anticipated requirements. The proposal should include all required tasks. The proposal should describe the methodology to be used, specific work to be performed, outcomes and work products. The scope of services should include but is not limited to the following:

i. **PROJECT MANAGEMENT:**

The scope of comprehensive project management includes, but is not limited to, project management, quality assurance and control, and efficiently managing schedules of any sub-consultants involved in the Project. Ultimately, the Consultant will be responsible for completing all Project tasks in timely fashion and to diligently follow the anticipated schedule set forth for this Project.

On a monthly bases, the Consultant shall provide letter-type reports to brief the County on the project progress and, as necessary, hold Project Development Team (PDT) meetings.

ii. **PUBLIC OUTREACH:** Perform necessary public outreach, including community education on the importance of this bridge, and the current condition of the existing bridge in support of the environmental determination.

iii. **GEOTECHNICAL INVESTIGATION:** Provide a geotechnical report for the site as required for the completion of design, construction documents and permit applications. The geotechnical report shall include an evaluation of the effects of any slope erosion or periodic land movements during extreme storm and seismic events, and soil data, seismic parameters and recommendations for the bridge design, to Caltrans standards.

iv. **TOPOGRAPHICAL SURVEY**

- **Horizontal Control**: Zone III, California Coordinate System of North American Datum 1983 (NAD83).

- **Vertical Control**: North American Vertical datum of 1988 (NAVD88). The Consultant shall coordinate with County surveyor to determine the primary vertical datum.
- Perform a Topographic and Property Boundary Survey as needed. For these activities the Consultant will work in close coordination with the County. All Surveying and Mapping shall be in compliance with the provisions of the Professional Land Surveyors Act, Sections 8700 to 8805 Business and Professions Code, the provisions of the California Coordinate System, Sections 8801 through 8819 of the Public Resources Code and any other applicable code in the State of California.
- If necessary, the design shall include any legal descriptions and plats for temporary construction easements, staging areas and disposal areas for excess soil generated by project construction. The Consultant will include and verify any existing surveys, specify existing and proposed Right of Ways, land dedications and easement agreements. At a minimum the Consultant will verify property lines at those locations where any portion of the project infringes upon the required setback limits or lies within 50 feet of project improvements, work areas, storage and staging areas. Consultant should plan on filing a record of survey for the any new right of way acquired.

- The Consultant shall conduct a field topographical survey to be used for the roadway design. The survey shall also include boundary lines and monumentation necessary to prepare right of way maps. Consultant shall prepare a final right of way map and legal descriptions for use by the County in the acquisition of all necessary parcels and easements.

v. ENVIRONMENTAL

Comprehensive environmental services and technical studies necessary for complying with all environmental regulations and requirements applicable to this project. These requirements may include, but are not limited to, various requirements and regulations set forth by National Environmental Policy Act (NEPA), California Environmental Quality Act (CEQA), and any applicable environmental permits. The Consultant shall perform a variety of environmental investigations to State and Federal standards. Preparation of a Preliminary Environmental Study (PES) will be required once a consultant is selected.

- Consultant shall identify in their proposal what in their experience the level of the NEPA/CEQA documents necessary for approval and why. A probable determination for NEPA is a 6005 Cetegorical Exemption (CE) or a mitigated negative declaration. The Consultant will be required to communicate with the appropriate governmental agencies and provide information as necessary. Caltrans Environmental will be responsible for preparing the final NEPA determination. The consultant will be responsible for coordinating the requirements of NEPA and CEQA to reduce duplication of tasks. Caltrans will be the NEPA lead agency and the County will be the CEQA lead agency.

- Permitting: some of the potential permits include but are not limited to:

  Section 404 Nationwide Permit from the U.S. Army Corps of Engineers

Section 7 consultation with NMFS and USFWS on special-status fish species

Section 401 Water Quality Certification (or waiver, if applicable) from the California Regional Water Quality Control Board

Streambed Alteration Agreement from the Department of Fish and Game

A land use lease from the State Lands Commission, and

A reclamation permit from the State Reclamation Board

vi. APPROACH ROADWAY DESIGN

- The Consultant shall perform roadway design in accordance to the latest version of the Caltrans Highway Design Manual and City/County design standards and prepare design plans for construction. Design shall include details for traffic control plans in accordance with the Caltrans Manual of Uniform Traffic Control Devices.

vii. UTILITY DESIGN AND COORDINATION

- **Electrical and Lighting Design**: The Consultant shall be responsible for all electrical design that might be necessary to complete this project. A qualified licensed electrical engineer shall perform all electrical design.
- **Utilities**: The Consultant shall locate all existing utilities in the project area with the topographical survey and determine all potential conflicts. Once all existing utilities are identified in the field, the Consultant shall contact all corresponding utility companies and coordinate the relocation of all affected utilities. Consultant shall be responsible for coordinating the relocation of all existing utilities prior to start of project construction.

viii. BRIDGE STRUCTURAL DESIGN

- The Consultant will perform structural and seismic design investigations, analysis, computations, and prepare detailed structural design plans for the proposed replacement bridge in accordance with the latest Caltrans bridge design techniques including a Foundation Study and Report and a Location Hydraulic Study. A type selection study shall be prepared for approval by the County and Caltrans local assistance. Additional tasks related to the design may include attending meetings such as design coordination meetings, pre-construction conferences, field reviews, field design inspections, and general site visits.

- Standard construction materials shall be used in the design of the proposed bridge replacement wherever possible. Where specialized non-standard construction/building materials are required, the Consultant shall first obtain approval from the County prior to incorporating them into the design.

- **Hydraulics:** some of the hydraulics items may include but are not limited to items listed below. It will be the Consultants responsibility to determine the appropriate components for proper hydraulic analysis.

  - **Scour Report**: Determine the potential abutment, contraction and pier scour for the preferred project configuration. Determine the potential for degradation and channel migration considering historic changes in channel geometry and land use.

  - **Hydrologic Analysis:** Identify the appropriate design flood. Prepare a flood frequency curve for the San Joaquin River channel at the project site.

  - **Existing Condition Hydraulic Analysis:** Prepare an existing condition stage discharge curve and flood profile at the bridge site. Identify the existing condition water surface profiles for the most probable 50- and 100-year floods, flood of record and identify the flow of the overtopping flood.

  - **Preliminary Project Hydraulic Analysis:** Determine conveyance capacities and estimate the effects, if any, of the preliminary configurations on the water surface elevations of the most probable 100-year flood (FEMA Base Flood).

  - **Final Project Hydraulic Analysis:** Prepare a final backwater model representing this bridge including additional project details. Using appropriate model, identify the water surface profiles of the Design Flood, Base Flood (most probable 100-year flood) and other floods of significance to design of the preferred bridge. Identify the minimum required conveyance capacity and the effects of the preferred bridge on risk of flood damage to structures. Determine hydraulic characteristics necessary for estimating potential scour. Prepare figures showing flood profiles and stage-discharge curves as appropriate.

  - **Final Report:** Prepare final report with appropriate recommendations and provide two copies to the County for review.

ix. **RIGHT OF WAY SERVICES**

- **Rights of Entry:** If necessary, the Consultant shall secure Rights of Entry agreements with all affected property owners.
- Consultant shall be responsible for identifying any private right of way that may be affected by the Project. Consultant shall coordinate with property owners and County to acquire any required right of way in timely fashion. Consultant shall plan right of way acquisition so that all right of way acquisitions are complete by the time final plans are delivered to the County. At that time, the Consultant shall prepare Right of Way Certification per Caltrans guidelines and deliver it to the County.

- Consultant shall be responsible for appraisal, appraisal review, acquisition/negotiation, and if necessary, relocation assistance. The County is seeking consultants who are able to perform and coordinate all of these tasks.

x. PLANS, SPECIFICATIONS, AND ESTIMATE (PS&E)

- **Plans:** Project plans prepared by the Consultant shall include an AutoCAD 2010 sets of plans at the 30%, 60%, 90% , and 100% level. All identified and affected existing utilities shall be accurately indicated on the plans. Plans at 60% should be of sufficient level to start right-of-way acquisition after environmental determination is achieved. The Consultant shall coordinate each submittal with County, Caltrans, Merced County and any other agency that might have a stake in the project.

  Plan submittal and specifications must be provided in a digital format. The CAD files, including all topographical data, topographical surfaces, points, alignments, sites, corridors, and pipe networks must be in AutoCAD Civil 3D 2010 format. Standard Caltrans abbreviations shall be strictly used throughout.

- **Specifications:** Consultant shall prepare Special Provisions relevant to the Project that will be used by the County to advertise and construct the project. Three hard copies and one electronic copy on a CD of Special Provisions shall be delivered to the County after 100% plans are ready and signed by the engineer.

- **Estimate:** Project estimate prepared by the Consultant shall use Caltrans standard bid item descriptions wherever possible. Three hard copies and one electronic copy on a CD of final signed and stamped engineer's estimate s shall be delivered to the County after 100% plans are signed by the engineer.

xi. BIDDING AND CONSTRUCTION SUPPORT

a. As part of the proposal, Consultant shall include bid support services that consist of assisting the County in responding to all Requests for Information during the Project advertisement phase.

b. As part of the proposal, Consultant shall include services for engineering construction support. These services include, responding to all Requests for Information (RFI), altering project plans to address any design flaws or inconsistencies, attendance of the pre-construction meeting, review of demolition plans, review of false work and shop drawings, consultation for the construction contractor, and preparation of "as-built" plans.

c. **As-Built Plans**: The Consultant will modify final mylar plans to show final location and layout of all mechanical; electrical and instrumentation equipment; piping and conduits; structures and other facilities. As-built record drawings shall reflect change orders, accommodations, and adjustments to all improvements constructed.

4. PROPOSAL REQUIREMENTS

- The proposal should not exceed 20 pages, not including resumes, no more than one sheet per resume, except for the principals, which may not exceed 2 pages each and no more than 3 principals may be listed (i.e. Project Engineer, Bridge Engineer/Architect, Principal in charge) and cover letter.

- The objective of this request is to obtain a proposal from the pre-qualified consulting firms as listed on the current County Bridge Engineer list. The proposal should be succinct. The submitted material should focus on technical content that demonstrates experience and understanding in environmental process, bridge design and the availability and commitment of the firm and its team. Elaborate or glossy proposals are neither expected nor desired.

- In its proposal to the County for doing all-inclusive (turn-key) consulting work for the Project, the consultant will provide County with an outline of all tasks, using Caltrans WBS, necessary to provide County with a project design that is ready to list for construction.

- The proposal should contain a detailed scope of work that demonstrates the requisite knowledge and experience and addresses anticipated requirements. The proposal should include all required tasks, as either proposed or optional services. The proposal should describe the methodology to be used, specific work to be performed, outcomes and work products. The proposal shall include a risk matrix for the project.

- The Consultant shall follow Caltrans Local Agency Procedure Manual (LAPM) for Federal Aid projects

- As relevant studies are developed for this project, it is possible that discoveries might be made that would require the consultant to perform additional work for this project. Therefore, with this proposal, the consultant is to include a risk matrix that identifies potential risks and analyzes them as to cost, scope and schedule impacts.

- In terms of environmental work, the Consultant is to submit a proposal based on the level of environmental assessment anticipated to be required by Caltrans environmental review for the Project. The anticipated NEPA level is a 6005 Categorical Exemption with required technical studies. However, the Consultant shall provide a strategy is case a higher level of environmental determination is discovered to be required for the project. For the purposes of this proposal, the Consultant is to make reasonable assumption as to the level of environmental assessment and provide and explanation of their choice regarding the level of anticipated environmental assessment. The environmental sub-consultant shall follow the Caltrans Standard Environmental Reference (see www.dot.ca.gov/ser).

- Submit Exhibits 10-O1 and 10-O2 at the time the proposals are due. If the Consultant does not meet the UDBE goal, than a Good Faith Efforts Package must be submitted to the County at the time the proposals are due.

5. SELECTION PROCEDURE

The County shall select the Consultant based on the following procedure:

a. Receive and evaluate the proposal and develop a short list.
b. If necessary, select and notify consultants to be interviewed.
c. Develop final ranking of Consultants.
d. Notify Consultants of the results.
e. Conduct project scoping meeting with top ranked Consultant.
f. Negotiate Contract with top ranked Consultant. If an agreement on the scope of services and compensation cannot be reached, negotiations with the top ranked Consultant will be closed, and negotiations with the next-highest ranked Consultant will be opened. The process is repeated until a contract is successfully negotiated.

6. PROPOSAL SUBMITAL

Only that information specifically requested shall be submitted. If a Consultant recognizes a more efficient method of accomplishing specific tasks or items, the Consultant's fees shall reflect the County's requested work, and the cost increase/savings for the more efficient method shall be noted separately.

If you wish to be considered for Hills Ferry Road Bridge Seismic Retrofit Project All-Inclusive Bridge Engineering Services, submit three copies of your proposal to this office by 5:00 p.m., Friday, August 19, 2011 to:

Mr. Denis Bazyuk, P.E.
Stanislaus County Department of Public Works
1716 Morgan Road
Modesto, CA 95358

The proposal (including all UDBE forms) must be submitted to the County. The required UDBE forms shall be included with the proposal. Along with three hard copies, provide an electronic copy of your proposal (not including Fee Schedule) in PDF format. Include with the proposal, in a **SEPARATE, SEALED ENVELOPE,** your fee proposal. The fee proposal must separate the project into functional tasks (Project Management, Environmental/Permits, Civil, Traffic/Electrical, Right of Way/Public Relations, etc.), and provide the associated fees (not to exceed amount) that define the work to be accomplished. The fee proposal shall include hourly rates for staff and unit prices for various tasks for this project. Sub-consultant fees must be clearly indicated (if applicable).

The successful firm shall be required to enter into a Professional Design Services Agreement with Stanislaus County for the work to be performed. A sample Professional Design Services Agreement is included with this Request for Proposal. The consultant shall state in the submitted proposal that the firm has reviewed the Sample Professional Design Services Agreement, will meet all of the terms and conditions if selected by the County for the requested services, and be able to sign agreement as-is with no changes.

The proposals will be evaluated, at a minimum, based on the following:

1. Understanding of the Work to be Performed
2. Experience with Similar Projects
3. Qualifications and Availability of Staff
4. Project Schedule
5. Familiarity with State and Federal Procedures
6. Demonstrated Technical Ability
7. Demonstration of Professional and Financial Responsibility
8. References

The proposals will be reviewed shortly after the closing date for submittal of proposals. Those firms believed to be the most qualified, based on their proposal, and **may** be subject to an interview.

A copy of this Request for Proposal is available for viewing and download on the Modesto Reprographics website at **www.modestoplanroom.com.** Please contact Modesto Reprographics at (209) 544-2400 for assistance using the website if needed.

The County has established an Underutilized Disadvantaged Business Enterprise (UDBE) goal of 3.1 percent for projects with an overall Disadvantaged Business Enterprise (DBE) goal of 3.6 percent. Information regarding UDBE can be found in the attached *"Notice to Proposers Disadvantaged Business Enterprise Information,"* of this Request for Proposal.

All questions regarding the RFP must be submitted **in writing**. Questions shall be submitted to project manager Denis Bazyuk at bazyukd@stancounty.com or fax to (209) 541-2509. Addendums, if necessary, will be posted on the Modesto Reprographics website.

7. ATTACHMENTS

1. Sample Fee Proposal
2. Notice to Proposers Disadvantaged Business Enterprise Information
3. Exhibit 10-O1
4. Exhibit 10-O2
5. Sample Design Services Agreement
6. Sample Proposal Evaluation Sheet
7. Bridge Reports 1955 to 2007
8. As Built Plans 1959
9. Geotechnical Seismic Evaluation 1993
10. Seismic Evaluation Report 1993
11. Preliminary Plans 1994
12. Liquefaction Study 1999
13. Strategy Report 2004
14. Preliminary Project Plans 2002
15. Hydraulic Analysis 2003

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DEPARTMENT OF PUBLIC WORKS

Matt Machado, PE
Director

Laurie Barton, PE
Deputy Director, Engineering/Operations

Diane Haugh
Assistant Director, Business/Finance

1716 Morgan Road, Modesto, CA 95358
Phone: 209.525.4130 Fax: 209.541.2509

www.stancounty.com/publicworks

ADDENDUM NO. 1

REQUEST FOR PROPOSALS FOR
HILLS FERRY ROAD BRIDGE SEISMIC RETROFIT PROJECT
ALL-INCLUSIVE BRIDGE ENGINEERING SERVICES

IN

STANISLAUS COUNTY

Date: August 12, 2011
Proposals Due: August 19, 2011 5:00 PM

TO ALL BIDDERS

THE FOLLOWING CHANGES AND ADDITIONS ARE HEREBY MADE A PART OF THE REQUEST FOR PROPOSAL AND SHALL BE USED IN PREPARATION OF THE PROPOSAL SUBMITTED FOR THE PROJECT.

CORRECTIONS

1. Remove previously published ***Sample Design Services Agreement*** and replace with attached revised ***Sample Design Services Agreement.***

REASON FOR CORRECTION: *Insurance requirements have been clarified and/or revised.*

RESPONSES TO INQUIRIES

1. Can we use the County's logo in our proposal? (i.e.: cover and org. chart)

RESPONSE*: Yes.*

2. Is the use of 11x17 pages allowed? If so, do they count as one or two pages?

RESPONSE*: Yes 11x17 pages area allowed. However, they should be used sparingly.*

3. Do the UDBE forms count towards the 20 page limit?

RESPONSE*: No, UDBE forms and any related supporting documentation (e.g. proof of Good Faith Effort) do not count towards 20-page limit.*

4. Per the RFP Section 4. **Proposal Requirements** Are the 20 pages limited to 20 single-sided or 20 double-sided sheets?

RESPONSE*: If necessary, the 20 pages may be double-sided.*

5. Can the detailed scope of work be placed in an Appendix of the proposal? If so, will the appendix be included in the 20-page limit?

RESPONSE*:* The intent of the page limitation is to keep the proposals concise and readable. It is up to the proposer to decide what the content should be within the 20 pages. A detailed scope would be expected within the sealed cost proposal portion, which would only be opened for the selected consultant. A detailed scope, without costs could be included in the appendix for reference.

6. The consultant will be responsible for identifying ROW impacts and providing plats and legals to be used in acquisition, while the County will be responsible for appraisal and negotiations for ROW acquisitions? Is this a correct interpretation of what is stated in the RFP?

RESPONSE*: No, this is not a correct interpretation of what is stated in the RFP! The intent of this RFP is to recruit a Consultant that will provide "turn-key" (all inclusive) bridge engineering services.*

This means that the Consultant will be responsible for all aspects of the project including appraisals, any negotiations, and comprehensive ROW acquisition services.

SAMPLE AGREEMENT

STANISLAUS COUNTY
PROFESSIONAL DESIGN SERVICES AGREEMENT

This Agreement is made and entered into by and between the County of Stanislaus, a political subdivision of the State of California, hereinafter referred to as "County" and _____hereinafter referred to as "Consultant".

NOW, THEREFORE, for and in consideration of the mutual covenants and conditions contained herein, the parties hereby agree as follows:

1.0 PROFESSIONAL SERVICES TO BE PROVIDED BY CONSULTANT

1.1. Scope of Services: Consultant shall provide the professional services described in the County's Request for Proposal ("RFP") attached hereto as Exhibit "A" and incorporated herein by reference and Consultant's Response to County's RFP (the "Response"). A copy of said Response is attached hereto as Exhibit "B" and incorporated herein by this reference.

1.2. Professional Practices: All professional services to be provided by Consultant pursuant to this Agreement shall be provided by personnel experienced in their respective fields and in a manner consistent with the standards of care, diligence and skill ordinarily exercised by professional consultants in similar fields and circumstances in accordance with sound professional practices. Consultant also represents that it is familiar with all laws that may affect its performance of this Agreement and shall advise County of any changes in any laws that may affect Consultant's performance of this Agreement.

1.3. Representations: Consultant represents that it has reviewed the RFP and that in its professional judgment the services to be performed under this Agreement can be performed within the maximum fee set forth herein below and within the time specified in the Project Schedule attached hereto. Consultant represents that it is qualified to perform the professional services required by this Agreement and possesses the necessary licenses and permits required to perform said services. Consultant represents that it has no interest and shall not acquire any interest direct or indirect which conflicts, or has the appearance of conflicting, in any manner or degree with the performance of the work and services under this Agreement.

1.4. Compliance with Laws. Consultant agrees that it shall perform the services required by this Agreement in compliance with all applicable Federal and California laws including, but not limited to, those laws related to minimum hours and wages; occupational health and safety; fair employment and employment practices; workers' compensation insurance and safety in employment; and all other Federal, State and local laws and ordinances applicable to the services required under this Agreement.

1.5. Non-Discrimination. During the performance of this Agreement, Consultant and

its officers, employees, agents, representatives or subcontractors shall not unlawfully discriminate in violation of any federal, state or local law, rule or regulation against any employee, applicant for employment or person receiving services under this Agreement because of race, religion, color, national origin, ancestry, physical or mental disability, medical condition (including genetic characteristics), marital status, age, political affiliation, sex or sexual orientation. Consultant and its officers, employees, agents, representatives or subcontractors shall comply with all applicable Federal, State and local laws and regulations related to non-discrimination and equal opportunity, including without limitation the County's nondiscrimination policy; the Fair Employment and Housing Act (Government Code sections 12900 et seq.); California Labor Code sections 1101, 1102 and 1102.1; the Federal Civil Rights Act of 1964 (P.L. 88-352), as amended; and all applicable regulations promulgated in the California Code of Regulations or the Code of Federal Regulations.

1.6. Non-Exclusive Agreement. Consultant acknowledges that County may enter into agreements with other consultants for services similar to the services that are subject to this Agreement or may have its own employees perform services similar to those services contemplated by this Agreement.

1.7. Delegation and Assignment. This is a personal service contract, and the duties set forth herein shall not be delegated or assigned to any person or entity without the prior written consent of County. Consultant may engage a subcontractor(s) as permitted by law and may employ other personnel to perform services contemplated by this Agreement at Consultant's sole cost and expense.

1.8. Covenant Against Contingent Fees. Consultant warrants that he/she has not employed or retained any company or person, other than a bona fide employee working for the consultant; to solicit or secure this agreement; and that he/she has not paid or agreed to pay any company or person other than a bona fide employee, any fee, commission, percentage, brokerage fee, gift, or any other consideration, contingent upon or resulting from the award, or formation of this agreement. For breach or violation of this warranty, the local agency shall have the right to annul this agreement without liability, or at its discretion; to deduct from the agreement price or consideration, or otherwise recover the full amount of such fee, commission, percentage, brokerage fee, gift, or contingent fee.

2.0 COMPENSATION AND BILLING

2.1. Compensation. Consultant shall be paid in accordance with the fee schedule set forth in Exhibit "C", attached hereto and made a part of this Agreement (the "Fee Schedule"). Consultant's compensation shall in no case exceed _____. Consultant will be compensated on a time and materials basis, based on the hours worked by the Consultant's employees or subcontractors at the hourly rates specified in the Fee Schedule. The Fee Schedule rates include direct salary costs, employee benefits, and overhead. The rates stated

in the Fee Schedule are not adjustable during the term of this Agreement. The County may retain ten percent of all periodic or progress payments made to the Consultant until completion and acceptance of all work tasks and County shall have right to withhold payment from Consultant for any unsatisfactory service until such time service is performed satisfactorily.

2.2. Reimbursements. In addition to the aforementioned fees, Consultant will be reimbursed for any expenses specifically set forth in each Project Scope of Work. All such reimbursement amounts are limited to those costs and expenses that are reasonable, necessary and actually incurred by the Consultant in connection with the services provided. The County shall not pay a mark up on any item of reimbursement. The County shall not pay for any item of overhead such as telephone, facsimile, postage, etc. All requests for reimbursement shall be accompanied by a copy of the original invoice.

2.3. Additional Services. Consultant shall not receive compensation for any services provided outside the scope of services specified in Exhibits A and B unless the County or the Project Manager for this Project, prior to Consultant performing the additional services, approves such additional services in writing. It is specifically understood that oral requests and/or approvals of such additional services or additional compensation shall be barred and are unenforceable.

2.4. Method of Billing. Consultant may submit invoices to County's Project Manager for approval on a progress basis, but no more often than once each calendar month. Said invoice shall be based on the total of all Consultants' services that have been completed to County's sole satisfaction. County shall pay Consultant's invoice within forty-five (45) days from the date County receives said invoice. Each invoice shall describe in detail, the services performed and the associated percentage of tasks completed. Any additional services approved and performed pursuant to this Agreement shall be designated as "Additional Services" and shall identify the number of the authorized change order, where applicable, on all invoices.

2.5. Records and Audits. Records of Consultant's services relating to this Agreement shall be maintained in accordance with generally recognized accounting principles and shall be made available to County or its Project Manager for inspection and/or audit at mutually convenient times for a period of three (3) years from the termination of this Agreement.

3.0 TIME OF PERFORMANCE

3.1. Commencement and Completion of Work. The professional services to be performed pursuant to this Agreement shall commence within five (5) days after County delivers its Notice to Proceed. Said services shall be performed in strict compliance with the Project Schedule approved by County as set forth in Exhibit "D", attached hereto and incorporated herein by this reference. The Project Schedule may be amended by mutual agreement of the parties. Failure to commence work in a timely manner and/or diligently pursue work to

completion may be grounds for termination of this Agreement.

3.2. Excusable Delays. Neither party shall be responsible for delays or lack of performance resulting from acts beyond the reasonable control of the party or parties. Such acts shall include, but not be limited to, acts of God, fire, strikes, material shortages, compliance with laws or regulations, riots, acts of war, or any other conditions beyond the reasonable control of a party.

4.0 TERM OF CONTRACT AND TERMINATION

4.1. Term. This Agreement shall commence upon approval by the County's Board of Supervisors and continue until the work required herein is completed, unless previously terminated as provided herein or as otherwise agreed to in writing by the parties.

4.2. Notice of Termination. The County reserves and has the right and privilege of canceling, suspending or abandoning the execution of all or any part of the work contemplated by this Agreement, with or without cause, at any time, by providing written notice to Consultant. The termination of this Agreement shall be deemed effective upon receipt of the notice of termination. In the event of such termination, Consultant shall immediately stop rendering services under this Agreement unless directed otherwise by the County.

4.3. Compensation. In the event of termination, County shall pay Consultant for reasonable costs incurred and professional services satisfactorily performed up to and including the date of County's written notice of termination. Compensation for work in progress shall be prorated as to the percentage of work completed as of the effective date of termination in accordance with the fees set forth in Exhibit "C. In ascertaining the professional services actually rendered hereunder up to the effective date of termination of this Agreement, consideration shall be given to both completed work and work in progress, to complete and incomplete drawings, and to other documents pertaining to the services contemplated herein whether delivered to the County or in the possession of the Consultant.

4.4. Documents. In the event of termination of this Agreement, all documents prepared by Consultant in its performance of this Agreement including, but not limited to, finished or unfinished design, development and construction documents, data studies, drawings, maps and reports, shall be delivered to the County within ten (10) days of delivery of termination notice to Consultant, at no cost to County. Any use of uncompleted documents without specific written authorization from Consultant shall be at County's sole risk and without liability or legal expense to Consultant.

5.0 INSURANCE REQUIREMENTS

5.1. Minimum Scope and Limits of Insurance. Consultant, at its sole cost and expense, for the full term of this Agreement (and any extensions thereof), shall obtain and maintain, at minimum, compliance with all of the following insurance coverage(s) and requirements. If Consultant normally carries insurance in an amount greater than the minimum amount listed below, that greater amount shall become the minimum required amount of insurance for purposes of this Agreement. The insurance listed below shall have a retroactive date of placement prior to, or coinciding with, the date services are first provided that are governed by the terms of this Agreement:

(a) Comprehensive general liability, including premises-operations, products/ completed operations, broad form property damage, blanket contractual liability, independent contractors, personal injury with a policy limit of not less than One Million Dollars ($1,000,000.00), combined single limits, per occurrence and aggregate. If Commercial General Liability Insurance or other form with a general aggregate limit is used, either the general aggregate limit shall apply separately to any act or omission by Consultant under this Agreement or the general aggregate limit shall be twice the required occurrence limit.

(b) Automobile liability for owned vehicles, hired, and non-owned vehicles, with a policy limit of not less than One Million Dollars ($1,000,000.00), combined single limits, per occurrence and aggregate.

(c) Workers' compensation insurance as required by the State of California.

(d) Professional errors and omissions ("E&O") liability insurance with policy limits of not less than One Million Dollars ($1,000,000.00), combined single limit for each occurrence. If Consultant cannot provide an occurrence policy, Consultant shall provide insurance covering claims made as a result of performance of Work on this Project and shall maintain such insurance in effect for not less than three years following Final Completion of the Project.

5.2. Endorsements. The Consultant shall obtain a specific endorsement to all required insurance policies, except Professional Liability insurance, naming the County of Stanislaus, its Officers, Directors, Officials, Agents, Employees and Volunteers as additional insureds for at least three years after the completion of the work to be performed under this Agreement, but, to the extent that any insurance issued to Consultant in effect after the expiration of three years provides additional insured coverage to parties Consultant agreed in writing to name as an additional insured, then Consultant shall have the obligation under this contract to obtain such additional insured coverage for the County, under any and all policies Consultant has regarding:

(a) Liability arising from or in connection with the performance or omission to perform any term or condition of this Agreement by or on behalf of the Consultant, including the insured's general supervision of its subcontractors;
(b) Ongoing services, products and completed operations of the Consultant;
(c) Premises owned, occupied or used by the Consultant; and
(d) Automobiles owned, leased, hired or borrowed by the Consultant.

(e) For Workers' Compensation insurance, the insurance carrier shall agree to waive all rights of subrogation against the County, its officers, officials and employees for losses arising from the performance of or the omission to perform any term or condition of this Agreement by the Consultant.

5.3. Deductibles: Any deductibles, self-insured retentions or named insureds must be declared in writing and approved by County. At the option of the County, either: (a) the insurer shall reduce or eliminate such deductibles, self-insured retentions or named insureds, or (b) the Consultant shall provide a bond, cash, letter of credit, guaranty or other security satisfactory to the County guaranteeing payment of the self-insured retention or deductible and payment of any and all costs, losses, related investigations, claim administration and defense expenses. The County, in its sole discretion, may waive the requirement to reduce or eliminate deductibles or self-insured retentions, in which case, the Consultant agrees that it will be responsible for and pay any self-insured retention or deductible and will pay any and all costs, losses, related investigations, claim administration and defense expenses related to or arising out of the Consultant's defense and indemnification obligations as set forth in this Agreement.

5.4. Certificates of Insurance: At least ten (10) days prior to the date the Consultant begins performance of its obligations under this Agreement, Consultant shall furnish County with certificates of insurance, and with original endorsements, showing coverage required by this Agreement, including, without limitation, those that verify coverage for subcontractors of the Consultant. The certificates and endorsements for each insurance policy are to be signed by a person authorized by that insurer to bind coverage on its behalf. All certificates and endorsements shall be received and, in County's sole and absolute discretion, approved by County. County reserves the right to require complete copies of all required insurance policies and endorsements, at any time.

5.5. Non-limiting: Nothing in this Section or the insurance described herein shall be construed as limiting in any way, the indemnification provisions contained in this Agreement, or the liability of Consultant and Consultant's officers, employees, agents, representatives or subcontractors for payments of damages to persons or property.

5.6. Primary Insurance: The Consultant's insurance coverage shall be primary insurance regarding the County of Stanislaus, its Officers, Directors, Officials, Agents, Employees and Volunteers. Any insurance or self-insurance maintained by the County of Stanislaus, its Officers, Directors, Officials, Agents, Employees and Volunteers shall be excess of the Consultant's insurance and shall not contribute with Consultant's insurance. Any failure to comply with reporting provisions of the policies shall not affect coverage provided to the County or its officers, officials and employees. The Consultant's insurance shall apply separately to each insured against whom claim is made or suit is brought, except with respect to the limits of the insurer's liability. Any and all insurances carried by it shall be deemed liability coverage for any and all actions it performs in connection with this Contract.

5.7. Cancellation of Insurance: Each insurance policy required by this section shall be endorsed to state that coverage shall not be suspended, voided, canceled by either party except after thirty (30) days prior written notice has been given to County. The Consultant shall promptly notify, or cause the insurance carrier to promptly notify, the County of any change in the insurance policy or policies required under this Agreement, including, without limitation, any reduction in coverage or in limits of the required policy or policies. Consultant shall maintain such coverage in effect for three (3) years after substantial completion of the project to the extent it is commercially available at reasonable rates.

5.8. California Admitted Insurer: Insurance shall be placed with California admitted insurers (licensed to do business in California) with a current rating by Best's Key Rating Guide of no less than A-:VII; provided, however, that if no California admitted insurance company provides the required insurance, it is acceptable to provide the required insurance through a United States domiciled carrier that meets the required Best's rating and that is listed on the current List of Eligible Surplus Line Insurers maintained by the California Department of Insurance.

5.9. Subcontractors: Consultant shall require that all of its subcontractors are subject to the insurance and indemnity requirements stated herein, or shall include all subcontractors as additional insureds under its insurance policies.

6.0 INDEMNIFICATION

6.1. Indemnification: To the fullest extent allowed by law, Consultant shall defend, indemnify, and hold harmless the County and its officers, directors, officials, agents, employees, volunteers and representatives (collectively, "Indemnitee") from and against any and all claims, suits, actions, losses, injuries, damages or expenses of every name, kind, and description, including litigation costs and reasonable attorney's fees incurred, (collectively, "losses") which are founded upon, arise out of, pertain to, or relate to, directly or indirectly, in whole or in part, the alleged negligence, recklessness, or willful misconduct of Consultant, its officers, agents, employees, volunteers, representatives, contractors and subcontractors, excluding, however, such liabilities caused in part by the sole negligence, active negligence or willful misconduct of the County, its agents, employees, and representatives. These indemnification obligations shall not be limited by any assertion or finding that (1) the person or entity indemnified is liable by reason of non-delegable duty, or (2) the losses were caused in part by the negligence of, breach of contract by, or violation of law by Indemnitee. Nothing in this Agreement, including the provisions of this paragraph, shall constitute a waiver or limitation of any rights which Indemnitee may have under applicable law, including without limitation, the right to implied indemnity.

6.2. Duty to Defend: The duty of Consultant to indemnify and save harmless as set forth herein, shall include both the duty to indemnify and at Consultant's own cost and expense

the duty to defend as set forth in Section 2778 of the California Civil Code and as limited in section 2782.8 of the California Civil Code. This duty to defend arises immediately when such claim is made and shall be independent of any finding of negligence and shall arise regardless of any claim or assertion that Indemnitee caused or contributed to the Losses. Consultant shall provide legal counsel acceptable to the County.

6.3. Duty to Cooperate: Each party shall notify the other party within ten (10) days in writing of any claim or damage related to activities performed under this Agreement. The parties shall cooperate with each other in the investigation and disposition of any claim arising out of the activities under this Agreement. Specifically, Consultant shall take all steps necessary to assist the County in the defense of any claim brought by a contractor hired to construct the Project regarding any errors, flaws, and/or omissions in the plans or specifications of the Project.

6.4. Patent Rights: Consultant represents that professional services provided by Consultant pursuant to this Agreement does not infringe on any other copyrighted work. Consultant shall defend, indemnify and hold harmless the County from all loss, cost, damage, expense, liability or claims, including attorneys' fees, court costs, litigation expenses and expert consultant or witness fees, that may at any time arise for any infringement of the patent rights, copyright, trade secret, trade name, trademark, service mark or any other proprietary right of any person or persons in consequence of the use by the County of any articles or services supplied under this agreement.

6.5. The foregoing provisions shall survive the term and termination of this Agreement.

7.0 GENERAL PROVISIONS

7.1. Entire Agreement: This Agreement constitutes the entire Agreement between the parties with respect to any matter referenced herein and supersedes any and all other prior writings and oral negotiations. This Agreement may be modified only in writing, and signed by the parties in interest at the time of such modification. The terms of this Agreement shall prevail over any inconsistent provision in any other contract document appurtenant hereto, including exhibits to this Agreement.

7.2. Representatives. The Director of the Stanislaus County Department of Public Works, or his designee, shall be the representative of County for purposes of this Agreement and may issue all consents, approvals, directives and agreements on behalf of the County, called for by this Agreement, except as otherwise expressly provided in this Agreement. Consultant shall designate a representative for purposes of this Agreement who shall be authorized to issue all consents, approvals, directives and agreements on behalf of Consultant called for by this Agreement, except as otherwise expressly provided in this Agreement.

7.3. Project Managers. County shall designate a Project Manager to work directly with Consultant in the performance of this Agreement. Consultant shall designate a Project Manager who shall represent it and be its agent in all consultations with County during the term of this Agreement. Consultant or its Project Manager shall attend and assist in all coordination meetings called by County.

7.4. Designated Personnel: A material covenant of this agreement is that the Consultant shall assign the individuals designated below to perform the functions designated so long as they continue in the employ of the Consultant. The designated individuals shall, so long as their performance continues to be acceptable to County, remain in charge of the services for the Project from beginning through completion of services.

a. Project Manager:
b. Lead/Manager:

7.5. Removal of Personnel or Sub-Consultants: If the County, in its sole discretion at any time during the term of this agreement, desires the removal of any person or sub-consultant assigned by Consultant to perform services, then the Consultant shall remove such person or consultant immediately upon receiving notice from the County.

7.6. Notices: Any notices, documents, correspondence or other communications concerning this Agreement or the work hereunder may be provided by personal delivery, facsimile or mail and shall be addressed as set forth below. Such communication shall be deemed served or delivered: a) at the time of delivery if such communication is sent by personal delivery; b) at the time of transmission if such communication is sent by facsimile; and c) 48 hours after deposit in the U.S. Mail as reflected by the official U.S. postmark if such communication is sent through regular United States mail.

If to County:
Stanislaus County
Department of Public Works
Attn: Contracts Administrator
1716 Morgan Road
Modesto, California 95358

If to Consultant:

7.7. Attorneys' Fees: In the event that litigation is brought by any party in connection with this Agreement, the prevailing party shall be entitled to recover from the opposing party all costs and expenses, including reasonable attorneys' fees, incurred by the prevailing party in the exercise of any of its rights or remedies hereunder or the enforcement of any of the terms, conditions, or provisions hereof.

7.8. Governing Law: This Agreement shall be governed by and construed under the laws of the State of California without giving effect to that body of laws pertaining to conflict of laws. In the event of any legal action to enforce or interpret this Agreement, the parties hereto agree that the sole and exclusive venue shall be a court of competent jurisdiction located in

Stanislaus County, California.

7.9. Assignment: Consultant shall not voluntarily or by operation of law assign, transfer, sublet or encumber all or any part of Consultant's interest in this Agreement without County's prior written consent. Any attempted assignment, transfer, subletting or encumbrance shall be void and shall constitute a breach of this Agreement and cause for termination of this Agreement. Regardless of County's consent, no subletting or assignment shall release Consultant of Consultant's obligation to perform all other obligations to be performed by Consultant hereunder for the term of this Agreement.

7.10. Independent Contractor: Consultant is and shall be acting at all times as an independent contractor and not as an employee of County. Consultant shall secure, at his expense, and be responsible for any and all payment of Income Tax, Social Security, State Disability Insurance Compensation, Unemployment Compensation, and other payroll deductions for Consultant and its officers, agents, and employees, and all business licenses, if any are required, in connection with the services to be performed hereunder. Consultant hereby indemnifies and holds County harmless from any and all claims that may be made against County based upon any contention by any third party that an employer-employee relationship exists by reason of this Agreement.

7.11. Confidentiality: The Consultant agrees to keep confidential all information obtained or learned during the course of furnishing services under this Agreement and to not disclose or reveal such information for any purpose not directly connected with the matter for which services are provided.

7.12. Ownership of Documents: Any interest, including copyright interests, of Consultant or its contractors or subconsultants in studies, reports, memoranda, computational sheets, drawings, plans or any other documents, including electronic data, prepared in connection with the Services, shall be the property of County. To the extent permitted by law, work product produced under this Agreement shall be deemed works for hire and all copyrights in such works shall be the property of the County. In the event that it is ever determined that any works created by Consultant or its subconsultants under this Agreement are not works for hire, Consultant hereby assigns to County all copyrights to such works. With the County's prior written approval, Consultant may retain and use copies of such works for reference and as documentation of experience and capabilities.

7.13. Reuse of Design Documents: Should the County desire to reuse the documents specified above and not use the services of the Consultant, then the County agrees to require the new consultant to assume any and all obligations for the reuse of the documents, and the County releases Consultant and its subconsultants from all liability associated with the reuse of such documents.

7.14. Public Records Act Disclosure: Consultant has been advised and is aware that all reports, documents, information and data including, but not limited to, computer tapes, discs or

files furnished or prepared by Consultant, or any of its subcontractors, and provided to County may be subject to public disclosure as required by the California Public Records Act (California Government Code Section 6250 et. seq.). Exceptions to public disclosure may be those documents or information that qualifies as trade secrets, as that term is defined in the California Government Code Section 6254.7, and of which Consultant informs County of such trade secret. The County will endeavor to maintain as confidential all information obtained by it that is designated as a trade secret. The County shall not, in any way, be liable or responsible for the disclosure of any trade secret including, without limitation, those records so marked if disclosure is deemed to be required by law or by order of the Court.

7.15. Responsibility for Errors: Consultant shall be responsible for its work and results under this Agreement. Consultant, when requested, shall furnish clarification and/or explanation as may be required by the County's representative, regarding any services rendered under this Agreement at no additional cost to County. In the event that an error or omission attributable to Consultant occurs, then Consultant shall, at no cost to County, provide all necessary design drawings, estimates and other Consultant professional services necessary to rectify and correct the matter to the sole satisfaction of County and to participate in any meeting required with regard to the correction.

7.16. Order of Precedence: In the event of an inconsistency in this Agreement and any of the attached Exhibits, the terms set forth in this Agreement shall prevail. If, and to the extent this Agreement incorporates by reference any provision of the RFP or the Response, such provision shall be deemed a part of this Agreement. Nevertheless, if there is any conflict among the terms and conditions of this Agreement and those of any such provision or provisions so incorporated by reference, this Agreement shall govern over both the Response and the RFP and the Response shall govern over the RFP.

7.17. Costs: Each party shall bear its own costs and fees incurred in the preparation and negotiation of this Agreement and in the performance of its obligations hereunder except as expressly provided herein.

7.18. No Third Party Beneficiary Rights: This Agreement is entered into for the sole benefit of County and Consultant and no other parties are intended to be direct or incidental beneficiaries of this Agreement and no third party shall have any right in, under or to this Agreement.

7.19. Construction: The parties have participated jointly in the negotiation and drafting of this Agreement. In the event an ambiguity or question of intent or interpretation arises with respect to this Agreement, this Agreement shall be construed as if drafted jointly by the parties and in accordance with its fair meaning. There shall be no presumption or burden of proof favoring or disfavoring any party by virtue of the authorship of any of the provisions of this Agreement.

7.20. Amendments: This Agreement may be amend only by a writing executed by the

parties hereto or their respective successors and assigns.

7.21. Waiver: The delay or failure of either party at any time to require performance or compliance by the other of any of its obligations or agreements shall in no way be deemed a waiver of those rights to require such performance or compliance. No waiver of any provision of this Agreement shall be effective unless in writing and signed by a duly authorized representative of the party against whom enforcement of a waiver is sought. The waiver of any right or remedy in respect to any occurrence or event shall not be deemed a waiver of any right or remedy in respect to any other occurrence or event, nor shall any waiver constitute a continuing waiver.

7.22. Severability: If any provision of this Agreement is determined by a court of competent jurisdiction to be unenforceable in any circumstance, such determination shall not affect the validity or enforceability of the remaining terms and provisions hereof or of the offending provision in any other circumstance. Notwithstanding the foregoing, if the value of this Agreement, based upon the substantial benefit of the bargain for any party is materially impaired, which determination as made by the presiding court or arbitrator of competent jurisdiction shall be binding, then both parties agree to substitute such provision(s) through good faith negotiations.

7.23. Counterparts: This Agreement may be executed in one or more counterparts, each of which shall be deemed an original. All counterparts shall be construed together and shall constitute one agreement.

7.24. Corporate Authority: The persons executing this Agreement on behalf of the parties hereto warrant that they are duly authorized to execute this Agreement on behalf of said parties and that by doing so, the parties hereto are formally bound to the provisions of this Agreement.

(SIGNATURES ON THE NEXT PAGE)

IN WITNESS WHEREOF, the parties hereto have caused this Agreement to be executed by and through their respective authorized officers:

COUNTY OF STANISLAUS

By: _____
Matt Machado, Director
Department of Public Works

Resolution No._____
Date:_____

APPROVED AS TO FORM:
John P. Doering
County Counsel

By: _____
Thomas E. Boze
Deputy County Counsel

CONSULTANT

By:_____

EXHIBIT A

COUNTY'S REQUEST FOR PROPOSAL

EXHIBIT B

CONSULTANT'S RESPONSE TO COUNTY'S REQUEST FOR PROPOSAL

EXHIBIT C

CONSULTANTS FEE SCHEDULE

EXHIBIT D

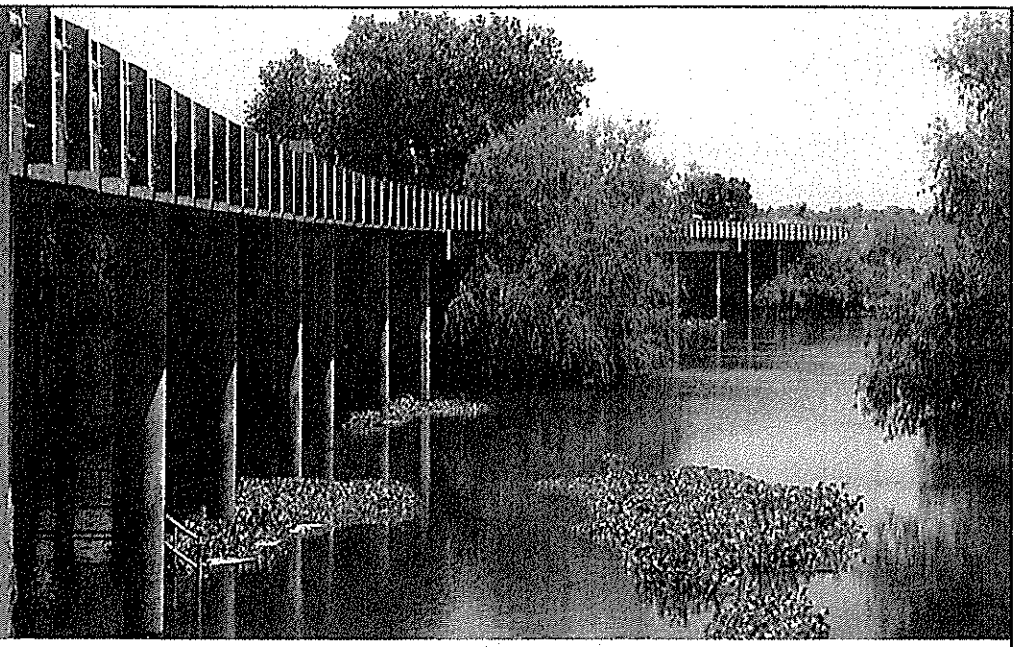
PROJECT SCHEDULE

EXHIBIT B

CONSULTANT'S RESPONSE TO COUNTY'S REQUEST FOR PROPOSAL

PREPARED FOR:

Stanislaus County
Striving to be the Best



HILLS FERRY ROAD BRIDGE SEISMIC RETROFIT PROJECT

BRIDGE NO: 39C-0001
FEDERAL PROJECT NO: STPLZ-5938 (176)

PREPARED BY:

INTERNATIONAL

AUGUST 19, 2011

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August 19, 2011

Stanislaus County
Department of Public Works
1716 Morgan Road
Modesto, CA 95358

Attention: Mr. Denis Bazyuk, P.E.

Subject: HILLS FERRY ROAD BRIDGE SEISMIC RETROFIT ALL-INCLUSIVE BRIDGE ENGINEERING SERVICES

Dear Mr. Bazyuk:

T.Y. Lin International (TYLI) is extremely pleased to submit this proposal to provide all-inclusive bridge engineering services for the Hills Ferry Road Bridge Seismic Retrofit Project. This proposal and accompanying sealed envelope includes all of the information required in response to the County's Request for Proposal dated July 20, 2011 and Addendum 1 issued on August 12, 2011. Additionally, we have included a detailed scope without cost in the Appendix of the proposal for your reference. This project is a perfect fit for our team and we appreciate the opportunity to present our vision for making it a great success for the County.

Serving as your Project Manager, I will be responsible for delivering this project with minimal commitment of County resources. We have assembled a team capable of providing all the necessary services and support right up to the ribbon cutting. I am a bridge engineer by training, having started my career over 30 years ago with the California Department of Transportation (Caltrans) Office of Structure Design, gaining experience in bridge design, maintenance, construction and highway design. My first Highway Bridge Program project was the Ingraham Street Bridge over Mission Bay Channel in San Diego in 1982. Since then, I have been continuously involved in these unique projects. My most recent completed HBP project was the $35million replacement of the River Road Bridge over the Santa Ana River. Currently I am the project manager for the replacement of the Jellys Ferry Road Bridge over the Sacramento River for Tehama County.

I am well known to Caltrans and am one of only a handful of project managers that they have entrusted with major structure design assignments such as the Seismic Retrofit of the San Diego - Coronado Bay Bridge. I am also a founding member of the ACEC / Caltrans Structures Liaison Committee, having served as chair for the majority of the past 15 years which has helped keep me abreast of the latest developments in California bridge engineering.

The TYLI Sacramento office, which I manage and will serve as project headquarters, is set up specifically for HBP projects and has successfully completed over 25 such projects in its 11 years of existence. In fact, the business plan for this office is to serve local agencies throughout Northern California for HBP and other municipal transportation projects.

We have assembled an incredibly talented team to deliver this project. My right-hand man and Project Engineer is Chris Hodge. Chris is also a career bridge engineer with extensive HBP experience. His knowledge of bridge design and construction and his attention to detail are unsurpassed. Chris will lead all the engineering work, including the bridge design, and will serve as my liaison with our subconsultants.

Projects can easily become delayed during the environmental process. Jack Gouge is TYLI's in-house environmental planner and his job is to ensure this doesn't happen on our projects. Jack will be supported by LSA Associates, who we partner with regularly, and knows the HBP environmental process exceptionally well through extensive hands-on experience. Jack will provide coordination and oversight of LSA's work and will perform QA reviews of their work prior to transmittal to Caltrans for review.

All of the key staff for our team has availability to give the project their maximum attention and energy.

Our team for the Hills Ferry Bridge Seismic Retrofit Project is comprised of:

Company	Role
T.Y. Lin International	Prime Consultant
LSA Associates	Environmental
Blackburn Consulting	Geotechnical
WRECO	Hydraulics/Hydrology
Y&C Transportation Consultants	Electrical/Lighting
NorthStar Engineering Group	Survey
Overland, Pacific & Cutler	ROW Acquisition
Cogdill & Giomi	Appraisal
W.F. Bambas Appraisal Company	Appraisal Review
Judith Buethe Communications	Public Outreach

TYLI has done its homework, inspected the site, reviewed previous work, and has developed a sound project approach based on the following strategies:

- Employ thorough and "all-inclusive" management and coordination
- Build upon past progress
- Provide sound and compelling solutions for approvals
- Perform detailed Quality Control and Assurance to expedite reviews
- Create readily constructible designs that streamline construction and avoid or minimize environmental impacts

We are committed to working with Caltrans to secure the maximum level of federal funding for this project and fulfilling the County's objectives. We plan to achieve this through a combination of cost/benefit and value analysis.

Once again, we appreciate this opportunity and look forward to the next stage of the process and presenting our team and our approach to the County in person and answering any questions you may have.

I will be the County's point of contact for this assignment, with the following information:

Mr. Mark Ashley, P.E.
Senior Vice President
T.Y. Lin International
3301 C Street, Building 100-M
Sacramento, CA 95816

Phone - (916) 366-6331, ext. 2263
Fax - (916) 366-6536
E-mail - Mark.Ashley@tylin.com

If you have any questions regarding our qualifications, ***please do not hesitate to contact me***. We appreciate the opportunity to present our qualifications and look forward to hearing from you soon.

Sincerely,

T·Y·LIN INTERNATIONAL

Mark Ashley, P.E.
Senior Vice President

INTRODUCTION

The Hills Ferry Bridge Seismic Retrofit Project is about to be advanced rapidly toward approval, design, and construction. To the extent that this project is predominantly about public safety, time is of the essence. The T.Y. Lin International (TYLI) Team has done its homework and has formulated a sound approach for jump-starting progress and getting this important project finished as efficiently and expeditiously as possible. The highlights of our approach are:

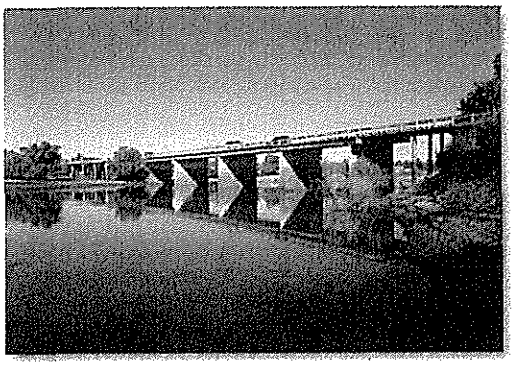
- ✓ Employ thorough and "all-inclusive" management and coordination
- ✓ Build upon past progress
- ✓ Provide sound and compelling solutions for approvals
- ✓ Perform detailed Quality Control and Assurance to expedite reviews
- ✓ Create readily constructible designs that streamline construction and avoid or minimize environmental impacts

The TYLI Team has inspected the project site and reviewed the as-built plans, maintenance reports, and previous seismic retrofit evaluation work performed between 1993 and 2004. The project (build) alternatives are:

1. Seismic Retrofit Only
2. Seismic Retrofit with Barrier Upgrade and Shoulder Widening
3. Bridge Replacement

Of these, the 2004 Final Seismic Retrofit Strategy Report recommends bridge replacement for a variety of compelling reasons. Caltrans had previously stated that the level of funding available under the Highway Bridge Program (HBP) would be limited to the amount required to cover seismic retrofit only. It will be critical to determine as soon as possible if additional federal funding can be secured by various means or if local funds can be identified in order to expand the scope of the project if so desired by the County. The TYLI Project Manager will take the lead in resolving this matter so that project approvals and delivery will be expedited.

Once the design concepts developed from 2004 are revalidated or new measures are defined, the TYLI Team will update the construction cost estimates, add life cycle cost and life expectancy, and proceed forward with selection of a preferred retrofit strategy through coordination with the County and Caltrans. Once the preferred retrofit strategy is selected, the engineering will be updated and the remainder of project development will proceed to completion. This approach builds on past progress, avoids unnecessary duplication of effort and minimizes time and cost.



PROJECT BACKGROUND

Crossing the San Joaquin River at the Stanislaus/Merced County Line, the Hills Ferry Bridge is one of 1,235 publicly-owned local agency bridges in California identified through a screening process as potentially vulnerable to collapse during an earthquake. In addition, the Hills Ferry Bridge is one of 479 structures in the State eligible for construction funding under the Proposition 1B Local Bridge Seismic Retrofit Account. Stanislaus County is the lead local agency for the seismic retrofit of the bridge and has entered into a Memorandum of Agreement with Merced County this year to equitably share the cost of preliminary engineering.

Seismic retrofit engineering work was initiated in 1993 by Caltrans and advanced by Stanislaus County from 2001 to 2004. These earlier studies identified foundation vulnerabilities due to potential liquefaction, resulting in required extensive and costly seismic retrofit work. Additionally, the bridge has substandard traffic railings and possible waterway issues due to apparent river migration and widening. Given the age of the existing bridge, replacement of the bridge has been suggested as the most cost-effective solution in the long run although it is likely to be more expensive initially.

EXISTING BRIDGE

History

The Hills Ferry Road/River Road Bridge was constructed in 1961 as a replacement for the original 1901 wood trestle and steel swing span truss bridge constructed as part of old state highway route 122. The 1961 replacement project realigned Hills Ferry Road from its original tangent alignment by shifting the river crossing south (or upstream) of the original location along a horizontal curve and closer to the confluence of the Merced and San Joaquin Rivers. This action also relocated the original intersection of Hills Ferry Road and River Road southerly by 650 feet to its current location.

Description

Through the anticipated project limits, Hills Ferry Road features a flat (0%) vertical profile grade while traversing a 1,600 ft radius horizontal curve. The cross slope of the approach roadway on each end transitions from a normally crowned road to a constant 7% super elevation on the bridge. At the crossing location, the approach roadways are built upon nearly 15-20 ft of embankment fill placed during the 1961 construction to partially fill in the original floodplain and shorten the required bridge length.

Right-of-way limits extend transversely 100 ft each side of roadway centerline at the current bridge and 50 ft each side of roadway centerline along the approach roadways.

The existing bridge is 647 ft long and 32 ft-7 in wide. The piers and bents are all aligned parallel to the predominant directions of river flow during low flows and have variable skews due to the curved alignment. The structure is comprised of three reinforced concrete (RC) frames.

- ✓ The eastern end frame (4 spans) consists of cast-in-place (CIP)/RC continuous slab spans supported on RC column extension bents and a RC diaphragm abutment. All elements founded on cast-in-steel-shell (CISS) piles.
- ✓ The center frame (5 spans) consists of CIP/RC continuous tee beam spans supported on RC pier walls and founded on RC pile caps with CISS piles.
- ✓ The western end frame (9 spans) consists of CIP/RC continuous slab spans supported on CISS pile and extension bents and a RC diaphragm abutment founded on CISS piles.

SEISMIC RETROFIT PROJECT

Previous Studies

1993 – Seismic Evaluation Report: Structural as-built seismic assessment and retrofit strategy development study. Engineering analyses and reporting included geotechnical evaluation of existing logs-of-test-boring. The seismic response and capacities of the structure were largely found to be adequate. Study findings along with additional agreements between the Counties and Caltrans determined seismic retrofit along with bridge barrier replacement to be the preferred retrofit/rehabilitation scheme.

1999 – Liquefaction Study: This study established risk of liquefaction and seismically induced lateral spread at project site. Engineering analyses and reporting included geotechnical evaluation of existing logs-of-test-boring and additional field sampling and testing. Caltrans subsequently concurred with findings.

2004 – Strategy Report: A revised seismic assessment and retrofit strategy development study was conducted to address updated seismic loading criteria (acceleration response spectrum with near fault effects), loadings and deformations from liquefaction and lateral spread, and effects from scour. A 2001 geotechnical engineering analyses and reporting included evaluation of previous logs-of-test-boring for seismicity and soil-structure loads and capacities. Additional 2003 hydraulic analyses and reporting included modeling of the crossing location for water surface impacts due to various replacement structure configurations.

Seismic Vulnerabilities

The seismic vulnerabilities of the existing structural elements are based on a "no collapse" criterion. The deficiencies result from the seismic response of the bridge exceeding the calculated capacities, whether that is local or global displacements, bending moments, induced shears, or applied soil loads. Due to the increases in the applied acceleration spectrum and the inclusion of effects from liquefaction and lateral spreading, the conclusions from the 1993 and 2004 retrofit studies differed greatly, as shown in the following list of noted deficiencies:

1993 Seismic Vulnerabilities

- Bent cap region for joint shear at RC pile extension/RC slab joints
- CISS piles at footings for pile axial compression and tension (acceptable global response)
- Seat length at interior hinge locations
- Additional Deficiency-Bridge barriers

2004 Seismic Vulnerabilities

- RC slab spans and bent caps for flexure and shear
- RC tee beam spans for flexure and shear
- Seat length at interior hinge locations
- CISS piles with RC extensions for flexure and shear
- CISS piles and extensions for flexure
- CISS piles at footings for pile axial compression and tension (acceptable global response)
- CISS piles at footings for pile flexure
- CISS piles at abutments for flexure and shear
- Seismic slope stability of eastern embankment and channel bank
- Additional Deficiency-Bridge barriers

Retrofit Strategies

Retrofit Existing Bridge

The "no collapse" philosophy for seismic retrofitting existing structures seeks to constrain damage into prescribed locations via controlled and ductile mechanisms (e.g., flexural yielding) and avoid sudden or catastrophic mechanisms (e.g., shear rupture, compression failures, and

liquefaction). Based on the Final 2004 Retrofit Strategy Report, the retrofit scheme presented to and approved by Caltrans includes the following measures:

- Full height "super-bents" at all bents in the eastern end frame. The "super-bents" are comprised of large diameter CISS or cast-in-drilled-hole (CIDH) shafts with the tops of the shafts connected by a RC link beam enveloping the tops of the pile extension.
- Full height "super-bents" at the end two piers at each end of the center frame. The "super-bents" are comprised of large diameter CISS or CIDH shafts with the tops of the shafts connected by a RC link beam enveloping the tops of the pier walls.
- Partial height supplemental foundations at the two interior piers of the center frame. The supplemental foundations are comprised of large diameter CISS or CIDH shafts with the tops of the shafts connected by a RC link beam enveloping the pier wall pile cap.
- Drop cap bolsters at all bents in the western end frame. The drop caps are comprised of RC beams enveloping the tops of the pile extensions and anchored into the bottom of the slab deck.
- Transverse abutment anchor at each abutment. The abutment anchors are comprised of large diameter CISS or CIDH shafts with the tops of the shafts connected by a RC link beam enveloping and connecting to the back and side faces of the abutment.
- Cable hinge restrainers and pipe shear keys at interior hinge locations.

As memorialized in the minutes from the Caltrans Seismic Strategy Review Meeting on October 10, 2002, the approved retrofit scheme does not include barrier or shoulder safety improvements. The approved retrofit scheme was quite extensive and required significant foundation and subsurface measures. The estimated 2004 construction cost for the retrofit-only scheme was $3,940,000.

Bridge Replacement

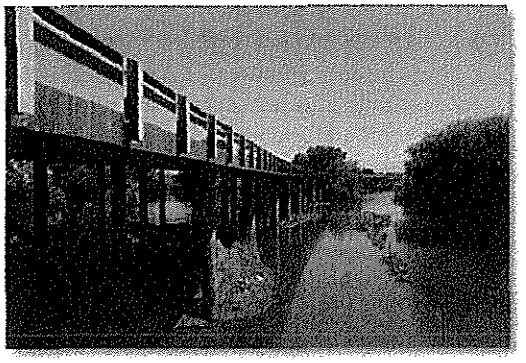
As part of the 2004 Retrofit Strategy Report, a bridge replacement scheme was evaluated as an alternative to the seismic retrofit scheme as previously described. The replacement structure is comprised of a five span, 732 ft-0 in long by 43 ft-6 in wide, CIP/PS box girder superstructure supported on large diameter (6 ft±) single column piers on (8 ft± CISS or CIDH shaft extensions) and CIP/RC seat type abutments. The replacement structure is longer by 85 ft and wider by 11 ft than the existing structure. In addition, the replacement alternative includes a significant amount of benching of the existing approach roadway embankment. The 2004 report cited bridge replacement as the recommended strategy based on structure condition, remaining service life, and cost ratios and estimated the 2004 construction cost at $5,870,000.

PROJECT SITE

The Hills Ferry Bridge is located in southern Stanislaus County near the earlier settlement of Hills Ferry about three miles northeast of the town of Newman. The bridge carries Hills Ferry Road across the San Joaquin River just downstream of the confluence of the Merced River. The Stanislaus/Merced County Line follows the San Joaquin River at this location so the bridge straddles the County Line.

Site Features

The bridge site is in a rural setting with minimal adjacent development consisting of a small ranch west of the bridge, a residence north of the roadway and a small archery range in the northeast quadrant. The major features of the site are the bridge itself and the San Joaquin River which varies considerably in width depending on the flow. At the time of TYLI's most recent site visit on July 15, 2011, the river extended across all but the outer two



spans of the bridge. It is now contained within the central four spans only.

Hills Ferry Road

The existing Hills Ferry Road Bridge is located in level terrain on a two lane rural major collector with a prima facie speed limit of 55 mph. Based on the 2008 Speed and Traffic Data, the road has an 85 percentile speed of 67.1

mph and existing ADT of 5,513. The existing horizontal alignment and superelevation meet current Caltrans Highway Design Manual (HDM) standards for a two lane conventional highway and provide a maximum comfortable speed of approximately 67 mph. The existing substandard barrier rail height creates unobstructed views of roadway ahead allowing vehicles to travel at speeds upwards of 70 mph.

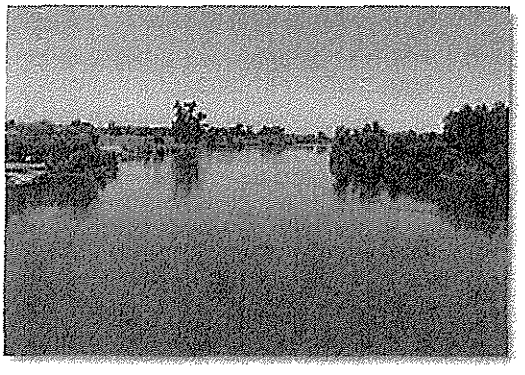
TYLI requested and reviewed CHP accident data from 2000 – 2010 for Hills Ferry Road. A summary of this data can be found below:

Location	Accidents	Injuries	Deaths
Hills Ferry Road/ River Road	11	10	1
Kelley Road/River Road	7	5	0
Rooster Ranch Driveway	3	0	0
Bridge	3	0	0
Other Hills Ferry Road locations	4	7	0
Total	28	22	1

During our site visit TYLI observed damage to the guard rail at both ends of the bridge rail and along the guard rail at the edge of the bridge deck. The combination of high speeds, driver error, and weather are the leading contributing factors for these accidents. However, there are a certain number of accidents that could be attributed to lack of centerline stripping, pavement markers, and signage on the east roadway approach.

San Joaquin River

The Hills Ferry Road Bridge crosses over the San Joaquin River which is part of the much larger San Joaquin River



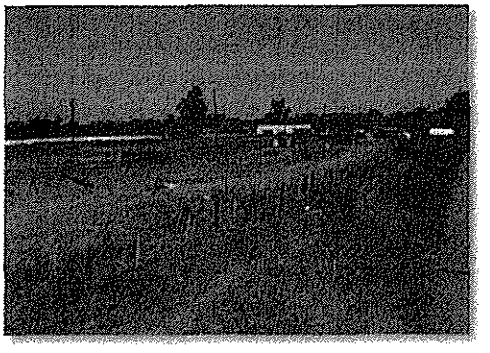
Watershed. The Watershed extends from Bakersfield though Stockton and finally outfall into the San Francisco Bay. The watershed includes major waterways such as the Consumes, Merced, Kings, and Kern Rivers.

The project is located just downstream (north) of the confluence of the Merced and San Joaquin Rivers and within the (Merced River – Salt Slough) designated floodway. Flows at the bridge during the 100-year event are 44,800 cfs and are documented in the U.S. Army Corps of Engineers Sacramento – San Joaquin Comprehensive Study. Central Valley Flood Protection Board (CVFPB) uses a flow of 45,000 cfs as the design event for the floodway.

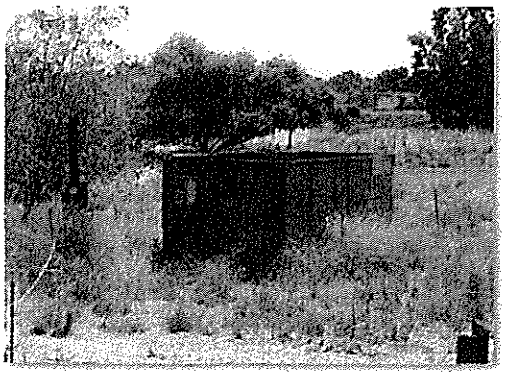
The geomorphic context of San Joaquin River in the vicinity of the Hills Ferry Bridge has changed substantially since 1961. Major influences on channel morphology at this location include land development within the contributing basins, roadway embankment construction adjacent to both river channels, and the natural migration within the floodway and widening of the channel to the east. Widening of the channel between 1961 and 2001 has eroded approximately 60 feet of the eastern river bank. At its current rate the channel widening will reach abutment 1 by approximately 2030.

Adjacent Properties

There are four (4) properties that surround the project and are generally located at the quadrants of the bridge. The existing use of these properties is limited due to their location within the 100 year flood plain. The San Joaquin River itself is considered non-tidal navigable river and all land below low water is owned by the State Lands Commission.



The two (2) properties northwest and northeast of the bridge are currently used for recreation purposes. The Historic Hills Ferry Raceway, located northwest of the bridge, does not appear to be in operation as a raceway but as a horse boarding stable/goat farm. The site is adjacent to the location of the Hill's Ferry Boat Landing that operated in the mid-to-late 1800s. The property located northeast of the bridge is the home of the Orestimba Field Archers and, due to its large size, has both sportsman/hunting clubs and agricultural fields.



The two (2) properties southwest and southeast of the bridge are generally vacant and are used for grazing due to their locations adjacent to the confluence of the San Joaquin and Merced Rivers.

All of these are summarized in the following table:

Owner	APN	Size	Use	Location
State Lands Commission	-	-	-	San Joaquin River
Ford, John	049-037-002	11.7 acres	Historic Hills Ferry Raceway	North West of Bridge
Ford, John	049-037-003	10.7 acres	Vacant	South West of Bridge
Stevinson J J Corporation	045-280-011	449 acres	Agriculture recreational	North East of Bridge
Stevinson J J Corporation	045-280-012	91 acres	Vacant	South East of Bridge

Utilities

The existing utilities on the site are limited to an abandoned 2-1/2" telephone conduit on the north side of the bridge and a USGS gauging station located on the river. The abandoned telephone conduit appears to be used by the owner to supply water to boarded horses under the bridge.

Environmental Resources

Following a field visit to the project site and review of regional environmental documents, we have identified environmental resources that could potentially be affected during the proposed project. These resources include the protected Valley elderberry longhorn beetle (VELB), special status bats, anadromous fish (e.g., Central Valley steelhead and Chinook salmon) including the Hills Ferry Fish Barrier, Pacific pond turtle, riparian habitat, and waters of the U.S. including wetlands. In addition, the residence at the western end of the bridge and the Orestimba Field Archers range at the eastern end of the bridge are resources that will need to be taken into account during the environmental review process.

PROJECT APPROACH

The TYLI Team approaches its projects with great professionalism, enthusiasm and energy. Our primary objective is to provide Stanislaus County with a thorough analysis and expert counsel to facilitate the decision making process to complete this project in a timely manner. We have formulated our approach and it is based on our understanding of this project through distillation of prior discussions with County staff, the contents of the Request for Proposal, Highway Bridge Program requirements, review of the background information and our past experience with similar projects. If selected for the project, we look forward to the County's feedback and will work closely with your staff to further optimize our work plan.

STRATEGIC APPROACH

Our vision for this project is to maximize public safety though the best use of all available funding while avoiding or minimizing impacts to the environment, adjacent properties, traffic, and the public. The "best use of funding" is responsive to the selection of the most cost-effective alternative from a cost/benefit perspective. Our mission is to achieve this while complying with applicable regulations and programmatic requirements, not burdening County staff with day-to-day operation but keeping them fully informed throughout the process. Key objectives include:

- ***Employ thorough & "all-inclusive" management and coordination:*** The County wants a consultant that is fully focused on this project and has an "owner's mentality." TYLI's PM has the energy, availability, experience and support to keep the project moving with minimal involvement of County staff. He will take ownership and accountability with the County's interests in mind and plan ahead to anticipate and avoid obstacles that impede progress.
- ***Build upon past progress:*** Based on the background information provided by the County, a lot of valuable work has already been done.
- ***Provide sound and compelling solutions for approvals:*** The best way to secure critical decisions is to make them easy. In addition to producing creative and innovative solutions, the team will provide compelling justification to strongly support its recommendations.
- ***Perform detailed Quality Control and Assurance to expedite reviews:*** Every submittal requiring review and approval will be carefully inspected and improved to ensure timely turn-around, minimal comments and a single review cycle.

- ***Create readily constructible designs that streamline construction and avoid or minimize environmental impacts:*** The team will look for all possible means of shortening the project schedule, including the environmental permitting and construction timelines.

KEY ISSUES AND SOLUTIONS

The following issues have been identified as critical project elements that will shape the project direction and may have significant impacts to the project scope, schedule, and ultimately cost.

General Project Details

ISSUE: Overall project cost is limited to the seismic retrofit project established at the strategy meeting.

Current 2011 funding commitments programmed in the FTIP indicate a construction estimate for $5,850,000. Additional measures may be added to the approved cost estimate, dependent upon Caltrans DLAE, HQ, and Seismic Retrofit PM approval. Additional measures beyond the approved project are the responsibility of the County, either for all costs or local match if the measures are eligible for other federal programs. The use of LBSRA funds requires that projects have an expected useful life of at least 15 years (State General Obligation Bond Law, subdivision of Section 16727 of Government Code).

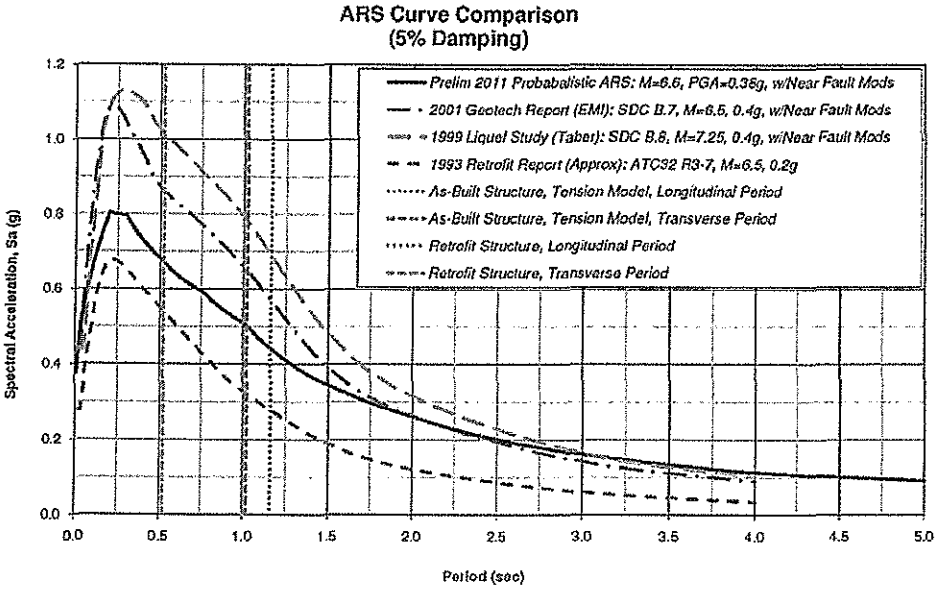
The existing bridge is not eligible for other HBP rehabilitation funds (not SD, FO; not SR<80). The bridge is eligible for additional funds as a standalone HBP Bridge Barrier Railing Replacement project including widening to provide AASHTO standard shoulder widths. However, these State STP funds have been obligated to the BART retrofit program and are not expected to become available in the next several years. In addition, these funds are not transferrable to a bridge replacement project.

SOLUTION: Working closely with the hydraulic and geotechnical team members, the bridge replacement scheme will be re-evaluated to develop a crossing alternative with reduced overall structure length and width to minimize the cost of the replacement. Using the revised cost estimate, a Cost Benefit/Life Cycle Cost Analysis will be completed to demonstrate the cost feasibility of the revised replacement scheme as compared to the cost of the retrofit scheme, especially when considering the remaining service life and safety and maintenance costs. The outcome is anticipated to be nearly equal estimates between the retrofit and replacement schemes, with both schemes satisfying the currently programmed project construction funding limit.

ISSUE: Revisions to seismic design criteria requires re-evaluation of seismic retrofit strategy

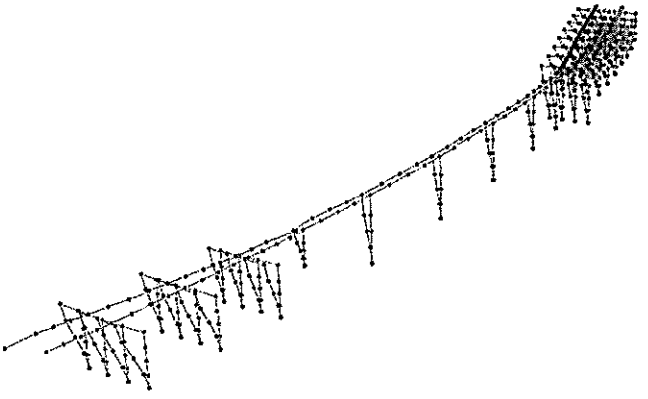
The 2004 Seismic Retrofit Strategy updated findings originally presented in a 1993 assessment and strategy based on modified ARS curves and soil response evaluation. Due to significant revisions to seismic design methodologies since 2004, a similar task is required for a validation of the proposed/approved retrofit scheme and estimated costs. The current standard is Caltrans' Seismic Design Criteria (SDC) (v1.6) and Memo to Designer §20-4. The updated SDC contains revised ARS curves, additional modifications for shear wave velocity and response spectra attenuation characteristics, i.e., near-fault effects, considerations for liquefaction and lateral spreading, and revised Caltrans Fault Database and Map.

As shown in the following figure, the approximate 2011 ARS values are less than those used in the 1999 liquefaction study and 2001/2004 report. The 2011 ARS curves result in a nearly 25-30% reduction in the



maximum ARS value and in a nearly 20-25% reduction in ARS values for the as-built condition. As required by Caltrans SDC, the actual ARS curve will be site-specific due to the presence of liquefiable soil layers. Based on preliminary seismic modeling using the 2011 and 2001 ARS curves, the updated response will result in a corresponding 20-25% reduction in the deck level displacements.

SOLUTION: The as-built assessment and strategy development will be updated using the current methodologies and criteria as required by Caltrans LAPM §11.2. Based on the above insight into the structure



response, the reduction in the seismic displacements of the existing structure will not be sufficient to eliminate yielding in the previously identified vulnerable elements. As a result, the 2004 retrofit measures will still be required due to the capacity protected nature of the existing elements (or their member force response). Similarly, the lower ARS curves will reduce the seismic loads and displacements on the replacement structure. However, the response of the replacement structure can be "tuned" to allow for refinement of the substructure elements and result in lower replacement costs than estimated in the 2004 report. These savings are in addition to those described in the following issue.

Bridge

ISSUE: The 2004 Retrofit Strategy Report considered a replacement structure which is significantly longer and wider than the existing structure.

The 2004 replacement structure is proposed along the outside of the horizontal curve and downstream of the confluence of the Merced and Stanislaus Rivers. However, the replacement bridge is longer than the existing by 85 ft with significant benching of the embankments and wider than the existing by 11 ft due to full 8 ft wide shoulders. This "maximum" version of the replacement structure inflated the costs of the replacement scheme and exceeded the necessary AASHTO design standards.

SOLUTION: The functional limits of the proposed replacement bridge include a length of 650 feet to match the length of the existing bridge and a width of 33 ft-6 in to provide for three foot wide shoulders. This refinement results in an over 30% reduction in bridge deck area. Based on the hydraulic analyses included in the 2004 report, the channel can be significantly narrowed beyond the existing channel opening without impacting the design water surface elevation due to the adjacent flood plain. The proposed structure would match the existing channel opening beneath the crossing. The use of single, circular column piers will reduce hydraulic impacts in comparison to the existing pier walls and multicolumn bents, especially in relation to the variable flow direction experienced during high flow events. In addition, the crossing location along the outside of the curve will allow the existing embankment to act as a buffer against any future channel migration or widening experienced at the confluence.

ISSUE: Liquefaction and lateral spread creates additional structure loading (lateral and down drag forces).

Liquefaction and lateral spreading are a function of fault proximity, moment magnitude, peak ground acceleration (PGA), and soil type. The fault proximity and moment magnitude will not change for the site from the previous evaluation. Despite the reduction in the ARS curves as described above, the expected PGA will remain greater than 0.3g. Based on the existing data, liquefaction and lateral spreading will occur at this site and reductions in potentially liquefiable layers or lateral spreading are not expected.

SOLUTION: The final strategy will need to account for the lateral and down drag forces resulting from the liquefaction and lateral spread.

ISSUE: Any retrofit-only scheme will result in a structure that does not meet hydraulic or safety standards without additional improvements.

Any rehabilitation, retrofit, or replacement project must meet the design standards as set forth in Caltrans LAPM §11.2. The bridge barrier and approach guardrails are

coded as "feature does not meet currently acceptable standards" in the FHWA National Bridge Inventory database (Items 36 a-d = 0). Future deck mounted barrier upgrades without bridge widening will likely not meet structure clear width requirements as set forth in AASHTO's "A Policy on Geometric Design of Highways and Streets".

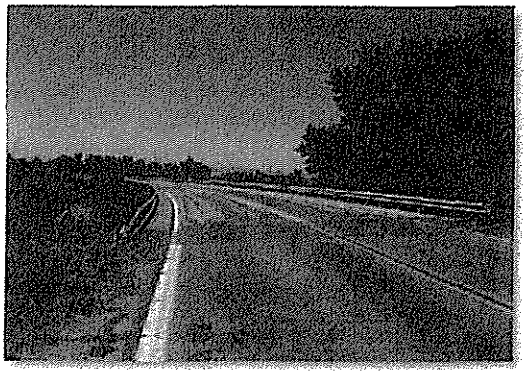
In addition, the hydraulic design guidance presents two conditions to be satisfied. The bridge shall be designed to pass the 50-year design flows plus allow 2 ft of freeboard (drift clearance) and to convey the 100-year design flows without overtopping. Based on the hydraulic analyses included in the 2004 report, the existing structure will not provide the necessary freeboard for the 50-year design requirement. In addition, the inclusion of retrofit "super bents" will further exacerbate any debris loading due to misalignment of the pile extension bents with the variable flow direction during high flow events.

SOLUTION: Failure to meet the mandated design standards will require a Design Exception as set forth in LAPM §11.4. The additional debris load will be considered during the hydraulic modeling and scour evaluations, and the effects will be mitigated in the final design.

Roadway

ISSUE: The existing bridge does not meet current AASHTO Geometric Standards.

The retrofit project shall meet the design standards as set forth in Caltrans LAPM §11.2 and must comply with the geometric standards listed in the 2004 version of the AASHTO publication "A Policy on Geometric Design of Highways and Streets." The Federal Highway Administration (FHWA) has designated twelve (12) geometric controlling criteria with a primary importance for safety in the selection of design standards. Of these



geometric controlling criteria the existing bridge and roadway approaches do not meet standards for design speed, shoulder width, horizontal alignment, superelevation, and horizontal clearances.

SOLUTION: TYLI will prepare design exceptions in conformance with the requirements for design exceptions in Chapter 11 of the Caltrans LAPM.

Preparation of a design exception fact sheet to reduce the AASHTO minimum design speed from 60 mph to 55 mph design speed will eliminate the need for design exception fact sheets for horizontal alignment and superelevation. Additional design exception fact sheets will still be needed for shoulder width and horizontal clearances unless the paved/unpaved shoulder widths are widened to 8' and fill slopes are flattened to a more traversable slope of 4 to 1.

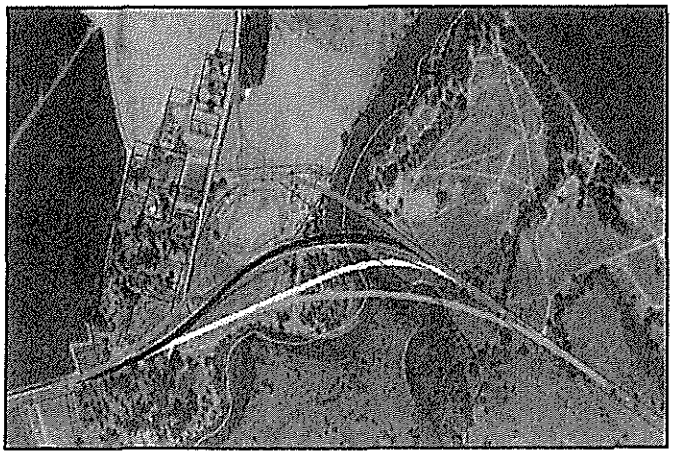
ISSUE: Seismic Retrofit Measures associated with the bridge deck and overall superstructure will require work within the travel lanes.

A full closure of the travel lanes is not feasible due to the nearly 17 mile detour that would be required and the high ADT of 5,513.

SOLUTION: The TYLI Team will work to develop seismic retrofit measures that can be constructed in stages and will be performed during single lane closures. Due to the high ADT and long periods for which a lane will be closed, one way traffic control by use of flaggers would not be feasible. Potentially one way traffic control using temporary signals could be used to mitigate this impact. TYLI will prepare a LOS traffic analysis memo of the existing intersection during construction to evaluate potential impacts of various proposed construction alternatives, delay durations, temporary signal location, and assess appropriate time periods.

ISSUE: The selection of a replacement alignment is constrained by Cost Limitations and Sight Distance.

The development of an upstream alignment by flattening the existing 1600-foot radius curve is not a cost effective option due to the increased bridge length required to span the confluence of the San Joaquin and Merced Rivers, and the hydraulic inefficiencies created from aligning a proposed bridge more parallel to the river flow. This limits alignment alternatives to downstream of the existing



bridge. The selection of downstream alignment alternative is also limited due to the obstruction to sight distance that the bridge barrier rail creates on the horizontal curve.

SOLUTION: Select a downstream alignment with radii greater than 3,000 feet or superelevation of 4.6% or higher. The selection of a downstream alignment will decrease bridge length by keeping the bridge out of the confluence of the San Joaquin and Merced Rivers and align the bridge more perpendicular to the river flow. The use of flat radii greater than 3,000 feet will provide clear sightlines to accommodate a 55 mph stopping sight distance unobstructed by the bridge barrier rail. However, the use of a 3,000 foot radii curve would likely require considerable realignment of the west approach, resulting in the realignment of Hills Ferry road west of River Road and creation of a new intersection at River Road or even use of a three legged rural roundabout. The more feasible option would be to select a radius that corresponds to a superelevation rate of 4.6% or higher and is more aligned with the existing bridge.

Hydrology & Hydraulics

ISSUE: The addition of bulky seismic retrofit measures combined with channel migration and widening could decrease the life expectancy of the existing bridge after retrofit.

The large substructure modifications needed for the retrofit will increase scour at the piers and decrease the river capacity placing additional flow within the floodway and larger flood plain. Additionally the substructure measures will also increase the width of the piers due to the skew angle and may ultimately accelerate channel migration and widening. A potential increase in the risk of superstructure damage due to debris may also occur.

SOLUTION: The TYLI Team will work together to develop seismic retrofit strategies that are cost effective over the life expectancy of the bridge and not create additional issues.

Environment

ISSUE: Extended review cycles associated with Caltrans' review of poorly scoped or poorly written environmental reports.

SOLUTION: To expedite Caltrans' environmental staff timely reviews, we will prepare a comprehensive Preliminary Environmental Study (PES), prepare a work plan for the necessary technical reports, and conduct QA/QC on all reports prior to submittal to Caltrans. The PES will identify the type of reports to be prepared, the work plan will establish the data quality objectives for each report and level of detail of each report, and the QA/QC process will provide the quality of documents Caltrans' staff expects to see without the need to conduct additional field surveys and/or several rewrites of the reports.

ISSUE: Construction may affect the migration of Steelhead and Chinook salmon up the Merced River and reduce the potential noise (sound) effects resulting from temporary and permanent pile driving on salmonid species.

SOLUTION: We will coordinate during our planning process with the program management team of the San Joaquin River Restoration Program so as not to interfere with the seasonal installation and removal of the Hills Ferry (Fish) Barrier. The project environmental staff will coordinate with design engineers and with NMFS staff to identify practical pile driving method(s) to reduce sound vibration within the river, and workable construction windows as a means to further reduce noise effects on migrating salmonid species.

Risk Assessment

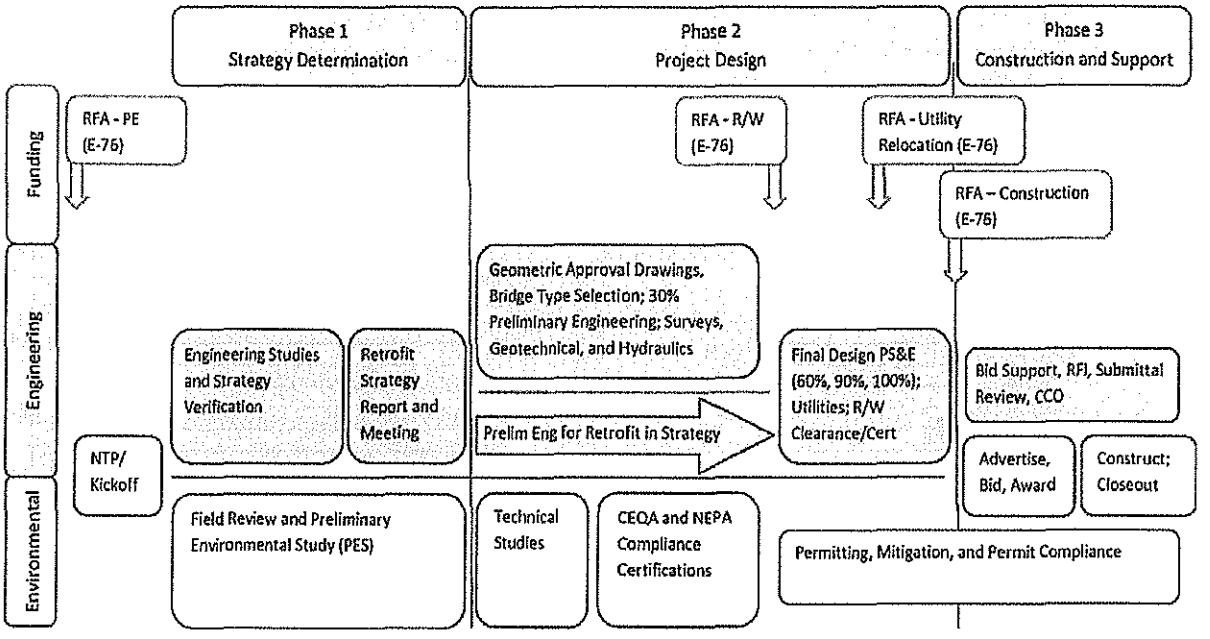
Inherent in any design project are uncertainties which, if they are to occur, could have a positive or negative effect on the project objectives. Risk assessment is a tool which can be used to identify these uncertainties and allows for the planning of an appropriate response to mitigate the risk or to exploit a possible opportunity. The TYLI Team has identified potential risks and opportunities for the Hills Ferry Road Bridge Retrofit Project and compiled them using the Caltrans Risk Register to show their likelihood of occurring, relative impact to the project, potential triggers and response strategies.

One of the key risks identified is related to the decision to replace or retrofit the existing bridge. In recent discussions with Caltrans, it is clear that the HBP funding of the project will be limited to the cost to retrofit the structure as identified in the approved Seismic Retrofit Strategy Report. As such, if the cost to replace the bridge exceeds the approved retrofit cost, another source of funding will have to be identified to make up the difference. The 2004 retrofit strategy identified a bridge replacement alternative with a cost of approximately 150% of the cost to retrofit the existing structure. The TYLI Team will work to mitigate this risk through the development of a replacement structure alternative which is closer in cost to the retrofit alternative by reducing the overall structure width and length.

A sample risk register identifying and assessing some of the key risks of this project has been included in the Appendix.

SCOPE OF WORK

Based on the addendum to the RFP issued on August 12, 2011, a detailed scope of work, including all required tasks, is included in the Appendix as well as enclosed in the sealed envelope with the fee proposal.



Simplified Project Delivery

The TYLI Team has prepared this Scope of Work based on the Caltrans WBS and has tailored it to our specific approach and methodology. The essential project activities identified for project success include the following tasks:

Project Management

Phase 1 – Strategy Determination

- Task 1: Field Review
- Task 2: Preliminary Environmental Study
- Task 3: Seismic Strategy Verification
  1. Engineering Studies
  2. Retrofit Study
  3. Replacement Study
- Task 4: Retrofit Strategy Report
- Task 5: Strategy Meeting

Phase 2 – Project Design

- Task 1: Topographic Surveying and Mapping
- Task 2: Geotechnical Engineering
- Task 3: Hydrology and Hydraulics
- Task 4: Utility Coordination
- Task 5: Traffic Analysis and Handling
- Task 6: Electrical and Lighting
- Task 7: Preliminary Engineering (30%)
  1. Geometric Approval Drawings
  2. Bridge Type Selection
- Task 8: Environmental Clearance
  1. Technical Studies
  2. CEQA/NEPA
- Task 9: Public Outreach
- Task 10: Final PS&E (60%, 90%, Indep Check, 100%)
- Task 11: Right-of-Way Services
- Task 12: Permitting and Documentation

Phase 3 – Construction and Support

- Task 1: Bid Support and Analysis
- Task 2: Construction Support
- Task 3: Project Close-Out

This scope is subject to optimization following discussions with the County and also to the Risk Assessment factors previously discussed.

Highway Bridge Program

The project is being funding by the federal Highway Bridge Program (HBP) and, as such, is subject to the applicable program requirements as set forth in the Caltrans Local Assistance Procedures Manual, Chapter 6

of the Local Assistance Program Guidelines, and current Local Program Procedures.

Applicable Standards

The project shall conform to the following design and environmental standards:

- ✓ Stanislaus County, Department of Public Works, Improvement Standards & Specifications (2007)
- ✓ Caltrans 2010 Standard Plans & Specifications
- ✓ Local Assistance Procedures Manual, Chapter 11
- ✓ Caltrans Highway Design Manual
- ✓ Caltrans Memos to Designers 20-4
- ✓ Caltrans Seismic Design Criteria v1.6
- ✓ AASHTO LRFD Standard Specifications for Highway Bridges, 4rd Edition, with California amendments
- ✓ AASHTO A Policy on Geometric Design of Highways and Streets, 2004 Edition
- ✓ Caltrans Standard Environmental Reference

Project Phasing

The County has established a logical framework for executing the project to ensure that feasible alternatives are evaluated, a preferred alternative is selected, and upon approval, final design for the preferred alternative is completed. This is consistent with the HBP guidelines which require that environmental clearance is secured prior to completing right-of-way acquisition and final design, and that these steps are completed prior to advertising for construction.

Phase 1 – Strategy Determination

This phase of the project will determine the preferred alternative for the project and will include the following tasks:

- Alternatives Analysis
- Draft Strategy Report
- Strategy Meeting
- Final Strategy Report
- Field Review and Preliminary Environmental Study

Based on the work completed previously, three project alternatives have been identified. These consist of seismic retrofitting of the existing bridge only; seismic retrofitting plus barrier upgrading; and bridge replacement. In the 2004 Final Retrofit Strategy Report, bridge replacement was the recommended alternative. This recommendation was based on the high cost of retrofitting, the need for barrier upgrading which would increase the cost further, and recognition of the limited remaining useful life of the existing bridge which is already 50 years old.

While the recommendation made previously is well founded, Caltrans has pointed out that the level of funding available through the HBP will be limited to the amount required for retrofitting the bridge. Additionally, it is unclear whether federal funds will be available for upgrading the barrier. TYLI is committed to working with Caltrans to secure the maximum federal funding available for this project.

Field Review and Preliminary Environmental Study

During Phase 1 we will complete the Preliminary Environmental Study (PES) and participate in the field review with Caltrans environmental staff. The PES includes a checklist that establishes the basis for any needed technical studies, and is used to identify the likely environmental clearance. The PES is also used to identify agency coordination requirements, as well as environmental permits that will be needed for the project. A field review meeting is also included in this phase.

Cost/Benefit Analysis

A key task during Alternatives Analysis will be to perform a detailed Cost/Benefit Analysis to compare the project alternatives and to further demonstrate the best use of available funding. Cost/Benefit Analysis is recognized as a valid approach by both Caltrans and FHWA for evaluating transportation investments. TYLI will utilize the Caltrans and FHWA methodologies described on the following websites:

http://www.dot.ca.gov/hq/tpp/offices/ote/benefit_cost/index.html

http://www.fhwa.dot.gov/planning/toolbox/costbenefit_forecasting.htm

Factors to be considered in the Cost/Benefit analysis include projected life expectancy, initial project cost, life cycle cost, risk cost, and cost vs. life expectancy. Considering that the existing bridge is likely to require increased maintenance costs and ultimately replacement over the next 25 years, the Cost/Benefit analysis may well show that replacement now is more cost-effective than retrofitting now and replacement later.

Value Analysis

Another technique for evaluating alternatives is Value Analysis or Value Engineering. The approach utilizes recognized methodologies for obtaining the "best value" for a project. Together with the Cost/Benefit analysis, it should be easy to make a compelling case for the preferred alternative.

Retrofit Strategy Validation

Because of the reduction in the response spectra, it will be necessary to review the prior retrofit strategy to confirm that it is still valid. It is possible that the reduced earthquake demand may yield somewhat fewer retrofit

measures than previously determined. The cost estimate for the retrofit alternative will need to reflect that. In particular, the prior liquefaction analysis utilized higher ground accelerations than necessary. The liquefaction analysis will need to be reviewed and validated in connection with review of the retrofit strategy.

Bridge Replacement

The replacement concept from the previous study was for a 732' long bridge with 8-foot shoulders. It may be possible shorten the bridge and provide narrower shoulders in order to reduce the cost of this alternative. A review of the river hydraulics will be necessary to determine if the bridge could be made shorter.

Phase 2 – Project Design

Once the preferred alternative is determined, work will proceed with Phase II which will advance the project into construction. This phase of the project will include the following major tasks:

- Preliminary Engineering
- Environmental Clearance
- Final Design

Since there is a relatively high degree of certainty regarding the funding for the retrofit alternative, that is the basis for the detailed scope of work and fee proposal enclosed in the sealed envelope. Complete funding for the bridge replacement alternative is less certain at this time. As such, the additional costs for this alternative are addressed in the "Risk Assessment."

Preliminary Engineering

Preliminary engineering will be performed to a level sufficient for environmental analysis, documentation and approval under CEQA and NEPA. For the bridge replacement alternative, this will include surveying and mapping, geometric approval drawings, the geotechnical investigation and report, and bridge type selection.

Environmental Clearance & Permitting

Following Caltrans' approval of the PES, we expect to conduct the following studies:

- ✓ Biology – data search, field plant and wildlife studies include preliminary jurisdiction delineation
- ✓ Cultural Resources – data/informational search, and field surveys
- ✓ Hydrology/Water Quality – data/information search and review of hydraulic and geotechnical project reports
- ✓ Visual and design Assessment – data search, field visits, and interaction with the design team

Reports and/or memos to be prepared based on the results of the technical studies include: Natural Environmental Study (NES), wetlands delineation report, Biological Assessment (BA), APE map, Historic Property Survey Report (HPSR) and Archaeological Survey Report (ASR), Floodplain Report Summary/Water Quality Report, and Visual Impact Assessment Memo. Other potential environmental impacts will be addressed in the environmental documents Initial Study/Mitigated Negative Declaration (CEQA)/ Categorical Exclusion (NEPA) (ISMND/CE). Typically Caltrans prepares the NEPA CE, but we will be available to provide support to Caltrans, if requested.

All proposed alternatives may affect wetlands or other jurisdictional waters in the San Joaquin River that may be under the jurisdiction of the ACOE, RWQCB, and/or CDFG. Impacts to jurisdictional waters may require the following permits from the regulatory agencies:

- ✓ Nationwide Permit Verification (Clean Water Act, Section 404), NW #14
- ✓ Water Quality Certification (Clean Water Act, Section 401
- ✓ Streambed Alteration Agreement (Fish and Game Code, Section 1602).
- ✓ Central Valley Flood Protection Board Encroachment Permit
- ✓ State Lands Commission Lease

On behalf of the County, the TYLI Team will obtain these permits, and incorporate the conditions attached to each permit into the contract specifications.

Final Design

Final Design will be a production process consisting of preparation of plans, specifications and estimates suitable for competitive bidding of a public works construction contract. Plans will conform to County drafting and CAD standards. Bridge plans will conform to Caltrans standards. Milestone submittals will be made at the 30%, 60%, 90% and 100% completion levels with the cost estimate updated at each stage. Specifications will follow County standards for federally funded projects with the bridge work being done under the Caltrans Standard Specifications and Standard Plans. The TYLI Quality Control and Assurance program will be in effect throughout the final design phase (see Management Approach below).

Phase 3 – Construction and Support

The TYLI Team will support the County throughout the bidding and construction phases. TYLI will provide the Resident Engineer Pending File and 4-scale deck contour plot, will respond to bidder inquiries and RFIs during construction, will review and approve contractor submittals and shop drawings and will prepare as-built plans. TYLI understands the time-critical nature of

construction and as a policy makes construction support a high priority in the office.

MANAGEMENT APPROACH

The management of this project has already begun with the development of the work plan and schedule outlined herein. Once these have been discussed and finalized with the County, they will become the initial roadmap for execution of the project. TYLI's management approach is founded on communication and accountability facilitated through rigorous coordination.

Project Development Team (PDT)

The PDT will consist of representatives from the primary project development partnership. This includes TYLI as project manager and engineer; TYLI's key subconsultants as providers of key technical support; the County as owner and lead local agency for CEQA; and Caltrans as administrator of the Highway Bridge Program, delegated authority for NEPA and liaison with FHWA. Regular participation by the County and Caltrans is optional but encouraged.

The primary means of coordination will be through regularly scheduled meetings of the PDT. This process will be initiated with an in-person kick-off meeting. Thereafter, meetings will be held bi-weekly via teleconference. The TYLI Project Manager will preside over the PDT meetings. Regular attendance with the County and Caltrans is optional.

The agenda for the PDT meetings includes review of the Action Item Log and the CPM schedule. Meeting notes are typed up during the meeting and emailed to the PDT immediately following the meeting. TYLI has found this process to be very effective in maintaining project momentum, staying on schedule and upholding accountability.

Project Controls

Schedule

TYLI has already prepared a draft Critical Path Method (CPM) schedule for the project which is discussed in more detail in a following section. The schedule is prepared in Microsoft Project and contains all the significant activities, durations and relationship logic necessary to provide a comprehensive roadmap for executing the project. The schedule is updated bi-weekly in preparation for the PDT meetings where current and approaching activities are reviewed and discussed.

Design Budget

TYLI utilizes Earned Value Analysis to monitor and maintain its design budget with a program called PlanTrax. The design budget is loaded into PlanTrax by work breakdown structure (WBS) task. Job-to-date costs are obtained from TYLI's financial management system, Deltek Vision. By entering percent complete by task, the Earned Value is calculated along with the Estimate to Complete and Estimate at Completion. These metrics give the TYLI Project Manager a running forecast of project financial performance.

Construction Cost Estimate

The construction cost estimate is updated regularly and managed so that any changes can be traced to the origin and readily explained. Estimates are thoroughly documented as to any items omitted and escalation and contingencies included.

Quality Assurance and Quality Control (QA/QC)

TYLI is extremely committed to QA/QC and is proud of its track record for an absence of design-related change orders or claims during construction. TYLI assigns to every project a QA/QC manager whose responsibility it is to ensure that proper quality control procedures are in place with TYLI and its subconsultants and to perform quarterly audits. TYLI is in the process of instituting an ISO 9001 Quality Management System throughout its organization and has one office so far that is ISO certified. Key opportunities for quality control procedures to be implemented on this project include:

- ✓ Review and Checklist Standards of Environmental PES, Technical Reports and Documents, Geotechnical and Hydraulic Reports
- ✓ Indpendent Check of Structure Design and Plans: The design and plans will be independently checked and back-checked by a qualified engineer not involved in the design, include constrability

Progress Reporting

While the progress of the project is documented in essentially real time via the PDT meeting notes, TYLI will prepare monthly progress reports summarizing work completed in the previous month, work anticipated in the next month, the status of all deliverables and any critical "red flag" issues.

PROJECT SCHEDULE

TYLI has prepared a draft CPM schedule for executing the project. The schedule is based on the bridge retrofit tasks identified in the scope of work. The schedule includes realistic durations of work activities and review periods for environmental documents. The seismic retrofit alternative schedule shows a construction award date of 7/27/15, which is consistent with the County's goal to begin construction by the winter of 2017. The award construction date for the replacement alternative would be 5/2/16, which also meets the County's goal to begin construction by the winter of 2017.

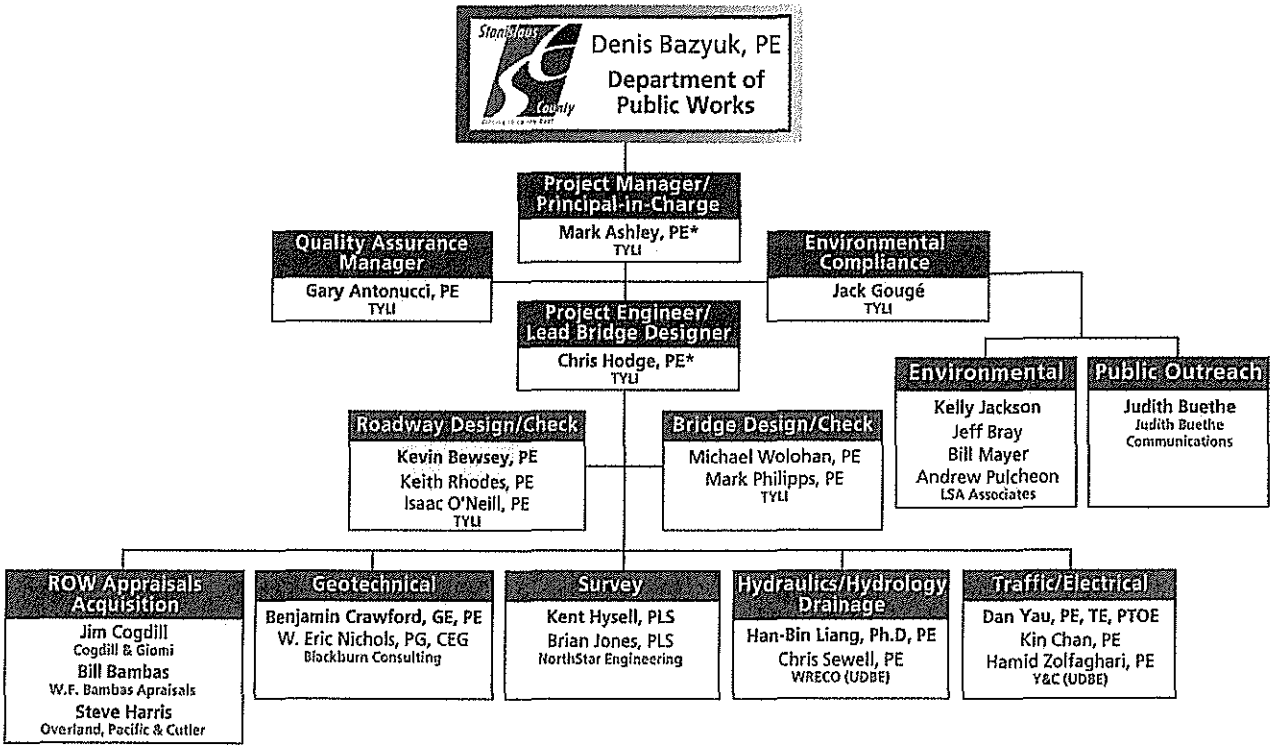
EXPERIENCE AND QUALIFICATIONS

T.Y. Lin International (TYLI) is a California-based corporation founded in 1954 and headquartered in San Francisco. TYLI is a multidisciplinary transportation planning and engineering firm that has provided the global infrastructure market with innovative, cost-effective, and constructible designs for over 50 years. Operating from offices in the U.S. and abroad, the firm's worldwide staff employs over 1,900 dedicated engineers, technicians, and support staff offering a wide range of professional capabilities in the areas of bridge and transportation project delivery. In partnership with transportation officials and community leaders, TYLI creates and helps build unique structures for every landscape while emphasizing constructability, value, and schedule.

It is our intent to deliver work for the Stanislaus County Department of Public Works for the Hills Ferry Road Bridge Seismic Retrofit Project out of our Sacramento office. The focus of this office is the practical adaptation of the management principles and the technical expertise of the global firm in developing and delivering projects within Federal Highway Bridge Program (HBP) and Caltrans Division of Local Assistance (DLA) requirements. The TYLI Sacramento office was opened in 2001 and over 90% of the projects completed have been funded through HBP and Caltrans DLA compliance.

The depth of resources, in combination with the commitment of TYLI management and devotion of staff at all levels, has led to an enviable track record of project performance and delivery of high quality services. The project manager, technical leads, and essential staff have extensive experience in the preparation of Project Study Reports/Project Reports, environmental documentation, permitting applications, and Plans, Specifications, and Estimates following local agency, AASHTO, Caltrans, and Federal standards. This experience provides us with the knowledge and skills required for navigating the Federal and State processes to achieve timely project approval and authorization.

The following chart depicts the organization of the Project Delivery Team members and their respective roles:



TYLI Lead Members –

TYLI leads the team with ***Mr. Mark Ashley, P.E.***, serving as the ***Project Manager*** and ***Principal-In-Charge*** and the single point of contact for the County. Mr. Ashley has over 30 years of transportation design and construction experience. His broad background covers highway, transit, rail, pedestrian, and bicycle infrastructure and includes a strong technical foundation in structures. Having begun his career with the California Department of Transportation, Mr. Ashley has established and maintained expertise in project delivery involving State DOT procedures and oversight.

Mr. Chris Hodge, P.E., is the Bridge Services Manager in TYLI's Sacramento office, and he will be the ***Project Engineer*** and ***Lead Bridge Designer.*** Chris brings more than 17 years of bridge analysis and design experience. He has managed, directed, and developed the production of a variety of professional engineering and structure design projects that resulted in the successful production of many seismic retrofit, strengthening, rehabilitation, widening, and new PS&E deliverables during his career.

Mr. Kevin Bewsey, P.E., will serve as ***Lead Roadway Engineer.*** Mr. Bewsey has more than six years of experience in transportation engineering including design and construction of major roadway widenings, interchange modifications and various bridge projects. He has served as deputy project engineer, lead transportation engineer, and transportation designer. His experience includes geometric design, utility design, bicycle/pedestrian path design, ADA compliance, and the preparation of plans, specifications, and estimates.

Mr. Gary Antonucci, P.E., will serve as ***Quality Assurance Manager.*** Mr. Antonucci has over 30 years of engineering experience in the planning and design of transportation facilities encompassing urban and interstate highways, heavy and light rail, and pedestrian/bicycle facilities. He is experienced in all aspects of transportation engineering including studies and analysis, plan preparation, specification writing, and cost estimating. Mr. Antonucci has a strong Caltrans design background and has completed numerous state highway projects requiring Caltrans review and approval.

Mr. Jack Gougé will serve as ***Environmental Compliance Manager.*** Mr. Jack Gougé is a Senior Environmental Planner and Environmental Compliance Manager with extensive experience in managing technical staff for domestic and international environmental program development and implementation, project planning and environmental reviews, permits compliance, and project management.

Subconsultant Expertise and Key Members

To supplement our "in-house" expertise, we have assembled a team of qualified subconsultants to provide key support services required for these types of projects.

LSA ASSOCIATES, INC.

LSA Associates is a diversified environmental, transportation, and community planning organization. They are proficient in the disciplines of environmental planning, urban planning, biology, cultural resources, economics, landscape architecture, geology, hydrology, environmental restoration, transportation, noise, and air quality. This diversity of skills allows much of the work to be completed by their in-house staff, which increases control and efficiency and reduces costs and communication delays.

Ms. Kelly Jackson will serve as the ***Lead Environmental Planner.*** Ms. Jackson is a senior environmental planner who is responsible for preparing substantive analyses and findings for various levels of CEQA and NEPA environmental documents. She has participated in the preparation of environmental analyses for roadway/interchange projects, bridge projects, and land development projects of significant scale.

blackburn consulting

Blackburn Consulting (BCI) provides geotechnical engineering services for public sector transportation, infrastructure, educational and water/wastewater projects in northern and central California. Blackburn Consulting concentrates on public works projects with a particular emphasis on roadway and bridge projects. BCI's professional and project staff are familiar with current Caltrans Design Standards, qualified to perform geotechnical engineering services, and have relevant and recent experience with road and bridge projects throughout Northern California. .

Mr. Benjamin Crawford, G.E., P.E., will serve as the ***Lead Geotechical Engineer.*** Mr. Crawford

has managed complex transportation projects in the Central and Sacramento Valleys. He has provided geotechnical recommendations for roadways, bridges, schools, residential and commercial structures, water and communication towers, retaining walls, pipelines, and airports.

WRECO is an engineering consulting firm specializing in hydrologic and hydraulic engineering, storm water management, and water resources. WRECO resolves sophisticated engineering and environmental problems with feasible and cost-effective solutions. WRECO provides high quality technical support in bridge hydraulic and scour studies, roadway, railway drainage design, flood hazard analysis and flood control system design, storm water management and erosion control, watershed analysis and management.

Dr. Han-Bin Liang will serve as the ***Lead Hydraulic Engineer.*** Dr. Liang has a strong career commitment in water resources, environmental hydrology, and hydraulic and coastal engineering. He has performed hydraulic studies for over 100 bridges and major culvert crossings in the State of California for Caltrans, and local cities and counties. He has been involved in over 400 highway, bridge, and transit projects in the state of California.

Y&C Transportation Consultants Inc. is a transportation consulting firm committed to providing excellent traffic engineering services to public and private sectors in Northern California. Y&C has been providing traffic engineering services to the Sacramento Region for more than 13 years since its establishment in 1997. Staff of Y&C have completed PS&E for more than 1,000 transportation projects, including Stanislaus County.

Mr. Dan Yau will serve as the ***Lead Traffic Engineer.*** Mr. Yau will also serve as the technical lead for any temporary or permanent lighting, signalization, or electrical services. He has over 26 years of experience specializing in traffic signal and lighting design, signing and striping design, construction stage traffic control, and traffic signal system. He has completed PS&E for more than 500 traffic design projects, including the County of Stanislaus.

NorthStar Engineering Group was founded in 2002, and has been providing professional land surveying services since its inception. Their team includes registered land surveyors and technicians who are experienced at performing boundary, topographic, and construction surveys. Services they can provide includes A.L.T.A. Surveys, aerial control surveys, boundary surveys, right-of-way surveys, topographic surveys, legal descriptions, parcel maps, final maps and construction staking.

Mr. Kent Hysell will serve as the ***Lead Surveyor.*** Mr. Hysell has over 25 years experience and has successfully performed or supervised surveying services for a broad range of projects. He has extensive survey experience and knowledge of the region. He has experience in research, calculations, boundary surveys, topographic surveys, aerial control surveys, construction staking, and project management.

Overland, Pacific & Cutler was established in 1980 to provide professional services for clients with projects involving land and right of way acquisition, real estate appraisal, appraisal review, relocation planning and implementation, property management and utility coordination. OPC's involvement with highway projects covers all of the various stages of the right of way process

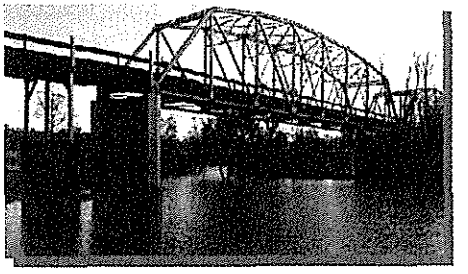
Mr. Steven Harris will serve as the ***Right-Of-Way Acquisition*** and ***Relocation Manager.*** Mr. Harris has more than 30 years of management experience. As Project Manager, he directs OPC staff and provides oversight for multi-parcel acquisition and relocation projects requiring compliance with local, state and federal regulations.

Established in 1989, **Judith Buethe Communications** has developed a specialty for consensus-building and public participation programs in Central California. More than 250 projects at every stage from feasibility study through construction have been organized and successfully implemented by JBC on transportation, water, sewer, beautification, natural gas, and other infrastructure projects.

Key Team Availability for Hills Ferry Bridge Seismic Retrofit	2011	2012	2013	2014	2015	2016
T.Y. Lin International						
Mark Ashley, P.E. Project Manager, Principal-In-Charge	50%	50%	50%	70%	75%	75%
Chris Hodge, P.E. - Lead Bridge Engineer	40%	40%	60%	80%	90%	90%
Gary Antonucci, P.E. - Quality Assurance Manager	30%	40%	45%	65%	75%	90%
Michael Wolohan, P.E. - Bridge Engineer	60%	70%	80%	90%	95%	95%
Mark Philipps, P.E. - Bridge Engineer	75%	75%	95%	95%	95%	95%
Kevin Bewsey, P.E. - Lead Roadway Engineer	50%	70%	80%	90%	95%	95%
Keith Rhodes, P.E. - Roadway Engineer	30%	45%	75%	90%	90%	90%
Jack Gouge, - Environmental Compliance Manager	50%	60%	70%	70%	80%	80%
LSA Associates - Environmental						
Kelly Jackson	60%	65%	85%	85%	85%	85%
Jeff Bray	50%	55%	80%	85%	95%	95%
Bill Mayer	60%	65%	70%	80%	85%	85%
Andrew Pulcheon	50%	65%	45%	85%	90%	90%
Blackburn Consulting - Geotechnical						
Benjamin Crawford, P.E., G.E.	60%	65%	85%	85%	85%	85%
W. Eric Nichols, P.G., C.E.G.	50%	65%	80%	85%	100%	100%
WRECO - Hydraulics, Drainage						
Han-Bin Liang, Ph.D, P.E.	40%	55%	70%	70%	70%	70%
Chris Sewell, P.E.	40%	60%	80%	90%	90%	90%
Y&C - Traffic, Electrical						
Dan Yau, P.E., T.E., P.T.O.E.	40%	90%	90%	80%	85%	85%
Kin Chan, P.E.	35%	70%	90%	90%	90%	90%
NorthStar Engineering Group - Survey						
Kent Hysell, PLS	45%	45%	45%	45%	55%	100%
Brian Jones, PLS	45%	45%	50%	50%	55%	100%
Overland, Pacific & Cutler - Acquisition/Relocation						
Steve Harris	10%	10%	50%	50%	50%	50%
Judith Buethe Communications - Public Outreach						
Judith Buethe	35%	40%	50%	70%	100%	100%

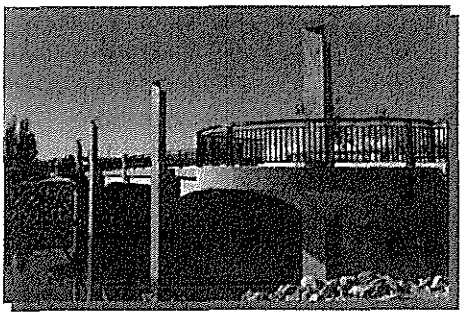
RELATIVE EXPERIENCE

JELLYS FERRY ROAD BRIDGE OVER THE SACRAMENTO RIVER, TEHAMA COUNTY, CA
Project Dates: 2007-Current | Construction Cost: $17M (est.) | TYLI Fee: $940K
Contact: Tim Wood, *Project Manager*, County of Tehama, Dept. of Public Works, 530.385.1462 ext. 3016
Key Staff: Mark Ashley, *Project Manager,* Michael Wolohan, *Lead Bridge Engineer,* Kevin Bewsey, *Lead Roadway Engineer*, Mark Philipps, *Bridge Engineer*, Jack Gougé, *Environmental Compliance Manager*



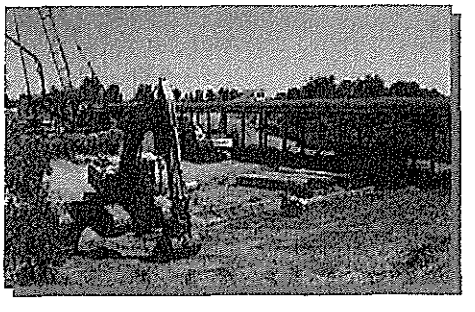
- Replacement of existing 15-span bridge with five steel truss spans and 10 timber approach spans with a total length of 940 feet.
- Located in the 100 year flood plain and curves west around an existing bureau of land management (BLM) park, trailhead, and boat ramp.
- Federal HBP funding and Caltrans Local Assistance requirements for this seismic retrofit
- Full PS&E delivery and environmental services coordination: *APS/Type Selection; geotechnical investigations and reporting; hydrologic and hydraulic evaluations; environmental NEPA compliance certification/approval; utility relocation and layout; bridge and roadway construction stages; and bridge design and independent check calculations.*

FIRST STREET BRIDGE OVER NAPA RIVER REPLACEMENT PROJECT, NAPA, CA
Project Dates: 2004-2009 | Construction Cost: $15M | TYLI Fee: $2.3M
Contact: Jason Holley, *Project Manager,* City of Napa, Department of Public Works, 707.257.9372
Key Staff: Chris Hodge, *Deputy PM/Project Engineer/Bridge Engineering Lead*; Michael Wolohan, *Design Check Engineer*; Kevin Bewsey, *Roadway Engineering Lead*; Isaac O'Neill, *Roadway Engineer*



- Replacement of the existing three-span 155-foot long haunched concrete encapsulated steel girder bridge. Existing bridge was locally significant listed on the National Register of Historic Places
- Active coordination with: City of Napa, County of Napa, USACE, USFWS, CA DFG, Napa Co Flood Control & Water Conservation District, CA SHPO, Napa Co TAC, City of Napa Cultural Heritage Comm., Napa County Landmarks/Urban Design Team, and Caltrans District 4 DLA
- Federal HBP funding and Caltrans Local Assistance requirements
- Rehabilitation vs Replacement Study, including seismic assessment
- Full PS&E delivery and environmental services coordination: *Project Design Report; geotechnical investigations; hydrologic and hydraulic evaluations; environmental CEQA/NEPA compliance certification/approval; significant utility coordination, relocation, and layout design; bridge and roadway construction stages; bridge design and independent check calculations; and an extensive public outreach program for project aesthetics and stakeholder impacts.*

NORWOOD AVENUE BRIDGE REPLACEMENT, SACRAMENTO, CA
Project Dates: 2008-Current | Construction Cost: $7.2M (est.) | TYLI Fee: $1.5M
Contact: Ricky Chuck, *Project Manager*, City of Sacramento, Department of Transportation, 916.808.5050
Key Staff: Mark Ashley, *Project Manager;* Chris Hodge, *Project Engineer/Bridge Engineering Lead*, Mike Wolohan, *Design Check Engineer*, Kevin Bewsey, *Roadway Engineering Lead*, Jack Gougé, *Environmental Compliance Manager*

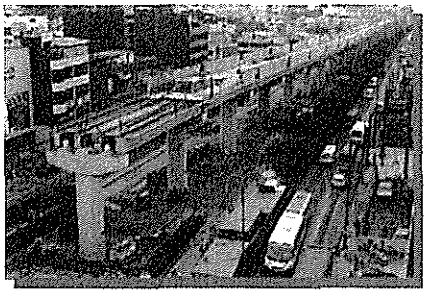


- Replacement of the existing 11-span 298-foot-long reinforced concrete slab bridge that spans between flood protection levees on Arcade Creek (environmentally sensitive watershed)
- Federal HBP funding and Caltrans Local Assistance requirements
- Full PS&E delivery and environmental services coordination: *Project Report; geotechnical investigations and reporting; hydrologic and hydraulic evaluations; levee*

stability/seepage evaluations; environmental CEQA and NEPA compliance certification/approval; utility relocation; bridge and roadway construction stages; and bridge design and independent check calculations.

TREN ELECTRICO (LIMA-CALLAO) LINE 1, LIMA, PERU
Project Dates: 2010-Current | Construction Cost: $400M (est.) | TYLI Fee: $2.1M
Key Staff: Chris Hodge, *Design Engineer;* Michael Wolohan, *Design Engineer*

- Currently providing a seismic engineering evaluation for the Tren Electrico (Electric Train), Lima-Callao Line
- Conducting several checks of existing bridge modules and a check of the recently constructed elevated viaduct guideway which runs along a north-south alignment over two medians
- Provided preliminary results and findings of the seismic resistance design check
- Provided seismic retrofit recommendations for 4km of existing viaducts and provided a seismic evaluation and redesign of 8km of new viaducts. The design was changed in order to be seismically safe per AASHTO LRFD code requirements
- Provided recommendations for retrofit when deficiencies were observed
- Performed the following tasks: *Global structural model using material properties; 3D seismic response spectrum analysis of the structural design; Computation of seismic resistance capacity of the piers and foundations; Analysis of the demand versus capacity of the piers, foundations, pier footing joints, pintles, and shear keys, using displacement ductility design approach and pushover analysis.*



PROJECT DELIVERY TEAM MEMBERS

LSA Associates:
- Auburn-Foresthill Bridge Seismic Retrofit, Placer County, CA; Completed 2010
- Hammet Road/Kiernan Lane/SR 99 Interchanges, Stanislaus County, CA; 2008-Current
- Daggett Road and BNSF Railroad Grade Separation, Port of Stockton, CA; Completed: 2010

Blackburn Consulting:
- Pelandale Interchange Improvements, Stanislaus County, CA; Recently completed
- SR132 West Expressway, Stanislaus County, CA; Recently completed
- Carpenter Road Bypass Project, Stanislaus County, CA; Recently completed

WRECO:
- Pacific Avenue Bridges over Calaveras River Retrofit, Stockton, CA; Completed: 2005
- Santa Fe Avenue Bridge over Tuolumne River Replacement, Stanislaus County, CA; Completed: 2000
- Seventh Street Bridge over Tuolumne River Rehab/Replace Feasibility Study, Modesto, CA; 1998

Y&C Transportation Consultants Inc.
- 9th Street Bridge, Modesto, CA, Completed 2006
- Third Street Bridge over Napa River Replacement Project, Napa, CA; Completed: 2002
- First Street Bridge over Napa River Replacement, Napa, CA; Completed: 2009

NorthStar Engineering Group:
- Carpenter Road Bridge, Modesto, CA
- Santa Fe Road Bridge, Modesto, CA
- 9th Street Bridge, Modesto, CA

Overland, Pacific & Cutler
- Hatch Road Widening, Stanislaus County, CA
- McHenry Avenue Widening Project, Stanislaus County, CA
- Claribel Road Widening Project, Stanislaus County, CA

Judith Buethe Communications:
More than 250 public participation programs designed and implemented in the Central Valley and Foothills.

DETAILED SCOPE OF SERVICES

The following scope of services reflects our proposed approach for developing and delivering the Hills Ferry Road Bridge Seismic Retrofit Project for Stanislaus County-Department of Public Works. Staffing utilization is described by indicating the team member that would participate in each task. Based on the described utilizations, the project team will satisfy the County's established DBE Participation Level of 3.6% and UDBE Participation Level of 3.1%. Upon entering into negotiations with the County, updated LAPM Exhibits 10-O1 and O2 (Local Agency UDBE & DBE Commitment) will be completed and submitted with the final Scope of Services.

TYLI has assembled a highly skilled, extremely adaptive project team capable of delivering full turnkey services for the Plans, Specifications, and Estimate (PS&E) and providing comprehensive construction support for either the retrofit or replacement project alternatives. As identified in the 2004 Final Strategy Report and confirmed in discussions with Caltrans District 10 Local Assistance, the amount of funding available for this project will be limited to that corresponding to work contained in developing and constructing the project defined in the approved Strategy Report. The following detailed scope of services and attached fee proposal reflect a comprehensive work plan **for completing the bridge retrofit project**. The detailed scope contains several additional task items identified as "Optional Task for Replacement". The optional tasks have been included to allow the County to evaluate the additional items of work necessary for a replacement project. The additional fee proposal associated with the optional tasks of work is available upon request. The optional tasks will be added to the contract by negotiation and agreement with the County, if a bridge replacement alternative is selected by the County. The determination of retrofit or replacement of the existing bridge is expected at the conclusion of Phase 1.

Project Delivery Team (PDT) - The following professional companies and individuals have been assembled to develop and deliver this bridge seismic retrofit project. Each entity has a distinguished service history performing the necessary roles and interacting with the responsible reviewing resource agencies to deliver a successful project for the County.

Professional Firm		Project Role	Responsible Personnel
T.Y. Lin International		Project Management and Principal-in-Charge Project Engineer and Lead Bridge Engineer Environmental Cert. Management Lead Roadway Engineer	Mark Ashley, PE Chris Hodge, PE Jack Gouge Kevin Bewsey, PE
WRECO, Inc.	UDBE	Hydraulics & Hydrology; Drainage	Han-Bin Liang, PhD, PE
Blackburn Consulting, Inc	SBE	Geotechnical; Phase 1 ISA	Ben Crawford, GE, PE
North Star Engineering	SBE	Surveys, Channel/Levee Topography	Kent Hysell, PLS
Y&C Transportation	UDBE	Signing & Striping; Traffic & Electrical	Dan Yau, PE, TE, PTOE
LSA Associates		Environmental Studies, CEQA/NEPA	Kelly Jackson
Judith Buethe Communications	UDBE	Community Outreach	Judith Buethe
Codgill & Giomi		Appraisals	Jim Cogdill
W.F. Bambas Appraisals		Appraisals Review	Bill Bambas
Overland, Pacific, & Cutler		R/W Negotiations & Acquisitions	Steve Harris

**Optional scopes of service may be defined and added via contract amendment and are not included in this proposal.*

Design Standards - The design shall comply with *Chapter 11: Design Standards*, of the Local Assistance Procedure Manual (LAPM) and the design standards required by the County. The PS&E preparation will be performed, as directed by the County, in English units, and will comply with *Chapter 12: Plans, Specifications, & Estimates* of the LAPM.

PROJECT MANAGEMENT
PHASE 1: Strategy Determination
PHASE 2: Project Design
PHASE 3: Construction and Support

PROJECT MANAGEMENT

This activity commences with receiving the Notice-to-Proceed, continues through submittal of the final project deliverables, and concludes at the completion of construction and close-out. Key tools of our project management program include Project Delivery Team meetings; monthly progress reports; and work progress direction, monitoring, coordination, and communications. TYLI's Project Manager will direct and monitor project work activities in accordance with the contracted scope, schedule, and budget. Regular project team meetings will be held to review work in progress. The Project Manager, Project Engineer, and Bridge, Roadway, and Environmental Leads are the primary staff utilized under this task.

Task PM.1 – Project Initiation

Following the Notice to Proceed, the TYLI Project Manager (PM), Mr. Mark Ashley, will confirm with County staff the scope, deliverables, and schedule for completion. Subsequently, the PM will quickly organize the team members to determine the most efficient approach to completing the project within the schedule and budget specified by the County.

Task PM.1.1 – Preliminary Research and Background Data

TYLI will obtain pertinent existing information from local, state, and federal agencies related to this project. The County will deliver any additional project information available to TYLI at the subsequent kick-off meeting. In addition, the task Leads of the project team will be responsible for the collection of data relevant to their respective project work. The team members shall collect and catalog all available pertinent data. It is assumed that the County will assist TYLI in identifying locations or agencies of "known" information. A bulleted-listing of all information gathered will be provided to the County and the PDT in a "Data Review Memorandum". This task is managed and owned by the Task Leads, but specific elements will be delegated to bridge design and roadway design engineers, environmental specialists, geotechnical and hydraulics engineers, and survey team members.

Task PM.1.2 – Initial Project Management

Establish Project Baseline Schedule: TYLI will finalize the critical path schedule (CPM) baseline project schedule (per the final negotiated scope of services) showing each task, start and end dates, and task duration. Schedule updates will be coordinated with the County as part of the Project Management responsibilities. TYLI will notify the County immediately of any problems that could adversely impact the project schedule.

Project Information Binder: A project information binder will be prepared and provided to the County's Project Manager. This binder is a "living" document used to organize commonly referenced project details for easy access. The information contained in the binder includes: project description and background information, organization chart and contact list, meeting minutes, approvals and authorizations, the project work plan (scope of

services, schedule, and budget), amendments, and the project schedule and updates. In addition, a copy of the project information binder is distributed to all key project personnel to share with their support staff to ensure that project information is readily available to everyone working on the project.

Project FTP Site: TYLI will Establish and maintain a password protected FTP site throughout the duration of the project. Current project information and design data will be uploaded to the FTP site to allow the County and the project delivery team instant access to up-to-date project details.

Deliverables:

- Data Review Memorandum
- MS Project CPM Baseline Schedule
- Project Information Binder
- Password Protected Project FTP Site

Task PM.2 – Management

Task PM.2.1 – FHWA Programming & Caltrans Local Assistance Paperwork

TYLI's PM will prepare the paperwork necessary to comply with the requirements of FHWA HBP funding and Caltrans Local Assistance procedures for the County's signature and submittal to Caltrans District 10 Local Assistance. These submittals include, but are not limited to, the requests for obligation/authorization for each phase of the project: preliminary engineering, right-of-way, utility relocation, and construction.

Task PM.2.2 – PDT Milestone Monitoring Program

Biweekly (or an interval determined by the County) PDT status meetings/conference calls will be held to facilitate the transfer of critical project information across team disciplines. The PDT milestone-monitoring program will reflect the discussions, conclusions, and agreements covered in the PDT meetings and assigns clear ownership of action items with completion dates. The action items are not limited to only the milestone deliverables but additionally include the intermediate steps necessary for completion of those deliverables. In addition, TYLI will create and maintain an "Issues Log" for the project. The Log will record project interim and milestone submittals; issues requiring decisions identifying date logged, the responsible decision-maker, and date resolved; and project notes for the contract special provisions. The Log will be distributed to the County at a regular interval to be determined.

Task PM.2.3 – Monthly Progress Report and Invoicing

As part of general project management responsibilities, TYLI will prepare status reports addressing the progress of the project, project design schedule, decisions that must be made to keep the project on schedule, and a list of work that has been accomplished in the previous month and forecasted for the upcoming month. In addition, monthly invoicing will be accompanied by a budget summary, indicating task breakdowns for budget, percent-complete, spent to date, and remaining balance. Invoice submittals will include updates to the CPM schedule, as needed.

Task PM.2.4 – Quality Control/Quality Assurance

The TYLI Team will utilize a quality control plan/process for this project whereby deliverables are reviewed for uniformity, compatibility, and constructability as well as general conformance with the Federal HBP requirements. The QC Plan will include procedures and checklists for deliverables, including but not limited to conceptual plans, planning studies, technical memoranda and reports, and estimates. Quality control will be accounted for and shown on the final CPM project schedule. Senior level roadway and

bridge PS&E review will be incorporated with Task 2.7 Preliminary Engineering and Task 2.10 Final PS&E.

Task PM.2.5 – Miscellaneous Project Coordination
TYLI will prepare for, attend, and document additional meetings and conference calls with the County throughout the duration of the project. In addition, TYLI will assist the County with the preparation of memoranda and correspondence for the Board of Supervisors presentations.

Task PM.2.6 – Resource Agency and Stakeholder Coordination
In coordination with the County and at the County's direction, TYLI will actively coordinate the following agencies in regards to this project:

a) U.S. Fish and Wildlife Service
b) National Marine Fisheries Service
c) State Department of Fish & Game
d) Army Corps of Engineers
e) Central Valley Flood Projection Board
f) Regional Water Quality Control Board
g) Utility Companies
h) Rights of Entry will be required for topographic and environmental surveys, geotechnical investigation, and other studies outside of the existing Right-of-Way as necessary. TYLI will prepare the Rights of Entry as necessary for use by the County. TYLI assumes the County will send the prepared letters to the affected owners.

Deliverables:

- FHWA HBP Programming and Caltrans Local Assistance Paperwork
- PDT Meetings and Milestone Monitoring Memoranda
- Project Issues Log
- Monthly Progress Report, Invoicing, and CPM Schedule Updates
- Additional Meetings (total 12) and Conference Calls (total 24) with County
- Rights of Entry, as needed

PHASE 1 – Strategy Determination

This phase will encompass the work necessary to initiate the project and to update the approved retrofit strategy and construction cost.

Task 1.1 – Field Review (Kick-Off Meeting)
TYLI will coordinate a kick-off meeting with the County's Project Manager, Caltrans Local Assistance, the consultant team, and any other project stakeholders described in LAPG §7.8 that may be appropriate to thoroughly discuss the project background, scope, concepts, schedule, and management. This meeting will result in an understanding amongst the project stakeholders as to the project scope and schedule. Major project issues that have already been identified by project stakeholders will be shared at this meeting.

In conjunction with the kick-off meeting, TYLI will conduct a visual on-site field investigation to identify existing conditions and establish preliminary design assumptions and parameters. TYLI will review any as-built information on file. TYLI will also confer with Caltrans Division of Structures Local Assistance and Caltrans District 10 Local Assistance as necessary to confirm project assumptions and physical project limits for eligible Seismic Retrofit/HBP work. This will include preparing the field review request and field review forms.

Deliverables:

- Kick-Off Meeting Agenda and Minutes
- Field Investigation Notes

- Field Review Form with Attachments

Task 1.2 – Preliminary Environmental Study
The TYLI team will prepare a Preliminary Environmental Study (PES) as required under the Caltrans Local Assistance Procedures Manual (Environmental Procedures) for federally funded projects. The PES includes a checklist that establishes the basis for any needed technical studies and is used to identify the likely environmental clearance. The PES is also used to identify agency coordination requirements, as well as environmental permits, that will be needed for the project.

Deliverables:
- PES Form

Task 1.3 – Seismic Strategy Verification
This task will be led by TYLI with support services from the geotechnical and hydraulic engineers. The project team will attempt to verify the finding of the previous retrofit study that bridge replacement is the most cost effective alternative for ensuring public safety ("no collapse") at the crossing.

Task 1.3.1 – Engineering Studies
The project team will perform the engineering analyses and studies to update the previous determinations regarding the as-built structure vulnerabilities, necessary retrofit measures, and feasible replacement alternatives.

Task 1.3.1.1 – Geotechnical Engineering
The scope of services includes preparation of a Preliminary Foundation Report for the purpose of advanced planning and type-selection for the project.

Site Visit, Document Review, Coordination, and Project Meetings: Blackburn Consulting Inc. (BCI) will make a site visit and review bridge alternatives, existing as-built data, existing geotechnical boring/scour data, geologic/seismic maps and literature pertaining to the site. BCI's Project Manager will provide geotechnical project coordination and attend the kick-off meeting.

Preliminary Engineering Evaluation and Analysis: BCI will review the existing boring data and perform preliminary engineering evaluation and analysis (using computer software where applicable) for the following: compression/tension/lateral pile capacity; estimated pile downdrag forces; site seismicity, including performing a site specific response spectrum per current Caltrans Seismic Design Criteria (for sites with significant liquefaction hazards, this has yet to be completed); scour; slope stability/erosion; liquefaction, lateral spreading, and seismic settlement potential (including preliminary mitigation alternatives).

Preliminary Foundation Report: BCI will prepare and submit the Preliminary Foundation Report (PFR) to be used during advanced planning and bridge type-selection. The PFR will include: Project Description; Site Geology and Subsurface Conditions; Scour Evaluation; Seismic Recommendations (including site specific ARS curve; liquefaction, seismic settlement, and lateral spreading potential; and preliminary ground improvement options); Slope Stability/Erosion; As-Built Foundation Data; Compression/Tension/Lateral Pile Capacity, Preliminary Foundation Recommendations (e.g., Caltrans Standard driven pile types, steel H-piles, large diameter cast-in-drilled-hole piles, anticipated pile lengths, anticipated bearing capacities and estimated downdrag forces); Preliminary Geotechnical/Geologic issues pertaining to soil corrosivity, and constructability issues; Necessary additional Field Work and Laboratory Testing; Vicinity Map; As-Built Log of Test Borings.

Task 1.3.1.2 – Hydraulic Engineering
The scope of services includes preparation of a Preliminary Hydraulic Technical Memorandum for the purpose of advanced planning and type-selection for the project.

Data Review: WRECO will review available data provided by the County and the Project Team. Key information to review will be the available hydrologic and hydraulic data for San Joaquin River and Merced River from the U.S. Army Corps of Engineers (USACE), Department of Water Resources (DWR) and Central Valley Flood Protection Board (CVFPB).

Field Reconnaissance: WRECO will conduct a field reconnaissance to assess the existing conditions in the vicinity of the Project site.

Preliminary Hydraulic Technical Memorandum: WRECO will prepare a Preliminary Hydraulic Technical Memorandum to discuss the preliminary hydraulic analyses to compare the retrofit and replacement alternative schemes.

Deliverables:
- Preliminary Foundation Report
- Preliminary Hydraulic Technical Memorandum

Task 1.3.2 – Retrofit Studies
TYLI will evaluate the existing as-built structure using elastic-dynamic finite element computer models (SAP2000), hand calculations, push-over analyses, and moment-curvature section analysis software (XTRACT) to confirm the seismic vulnerabilities. Modeling and performance of the existing structure will be evaluated using Caltrans Memo to Designers §20-4, Caltrans SDC v1.6, current acceleration response spectra, and updated liquefaction considerations. Seismic vulnerabilities will be demonstrated through tabulating a series of demand-to-capacity (D/C) ratios for critical structure component and member forces. D/C ratios larger than 1.0 denote vulnerabilities.

The retrofit scheme contained in the 2004 Strategy Report will be validated by making the necessary modifications to the as-built structure models and repeated the analyses. D/C ratios for the retrofitted structure will be tabulated. Retrofit scheme validation will be measured by D/C ratios less than 1.0 for the critical structure components and member forces. If the previous retrofit scheme does not satisfy current seismic performance standard, additional measures or a revised retrofit scheme will be determined. If the D/C ratios are significantly less than 1.0, additional modifications will be made to reduce the retrofitting implemented to determine an "optimal" scheme, i.e., the minimum amount of retrofitting required to ensure a "no collapse" performance.

Upon finalizing an updated seismic retrofit scheme, a bridge general plan depicting the location of retrofit measures will be drafted. In addition, sufficient conceptual details of the retrofit scheme will be created to demonstrate the suitability of the retrofit measures. A construction cost estimate of the updated retrofit scheme will be completed.

Task 1.3.3 – Replacement Studies
As an alternative to the retrofit scheme, a bridge replacement alternative will be evaluated. The initial replacement alternative will be based on the bridge type and configuration included in the 2004 Strategy Report. However, opportunities for refinement based on updated seismic performance standards and reduced ARS values will be integrated to reduce the overall dimensions of the bridge and the size of the structural components.

Upon finalizing the bridge replacement alternative, a bridge general plan depicting the layout of the structure and typical section will be drafted. In addition, a construction cost estimate of the appropriate retrofit scheme will be completed.

Task 1.4 – Retrofit Strategy Report
This task will be led by TYLI.

Cost/Benefit Analysis: A key task during the alternatives analysis will be to perform a detailed Cost/Benefit Analysis to compare the project alternatives and to further demonstrate the best use of available funding. Cost/Benefit Analysis is recognized as a valid approach by both Caltrans and FHWA for evaluating transportation investments. TYLI will utilize standard Caltrans and FHWA methodologies. Factors to be considered in the Cost/Benefit analysis will include projected life expectancy, initial project cost, life cycle costs, risk cost, and cost vs. life expectancy. The process and conclusions from the Cost/Benefit analysis will be included in the strategy report.

Strategy Report: The retrofit strategy report will summarize the analytical assumptions, processes, and conclusions from the engineering, retrofit, and replacement studies. The report will also discuss relative environmental impacts, utility conflicts, constructability, and right-of-way impacts. A comparison of the performance of the as-built, retrofitted, and replacement structures will be made using summary tables of the D/C ratios for the critical structural components and member forces.

A preliminary draft Strategy Report will be provided to the County in advance of formal submittal to the Strategy Review team. County comment will be discussed and resolved. The preliminary draft will be updated. TYLI will prepare and forward the necessary copies of the Draft Strategy Report to Caltrans Local Assistance for distribution to the strategy review team. After the Strategy Meeting (described in the following), TYLI will prepare the Final Retrofit Strategy Report, incorporating all comments and revisions as agreed in the meeting. Additionally, minutes from the Strategy Meeting and the Seismic Retrofit Assessment Form (completed for signature by Caltrans) will be included in the final report. The approved Final Retrofit Strategy will set the measures and construction cost available to the County in moving forward into Final PS&E.

Deliverables:
- Preliminary Draft Retrofit Strategy Report (County)
- Draft and Final Retrofit Strategy Report (Strategy Review team)
- Seismic Retrofit Assessment Form

Task 1.5 – Strategy Meeting
This task will be led by TYLI. After completion of the Draft Retrofit Strategy Report, TYLI coordinate and schedule a Strategy Meeting with strategy review team. Members of the review team will include, but are not limited to, staff from Stanislaus and Merced Counties; members from the TYLI's Project Delivery Team; and Caltrans Local Assistance (Liaison and Structures), Earthquake Engineering, Structure Design, Maintenance and Investigations, Hydraulics, and Geotechnical.

TYLI will present the process and findings contained in the Draft Strategy Report and discuss any issues or concerns with members of the strategy review team. The conclusion of the Strategy Meeting should be a consensus by the review team on an approved Final Retrofit Strategy.

Deliverables:
- Coordinate and attend Strategy Meeting
- Prepare and distribute Meeting Minutes

PHASE 2 – Project Design

In general, this phase will encompass the work necessary to ensure compliance with the CEQA and NEPA environmental processes and the engineering design development to adequately define the project and its impacts in support the environmental process.

Task 2.1 – Topographic Surveying and Right-of-Way Mapping

This task will be led by North Star Engineering Group Inc. (North Star). TYLI's Project Manager will coordinate requests for survey and mapping with the County. The topographic surveying and right-of-way mapping for the project will include record search and calculations, Right-of-Way and Control Field Survey, Aerial Imagery, Topographic Survey, River Cross Sections, and Right-of-Way and Mapping Services. The task will be coordinated with the Bridge and Roadway Leads.

Task 2.1.1 –Record Research and Calculations

North Star will perform record research at Stanislaus County and Merced County to locate recorded control maps, right-of-way maps, records of survey, corner records, and other official maps of records. Calculate record right-of-way lines and property lines located within the project limits in accordance with record maps, record deeds, and documents as required to calculate field search positions for existing right-of-way monuments, street survey monuments, and parcel corner monuments.

Task 2.1.2 –Right-of-Way and Control Field Survey

Perform a Topographic and Right-of-Way Survey to provide design control and right-of-way mapping for the project. Set horizontal and vertical control points for project mapping in accordance with Stanislaus County horizontal and vertical control requirements. All surveying and mapping shall be in compliance with the provisions of the Professional Land Surveyors Act, Sections 8700 to 8805 Business and Professions Code, the provisions of the California Coordinate System, Sections 8801 to 8819 of the Public Resources Code, and any other applicable code in the State of California. The horizontal datum will be based on the North American Datum 83 (NAD 83) as shown in Volume 22 of Surveys, Page 51 (22-S-51), Stanislaus County Records. The vertical datum shall be based on the North American Vertical Datum of 1988 (NAVD 88) as in shown in Volume 22 of Surveys, Page 51 (22-S-51), Stanislaus County Records. Perform a field survey to search and locate existing survey monuments and physical evidence required to establish existing rights-of-way and property lines at those locations where any portion of the project infringes upon the required setback limits or lies within 50 feet of project improvements, work areas, storage, and staging areas.

Task 2.1.3 – Aerial Imagery

North Star will provide a color orthorectified aerial image which will cover the project limits and will be utilized in the development, planning and design. North Star will utilize Aero-Graphics to prepare the color orthorectified aerial imagery. Photography will be acquired at 1:3000 and imagery will be .25' pixel resolution. NorthStar will set ground control in accordance with aerial flight plan provided by Aero-Graphics, and will provide coordinates and elevations on ground control for aerial orientation.

Task 2.1.4 – Aerial Topographic Survey (Optional Task for Replacement)

North Star will provide an aerial survey by using Aero-Graphics to prepare the aerial topographic survey, with one foot topographic mapping, planimetry, DTM, and the color orthorectified aerial imagery.

Task 2.1.5 –Topographic Survey
North Star will perform detailed field survey of existing roadways, physical improvements, visible utilities, and drainage features. Cross sections and tie-in surveys will ensure an accurate design and smooth transitions from existing roadway and infrastructure features. All work and files will be based on project coordinate control in accordance with County requirements for the preparation of documents and maps. Topographic field survey will locate existing site improvements and visible utilities including, but not limited to, trees, ground shots, Hills Ferry Road cross sections, striping, headwalls, wing walls, fences, driveways, pavement elevations, guard rails, and other miscellaneous visible features. Cross sections will be taken at 50 foot intervals along Hills Ferry Road. Cross sections will begin 300' west of the bridge and end 300' beyond the existing bridge. In addition to these cross sections, centerline only shots will be provided at 50' intervals a total of 850' of the west roadway approach and 1100' of the east roadway approach to the bridge.

Task 2.1.5.1 –Topographic Bridge Survey
North Star will perform detailed field survey of the existing bridge. Cross sections will be taken at 50 foot intervals along the bridge. The Topographic bridge survey will include but is not limited to top edge of deck, joint locations, center of pile/columns, edge of piers, edge of abutments, wing walls, ground shots, and visible utilities.

Task 2.1.5.2 –Topographic Rivers Survey
North Star will perform detailed field survey of the Rivers and develop 8 channel cross sections for utilization in HEC-RAS hydraulic study.

River Sections:
- 3 Sections downstream
- 2 Sections at the existing bridge (1 at upstream face, 1 at downstream face)
- 1 Section at the confluence of the Merced and San Joaquin Rivers
- 1 Section upstream of the confluence on the Merced River
- 1 Section upstream of the confluence on the San Joaquin River

Task 2.1.5.2 –Topographic Road Survey (Optional Task for Replacement)
North Star will extend the Topographic Survey using 50' interval sections cross sections to include a total of 850' of the west roadway approach and 1100' of the east roadway approach to the bridge.

Task 2.1.6 – Right-of-Way and Mapping Services
North Star will prepare a Right-of-Way Requirements Map based on identified right-of-way requirements. The Right-of-Way Requirements Map shall define all property acquisition required. It appears that no right-of-way dedications will be required based on a review of the Stanislaus County and Merced County Assessor's Maps. Prepare an Easement Requirements Map based on identified easement requirements. The Easement Requirements Map shall define all easement acquisitions required. Prepare appropriate right-of-way and easement legal descriptions and exhibits for seven locations.
- Procure Preliminary Title Reports for each property affected by right-of-way and/or easement acquisition (4 Title Reports).
- Prepare legal descriptions and plats for temporary construction easements, staging areas, and disposal areas for excess soil generated by project construction (7 legal descriptions and plats).
- Specify existing and proposed rights-of-way, land dedications, and easement agreements.
- Prepare and file a Record of Survey for any new right-of-way required, and/or for any other triggers specified in the Professional Land Surveyors Act.
- Prepare final right-of-way map and legal descriptions for acquisition of all necessary parcels and easements.

Deliverables:

- Three (3) Plots of topographic survey & boundary survey
- Control Diagram with Local Control, with Basis of Bearings, & Vertical Control
- Survey Notes, including existing alignments & monumentation.
- CD of Drawings & Electronic Deliverables which include:
  - topographic survey & boundary survey drawing
  - Point file in PNEZD comma delimited text file
  - DTM of Existing Ground without Structure
  - DTM of Existing Ground with Structure
  - Land XML file or AutoCAD Civil3D 2010 file to include Points, DTM, & Alignment.
- Title Reports
- Right-of-Way Requirements Map
- Seven (7) Plats and Legals
- Record of Survey

Task 2.2 –Geotechnical Engineering

This task will be led by Blackburn Consulting, Inc. (BCI). Geotechnical services for the project include site review, geologic reconnaissance, drilling and sampling of test borings, laboratory testing, the "Log of Test Borings" drawing, engineering evaluation, analysis and written report, and consultation/plan review. Services would also include additional logged/sampled test borings in evaluation of approach roadway embankment/subgrade conditions, as needed. The work is managed by the Geotechnical Lead and supported by a geotechnical engineer and drilling crew. The task will be coordinated with the Bridge and Roadway Leads.

Task 2.2.1 – Bridge Geotechnical Foundation Report

Permits/USA Clearance: BCI will comply with any special permit requirements of the Lower San Joaquin Levee District and Central Valley Flood Protection Board. BCI will field locate the borings and call for USA clearance and will coordinate the fieldwork with the drilling subcontractor, County, and the design team. Field exploration will be within the County right-of-way. BCI will obtain the necessary County Boring and Encroachment Permits as well as any other permits if necessary to complete the subsurface exploration, including Fish & Game. Rights-of entry to privately owned parcels are not expected.

Field Exploration: For the bridge, BCI will complete additional subsurface exploration and laboratory testing to supplement the existing boring data in order to further assess soil susceptibility to liquefaction and lateral spreading, to help evaluate the lateral/vertical capacity of existing piles, and to provide foundation analysis/recommendations. BCI will observe, log and sample two exploratory borings to depths ranging from 120 to 140 feet below existing ground surface. For approach roadway improvements, BCI will complete 4 to 5 shallow exploratory test borings to depths between 5 and 10 feet below existing grade within the approach locations. The borings will be drilled with a truck-mounted drill rig using auger and/or mud-rotary drilling methods. BCI will collect soil samples at approximate 5-foot intervals with Standard Penetration Test (SPT) or California Modified samplers to obtain blow count information for geotechnical design. A BCI Engineer or Geologist will log the borings and direct the sampling operations consistent with current Caltrans guidelines. Surface and ground water levels will be noted, where encountered. BCI will backfill the drill rig borings in accordance with County requirements. BCI plans to drill at least one deep boring from the existing bridge deck. For this boring, BCI makes provision for a lane closure with flaggers. BCI will locate the other borings in the shoulder areas off of the existing roadways and on the floodplain below the existing bridge so that traffic control at most will consist of safety signs/cones for shoulder work without flaggers.

Laboratory Testing: BCI will perform the following laboratory tests on relatively undisturbed samples obtained from the exploratory borings: Moisture Content and Unit Weight for bearing capacity, lateral capacity and slope stability analysis; Unconfined Compression Strength testing and/or Direct Shear testing for bearing capacity; Sieve Analysis and Plasticity Index for liquefaction analysis and scour analysis (by others); R-value for pavement design, and Resistivity, pH, Sulfate Content and Chloride Content for soil corrosivity analysis.

Engineering Evaluation and Analysis: BCI will perform engineering evaluation and analysis (using computer software where applicable) for the following: lateral and vertical bearing capacity; site seismicity, including updating the site specific response spectrum per Caltrans Seismic Design Criteria (SDC) v 1.6; liquefaction potential; lateral spreading; seismic settlement; slope stability; lateral earth pressure; sliding coefficient; pavement sections; and soil corrosivity.

Prepare Draft and Final Geotechnical Foundation Report: BCI will prepare and submit a Draft Foundation Report. The report will include recommendations for design in accordance with SDC v 1.6 and current Caltrans guidelines including: Scope of Work; Project Description; Field Exploration; Laboratory Testing; Site Geology and Subsurface Conditions; Ground Water; Scour Evaluation; Corrosion Evaluation; Seismic Data and Recommendations; As-Built Foundation Data; Slope Stability Analyses; Foundation Recommendations; New Approach Pavement Section Recommendations; Construction Considerations, and; Appendices (Vicinity Map, Site Plan, ARS Curve, Log of Test Borings, As-Built Log of Test Borings, Boring Logs, Laboratory Test Results, and Analyses and Calculations). BCI will provide preliminary liquefaction and lateral spreading mitigation alternatives. Additional services will be required to provide specific mitigation recommendations based on the selected alternative. Once BCI receives all draft report comments, we will issue the Final Foundation Report incorporating the comments as necessary.

Deliverables:

- Draft and Final Geotechnical Foundation Report
- Log of Test Borings Sheet

Task 2.3 –Hydrology and Hydraulics

This task will be led by WRECO. Location Hydraulic Studies and Bridge Design Hydraulic Studies will be prepared for the bridge project in conformance with Caltrans LAPM and HBP Guidelines. The work is managed by the Hydraulics Lead and supported by technical staff. The task will be coordinated with the Bridge and Roadway Leads. WRECO will provide the Project Team's structural engineers with necessary hydraulic data for their bridge structure and foundation design.

Task 2.3.1 – Data Review

WRECO will review available data, including previous studies, provided by Stanislaus County (County) and the Project Team. Key information to review will be the available hydrologic and hydraulic data for the San Joaquin River and Merced River from the U.S. Army Corps of Engineers (USACE), Department of Water Resources (DWR) and Central Valley Flood Protection Board (CVFPB).

Task 2.3.2 – Field Reconnaissance

WRECO will conduct a field reconnaissance to assess existing conditions in vicinity of the Project site.

Task 2.3.3 – Hydrologic Assessment
WRECO will research the Federal Emergency Management Agency's (FEMA) Flood Insurance Study (FIS) for the design peak discharges. WRECO will coordinate with the County, USACE, DWR and CVFPB to confirm the design flows. WRECO does not expect to perform a detailed hydrologic study for this Project.

Task 2.3.4 – Hydraulic Analyses
WRECO will perform hydraulic analyses to determine the design flow characteristics for the existing and proposed conditions. WRECO will perform the hydraulic analysis of the San Joaquin River using the USACE's HEC-RAS computer model. WRECO will coordinate with the Project Team to obtain the surveyed river cross-sections to be used for the hydraulic analysis, and integrate the proposed bridge design into the hydraulic model. WRECO will work with the Project Team to ensure that the bridge design will consider future flood control projects proposed for the San Joaquin River in the vicinity of the Project site. By taking this approach, our study can provide a thorough assessment of the potential floodplain impacts from the proposed Project.

Task 2.3.5 – Location Hydraulic Study
WRECO will perform a Location Hydraulic Study and conduct a floodplain risk assessment for the proposed Project. WRECO will prepare a Bridge Location Hydraulic Study Report, which will include the standard Summary of Floodplain Encroachment Form and technical discussions.

Deliverables:
- Draft and Final Bridge Location Hydraulic Study Report

Task 2.3.6 – Scour Analysis
WRECO will perform a bridge scour analysis to determine the scour potential per the methodology specified in the Federal Highway Administration's HEC-18 and HEC-23 Manuals. WRECO will make recommendations on the need for scour countermeasures.

Task 2.3.7 – Construction Period Flood Risk Assessment for Central Valley Flood Protection Board/U.S. Army Corps of Engineers (Optional Task for Replacement)
WRECO will perform additional hydraulic analysis to evaluate the impact of flood risk due to the proposed project construction. Construction items to consider include dewatering and falsework used for the construction.

Task 2.3.8 – Bridge Design Hydraulic Study Report
WRECO will prepare a Bridge Design Hydraulic Study Report to summarize the recommendations and results from the hydraulic and scour analyses and recommendation for bridge scour countermeasures. The report will include all the detailed hydraulic model output and results.

Deliverables:
- Draft and Final Construction Period Flood Risk Assessment Report (Optional)
- Draft and Final Bridge Design Hydraulic Study Report

Task 2.4 – Utility Survey and Coordination
TYLI will coordinate with utility companies to relocate or protect facilities in place through the A-B-C letter process. TYLI will provide initial utility coordination for the proposed project as required for the preliminary design. This task will consist preparing and sending out the "A" letter on County letter head and will provide initial contact with the utility companies notifying them of the project and requesting their facility maps for the project area. It appears that there are overhead power lines and potentially underground analog and fiber optic telephone lines. No underground gas/petroleum lines were evident at the site. However, all utilities known to operate in the vicinity of the project will be contacted.

TYLI will continue to coordinate with utility agencies and companies to identify the locations of their facilities through final PS&E. This task includes the utilities identified for modification. Unless specifically stated, it is assumed that all new or relocated utility facilities will be designed and constructed by the applicable utility owners. Information provided by the utility agencies will be incorporated into the project design.

When project design is approximately 60% complete, TYLI will prepare and send out the "B" letter on County letter head to verify the location of the utilities, identify potential conflicts, request potholing, request owner liability, and provide initial relocation notices following Caltrans latest procedures outlined in Section 14 of the Local Programs and Procedures Manual. TYLI will forward to the County a copy of Utility letters sent and all correspondence received.

At the 60% submittal, TYLI will set up a project utility coordination meeting with the affected utilities. The meeting will be held at the site, where conceptual relocation details can be discussed.

At the draft final (90%) PS&E stage, another utility coordination meeting will be held at the site to confirm the final relocation strategy and schedule for construction. After this coordination is complete TYLI will prepare Reports of Investigation for affected utilities with utility agreements, Utility plan, & cost breakdown for review and approval by the Caltrans District 10 Utility coordinator. This approval would include FHWA approval of Utility agreements and/or FHWA specific authorization to relocate utilities.

Final relocation notices following Caltrans latest procedures outlined in LAPM Section 14 will be prepared by TYLI and likewise sent to the County for distribution upon submittal of the 90% PS&E package.

TYLI will also provide the necessary information to process the Request for Authorization for Utility Relocation. This task is managed by the Roadway Lead and supported by the roadway and bridge design engineers.

Deliverables:

- Utility "A-B-C" letters
- Preliminary Utility Conflict Plans (3 copies)
- Prepare and Update Caltrans Report of Investigation Exhibits (LAPM Section 14)
- Prepare and Update Caltrans Utility Agreements Exhibits (LAPM Section 14)
- 60% and 90% PS&E Utility Coordination Meeting

Task 2.5 – Traffic Analysis and Handling

Based on the high vehicle speeds (85th percentile user speeds) and the high ADT counts, full closure of the crossing has been eliminated as an option during construction. Construction operations will be allowing to impact no more than one lane at any time while maintaining single reversible lane in the remaining lane. The entrances on both ends of this reversible lane will be controlled by traffic signals. TYLI will prepare the necessary traffic analysis to ensure the reversible lane will provide adequate capacity for both directions on Hills Ferry Road.

TYLI will prepare traffic analyses to evaluate any potential impacts of various proposed construction alternatives and delay durations. Standard synchronizing and modeling software will be used to analyze the traffic conditions through the project site. The traffic analysis will be summarized in a technical memorandum and submitted to the County for review. Any comments by the County will be incorporated into the final tech memo.

Deliverables:

- Traffic Analysis Technical Memorandum (Draft and Final)

Task 2.6 – Electrical and Lighting

Task 2.6.x – Temporary Traffic Signal

Y&C will obtain the electronic file of the construction stage traffic handling plan from the Prime Consultant and prepare temporary traffic signal plan for a reversible lane on the bridge during construction. We assume two construction stages would require temporary traffic signal to control the reversible lane. Y&C will submit temporary traffic signal PS&E to the County for review at 30%, 60%, and 90% levels. Any comments by the County will be incorporated into final PS&E.

Deliverables:

- Six sheets of 1"=20' temporary traffic signal plan
- Technical Specifications and Cost Estimates

Task 2.6.x – Lighting on Bridge (Optional Task for Replacement)

Providing lighting for the proposed bridge replacement would enhance safety for motorist on the bridge. However, too much light spill over into the river would impact the habitat of wild life at night. Y&C will work closely with the environmental consultant, the bridge engineer, and the County staff to ensure no excessive light will be spillover into the river. Y&C will use VISUAL lighting analysis to simulate lighting patterns and limit illumination on bridge deck.

Y&C will obtain electronic base plan from the Prime Consultant. Y&C will prepare lighting analysis for the proposed new bridge based on the lighting pole and fixture selected by the County of Stanislaus. Based on the lighting analysis, Y&C will prepare lighting plans, specifications, and estimate (PS&E) for the proposed bridge. The PS&E will be submitted to the County for review at 30%, 60%, and 90% levels. Any comments by the County will be incorporated into final PS&E.

Y&C will also coordinate with the utility company in identifying electrical service point location.

Deliverables:

- One sheet of 1"=40' lighting plan
- One sheet of no scale construction details and notes
- Technical Specifications and Cost Estimates

Task 2.7 – Preliminary Engineering (30%) (Optional Task for Replacement)

This task includes the development of the design concept for the preferred alternative for environmental approval, permitting, and final design. This work includes the following:

Task 2.7.1 – Develop Design and Staging Requirements

The project team will investigate alignment alternatives, structure types, and staging alternatives to achieve reduced right-of-way impacts and project cost, to limit impacts of the travelling public, and to limit or avoid the need for obtaining any design exceptions. At the County's direction, this review will consist of the following items of work:

- Prepare a Design Criteria Memorandum identifying roadway geometric design standards
- Consultation with County for investigation and inclusion of potential alignments
- Meet with County to discuss potential roadway design refinements and identify design and staging alternatives to investigate
- Develop planning level assessment of layout and cost estimate impactsPrepare a two-page Design and Staging Alternative Memorandum describing the selected refinements with a

"Pros vs. Cons" evaluation addressing overall project limits, right-of-way impacts, construction impacts, identified design exceptions, and estimated effects on project cost.

- Meet with County to determine alignment design and staging alternative to be carried forward to the 30 percent design milestone
- Bridge Advance Planning Studies for each alternative will be prepared. The bridge profile and structure type will be determined in conjunction with the hydraulic studies to provide the best fit for the project site. Geometric Layout Drawings for each alternative showing the horizontal alignment and vertical profile will be prepared and submitted to the County for approval. The layout drawings will include construction staging if applicable, indicate right-of-way limits, and preliminary permanent and temporary easements required.
- Finalize the preferred alignment alternative

Deliverables:

- Design Criteria Memorandum (3 copies, draft and final)
- Planning level assessment of 3 alignment alternatives
- Alignment Design and Staging Alternative Memorandum (3 copies, draft and final)
- Bridge Advance Planning Studies for each alternative.

Task 2.7.2 – Preliminary Alignment & Bridge Studies (Design Concept Approval)
Once the preferred alignment alternative is identified, the proposed bridge and roadway details will be developed to the 30% level. The bridge profile and span arrangement will be determined in conjunction with the hydraulic studies to provide the best fit for the project site. Depending on stage construction requirements, the existing roadway alignment may need to be adjusted to accommodate restricted travel through the project limits.

A set of geometric alignment drawings (GAD's) which will include the horizontal alignment and vertical profile, superevelation sheet (if required), traffic handling, utility locations, preliminary landscape/erosion control plans as necessary, preliminary construction signage and a Bridge Type Selection study will be prepared in accordance with Caltrans Memo to Bridge Designers 1-29 and submitted to the County for approval.

The Bridge General Plan will be prepared and circulated in 11x17 format to the County, Caltrans and other agencies and stakeholders as necessary. A Bridge General Plan Estimate will be prepared and combined with an updated roadway estimate to produce a complete updated project estimate of the estimated construction cost.

Deliverables:

- Geometric Approval Drawings (2 copies at 24x36; 3 copies at 11x17)
- Bridge Type Selection Report with recommended Bridge General Plan (3 copies, draft and final)
- Preliminary Cost Estimate (3 copies)

Task 2.8 – Environmental Clearance
This task will be led by LSA. It is uncertain at this time whether the project would replace the existing bridge on the same alignment, or if a seismic retrofit would be required. It is assumed that a seismic retrofit would require improvements to bridge abutments and piers, requiring work within the San Joaquin River, similar to a replacement approach. Therefore, the following scope will apply to either approach.

One of the most sensitive environmental issues associated with replacement/retrofit of the bridge is biological resources. Sensitive biological resources that could potentially be affected during the proposed project include (but are not limited to) protected Valley elderberry longhorn beetle (VELB), special status bats, anadromous fish (e.g., Central Valley steelhead and Chinook

salmon), Pacific pond turtle, riparian habitat, and jurisdictional waters. Early coordination with the Caltrans biologist and LSA's and TYLI's extensive knowledge of the region will ensure that analysis of biological resources will be accomplished in a timely manner.

Local assistance projects within Caltrans District 10 are currently constrained due to the shortage of environmental staff available to process and approve environmental documents. To assist Caltrans in expediting the review process, LSA will prepare a comprehensive Preliminary Environmental Study (PES) form as well as detailed work plan for technical studies. These steps will ensure that Caltrans' expectations are met through every step of the environmental process, thus improving the quality of documents Caltrans will review, and accelerating review times.

No significant impacts are expected to occur as a result of the proposed bridge retrofit or replacement. Therefore, an Initial Study/Mitigated Negative Declaration (ISMND) is considered the appropriate document for CEQA clearance. For NEPA, a Categorical Exclusion (CE) will be required. Typically Caltrans prepares the NEPA CE, but LSA will be available to provide support to Caltrans if requested. The preparation of the NEPA CE is not included in this scope of work.

Task 2.8.1 – Environmental Project Management and Meetings
LSA will attend up to three (3) project development team meetings, a field review meeting and an agency/field meeting. We will provide written documentation of all substantive project developments in the form of client memos and/or phone conversation records, and will follow up our submittals to outside parties and conduct coordination as necessary to ensure efficient and timely review.

Task 2.8.2 – Prepare Preliminary Environmental Study (PES) Form
LSA will prepare a comprehensive PES as required under the Caltrans Local Assistance Procedures Manual (Environmental Procedures), for federally funded projects. The PES includes a checklist that establishes the basis for any needed technical studies, and is used to identify the likely environmental clearance. The PES is also used to identify environmental permits that will be needed for the project. A Draft PES will be submitted to Caltrans before a field review meeting is scheduled. LSA will then attend the field meeting, revise the PES accordingly, and resubmit to Caltrans for signatures.

Task 2.8.3 – Work Plan
Prior to the start of the technical studies, LSA will prepare a work plan for the technical specialty, for submittal to Caltrans. This work plan will ensure that expectations of technical reports, including format, content, and submittal requirements, are met. The work plan will succinctly summarize LSA's approach to each technical report and identify use of specific software (where required). Caltrans approval of work plans will be necessary prior to technical analysis.

Task 2.8.2.4 – Technical Studies
LSA will prepare the listed technical studies related to Biology

Biology: LSA will evaluate the biological resources present within the project area and determine project effects to those resources. A key objective of the evaluation will be to identify any special status plant or wildlife species, or sensitive habitats that may be affected by the project.

Research & Coordination: LSA will request a list of special status species from the U.S. Fish and Wildlife Service (USFWS) and will query the California Natural Diversity Data

Base and California Native Plant Society Online Database. As part of this process, LSA biologists will informally coordinate with the California Department of Fish and Game (CDFG), National Marine Fisheries Service (NMFS), and/or USFWS, as necessary, regarding the potential presence of special status species on the project site.

Field Surveys: The following field surveys are proposed.

General Field Survey. LSA will conduct a general field survey to map plant communities and assess habitat conditions and evaluate potential impacts to sensitive biological resources from the proposed project. During this survey, LSA will inventory native trees 4 inches diameter at breast height (dbh) or larger within the project area and any elderberry shrubs within the project area and an approximate 100-foot radius from the limits of work. In addition, we will also inspect the existing bridge for presence of bats and swallows or other nesting birds.

Jurisdictional Delineation. During the same visit as the General Field Survey, LSA will conduct a jurisdictional waters delineation of the project area to determine any areas potentially subject to regulation by the U.S. Army Corps of Engineers (ACOE) and/or Regional Water Quality Control Board (RWQCB). The delineation will be conducted in accordance with the ACOE Arid West Regional Supplement to the Wetland Delineation Manual (September 2008). Riparian areas within CDFG jurisdiction will also be delineated.

Documentation: LSA proposes to prepare the following reports to document biological resources in the project area and evaluate potential project effects to biological resources.

Natural Environment Study (NES): The results of the field surveys will be documented in an NES prepared in accordance with the most recent Caltrans' Guidance (currently August 2009). The NES will include a discussion of plant communities present on the site, as well as a discussion of common plant and animal species occurring (or expected to occur) on the site based on the communities present. A generalized vegetation map will be prepared showing plant community types as well as the locations of any sensitive biological resources. The results of the jurisdictional delineation will also be summarized in the NES. The NES will include an assessment of project impacts on the biological resources present, and recommended mitigation measures where appropriate.

Delineation Report: The results of the delineation field work will be documented in a brief letter report that will include a discussion of methods and results, the completed wetland data forms, location and vicinity maps, and a preliminary delineation map showing the limits of all potential waters of U.S. on the site. The delineation report should be submitted to the ACOE for verification with a request for a Preliminary Jurisdictional Delineation in accordance with Regulatory Guidance Letter 08-02. Note that all findings should be considered preliminary until verified by the ACOE.

Biological Assessment (BA): LSA will prepare a BA in accordance with the most recent Caltrans guidance (currently August 2009) to evaluate project effects to Central Valley (CV) steelhead and possibly VELB, both federally threatened species, and identify appropriate avoidance and minimization measures. Caltrans

will utilize the BA to facilitate Section 7 consultation with NMFS (anadromous fish) and USFWS (VELB).

Since the bridge retrofit or replacement will likely include pile driving, potential acoustical effects to anadromous salmonids will be evaluated in accordance with the *Technical Guidance for Assessment and Mitigation of Hydroacoustic Effects of Pile Driving on Fish*, dated February 2009. LSA will coordinate with NMFS, as necessary, during preparation of the BA.

Cultural Resources: LSA will conduct cultural resource studies that are needed for the County and Caltrans to address requirements of Section 106 of the National Historic Preservation Act, the National Environmental Policy Act (NEPA), the California Environmental Quality Act (CEQA), and the Caltrans 2004 Programmatic Agreement Among The Federal Highway Administration, the Advisory Council on Historic Preservation, the California State Historic Preservation Officer, and the California Department of Transportation Regarding Compliance With Section 106 of the National Historic Preservation Act, as it Pertains to the Administration of the Federal-Aid Highway Program in California.

LSA will conduct a records search; background research; contact Native Americans and historical societies; conduct field studies; and prepare an Area of Potential Effects (APE) map, a Historic Property Survey Report (HPSR), and an Archaeological Survey Report (ASR), as required by Caltrans.

The following tasks will be completed:

- Prepare an Archaeological/Architectural APE map to Caltrans standards.
- A records search will be conducted at the Central California Information Center of the California Office of Historic Preservation's California Historical Resources Information System. A literature review, as necessary, of archaeological, ethnographic, historical, and environmental publications and maps at historical archives and LSA will be completed. The records search and literature review will identify previously recorded or otherwise known cultural resources and previous cultural resource studies of or adjacent to the APE.
- Review cultural resource inventories to identify cultural resources that may be listed within or adjacent to the Study Area. Relevant listings are the California Inventory of Historic Resources, Five Views: An Ethnic Sites Survey for California, California Historical Landmarks, California Points of Historical Interest, National Historic Landmarks, and the Directory of Properties in the Historic Property Data File which contains the listings of the National Register of Historic Places and the California Register of Historical Resources. If available, appropriate county listings will be reviewed.
- Contact the Native American Heritage Commission in Sacramento for (1) a review of the Sacred Lands File to determine if the Study Area contains any listed sites, and (2) a list of Native American contacts who may have concerns about the Study Area. Local Native Americans on that list will be contacted by letter and follow-up telephone calls, as necessary, to inquire about any concerns or information they may have.
- Contact the Stanislaus County Historical Society and McHenry Museum for any information or concerns they may have about the APE.
- Conduct Archaeological field studies.

For this scope, it is assumed that retrofit and/or replacement activities would not have an affect on adjacent structures in excess of 50 years old. Should this not be the case, a Historic Resources Evaluation Report will be required.

Hydrology/Water Quality: LSA will conduct a Floodplain Report Summary/Water Quality Report in accordance with Caltrans guidelines and requirements. The Floodplain Report Summary will evaluate potential changes in hydrology due to retrofit or replacement and bridge construction. Technical hydrological data will be provided by the project hydrology engineer in accordance with the technical Hydraulic Study. In light of the probability that the bridge construction will likely improve conditions within the 100-year floodplain, and not result in an increase in the backwater flood elevations, the impacts will probably be insignificant. Nonetheless, the characteristics associated with the watershed, local hydrologic conditions, etc. will be documented for the summary. The Floodplain Report Summary will summarize the risks associated with the project, the impacts on natural and beneficial floodplain values, the support for incompatible development in the base floodplain caused by the project, and measures to minimize floodplain impacts and restore and preserve the natural and beneficial floodplain values. The Floodplain Report Summary requires response to seven (7) questions regarding potential effects of the project as described in the applicable hydraulic study. LSA will assist in addressing the environmental questions included on the form. Negative responses to these questions eliminate the need for any further floodplain studies. Caltrans and/or FHWA must approve the completed summary.

The report will also evaluate potential water quality impacts from bridge retrofit or replacement actions and long term operations on the stream resource. Potential project impacts associated with construction activities, maintenance activities, and roadway runoff will be evaluated. Potential causes of erosion, and siltation, and sources of pollutants and the effects of these substances on the quality of receiving waters will be evaluated. Mitigation measures, including Best Management Practices specified in Caltrans' Storm Water Quality Handbook - Planning and Design Guide, will be identified for any significant water quality impacts that may occur during construction and/or operation of the retrofitted or new bridge structure.

Visual Impact Assessment Memorandum: LSA will prepare a VIA memo which evaluates the aesthetic compatibility of the proposed project with the surrounding area. The VIA memo will consider the consistency of the project with the applicable Stanislaus County General Plan visual resources policies, the Caltrans SER, the FHWA Visual Impact Assessment for Highway Projects guidelines, and other applicable regulations and guidance. The VIA memo will describe the existing setting, identify important visual resources, and identify potential project visual impacts. The analysis will include ground-level photographs from several viewpoints near the project site. Visual conditions and project impacts will be discussed qualitatively. It is assumed the project design for the proposed project will include landscaping consistent with applicable County and Caltrans guidelines. If required, measures to avoid, minimize, or mitigate adverse project visual impacts or to provide consistency with the County General Plan will be identified. A licensed Landscape Architect will review and sign the VIA memo.

Phase I Initial Site Assessment: BCI will prepare a Phase I Initial Site Assessment (ISA) study report for the proposed project. There are two distinct concerns related to how hazardous materials (existing contamination) may affect land/right-of-way acquisition and project design and construction.

- Construction Issues - If soil and/or groundwater contamination exists, will it affect construction of the planned bridge and approach roads?
- Liability Issues - Will the project require Stanislaus County to acquire parcels, or portions of parcels, with known or suspected soil and/or groundwater contamination?

The overall purpose of the ISA is to attempt to identify significant hazardous materials issues that could affect the constructability, feasibility, and/or cost of the proposed project. BCI will complete the following scope items for the ISA. The scope is limited to that considered appropriate for typical ISA and is not a Preliminary Site Assessment/Characterization (or Phase I Environmental Site Assessment). If, base on the results of the initial assessment, there is the potential for significant hazardous materials, additional investigation may be required.

The following activities will be conducted by BCI:

- Review readily available reports for the project area and/or adjacent locations, and review the site geology and groundwater conditions.
- Conduct a limited site visit to observe current land use and potential indications of contamination on or adjacent to the corridor.
- Review historical aerial photographic, topographic and Sanborn map coverage of the corridor and surrounding properties for indications of potential contamination sources.
- Review federal, state, and county records for indications of the use, misuse, or storage of hazardous and/or potentially hazardous materials on or near the site.
- Attempt to identify past and present operations conducted on the properties to assess the potential for hazardous materials impacts to the site.
- Prepare a report summarizing the findings of our review, site reconnaissance, historical aerial photo and map evaluation, and regulatory records review. BCI will address identified potential hazardous materials impacts and provide recommendations for further investigation and analysis if necessary.

If the results of the ISA indicate the potential for hazardous materials to impact soil and/or groundwater within the project site, it may be necessary to investigate these locations and confirm or characterize potential contamination. If this is necessary, BCI can provide these services. The scope of the site characterization will depend on the potential contamination type, location, and potential impacts.

Limited Phase II Assessment - (Optional Task): BCI anticipate that a Phase II assessment may include evaluation of the existing bridge structure for lead-containing paint, asbestos-containing building materials, and traffic striping. The assessment would be conducted by a California Certified Asbestos Consultant and California Department of Public Health Certified Lead Inspector/Assessor. In addition, Phase II work may include owner interviews and soil sampling for acquisition parcels as well as aerially deposited lead (ADL) evaluation along existing roadway.

Task 2.8.5 – Prepare Initial Study/Mitigated Negative Declaration (ISMND)
Replacement or retrofit of the existing bridge is not expected to generate significant impacts that are unmitigable. Accordingly, the bridge project will be processed through the use of an IS/MND for CEQA purposes. Technical Studies prepared for NEPA review will serve as the back-up for the CEQA IS/MND. It is also expected that the MND will be used for environmental review in conjunction with the Section 1602 Streambed Alteration Agreement and 401 Certification.

Administrative Draft IS/MND: LSA will prepare an IS/MND for County review. The format will be based on the CEQA (County or state) Initial Study checklist and an expanded evaluation of each issue area. Included in the IS/MND will be a project description, discussion of the environmental review process, and project methodology. A total of three (3) copies will be printed for review.

Preliminary Draft IS/MND: Following review by the County, LSA will prepare a Preliminary Draft IS/MND. This second version will evaluate each of the County's comments on the Administrative Draft IS/MND. Three (3) copies of the Preliminary Draft IS/MND will be submitted for review by the County.

Public Review Draft IS/MND: The purpose of this task will be to respond to the County's comments on the Preliminary Draft IS/MND, complete necessary revisions, submit the document for County approval, and publish for public review. Fifty (50) copies of the Draft IS/MND will be provided to the County to circulate for public review. It is expected that the County will be responsible for publishing all legal notices and advertisements. LSA will assist the County in the preparation of notices including the notice of availability for public review, public notice of intent to adopt the MND, and the Notice of Completion for the State Clearinghouse.

Response to Comments on Preliminary Final MND: The purpose of this task is to prepare written responses to comments received on the Draft IS/MND that raise significant environmental issues and submit them for County staff review after the close of the public comment period. LSA will also include a Mitigation Monitoring Program in the document that outlines timing and responsibility assignments for implementing each measure. Two (2) copies of the Mitigation Monitoring Program and final mitigation measures will be submitted separately to the County.

Final MND: LSA will incorporate the final comments and responses into the Final MND and will submit 30 copies of the approved document for distribution by the County to agencies that commented on the Draft IS/MND. Final adjustments to the Mitigation Monitoring Program will be made based on staff review and comment.

Task 2.8.6 – Permitting

The proposed project may affect wetlands or other jurisdictional waters in the San Joaquin River that may be under the jurisdiction of the ACOE, CVWQCB, and/or CDFG. Impacts to jurisdictional waters may require permits from the regulatory agencies, as described below.

Nationwide Permit Verification (Clean Water Act, Section 404). The proposed project may result in discharge of material into waters of the U.S. In the event this occurs, the project will require authorization from the ACOE. It is likely that any discharge resulting from this project can be authorized using one or more Nationwide Permits (NWP). LSA will prepare a Preconstruction Notification (PCN) to submit to the ACOE requesting verification that the project can be authorized using the specified NWP(s). LSA will also submit a Preliminary Jurisdictional Delineation and request verification by the ACOE.

Water Quality Certification (Clean Water Act, Section 401). A Water Quality Certification may be required from the CVWQCB for the proposed project, if it will affect wetlands or other waters of the State, to certify that the project is consistent with water quality goals and objectives. LSA will prepare an application package for submittal to the CVWQCB. A processing fee must be included with the submittal (to be provided by the County, amount to be determined).

Streambed Alteration Agreement (Fish and Game Code, Section 1602). The proposed project may require notification of proposed streambed alteration to the CDFG if the project will have an affect on the San Joaquin River. LSA will prepare an application package for submittal to CDFG. A processing fee must be included with the submittal (to be provided by the County, amount to be determined).

This task involves one field meeting with agency staff to review the project. We have also included 10 hours for responses to agency comments on the applications.

Task 2.9 – Public Outreach

Task 2.9.1 – Project Management

Task 2.9.1.1 – Project Initiation and Planning

- Prepare Community Outreach Plan with key messages and effective outreach strategies to engage the public and targeted stakeholders in reviewing the project to ensure that community and agency input is encouraged and is timely, coordinated, and can be considered in the design, when possible.
- Prepare Team Communications Management Plan to address communication protocols among the lead agency, responsible/cooperating agencies, and consultants by staff type.
- Promote participation in the process, and improve communication and understanding between decision-makers and community residents.
- Prepare a Final Report of Public Outreach Activities and Outcomes.

Deliverables:

- Community Outreach Plan
- Team Communications Management Plan
- Final Report of Community Outreach

Task 2.9.1.2 – Coordination and Meetings

- Participate in meetings that include, but are not limited to, the following:
  - Agency briefings/presentations
  - Contingency for any other project coordinating meetings required during the course of the project

Deliverables:

- Participation in meetings
- Print materials and meeting records as needed

Task 2.9.1.3 – Stakeholder Meetings

- Schedule, prepare agenda, make arrangements, and facilitate up to four (4) one-on-one meetings (to include a technical member of the project team) with property owners/businesses/key stakeholders to discuss issues of pertinent interest.
- Extend invitations, confirm attendance, facilitate, provide summary reports of each meeting, and arrange for an appropriate response to individual questions and comments.

Deliverables

- Meetings with property owners/businesses/key stakeholders
- Summary reports of each meeting with key stakeholders, including identification of key concerns

Task 2.9.2 – Consensus Building and Outreach

Task 2.9.2.1 – Public Meetings

- Plan, organize, and facilitate two neighborhood meetings as part of the environmental process to update the community on the project and comply with environmental process requirements.
- Prepare, print, and distribute notification materials, including, but not limited to, display advertisements and placements, news releases, and direct mail to key stakeholders and the general community and for upload to the County's Web site.

- Prepare and print/produce meeting materials, including up to 3 exhibit boards, agendas, Frequently Asked Questions (FAQs), sign-in sheets, comment sheets, name badges, signage, and refreshments.
- Identify appropriate location to host the meetings for approximately 25 attendees and make all arrangements.
- Participate in and follow up to a "dry run" for each meeting with Stanislaus County executives (optional).
- Document meeting proceedings, including comments from participants.
- Prepare and disseminate a newsletter to inform interested persons of the project's outcome.

Deliverables

- Notification materials (workshop/meeting announcement, display advertisement, news release, elected officials letter, information for County Web site, direct mail)
- Workshop and meeting materials (exhibit boards (3), agendas, FAQs, sign-in sheets, comment sheets, name badges, signage, refreshments)
- Dry runs with Stanislaus County (optional)
- Meeting arrangements and facilitation
- Meeting Summary Reports
- Spanish-language translation, if indicated

Task 2.9.2.2 – Agency Coordination - 6002 Process

- Identify and maintain agency representative and key stakeholder list for ongoing coordination and discussion of issues.

Deliverables

- Agency and key stakeholder contact list.

Task 2.9.2.3 – Database Development and Comment Tracking

- Develop and maintain database—for example, property owners, tenants, businesses, emergency responders, civic and community organizations, project team –for up to 150 contacts for the duration of the project.
- Provide up to three (3) Comment Tracking Reports, as requested, outlining categories of issues and disposition.
- Catalog and track comments, issues, and resolutions originally identified by key stakeholders.
- Document participation in the neighborhood meeting, as well as Hotline and other contacts.

Deliverables

- Database with contact information and activity/issues/comments noted.
- Comment Tracking Reports, up to three (3)

Task 2.x – Project Design Report (Optional Task for Replacement)

The Project Design Report will summarize the results and findings for each alternative of the Preliminary Engineering and Environmental Documentation items identified in this scope, as well as addressing those project opportunities and constraints determined by the Project Team as the project develops. Specific topics to be addressed include, but are not limited to, the following sections:

- Alignment Studies – Alignment studies for the alternatives investigated will be performed to determine the most efficient vertical and horizontal alignments for the replacement of the existing bridge. The studies will include typical sections and will take into consideration the existing roadway configuration and the results of other preliminary engineering studies, including the hydraulic review as it impacts the structure profile, the

construction staging as it impacts on the horizontal alignment, and structure location as it impacts the levees.

- Structure Selection – Summarize the Type Selection study as it evaluates the pros and cons of different structure types and the related impacts to the project location. This will consider the alignment and profile of the replacement structure from our alignment studies.
- Environmental Analysis / Permits – Provide preliminary information with regard to permits, existing and future land use and Environmental Mitigation Measures. Other issues that will be addressed in the memorandum include historic preservation (Section 106) and water quality (Section 401/404) issues.
- Location Hydraulic Study – Provide a summary of the results from the Location Hydraulic Study and Summary Floodplain Encroachment Permit prepared for the site. This summary will contain a description of the hydrology, constraints which will influence the bridge type selection, and a flood frequency curve for the bridge site. This study will be in compliance with Caltrans Local Assistance Procedures Manual (Exhibit 6-N) requirements and is required as part of the environmental documentation.
- Hydraulics – Prepare a summary of the Hydraulic Report for the site. This summary will contain a description of the hydrology, constraints which will influence the bridge type selection, summary of the 50-year, 100-year and overtopping floods, scour depths and potential scour mitigation measures if applicable.
- Construction Staging / Traffic Handing – In conjunction with the structure type selection and the alignment studies, TYLI will address the project's traffic handling requirements, consider the benefits of stage construction, and address issues of access to adjacent properties.
- Drainage – Identify potential impacts to the existing drainage systems and potential solutions to address existing drainage problems if they exist.
- Project Aesthetics – During the environmental process, the impact of the project on local residents will be assessed. In an effort to maximize the project's benefit to these individuals, bridge aesthetics will be considered.

Other issues that will be addressed in the Project Report will include right-of-way, utility impacts and relocation, and the construction cost estimates for each alternative.

Deliverables:

- Project Design Report (3 copies, draft and final)

Task 2.10 – Final PS&E

This task will be led by TYLI and covers project development through the final design of the project, including preparation of 60% & 90% submittals, Final PS&E submittal, and obtaining all final approvals.

Task 2.10.1 – Final Design

Design activities shall include all work (including bridge and civil design), quality control and constructability reviews, and other design activities necessary to supplement the design of the bridge and roadway approaches as required for a fully developed functional facility. In order to expedite the schedule for project construction, TYLI can proceed with completion of the PS&E concurrent with the County obtaining approval of the environmental documentation, if agreed to by the County. However, TYLI is mindful of the HBP scheduling requirements regarding design work, environmental work, and right-of-way acquisitions. This task is managed by the PM, as well as the bridge and roadway task leads, with the design tasks directly performed by the technical engineering staff. Drawings will be prepared by CAD technicians for each task discipline.

Upon receipt of the County's comments and prior to commencing revisions, TYLI will schedule Comment Review Meetings with the County and reviewing agencies, if necessary, to confirm the intent of comments.

Bridge design will be in accordance with Caltrans bridge design practices and applicable sections of the Bridge Memos to Designers and Bridge Design Aids manuals. The design will meet County, Caltrans, and FHWA standards in effect as of the date of Notice to Proceed. Currently, the design shall comply with AASHTO LRFD Bridge Design Specification, 4th Edition with California Amendments ("blue sheets"). Seismic design will be performed in accordance with latest edition of the Caltrans Seismic Design Criteria v1.6.

Roadway design will be in accordance with latest editions of AASHTO's A Policy on Geometric Design of Highways and Streets, Caltrans Highway Design Manual, and Stanislaus County's Standards.

Detailing of plans will be in accordance with Caltrans Bridge Design Details Manual. Both the design and detailing will be based on the use of the latest Stanislaus County Standards and Caltrans 2010 Standard Plans and "XS" sheets. Final plans will be completed in AutoCAD Civil 3D 2010 format.

Comprehensive lists of anticipated plan sheets are included as attached exhibits to this scope. General descriptions of the sheets are included in the following lists:

Seismic Retrofit:
Typical Bridge Plans – General Plan, Foundation Plan, Abutment Retrofit Layout and Details, Bent Retrofit Layout and Details, Pier Footing Retrofit and Details, Joint Retrofit Details, Log of Test Borings

Typical Road Plans, as necessary - Title Sheet, Construction Details, Erosion Control, Grading, Traffic Control, Construction Area Signs

Bridge Replacement:
Typical Bridge Plans – General Plan, Deck Contours, Foundation Plan, Abutment Layout and Details, Bent Layout and Details, Typical Section, Girder Layout and Reinforcement, Barriers/Railings, Log of Test Borings

Typical Road Plans, as necessary - Title Sheet, Typical Sections, Plan and Profile, Construction Details, Grading, Drainage Plans, Utility Plans, Stage Construction, Traffic Control, Construction Area Signs, Signing and Striping, Retaining Walls, and Quantities

Task 2.10.2 – Independent Design Check
Upon completion of the 60% P&E submittal, TYLI will perform an independent design check of the bridge plans in conformance with standard Caltrans bridge design procedures. A plan set will be marked up and discrepancies resolved prior the Final PS&E Submittal.

Task 2.10.3 – Engineers Estimate
Two independent sets of bridge quantity calculations will be prepared by individuals experienced in this work. The roadway and bridge quantity calculations will be organized and detailed for use by field inspectors during construction. Standard Caltrans summary sheets will be used for bridge and road quantity calculations, aiding in facilitating the review process and use by the construction personnel. Bridge quantity estimators must agree within tolerances prescribed in Caltrans Bridge Design Aids Manual, Chapter 11. Any deviations will be resolved and the Marginal Estimate sheet will be prepared.

Unit prices will be applied to each contract item resulting in the Engineer's Estimate of Probable Construction Cost (Estimate). Prices used will be based on the latest available data from the County and Caltrans, reflecting the location of the project and the quantity of each item. The estimate will be segregated into two categories: roadway and bridge. Non-participating costs, if any, will also be segregated.

Task 2.10.4 – Specifications

Prior to the 90% PS&E Submittal, the plans will be reviewed by the PDT and an updated contract items list will be produced. The technical specifications will then be compiled using the contract items list to collect and edit the Caltrans 2010 Standard Special Provisions (SSP's). The PDT will prepare required technical special provisions for Sections 8, 9 and 10, and will provide County with project information relevant to other sections, including Order of Work, Time of Completion, etc. The basis of the contract construction specifications shall be the Caltrans 2010 Standard Specifications. Required environmental commitments and mitigation measures and permitting requirements from the environmental permits will be included in the specifications. TYLI will assemble the final project technical specifications ready for printing in the contract documents.

Deliverables:

- Comment Review Meeting Minutes (distributed electronically via PDF to reviews, as directed by the County)
- 60% Plans, Estimate, & Contract Items List Submittal (3 copies at 11x17 plans and 3 copies at 8.5x11 estimate & pay item list)
- 90% Plans, Specification & Estimate Submittal (1 copy at 22x34 + 3 copies at 11x17 plans and 3 copies at 8.5x11 estimate & specification special provisions)
- Response to Comments on 60% Plans, Estimate & Contract Items List submittal (3 copies)

Task 2.10.5 – 100% (Final) Design

TYLI will furnish the final PS&E for advertising, as well as hard copy and electronic files of spreadsheets used to create the estimates. TYLI will complete and submit the PS&E Certification and Checklist, in accordance with the LAPM. In addition, TYLI will prepare the Resident Engineer's Pending File (RE File) for the County's use. This task is managed by the Project Manager.

Deliverables:

- Final PS&E (size, quantity, and medium will be developed in conjunction with the County)
- CD containing PDF copies of the signed Final PS&E
- Resident Engineer's File
- 1"=4' (4-Scale) Deck Contour Sheet

Task 2.11 – Right-of-Way Services

This task will be led by Overland Pacific & Cutler Inc (OPC) and will utilize the services of Cogdill & Giomi (C&G) to perform right-of-way appraisals and W. F. Bambas Appraisal Company (WFB) for appraisal reviews.

Task 2.11.1 – Right-of-Way Data Sheets and Cost Estimates

Overland, Pacific & Cutler (OPC) has been tasked with analyzing and researching the right-of-way impacts of the proposed Hills Ferry Road Bridge Seismic Retrofit Project assessing any temporary and permanent easement and permanent fee impacts for up to (4) unique

Assessor's Parcel Numbers. Up to (3) alignment studies will be analyzed. This information will be gathered for inclusion into the project's financial programming documents. Information ascertained from this analysis will be used to assist in the clarification of design concerns throughout the planning and PSE phases of the project. Additionally, the identification of critical property acquisitions will influence program management decisions pertaining to the project delivery schedule, project financing, project risk management approaches and other significant factors. OPC will facilitate the integration of this analysis into the appropriate project documents and assist the project team in understanding how the right-of-way component of the project influences all aspects required for a successful project delivery.

Design Review and Project Team Coordination: This task involves 3 subtasks:

- Ascertain all relevant design plans available for review of project impacts.
- Coordinate with Project Design Team to review impacts and confirm impact assumptions.
- Continue coordination with Design Team as new findings are revealed throughout field research phase.

Field Research: This task involves 3 subtasks:

- Individual field agent design review of assigned parcels. Individual meetings with appropriate OPC management ensue, as necessary to examine impacts and potential remediation possibilities.
- Physical viewing of site, appropriate data recorded. Online data of individual properties incorporated into field research, where necessary.
- Integration of field research into appropriate OPC cost estimating formats.

Property Analysis: This task involves 2 subtasks:

- Field Agent and OPC Property Analysts meeting to discuss data and draw impact conclusions and property remediation strategies.
- Reporting to Design Team of initial property impact conclusions. Opportunities provided to Project Team for creative problem-solving either in design or property remediation strategies.

Caltrans Data Sheet Drafts: This task involves 2 subtasks:

- Preparation of latest approved Caltrans Right-of-Way Data Sheet form, and draft per the standards and guidelines presented in the revised Caltrans Right-of-Way Manual.
- Coordination with relevant Caltrans district representatives and/or design leads to address comments and recommendations.

Quality Assurance Reviews / Report Drafts and Submittal: This task involves 3 subtasks:

- Concurrent with the Design Team's review of OPC's initial conclusions on select parcels, the OPC QA/QC Team will review its internal data reporting, analysis and conclusions for accuracy and consistency.
- Once property remediation and design assumptions are finalized and property impact conclusions are confirmed, data is finalized into the approved cost estimating formats.
- The report is subsequently submitted to the client for their formal review.

Project Oversight and Post-Submittal Design Team Follow-up: This task involves 3 subtasks:

- Review of initial comments from Project's Design Team and possible coordination of subsequent team meetings to clarify assumptions and strategize about cost and/or remediation strategies.

- Potential new analyses are determined from revised assumptions.
- Incorporation of new analysis and conclusions into the revised cost estimate analysis and subsequent re-submittal of report, where necessary.

QA/QC: The QA/QC Plan for the Right-of-Way Data Sheets and Cost Estimates entail a three-fold scope involving thorough design coordination, detailed field research and a multi-party property impact analysis review. Errors in cost estimating for right-of-way often occur because of an estimator's inability to understand the nuances of a project's design impacts on any given property. Related to this, the lack of consistent, informed correspondence with the appropriate design personnel - throughout the estimating process - can lead to an impact analysis based on faulty assumptions. For these reasons, OPC is committed to working closely with the design team to understand the issues and thereby assure that impact conclusions are based on correct assumptions. Second, quality assurance and quality control can be maintained when a well trained, organized and experienced estimator performs field research with an eye toward all relevant issues. Simply viewing the site is insufficient. Factors such as multiple design alternatives and potential property remediation options need to be understood to complete an effective field analysis. Finally, once the design is understood and the field research is complete, an in-depth property impact analysis overseen by multiple, experienced right-of-way professionals, completes the process. This review entails both a higher level, program management view as well as a detailed, in-depth analytical approach. This process assures a quality dependable product for project programming purposes.

Task 2.11.2 – Right-of-Way Appraisal

Codgill & Giomi (C&G) will perform the right-of-way appraisal for each parcel. This task will generally involve the following subtasks:

- Appraiser will mail a notification letter and acquisition policies brochure to the property owner, requesting permission to conduct an on-site inspection of the property, advising them of their right to accompany the appraiser at the time of the inspection, and requesting information regarding the property appraised which could influence the appraised value.
- Appraiser will review title information pertaining to respective ownerships and will review drawings and other pertinent information relative to the parcel.
- Appraiser will inspect each property personally with the owner (if possible) and document the inspection with photographs for use in the report.
- Appraiser will inventory all improvements affected by the proposed taking including notes on their manner of disposition (i.e., pay-for and remove vs. move back).
- Further, Appraiser will retain a specialty appraisal to establish the value for fixtures & equipment for non-residential full take properties.
- Appraiser will perform market research to support the selected appraisal methodologies and will document and confirm comparable sales information.
- Appraiser will prepare a narrative appraisal report that conforms to the Uniform Standards of Professional Appraisal Practice (USPAP). The appraisal study and report are intended to serve as an acquisition appraisal and will be prepared in a summary format consistent with the specifications for narrative appraisal reports.
- OPC will receive and analyze the completed appraisal reports including the independent right-of-way appraisal review and will reconcile the real estate and fixtures and equipment conclusions as necessary.

Task 2.11.3 – Formal Appraisal Review

W.F. Bambas Appraisals(WFB) will perform the independent right-of-way appraisal review for each parcel in accordance with federal regulations and Caltrans procedures manual.

Task 2.11.4 – Property Owner and Tenant Acquisition/Negotiations

OPC will perform the right-of-way acquisitions and negotiation services for each parcel. This task will generally involve the following subtasks:

- Establish and maintain a complete and current record file for each ownership in a form acceptable to the client.
- Receive and analyze title information, approved appraisal reports and legal descriptions in sufficient detail to negotiate with property owners and other parties.
- Prepare all offer letters, summary statements, and lists of compensable items of fixtures and equipment, in accordance with state or federal regulations and approval of client.
- Present written purchase offers to owners or their representatives in person, when possible. Secure receipt of delivery of offer as practical and present and secure tenant information statements, as applicable.
- Follow-up and negotiate with each property owner, as necessary; prepare and submit recommended settlement justifications to client for review and approval; review any independent appraisal secured by property owner and coordinate reimbursement of appraisal fees (up to $5,000) with client. Ongoing negotiations and settlement discussions will continue for 8 weeks after the initial offer or until we reach settlement or impasse.
- Prepare and assemble acquisition contracts, deeds and related acquisition documents required for the acquisition of necessary property interests. Legal descriptions to accompany easements or to accompany partial acquisition deeds are not included in this Scope of Work.
- Maintain a diary report of all contacts made with property owners or representatives and a summary of the status of negotiations indicating attitude of owners, problem areas, and other pertinent information. Copies of all applicable written correspondence will be maintained in files.
- Prepare an impasse letter for any parcel where, after diligent attempts to settle by negotiation, it appears eminent domain will be needed or prudent to acquire the needed interest.
- Transmit executed acquisition documents to client. Each transmittal package shall include a fully executed and properly notarized deed(s), fully executed acquisition contract with attachments, and a brief settlement memorandum which summarizes the pertinent data relative to the transaction.

Escrow Coordination/Title Clearance: If by Negotiated Settlement: Assist the escrow/title company in the following:

- Open escrow and coordinate execution of closing instructions providing for title insurance coverage at the settlement amount.
- Provide escrow officer with fully executed acquisition contract and notarized deed.
- Review settlement statement for accuracy.
- Coordinate deposit of acquisition price and estimated closing costs with escrow.

Title Clearance Services

- Work in conjunction with escrow officer to facilitate the clearance of title matters as set forth in the settlement memorandum and escrow instructions.
- Secure full or partial reconveyance instruments from lien holders of record.
- Coordinate and facilitate recordation of corrective deeds to clear vesting issues.
- Secure subordination agreements from conflicting easement holders.

Eminent Domain Assistance: If Settlement by Eminent Domain: Assist eminent domain counsel with the following:

- Provide eminent domain counsel with available right-of-way maps and legal descriptions, preliminary title reports and title review documents, and information on how to contact each owner or interest holder.
- Provide eminent domain counsel with a duplicate copy of the parcel file, together with a copy of the appraisal, offer to purchase, correspondence, acquisition contract, and deed as presented.

Task 2.11.5 – Right-of-Way Certification

OPC will prepare the right-of-way certification. This task will generally involve the following subtasks:

- Ensure appraisal maps/right-of-way maps and legal descriptions are all properly identified and prepared in conformance with approved right-of-way numbering system.
- Ensure that all interests necessary for the project have been secured and all relocation activities have been performed in compliance with applicable law and regulations.
- Prepare certification forms in coordination with engineer and client to include the compilation of all necessary back-up documents required including; deed, final order of condemnation, access easements, cooperative agreements, permits, right of entries, etc.

Task 2.12 – Permitting and Documentation

This task will be led by TYLI. The project team will assist the County in identifying and coordinating work with all agencies involved with the project and obtaining all non-environmental and resource agency permits required. Necessary steps shall be taken to ensure that all project requirements are reviewed by the County and incorporated into the project, as appropriate. Some of the affected agencies may include, but are not limited to: California Department of Water Resources, Central Valley Flood Protection Board/Reclamation Boards, Lower San Joaquin Levee District (LSJLD), USACE, & the California State Lands Commission. This task is managed by the Roadway Lead and supported by the Project Manager and Environmental Services Coordinator. Identified permits are described below.

Central Valley Flood Protection Board (CVFPB) Encroachment Permit: The proposed project is with the jurisdiction of the CVFPB and will affect the San Joaquin River (Merced River – Salt Slough) designated floodway. TYLI will coordinate with both the LSJLD (local reclamation district) & CVFPB. If necessary, TYLI will conduct a pre-permit meeting during the strategy determination to identify potential project constraints. TYLI will work with the LSJLD to prepare a draft permit application package for their endorsement and submit the endorsed application package with LSJLD permit conditions to the CVFPB.

State Lands Commission Temporary Permit for Entry: The proposed project crossed over San Joaquin River. Since the river itself is considered non-tidal navigable river and all land below low water is owned by the State Lands Commission. A temporary permit for entry may be required if the current right-of-way is part of a expired State Lands Commission lease or work outside the right-of-way will be required. This work may include site surveys or preconstruction environmental mitigation such as temporary bat habitat or transplanting protected plant species. TYLI will prepare a letter request that describes the type of work, methodologies, schedule, and appropriate figures.

State Lands Commission Lease Agreement or Amendment of Existing Lease: TYLI will prepare the five part application package for lease of state lands for review and signature by the County.

PHASE 3 –Construction and Support

Task 3.1 – Bidding Support and Analysis

During the advertisement and bidding process, this work will include answering questions for prospective bidders, preparation of addenda to the contract PS&E, and providing consultation and interpretation of the construction documents. TYLI will provide bidding period assistance to the County. To aid in the tracking of RFI's, CCOs, and submittals, TYLI will maintain a construction issues log. The log assigns each item a unique tracking ID, designated responsible party with response dates, and the the project action. An example sheet is included within the appendix to this proposal.

Deliverables:

- Prepare Responses to prospective bidder's Requests for Information, as needed
- Prepare Addenda to the contract documents, as needed
- Construction Issues Log

Task 3.2 – Construction Support

During project construction, this work will include (on an as-needed basis) attending the project pre-construction meeting, review and comment on contract change orders, prepare plan revisions as necessitated by contract change orders, provide construction engineering assistance, respond to requests for information, and review and approve submittals and shop drawings. All work will be coordinated through the County's project manager or assigned representative (construction manager/resident engineer). The task is managed by the Project Manager and the task leads, as needed, with support from the appropriate technical staff.

Task 3.3 – Project Close-Out

TYLI will use the marked notes on the contract plans ("redlines") and recorded change orders provided by the County's Construction Manager/Resident Engineer to prepare the As-Built drawings in hard copy format for the project. TYLI will also provide Project Records to the County in accordance with the conditions set forth in the original RFP.

Deliverables:

- As-Built Plans (1 copy at 22x34 on mylar)

EXHIBIT A – BRIDGE RETROFIT ESTIMATED PLAN LIST

Count	Sheet Title
1	Title Sheet
1	Project Control and Monumentation
1	Construction Details – Miscellaneous
1	Erosion Control Plan
2	Grading & Slope Protection
1	Construction Area Signs & Traffic Control
2	Stage Construction and Traffic Handling Plan
1	Stage Construction and Traffic Handling Details
2	Signing and Striping
4	Temporary Signal Plans
1	Summary of Quantities
1	General Plan
1	Foundation Plan
1	Abutment Retrofit Layout
1	Abutment Details
1	Bent Retrofit Layout
2	Bent Retrofit Details
1	Pierwall Footing Retrofit Layout
1	Pierwall Footing Retrofit Details
1	Joint Retrofit Details
2	Miscellaneous Details
3	Log of Test Borings

32 = Estimated Total Sheet Count

EXHIBIT B – BRIDGE REPLACEMENT ESTIMATED PLAN LIST

Count	Sheet Title
1	Title Sheet
2	Typical Cross Sections
1	Project Control
2	Layout
2	Profile
4	Construction Details
2	Erosion Control Plan
2	Erosion Control Details/Quantities
1	Erosion Control Plan (Scour)
1	Erosion Control Plan/Details (Scour)
2	Grading
2	Drainage Plan
2	Drainage Profile
2	Drainage Details
2	Drainage Quantities
1	Utility Plan
1	Construction Area Signs
2	Stage Construction
2	Traffic Handling Plan
1	Traffic Handling Details
1	Traffic Handling Quantities
2	Pavement Delineation & Sign Plan and Details
1	Pavement Delineation & Sign Quantities
5	Temporary Signal Plans
1	Summary of Quantities
1	General Plan
1	Index to Plans
2	Structure Plan
1	Deck Contours
2	Foundation Plan
4	Abutment Layout and Details
3	Pier Layout and Details
1	Typical Section
2	Girder Layout
1	Girder Details
1	Bearing Details
1	Joint Seals
2	Barrier Railing and Details
2	Structure Approach Type and Details
1	Structure Approach Drainage Details
1	Miscellaneous Details
3	Log of Test Borings

74 = Estimated Total Sheet Count

Project: Sample Construction Log
TYLI No.: 710xxx
County No:

BI-###: Bidders Inquiry
RFI-###: Contractor Request for Information/Clarification
SUB-###: Contractor Submittal
CCO-###: Contract Change Order

NET: No Exceptions Taken
AccN: Accepted as Noted
R&R: Revise and Resubmit 3 Copies
REJ: Rejected
INF: Information Only

SUBMITTAL NO.	DESCRIPTION OF SUBMITTAL	METHOD OF SUBMITTAL	TYLI DATE RECEIVED	RESPONSE DUE DATE	ROUTING INFO										ACTION					RESPONSE RETURN DATE	REMARKS
					TYLI	WRECO	BCI	NSE	Y&C	LSA	OPG	Other	DUE BACK TO TYLI	DATE RECEIVED	NET	AccN	R&R	REJ	INF		
BI-001	1) Locations of construction joint in girder web, 2) Use of lightweight, stay in place deck (bottom) forms	Email	03/25/08	03/26/08	C.Hodge										☑	☐	☐	☐	☐	04/01/08	Response provided via Addendum to Bid Package.
BI-002	Spec Questions: 1) TOC, 2) Bid forms, 3) Bid forms addenda acknowledgement, 4) Bidder's Bond, 5) Checklist of forms for bid, & 6) Local Business Preference Questionaire.	Email	03/27/08	04/01/08	C.Hodge										☑	☐	☐	☐	☐	04/01/08	Response provided via Addendum to Bid Package.
BI-003	Glass manufacturers contacted during design	Email	03/27/08	04/01/08	C.Hodge										☑	☐	☐	☐	☑	04/01/08	Response provided via Addendum to Bid Package.
BI-004	"Lost Forms", see BI-001	Email	03/31/08	04/01/08	C.Hodge										☑	☐	☐	☐	☐	04/01/08	Response provided via Addendum to Bid Package.
BI-005	Construction joints at girder web.	Email	03/31/08	04/01/08	C.Hodge										☑	☐	☐	☐	☐	04/01/08	Response provided via Addendum to Bid Package.
BI-006	Falsework and "in-water" window	Email	03/31/08	04/01/08	C.Hodge										☑	☐	☐	☐	☐	04/01/08	Response provided via Addendum to Bid Package.
BI-007	Sidewalk (bridge) payment not in SSP	Email	03/31/08	04/01/08	C.Hodge										☑	☐	☐	☐	☐	04/01/08	Response provided via Addendum to Bid Package.
BI-008	Salvaging of existing bridge monument and saw cut limits	Email	03/31/08	04/01/08	C.Hodge										☑	☐	☐	☐	☐	04/01/08	Response provided via Addendum to Bid Package.
BI-009	Existing bridge demolition and new pile relocation	Email	03/31/08	04/01/08	C.Hodge										☑	☐	☐	☐	☐	04/01/08	Response provided via Addendum to Bid Package.
BI-010	Existing building demolition and construction staging	Email	03/31/08	04/01/08	C.Hodge										☑	☐	☐	☐	☐	04/01/08	Response provided via Addendum to Bid Package.
BI-011	Payment for stairs and sidewalk on bridge	Email	03/31/08	04/01/08	C.Hodge										☑	☐	☐	☐	☐	04/01/08	Response provided via Addendum to Bid Package.
BI-012	Spec Questions: 1) Caltrans inspection, 2)Work Day Calendar incorrect, 3) Cofferdam construction before 7/1/08, & 4) Building demolition permit	Email	03/31/08	04/01/08	C.Hodge										☑	☐	☐	☐	☐	04/01/08	Response provided via Addendum to Bid Package.
BI-013	Space for bridge demolition, existing bridge capacity, & falsework.	Email	03/31/08	04/01/08	C.Hodge										☑	☐	☐	☐	☐	04/01/08	Response provided via Addendum to Bid Package.
RFI-004	Temp Copia driveway tie-in to Exist Copia driveway	Online	05/12/08	05/12/08	K. Bewsey										☑	☐	☐	☐	☐	05/13/08	Plans show area of work. Details to be determined in field.
RFI-Pend	Deck contours do not look correct.	Pers Comm	05/12/08	05/15/08	FYI										☐	☐	☐	☐	☑	05/13/08	Centerline A1, P2, P3 are in correct locations. Contours OK.
RFI-Pend	Clarify soffit line layout and various sections.	Pers Comm	05/12/08	05/15/08	FYI										☐	☐	☐	☐	☑	05/13/08	PT B and sections drawn are correct. Elev based, not depth.
CCO-001	Revisions to CL on Deck Contour detail, sheet S-3, 75 of 108	Pers Comm	05/13/08	05/15/08	C. Hodge										☐	☐	☐	☐	☑	05/14/08	CL A1, P2, and P3 revised.
SUB-002	Materials submittal for Water Pump Station Upgrade	Mail	05/14/08	05/15/08	K. Bewsey										☐	☑	☐	☐	☐	05/14/08	Noted discrepancies email to M. Berger; Defer to Water Div.
SUB-003	Emergency Response Plan	Mail	05/15/08	05/22/08	C. Hodge										☐	☐	☐	☐	☑	05/20/08	Correct spelling errors. Defer to CDFG.
SUB-004	Traffic Control Plan	Mail	05/15/08	05/22/08	C, Hodge										☐	☑	☐	☐	☐	05/20/08	Update TCP per revised THP, sheets R40A&B or 108
SUB-005	Modified Stage Construction Plan.	Mail	05/15/08	05/22/08	C. Hodge										☐	☑	☐	☐	☐	05/20/08	See cover sheet for noted comments.
RFI-008	Additional existing utility (3rd) under bridge	Online	05/09/08	06/12/08	C. Hodge										☐	☐	☐	☐	☑	06/11/08	Utility may be AT&T air line or old water line
SUB-008	Coffer dam design calcs & plans; Falsework Elevation plan	Mail	05/19/08	06/09/08	C, Hodge										☐	☐	☑	☐	☐	06/04/08	Piles & lengths generally ok. Pier shoring inadequate.
SUB-009	Bridge removal design calcs & plan	Mail	05/19/08	06/09/08	C, Hodge										☐	☐	☑	☐	☐	06/03/08	Additional calculations needed. Revised calcs recommended.
RFI-005	Falsework span length limits for T-beam	Online	05/19/08	05/24/08	C. Hodge										☐	☐	☐	☐	☑	05/21/08	Maintain CT Std parameters unless verfied by independent stamped calcs. Use min section depth or take advantage of non-prismatic section. Guideline could be L/240.
RFI-006	Construction joints within overlook	Online	05/19/08	05/24/08	C. Hodge										☐	☐	☐	☐	☑	05/21/08	Construct like box girder with JT just below deck; add reinf.
RFI-007	Load rating data request	Online	06/03/08	06/11/08	C. Hodge	DH							06/10/08	06/10/08	☐	☐	☐	☐	☑	06/10/08	No data available. CT assigned operating load value of 25.4 tonne (56k) based on material, age, and condition of bridge.
SUB-009a	Bridge removal design calcs & plan (RESUBMITTAL)	Mail	06/16/08	07/07/08	C. Hodge										☐	☑	☐	☐	☐	06/18/08	Load adequacy based on WCM proof load. Continuous reinf across Const Jt assumed. If any variations on assumed condtions, WCM Eng of Record should revise calcs.
SUB-008a	Coffer dam design calcs & plans (RESUBMITTAL)	Mail	06/18/08	07/09/08	C. Hodge										☐	☐	☑	☐	☐	06/24/08	DRAFT REVIEW RETURNED.
RFI-009	Relocation of waterline wing walls	Online	06/13/08	06/18/08	C. Hodge										☐	☐	☐	☐	☑	06/19/08	TYLI does not oppose the propsed relocation, pending coordination with and approval by City Water Dept.
RFI-010	Paint prep/galv, Paint color	Online	06/13/08	06/18/08	C. Hodge										☐	☐	☐	☐	☑	06/23/08	No galvanizing required with zinc rich primer.
SUB-014	Formliner Specification	Mail	06/30/08	07/21/08	C. Hodge										☐	☑	☐	☐	☐	07/18/08	Material not submitted; Coordinate with manufacturer regarding joints of abutting modules, release agent, and staining/coloration.
SUB-015	Concrete Mix Design	Mail	06/30/08	07/21/08	C. Hodge										☐	☐	☐	☐	☑	06/30/08	No Review Necessary
SUB-018	Reinforced Concrete Pipe Material	Mail	06/30/08	07/21/08	K. Bewsey										☐	☑	☐	☐	☐	07/21/08	Joints shall be rubber gasketed.
SUB-019	Catch Basins and Manholes	Mail	06/30/08	07/21/08	K. Bewsey										☐	☑	☐	☐	☐	07/21/08	GCP not included; MH needs steps; MH lids are eccentric; 12x12 inlet grate to be H-20 rated.

ITEM	Threat / Opport-unity	Category	Risk Discription	Root Causes	Primary Objective	Overall Risk Rating	Risk Trigger	Strategy	Response Actions w/ Pros & Cons
1	Threat	ORG	REPLACE BRIDGE (May not be possible to fully fund bridge replacement)	FUNDING (Caltrans has stated that HBP funds will be limited to seismic retrofit cost only, as such, additional funding from the County or other sources may need to be identified)	SCOPE	Probability 3=Med (20-39%) **High** Impact 8 =High	Caltrans does not approve funding of bridge replacement.	MITIGATE	PDT will work with County and Caltrans to identify bridge replacement wich can be funded.
2	Opportunity	DESIGN	REPLACE BRIDGE (It may be possible to deisgn a bridge replacement for the same or slightly higher cost as the bridge retrofit)	FUNDING (The bridge replacement may cost more than the retrofit cost)	COST	Probability 3=Med (20-39%) **Med** Impact 4 =High	Replacement exceeds retrofit costs.	MITIGATE	PDT will work with County and Caltrans to identify bridge replacement wich can be funded.
3	Threat	DESIGN	RETROFIT BRIDGE (Although retrofit will remove seismic deficiency, the remaining useful life of the bridge may only be 25 years, at which time the bridge will need to be replaced.)	VALUE (Cost benefit analysis may show that it more effective to replace the bridge now rather than retrofit and replace in 25 years.)	COST	Probability 5=Very High (60-99%) **Med** Impact 2 =Low	Bridge replacement in 25 years.	ACCEPT	PDT will work with County and Caltrans to develop a bridge retrofit to extend the useful life of the bridge.
4	Threat	DESIGN	ADDITIONAL IMPROVEMENTS REQUIRED (Retrofit-only scheme will not meet hydraulic or traffic safety standards without additional improvements.)	CURRENT DESIGN STANDARDS (Existing bridge does meet 50-year flood plus 2-feet of freeboard hydraulic requirement. Existing bridge rail does not meet current safety standards.)	QUALITY	Probability 5=Very High (60-99%) **High** Impact 8 =High	Seismic retrofit only without barrier upgrade.	MITIGATE	Barrier upgrade and widening will be included as part of seismic retrofit project. Design exception will be required for 50-year plus 2-feet of freeboard deficiency.
5	Threat	DESIGN	BARRIER UPGRADE & WIDENING (Funding for barrier upgrade and widening may not be available.)	FUNDING (STP funds for barrier upgrades have been obligated to BART retrofit program and are not expected to available for several years.)	COST	Probability 4=High (40-59%) **High** Impact 4 =High	STP funding availability.	MITIGATE	Barrier upgrade and widening will need to be coordinated with timing of availability of STP funds.
6	Threat	ENV	CALTRANS REVIEW OF ENVIRONMENTAL REPORTS	CALTRANS (Extended review cycles of environmental reports.)	TIME	Probability 3=Med (20-39%) **Med** Impact 4 =Med	Unanticipated successive Caltrans review of environmental documents.	MITIGATE	Prepare comprehensive PES, prepare work plan for technical reports, QA/QC all reports prior to submittal to Caltrans.
7	Threat	ENV	CONSTRUCTION OVER WATER (Construction restrictions to Central Valley steelhead and Chinook presence in the Merced and San Joaquin Rivers.)	PRESENCE OF ANDROMOUS FISH (Construciton restrictions, i.e. in-water-work-windows, to avoid and minimize impacts to fish migrations including pile driving restrictions.)	TIME	Probability 5=Very High (60-99%) **High** Impact 8 =High	Restrictive in-water-work window dictated by NMFS as well as Caltrans acoustic impact guidelines for fish.	MITIGATE	PDT will coordinate with NMFS to identify in-water-work windows and stage in-water construction accordingly as well as selection of foundation construction methods to minimize impacts to fish.

Project Scoping Risk Register

Mark Ashley, P.E.
Principal Bridge Engineer
Senior Vice President

Registrations:
Civil Engineer in California, No. 34299 Expiration: 9/30/11

Civil Engineer in Nevada, No. 015102 Expiration: 12/31/12

Civil Engineer in Arizona, No. 48592 Expiration: 9/30/11

Civil Engineer in Utah, 2008, No. 7156514-2202 Expiration: 3/31/11

Academic Achievements:
BS, Civil Engineering, Michigan State University, 1979

Professional Activities:
American Society of Civil Engineers (Past President of the San Diego Section)

American Council of Engineering Companies (Chair of the Caltrans Structures Liaison Committee)

American Public Works Association

American Concrete Institute

San Diego Highway Development Association (Past President)

Mr. Ashley is a civil engineer with over 30 years of experience in the planning, design, construction, and maintenance of transportation projects. His broad background covers highway, transit, rail, pedestrian and bicycle infrastructure and he has a strong technical foundation in structures. Having begun his career with the California Department of Transportation, Mr. Ashley has established and maintained expertise in project delivery involving State DOT procedures and oversight.

In the area of transportation project development, Mr. Ashley has a proven track record as an accountable and reliable Project Manager with a strong working knowledge of the various technical disciplines involved and proficiency in effective project control processes. Mr. Ashley possesses strong communications and leadership skills which help foster a synergistic team environment. He has been responsible for delivery of transportation projects with values exceeding $100 million.

Mr. Ashley is Past President of the San Diego Section of ASCE and the San Diego Highway Development Association and served as chair of the ACEC / Caltrans Structures Liaison Committee for over 10 years.

Mr. Ashley's project experience includes:

First Avenue Bridge (Seismic Retrofit and Painting), San Diego, CA Project Manager for the 460'-long historic steel truss and arch structure over an environmentally sensitive canyon. The retrofit strategy included strengthening the deck to increase lateral stiffness, adding deadman anchors at the abutments, adding shear walls, and strengthening the columns and footings. The bridge had lead paint that required full containment for removal. The historic elements were preserved by rehabilitating the railing, replicating the historic lighting, and repainting.

San Diego River Bridge Widening at Friars Road (Seismic Retrofit), San Diego, CA - Project manager and bridge design engineer for widening a 600'-long bridge for the City of San Diego which included the seismic retrofitting of the existing bridge. The retrofit strategy involved designing the widening to carry the loads for the combined structure.

River Road Bridge Realignment/Widening and Bridge Replacement over the Santa Ana River, Riverside, CA - Project Manager for the PA/ED, PS&E, and construction support to realign and widen a County highway and replace a structurally deficient bridge spanning the Santa Ana River in the County of Riverside. Mr. Ashley oversaw the preparation of NEPA and CEQA documents and securing of 401, 404, and 1602 permits. The new roadway will be elevated approximately 20 feet above the existing and will include four lanes and a multi-purpose regional trail. Staged construction will be used to maintain one lane of traffic in each direction during construction. The new bridge will be a 9-span, cast-in-place prestressed concrete box girder with a length of 1,200 feet.

San Diego - Coronado Bay Bridge (Seismic Retrofit), San Diego, CA - Project manager for seismic retrofitting of a major toll bridge under contract directly with Caltrans. Services included strategy development, preparation of final design and PS&E, and construction support for the 7,800'-long orthotropic steel box girder and composite steel plate girder toll crossing and five concrete approach ramp structures.

Caltrans On-Call Services for Earthquake Upgrading of Bridge Structures, Various Locations, CA - Project manager and design engineer on two Caltrans Division of Structures contracts. Responsibilities included seismic analysis, strategy determination and preparation of final seismic retrofit plans, specifications and estimates for State and local agency bridges throughout California. The contract included eleven seismic retrofit projects. These projects involved a total of 50 bridges, including such major structures as San Mateo Creek Bridge on Route 280 and Colorado River Viaduct on Route 8.

Jelly's Ferry Road Bridge, Tehama County, CA – Project Manager responsible for the design and realignment of Jelly's Ferry Road Bridge over the Sacramento River. This project will replace an existing 940 foot long 15-span steel truss and timber span bridge with a 1,264-foot-long cast-in-place haunched box girder. This project will realign the existing road west of an existing bureau of land management (BLM) recreational park, trailhead, and boat ramp with 3,000 feet of new roadway. Realignment of the north roadway approaches includes raising the alignment above the 100-year flood plain. The project includes hydraulic analysis, bridge aesthetics, right-of-way acquisition, utility relocation, and park access realignment and is funded through the Highway Bridge Program (HBP).

North Torrey Pines Road Bridge over Los Penasquitos Lagoon, San Diego, CA - Project manager for the replacement of a structurally deficient and functionally obsolete bridge located on the old Pacific Coast Highway over the ocean entrance of an environmentally sensitive, coastal marine estuary. Federal funding was obtained from the Highway Bridge Program (HBP), necessitating compliance with Caltrans and FHWA programmatic procedures and criteria.

Caltrans On-Call Services Contract No. 59A0480, Task Orders – Caltrans Contract 59A0480, Task Order 12, Laurel Street OC at SR-163 Seismic Retrofit and Rehabilitation, San Diego, CA – Project Manager for development of the bridge seismic retrofit and rehabilitation strategies, and completion of final retrofit and rehabilitation PS&E for this historic bridge. Seismic retrofit includes locking of expansion joints by continuous post-tensioning of the superstructure and column strengthening with internal post-tensioned shear walls. Rehabilitation consisted of repairing unsound concrete throughout the structure, correcting the deck drainage system, repairing the catwalk, installing inspection access features such as ladders, lighting and access doors, and upgrading the bridge electrical system.

Ingraham Street Bridge over Fisherman's Channel, San Diego, CA - Prepared advance planning studies and performed final bridge design for a federally funded bridge replacement project. The award-winning bridge is a five-lane, 800'-long, six-span, cast-in-place prestressed box girder spanning a portion of Mission Bay. An innovative and cost-saving framing system was employed in the design.

Chris Hodge, P.E.

Bridge Services Manager/Project Manager

Registrations:

1999, Civil Engineer, California, 59925 (Expires 3/31/12)

Academic Achievements:

MS, 1995, Structural Engineering, University of California, San Diego

BS, 1991, Structural Engineering, University of California, San Diego

Professional Memberships and Activities:

American Institute of Steel Construction (AISC)

American Public Works Association (APWA)

American Council of Engineering Companies (ACEC)

County Engineers Association of California (CEAC)

Women in Transportation (WTS)

Chris Hodge has more than 17 years of civil engineering experience and has been involved in the planning and design of new bridges and roads; concrete, steel, wood, and reinforced earth retaining structures; rehabilitation projects; emergency repairs; and seismic retrofits. He is experienced in all phases of bridge project development and PS&E deliverables. He is experienced in working with local agencies and Caltrans Local Assistance; in the application of Caltrans design criteria for highway bridges, including the latest LRFD and seismic design requirements; and in the project development procedure related to environmental CEQA/NEPA compliance, PS&E deliverables, and federal funding timelines and forms. Mr. Hodge has completed several state highway/freeway bridges that were reviewed and approved by Caltrans. Some of his distinguishing qualifications include:

- Provided management and/or design services on >20 local agency bridge projects including many utilizing federal HBP funds,
- Provided as-built assessment, retrofit strategy development, and/or final retrofit design on >35 bridge projects,
- Experience with Caltrans and AASHTO LRFD bridge design and evaluation criteria,
- Proficient in the use of SAP2000 finite element program, as well as the commonly used bridge design and analysis software programs, and
- Proven performance managing project schedules and budgets

Mr. Hodge's project experience includes:

First Street Bridge over Napa River, Napa, CA

Deputy Project Manager/Project Engineer for the retrofit/rehabilitation assessment and replacement structure PS&E of the existing historic 155-foot-long, three span reinforced concrete deep-haunch T-beam superstructure supported on three column bents with skirt walls and timber pile foundations. Constructed in 1925, no structure plans were available for review. An approximate working stress design was performed to determine the likely reinforcement present, and then a conventional seismic assessment was performed. An APS level cost comparison was made between the retrofit and rehabilitation option and several bridge replacement options. In addition, the bridge was listed on the National Register of Historic Places. The project planning phase was documented in project design reports that addressed: seismic analysis of existing bridge, rehabilitation vs. replacement study, horizontal and vertical alignment engineering and impact analyses, structure type selection, hydraulics (freeboard and scour), geotechnical (seismicity, liquefaction, foundations), landscaping schemes, CEQA/NEPA compliance considerations, project aesthetics (railings, gateway monuments, structural features, surface textures and patterns), construction staging and traffic control, business and residential access, right-of-way impacts, utility impacts and relocation, and preliminary cost estimates including assessment of items of work that may be ineligible for Federal HBP Funds.

Parkway Boulevard Grade Separation, Dixon, CA

Project Manager/Project Engineer for a project that extends Parkway Boulevard between the Valley Glen Subdivision on the east and Pitt School Road on the west. The structure is a 310-foot-long three-span, cast-in-place concrete box girder superstructure supported by four column bents with cast-in-drilled-hole piles and extentions and by seat abutments founded on driven steel H-piles. The project consists of environmental, type selection and preliminary engineering

design, preparation of a project study report equivalent (PSRe), and final PS&E design services for the grade separation of Parkway Boulevard over the existing Union Pacific Railroad (UPRR) tracks and Porter Road (ultimate right-of-way).

Tren Electrico (Lima-Callao) Line 1, Lima, Peru
Design Engineer currently providing a seismic engineering evaluation for the Tren Electrico (Electric Train), Lima-Callao Line 1. The line consists of ballasted dual rail transit guideways, approximately 6.5 miles in total length. The new structure features precast girders and reinforced concrete piers on spread footings and, in few cases, on piles. Provided preliminary results and findings of the seismic resistance design check. Also provided recommendations for retrofit concepts to be incorporated by the designer, when deficiencies were observed for the structural components. For the seismic retrofit of the existing structures, new technology was required including carbon fiber wrapping to make the footings, columns, and joints ductile. Provided seismic retrofit recommendations for 4km of existing viaducts and we provided a seismic evaluation and redesign of 8km of new viaducts. The design was changed in order to be seismically safe per AASHTO LRFD code requirements.

Orwood Bridge Replacement Project, Contra Costa County, CA
Project Manager/Project Engineer for the replacement of an existing twelve span 214-foot-long timber bridge that provides the only access into the Orwood Tract in the Sacramento-San Joaquin River Delta. The project consists of widening the existing approaches and raising the profile grade to meet the 100-year flood freeboard requirements over the Werner-Dredger Cut.

Wildwood Road Bridge across Hayfork Creek, Trinity County, CA
Project Manager/Project Engineer for a project that replaces an existing single lane, reinforced concrete bridge on a substandard stretch of rural road. The project consists of alignment/realignment and structure type selection evaluations, preliminary engineering design, preparation of alternative selection studies, and final PS&E design services.

North Torrey Pines Road Bridge, San Diego County, CA
Design engineer for the independent check design. This bridge is comprised of two parallel structures of 340-foot long, three-span cast-in-place, prestressed deep-haunch box girder superstructure supported on single column/large diameter drilled pile shaft extensions and seat-type abutments. The two structures were connected with a closure pour in the final construction stage.

Fremont and Portland Bridges, Los Altos, CA
Project Engineer for a feasibility study to assess the most cost-effective solution for two structures: replacement or rehabilitation. The Fremont structure spans Permanente creek and consists of a 3-span concrete girder structure. The Portland street structure is an earth filled arch, also spanning Permanente Creek. A seismic and hydraulic analysis was performed in the first phase of the project, with full PS&E services to follow. TYLI assisted the City with obtaining HBRR funds for the bridges.

Los Angeles River Bridge, Los Angeles, CA
Bridge designer responsible for as-built assessment and seismic retrofit design. This structure consists of three parallel straight bridges. Each bridge is a four span, RC deck on steel girder frames supported on common pierwalls with pile footings and cantilever seat type abutments. Retrofit included increasing width and depth as well as adding piles at pierwall footings, installing steel transverse girder restrainer/pedestal caps at pierwall pedestals, installing steel transverse girder restrainers as well as constructing full height RC pedestal bolsters at abutment pedestals, installing treated timber blocking at abutments, constructing diaphragm bracing at bents and abutments, and adding shear lugs.

Gary Antonucci, P.E.
Principal Bridge Engineer | Vice President

Registrations:
Civil Engineer (CA34294)

Academic Achievements:
B.S., Civil Engineering, California State Polytechnic University, Pomona, CA

Professional Associations:
American Society of Civil Engineers (ASCE)

American Public Works Association (APWA)

WTS, Advancing Women in Transportation

ACEC of California – Bay Bridge Chapter President; Chairman, Professional Liaison Committee (District 8)

Mr. Antonucci has more than 30 years of engineering experience in the planning and design of transportation structures. His bridge design experience includes conventional and prestressed concrete, precast, prestressed concrete girders, and structural steel. His work has encompassed more than 200 bridges for heavy and light rail, urban and interstate highways, and pedestrian facilities. He is experienced in all aspects of bridge production, including analysis, plan preparation, specification writing, and cost estimating.
Mr. Antonucci has practiced in California his entire career and is familiar with local engineering conditions and design standards. He has a strong Caltrans bridge design background and has completed numerous state highway bridges requiring Caltrans' review and approval.

Mr. Antonucci's expertise in completion of Federal HBP projects has given him thorough familiarity with the technical and administrative procedures that must be followed. He has completed several projects under this program and recently completed project management for two major HBP assignments including the $20 million River Road Bridge over the Santa Ana River, and the $15 million Orange and Alabama Street bridge replacements in Redlands. Mr. Antonucci's project experience includes:

John Wayne Airport Seismic Retrofit, Costa Mesa, CA
Lead Structural Engineer for non-linear seismic analysis, determination of vulnerabilities, and preparation of final design of retrofit measures for the second-level roadway system at John Wayne Airport. The airport is considered an "essential" facility, so higher levels of performance in the design elements were required.

River Road Bridge at Santa Ana River, Riverside County, CA
Project Manager for a major federally funded project to replace a bridge across the Santa Ana River. Mr. Antonucci led a multi-discipline team and was responsible for oversight of the environmental consultant in preparation of an EIR/EIS for the project. He also directed detailed hydraulic scour analysis, right-of-way evaluation, and engineering design.

Hobart Yard Overhead (Seismic Retrofit), Los Angeles, CA
Project Manager for seismic retrofit of I-710 bridge across BNSF's Hobart Yard facility in Los Angeles. The retrofit scheme was devised to focus as much work as possible away from critical railyard tracks.

California Seismic Retrofit of 50 Bridges
Project Manager for the preliminary and final design phases of retrofit of 50 bridges on state and local highways, including 10 bridges within Interstate 805/State Route 54 freeway interchange.

Caltrans Seismic Retrofit, Statewide, CA
Project Manager for contracts totaling $6 million in fees with the California Department of Transportation for seismic retrofit of bridges statewide. The projects required specialized application of earthquake engineering techniques and implementation of new retrofit measures developed in the aftermath of the Loma Prieta earthquake. The PS&E packages were completed for 25 bridges, including the retrofit of San Lorenzo Creek bridge, a historic arch bridge in Santa Cruz County.

Huntington Harbour Bridges (Seismic Retrofit), CA
Project Manager for strengthening and seismic retrofit of four bridges across boat channels in Huntington Harbour. The bridges provided the only access to residences located on islands within the harbor. The strengthening measures had to be specifically designed to be constructed in individual stages, allowing the structures to remain open to traffic.

Mathilda Avenue Overhead (Seismic Retrofit), Sunnyvale, CA
Project Manager for seismic retrofit of an arterial highway viaduct in Sunnyvale. The structure crosses rail facilities, local streets, a bus station, and parking lot. Two other bridges across the rail facilities were also retrofitted.

Jack D. Gougé
Environmental Services Manager

Academic Achievements:
M.S., Biological Sciences, Environmental Management University of California at Berkeley, 1971

B.S., Geology and Cultural Anthropology, Geology San Francisco State University, 1965

Professional Activities:
WTS
AEP

Mr. Jack Gougé is T.Y. Lin International's Environmental Services Manager for the California, Nevada and Arizona offices. He is an Environmental Planner and Environmental Compliance Manager with extensive experience in managing technical staff for domestic and international environmental program development and implementation, project planning and environmental reviews, and permits compliance. He has established comprehensive environmental programs taking into account land use policies, political organizational structure, client economic and environmental goals and objectives, and developed practicable environmental mitigation strategies and project-specific performance standards for specific mitigation measures. Over the past 30 years he has been managing technical staff for the preparation of environmental review documents for transportation, energy, and urban development projects.

His project experience includes: project alternative screening, permit scoping and filing, resource evaluation and impact analysis, agency negotiations and community relations, mitigation development and compliance monitoring. He has authored a wide variety of environmental documentation including NEPA CE, DCEs, EAs/EISs, CEQA IS/MND and, EIRs He also established and managed environmental assessment and permit compliance departments within consulting and engineering organizations. He has been involved in preparation of Caltrans' Preliminary Environmental Studies Forms, Preliminary Environmental Analysis Reports, and EIR/EISs for transportation projects throughout California.

Norwood Avenue Bridge at Arcade Creek Project, Sacramento, CA
Mr. Gougé's role was to work with the design engineers and the city planners to meet the public's concern for safety, lighting, pedestrian and bike access, and the Corps of Engineers' requirements for flood control protection (408/208 permitting). Mr. Gougé also managed a local environmental consultant for the preparation of a project Initial Study/Mitigated Negative Declaration.

Jellys Ferry Road Bridge Over Sacramento River, Tehama County, CA
Mr. Gouge was responsible for preparation of the environmental documents, obtaining CEQA and NEPA environmental clearance, and federal and state permits for this bridge replacement project as well as the preparation of contract plans, specifications, and estimate. The environmental issues associated with this project include potential impacts to salmon and steelhead spawning habitat in the Sacramento River, impacts to the BLM recreational facilities, cultural and historic resources, visual resources, impacts to bats, swallows, nesting raptors, amphibians, insects, and land use impacts.

Mitchell Road Improvement Tech Studies, Ceres, CA
Functioning as the project director, Mr. Gougé oversaw the preparation of technical studies leading to the preparation of a CEQA/NEPA Initial Study/Environmental Assessment (IS/EA) for the planned interchange improvements on Mitchell Road and SR 99.

SR-99 Widening Project Study Report for MCAG – Merced, CA
Project director for the preparation of the PEAR for the widening of a segment of SR-99 in Merced County. Reviewed and commented on the technical issues.

Michael M. Wolohan, P.E.
Bridge Engineer

Registrations:
2005, Civil Engineer, California, C 67743

Academic Achievements:
2003, M.S., Structural Engineering, University of California San Diego

2002, B.S., Structural Engineering, University of California San Diego

Professional Activities:
Member, American Society of Civil Engineers

Mr. Michael Wolohan is an experienced bridge engineer responsible for design, plan details, and cost estimates for new construction as well as seismic retrofit and rehabilitation of existing structures, retaining walls and other transportation structures. He has experience with Caltrans, ODOT, and MnDOT bridge design practices as well as Canadian CSA S6-06, PTI Design Recommendations for Stay Cable Design, AASHTO Standard and LRFD Bridge Design Specifications as well as Caltrans SDC and AASHTO LRFD Seismic Bridge Design Specifications. His project experience includes:

Tren Electrico – Lima, Peru
Design Engineer responsible for seismic analysis and retrofit recommendations for the superstructure, bent caps, columns and foundations for existing, partially constructed, and newly designed segments for Phase I of an elevated light rail system in Lima, Peru. Responsible for preliminary engineering, vertical frequency analysis, seismic design and analysis of new light rail segments for cost estimating and bid package development for design build delivery of Phase II. Seismic design and analysis for both phases of the project performed according to AASHTO LRFD Seismic Bridge Design Specs.

Norwood Avenue Bridge Replacement – Sacramento, CA
Design Engineer responsible for preliminary seismic analysis, development and review of levee specifications, as well as review and check of retaining walls, pedestrian rails, luminaire supports and pedestrian handrailing for the Norwood Avenue Bridge Replacement over Arcade Creek for the City of Sacramento, a six-span cast-in-place post-tensioned reinforced concrete slab bridge supported on 30" diameter CIDH pile extensions.

11th Street East Tracy Overhead Seismic Retrofit – Tracy, CA
Design Engineer responsible for design and analysis of retrofit measures for a Seismic Retrofit Strategy Report for a 1,441-foot-long 34-span, combination cast-in-place reinforced t-girder/steel girder bridge with a longitudinal joint separating the original structure from structure constructed in 1960. Retrofit measures consisted of steel column jackets, bent cap strengthening, concrete catcher blocks, bearing replacement with PTFE elastomeric bearings, infill walls, pile cap retrofit, and pile retrofit with CISS piling.

Jelly's Ferry Road Bridge Replacement – Tehama County, CA
Project Engineer responsible for design of 1,081-foot-long 6-span, cast-in-place, post-tensioned box-girder bridge replacement supported by single column bents and cast-in-drilled-hole piles over the Sacramento River.

Seismic Remediation – Elevated Roadways, John Wayne Airport, Orange County, CA
Design Engineer responsible for performing pushover analysis and design calculations for the column casing and pile cap foundation retrofit of the elevated roadways at the John Wayne Airport. Project consisting of the seismic retrofit of the eight frame terminal roadway structure and three adjacent connector ramps.

First Street Bridge over Napa River, Napa, CA
Engineer responsible for the independent superstructure design check, quantity calculations, and construction support for the 160-foot-long 3-span, haunched cast-in-place reinforced concrete T-beam bridge over the Napa River.

Kevin Bewsey, P.E.
Lead Transportation Engineer

Registrations:
2007, Civil Engineer, California, #71485 (Expires 12/31/11)

Academic Achievements:
BS, Mechanical Engineering, California State University, Sacramento

Professional Activities:
Member of American Society of Civil Engineers

Member of Women Transportation Seminar

Mr. Bewsey has more than eight years of experience in the transportation industry including design and construction of bridge replacements, roadway widenings, and pedestrian overcrossing projects. He serves as project engineer and lead roadway engineer with responsibilities for client management, environmental documentation, permitting, right of way coordination, and final design. He prepares geometric studies, preliminary design, plans, specifications and estimates (PS&E) and quality control reviews.

Before joining T.Y. Lin International, Kevin was an Assistant Engineer with Sacramento County Department of Transportation. As an Assistant Engineer, his experience included geometric design, signal design, drainage design, and the preparation plans and quantities for transportation projects.

Mr. Bewsey's project experience includes:

Norwood Avenue Bridge, Sacramento, CA
Project Engineer and Lead Transportation Engineer responsible for replacing the existing Norwood Avenue bridge.

Fremont Avenue Bridge, Los Altos, CA
Project Engineer and Lead Transportation Engineer responsible for replacing the existing Fremont Avenue bridge

Jelly's Ferry Road Bridge, Tehama County, CA
Lead Transportation Engineer responsible for the design and realignment of Jelly's Ferry Road Bridge over the Sacramento River.

First Street Bridge Replacement, Napa, CA
Lead Transportation Engineer responsible for preparation of the roadway PS&E to realign First Street and replace the historic First Street Bridge over the Napa River.

South Bonnyview Road Widening Project, Redding, CA
Transportation Engineer responsible for the geometric design, stage construction and construction support for South Bonnyview Road between State Route (SR) 273 and the Sacramento River.

Orwood Road Bridge, Contra Costa County, CA
Transportation Engineer responsible for Final Design PS&E

Borregas Avenue Pedestrian/Bicycle Overcrossing, Sunnyvale, CA
Transportation designer responsible for preparing the plans and quantities.

Cypress Avenue Bridge, Redding, CA
Transportation designer responsible for preparing the plans and quantities.

San Luis Bay Drive Bridge Replacement, San Luis Obispo, CA
Transportation designer responsible for preparing the plans and quantities.

Previous Experience

Calvine Road Widening Project, Sacramento County, CA
Assistant Engineer responsible for preparing the plans and quantities.

North Watt Avenue Enhancements (Phase 1 & 2), Sacramento County,CA
Assistant Engineer responsible for preparing the plans and quantities.

Keith D. Rhodes, PE
Associate Vice President/Project Manager

Registrations:
Professional Civil Engineer, California No. 53587

Professional Civil Engineer, Oregon, No. 76745PE

Academic Achievements:
BSCE, Civil Engineering, University of California, Davis, 1991

Professional Activities:
American Society of Civil Engineers (ASCE)

Mr. Rhodes brings more that 19 years of transportation experience and has managed, directed, and developed the production of a variety of professional engineering roadway and structure design projects that resulted in the successful production of many Project Scope Summary Reports, Project Study Reports, Project Reports, and Plans, Specifications, and Estimates (PS&E) during his career. He has supervised and managed professional and technical staff responsible for the preparation and delivery of quality civil engineering products on a variety of transportation improvement projects of varying complexity throughout California. Mr. Rhodes possesses exceptional project management, design, leadership, and communication skills and the ability to develop high-performance teams.

Mr. Rhodes brings successful management and design experience in transportation, structures, and roadway design where the first eleven of these years were with Caltrans. He served as Project Manager, Design Branch Chief, Project Engineer, and Bridge Engineer for District 3 and Headquarters, ensuring the delivery of a variety of projects within scope, cost, schedule, and resources. He provided project delivery support for projects that were in STIP, SHOPP, and other Capital Outlay funded projects.

Mr. Rhodes' project experience includes:

Norwood Avenue Bridge Replacement Project, Sacramento, CA
Performed a comprehensive drainage analysis that incorporated storm water Best Management Practices (BMPs); drainage inlet sizing and spacing; spread analysis; hydraulic grade line and energy gradient line analysis; culvert sizing, profiles and alignments to minimize utility impacts. The project included the replacing the existing bridge with a cast-in-place post-tensioned concrete slab bridge, approximately 350 feet long.

Traffic Congestion Relief Project, Stanislaus County, Modesto, CA
Project Manager/Project Engineer for this $4.9 million project that proposes to improve four at-grade county road intersections along Geer Road and Albers Road in the southeastern part of the County. Managed the successful delivery of this project that involved widening for left-turn channelization, signalization, safety lighting, utility relocations, right-of-way acquisitions, and drainage improvements.

Pelandale Avenue/SR 99 Interchange Project, Modesto, CA
Quality Control Engineer responsible for preparing the draft Fact Sheet Exceptions for Mandatory and Advisory Design Standards for two alternatives for this interchange reconstruction project. The project proposed to reconstruct the SR-99 interchange at Pelandale Avenue that included the replacement of the existing overcrossing on a new alignment, ramp improvements with new ramp intersections, auxiliary lanes, metering, and local street improvements. **I-5 South Connector Undercrossing & SR 275 West Sacramento Separation – Seismic Retrofit, Sacramento & Yolo Counties, CA**
Bridge Project Engineer responsible for the development of PS&E for seismic retrofit of the I-5 South Connector Undercrossing and the SR 275 West Sacramento Separation. The retrofits involved abutment modifications, bent restrainer rods, steel column casings, spread footing widening, and hinge modifications.

Mark R. Philipps, P.E.
Bridge Engineer

Registrations:
2010, Civil Engineer in California, CA 75683

Academic Achievements:
BS, Civil Engineering, California Polytechnic State University, San Luis Obispo, CA, 2005

Professional Activities:
American Society of Civil Engineers

ASCE Sacramento Younger Members Forum

Mr. Mark Philipps is an experienced bridge design engineer with experience in the areas of design-build engineering, bridge and structures design, bridge analysis, retrofit and rehabilitation, and construction engineering. His responsibilities included shop drawing reviews, field investigations, seismic analysis and final design and detailing.

He is skilled at using many different bridge analysis programs, including WinBDS, CTBridge, VBridge, LEAPBridge, CONSPAN, XTRACT, XSection, YIELD, WinABUD, WinReCol, VBENT, WinFAD, WFrame, CAPP, WinSEISAB, SAP2000, WinCSD, ENERCALC, RETAINPRO, SNAILZWin, LPILE, AutoCAD, MicroStation, and MathCAD. He has experience with Caltrans design practices. His project experience includes:

Holman Road Bridge over Bear Creek, Stockton, CA
Design Engineer for the design of a multi-span slab structure, which involved performing lateral loading pile analysis and seismic analysis in SAP.

San Lorenzo Pedestrian Bridge, Santa Cruz, CA
Design Engineer for the design of a pedestrian bridge over the San Lorenzo River in Santa Cruz. Detailed seismic analysis of substructure was performed in area of high seismicity, along with a complex strut and tie cap analysis.

Norwood Avenue Bridge Replacement, Sacramento, CA
Design Engineer for a Access Ramp in a retained cut, with multiple walls supporting ADA compliant ramps. Coordinated the structure layout and performed a strength design.

Stevenson Bridge Road Bridge- Solano and Yolo Counties, CA
Design Engineer for the rehabilitation and retrofit analysis of a historically significant concrete tied-arch bridge. A detailed model was created which was able to give insight to dynamic performance of a uniquely constructed bridge.

Scour Repair and Seismic Retrofit of Crocker Road Bridge- Sonoma County, CA
Design Engineer for the seismic retrofit PS&E and scour mitigation of this pre-World War II steel seven span structure. This project involved the removal of piers and foundations, which were replaced with Cast-In-Drilled-Hole Piles and extensions. Deep foundation pile analysis was performed by Mr. Philipps.

5th Street Bridge over the Feather River- Seismic Analysis for Replacement or Retrofit, Marysville/Yuba City, CA
Design Engineer for the seismic analysis of a 2000 foot, 26 span prestressed concrete structure. Detailed SAP analysis was performed to examine the structure's behavior in highly liquefiable soil, and required the interpretation and understanding of raw geotechnical information.

Powers Junction Interchange Bridge, Coos County, OR
Design Engineer assisting with the full retrofit of a three-span reinforced concrete bridge. The retrofit was performed using modern methods including affixing carbon-fiber laminate strips to the girders and crossbeams with epoxy resin for resistance strengthening and corrosion protection.

Tren Electrico Lima Project, Lima, Peru (Design Engineer: 2010-2011)
Assisted with retrofit analysis on a existing concrete public transportation structure. Performed pushover and section analysis on the existing structure.

Benjamin D. Crawford, PE, GE

Principal-in-Charge, Geotechnical Services

Education

- *California Polytechnic State University, San Luis Obispo – BS Civil Engineering*

Registrations

- *Professional Engineer, Civil, California #68457*
- *Professional Geotechnical Engineer, California #2861*

Affiliations

- *ACEC – Central California Chapter President*
- *ASCE - American Society of Civil Engineers, Central Valley Branch, Past President.*
- *Student Affairs Committee Member – ASCE Younger Members Forum*
- *ASFE*
- *Modesto Engineers Club*

Geotechnical

Geo-Environmental

Forensics

Construction Services

Mr. Crawford is a graduate of California Polytechnic State University, San Luis Obispo, with a concentration both in Geotechnical Engineering as well as Hydrology. He has managed complex transportation projects in the Sacramento and Central Valleys including the SR 120 and Union Road interchange PS&E to the SR 99 Manteca Widening PA&ED and PS&E. He has provided geotechnical recommendations for roadways, bridges, schools, residential and commercial structures, water and communication towers, retaining walls, pipelines, and airports. He has also managed both Caltrans design and construction projects in the Sacramento and Central Valley areas. Mr. Crawford is also the managing Principal of our Modesto office.

Representative Experience

SR 99 Widening from Arch Road to SR 120 (PS&E) – San Joaquin County, CA
Principal-in-Charge for the PS&E phase of the SR 99 Manteca Widening Project. Oversaw the design work for GDR/Materials Report for 10 miles of median widening, including five new soundwalls. Also oversaw the completion of the GDR and Materials Reports for the French Camp Road and Lathrop Road interchanges. Oversaw the design of the Foundation Reports for the French Camp Road Overcrossing, Lathrop Road Undercrossing, and four concrete-deck slough bridges.

SR 99 Widening from Arch Road to SR 120 (PA&ED) – San Joaquin County, CA
Completed a preliminary foundation (type selection) report for the proposed improvements along State Route 99. The project consists of 6 bridge and 2 interchange improvements. Reviewed existing LOTBs for the alignment and prepared a Preliminary Geotechnical Memo for the project.

SR 120 and Union Road Interchange Improvement Project - Manteca, CA
Used aerial photographs, Environmental Data Resources, Inc., and site analysis to identify potentially hazardous conditions for the proposed Union Road Interchange Improvement Project. Also oversaw the preparation of the preliminary foundation (type selection), Geotechnical Design, Materials, and Foundation Reports for the project. The project consists of improving the existing classic diamond interchange and bridge to allow for future growth in the area. The bridge will be replaced and the on and off ramps will be updated to allow signalization.

Sheldon Road Widening - Elk Grove, CA
Completed a Draft Geotechnical Report for the Sheldon Road Widening project between Elk Grove-Florin Road and Bradshaw Road. The improvements consist of widening the existing Sheldon Road to accommodate current and future development in the area. New pavement sections and rehabilitation recommendations are included in our scope for the project.

Grant Line Road Widening - Elk Grove, CA
Completed the Draft Geotechnical Report for the Grant Line corridor improvement project between East Stockton Boulevard and 1000' east of Bradshaw Road. The improvements consist of widening the existing Grant Line Road to accommodate current and future development in the area. New pavement sections and rehabilitation recommendations are included in our scope for the project.

March Lane Extension, Initial Site Assessment - Stockton, CA
Used aerial photographs, Environmental Data Resources, Inc., The San Joaquin Farm Bureau, and site analysis to identify potentially hazardous conditions along the proposed March Lane extension.

W. Eric Nichols, PG, CEG

Senior Project Manager, Senior Engineering Geologist

blackburn consulting

Education

- *University of Nevada, Reno – B.S. Geological Engineering, 1990*

Registrations

- *Professional Geologist, California*
- *Certified Engineering Geologist, California*

Affiliations

- *AEG - Association of Engineering Geologists*

Mr. Nichols is a Professional Geologist and Certified Engineering Geologist in California with eighteen years experience in geologic engineering and foundation engineering studies throughout the State. As Senior Project Manager at Blackburn Consulting, Mr. Nichols provides geotechnical consultation to clients with respect to review, planning, design, construction, maintenance and service of engineering facilities or other concerns. He has a diversity of experience in project terrain, geographical location and project complexity, and participated at various professional levels with increasing responsibility for numerous geologic engineering and foundation engineering studies.

Representative Experience

Latrobe Road Undercrossing at US 50 – El Dorado County, CA
Project Manager for a new two-span precast, prestressed, concrete box girder structure, 200 feet long by 141 feet wide to replace the existing parallel bridge structures. BCI completed a Foundation Report that provided recommendations for spread footings established in rock at all support locations. Abutment foundations were determined using Working Stress Design (WSD) and the bent foundation was determined using Load and Resistance Factor Design (LRFD). The report also included evaluation and recommendations for Caltrans Type 1 retaining walls, lateral earth pressures, approach embankment preparation, and excavation conditions.

US 50 HOV Project - El Dorado County, CA
Project Manager a for multi-faceted geotechnical project, including replacement of the Latrobe Road Interchange bridges and Eastbound Off Ramp Loop bridge, widening of the Clarksville Undercrossing structures, a new Pedestrian Overcrossing, three miles of new HOV lanes, Initial Site Assessment (ISA), pavement overlay for US 50, new retaining walls, and overhead signs. The project includes preparation of four Foundation Reports, a Geotechnical Design Report and two Materials Reports, consistent with Caltrans format and current Load and Resistance Factor Design (LRFD) requirements for bridges.

Auburn-Folsom Road Widening Project - Placer County, CA
Project Manager responsible for preparing a geotechnical report for 11,400 l.f. of roadway improvements. Project elements included new cut sections in hard rock, fill sections, a cast-in-place reinforced concrete box culvert, 2,800 l.f. of retaining wall and 1,400 l.f of concrete masonry block wall. Recommendations included flexible pavement sections, overlay requirements, subgrade preparation, drainage/subdrainge/erosion, excavation cut/fill, embankment preparation, and soils criteria for use in design of the structural elements.

Base Line Road and Watt Avenue Intersection - Placer County, CA
Completed a geotechnical study for 1,700 fee of new roadway widening. The study included R-value and soils corrosivity testing, evaluation of cut-slopes and pavement condition. Recommendations included new flexible pavement sections, subgrade and embankment fill preparation, new/modified cut-slopes and drainage/subdrainage/erosion.

Buena Vista Offsite Transportation Mitigation - Amador County, CA
Completed a geotechnical report for roadway improvements and pavement replacement of about three miles of roadway along Buena Vista Road and Coal Mine Road near Ione, California. Recommendations included new flexible pavement sections, earthwork and pavement construction, structural pavement materials, drainage/subdrainage, erosion and soil corrosivity.

Pedestrian Bridge over Laguna Creek – Elk Grove, CA
Project Manager for a 277-foot-long by 14-foot-wide pre-fabricated steel truss bridge with cast-in-place concrete deck. Recommendations for support of the bridge structure included 3-foot diameter cast-in-drilled-hole (CIDH) piles at the abutments and a 6-foot diameter CIDH pile at the pier. Our evaluation also included seismic design criteria, lateral earth pressures, approach fills, and construction considerations.

KELLY JACKSON
SENIOR ENVIRONMENTAL PLANNER

LSA

EXPERTISE

Environmental Analysis

Project Management

Planning Generalist

EDUCATION

University of Washington, Tacoma, WA. B.S. Environmental Science, 2005.

PROFESSIONAL AFFILIATIONS

American Planning Association

Association of Environmental Professionals

PROFESSIONAL EXPERIENCE

Intern, South Puget Sound Salmon Enhancement Group 2005.

Senior Environmental Planner, LSA Associates 2005-present.

PROFESSIONAL RESPONSIBILITIES

Ms. Jackson is a Senior Environmental Planner who is responsible for preparing substantive analyses and findings for various levels of CEQA and NEPA environmental documents and managing projects. She has participated in the preparation of environmental analyses for roadway/interchange projects, and bridge projects, as well as land development projects of significant scale.

PROJECT EXPERIENCE

Ms. Jackson has managed several bridge projects and prepared environmental documents for numerous projects. Examples of these are provided below:

- Auburn-Foresthill Bridge Project, Placer County, California
- Victory Road Bridge Replacement Project, San Joaquin County, California
- Moore Street Bridge Seismic Retrofit Project, Mendocino County, California
- Navy Drive Bridge Replacement Project, Stockton, California
- Railroad Flat Bridge Replacement Project, Calaveras County, California
- Maybert Bridge Replacement Project, Nevada County, California
- Hammett Road/SR-99 Interchanges Reconstruction Project, Stanislaus, California
- Dowd Road Bridge Replacement Project at Coon Creek, Placer County, California
- Daggett Road at BNSK Railroad Grade Separation Improvement Project, San Joaquin County, California
- Eureka Hill Bridge Replacement, Mendocino County, California
- 56th Street Bridge-South Sacramento Drain, Sacramento County, California
- Stagecoach Road Low Water Crossing Project, Calaveras County, California

JEFF BRAY
PRINCIPAL / BIOLOGIST

LSA

EXPERTISE

Biological Assessment/Surveys

Wetland/Endangered Species Permitting

Construction Monitoring

EDUCATION

Humboldt State University, Arcata, CA. B.S. Wildlife Biology, 1992.

PROFESSIONAL EXPERIENCE

Biologist/Associate, LSA Associates, Inc., Rocklin, CA. 1997-present.

Biologist, Galea Wildlife Consulting, Crescent City, CA. 1997.

Biologist/Restoration Ecologist, LSA Associates, Inc., Irvine, CA. 1994-1996.

Research Assistant, Oregon Cooperative Wildlife Research Unit, Corvallis, OR. 1993.

PROFESSIONAL RESPONSIBILITIES

Mr. Bray is a general biologist at LSA with 16 years of experience with biological resources and wetlands projects throughout California and southern Oregon. Mr. Bray's background has involved work in a variety of habitats including inland and coastal coniferous forest, riparian woodland, freshwater marsh, coastal sage and desert scrub, chaparral, and grassland. At LSA, Mr. Bray is responsible for conducting biological studies and preparing technical reports, obtaining 401/404, 1600 permits, coordinating Section 7 consultations, conducting biological constraints analyses, and implementing habitat restoration. He also manages projects, budgets, and schedules, and interfaces with clients.

PROJECT EXPERIENCE

Mr. Bray has developed extensive experience working on transportation projects, particularly those involving bridge replacements or retrofits. Mr. Bray has managed and/or provided biological, permitting, or construction monitoring services for the following bridge projects:

Broadway Bridge Replacement/Mission Boulevard Extension
Jackson, California
Design constraints analysis, Natural Environment Study, 401/404 and 1602 permitting, Biological Assessment/Section 7 consultation (California red-legged frog, anadromous fish) and riparian habitat restoration for a bridge replacement over South Fork Jackson Creek.

Floriston Ramp Bridge Replacement
Nevada County, California
Natural Environment Study, 401/404 and 1602 permitting for a bridge retrofit over the Truckee River

Dowd Road Bridges Replacement
Placer County, California
Natural Environment Study, 401/404 and 1602 permitting, Biological Assessment/Section 7 consultation (giant garter snake, anadromous fish), and bat surveys and mitigation for three bridge replacements along Dowd Road over Yankee Slough, Coon Creek, and Markham Ravine.

Ninth Street Bridge Replacement
Modesto, California
Natural Environment Study, 401/404 and 1602 permitting, Biological Assessment/Section 7 consultation (anadromous fish), and riparian habitat restoration for a bridge replacement over the Tuolumne River.

JEFF BRAY
PRINCIPAL / BIOLOGIST

LSA

WILLIAM E. MAYER
PRINCIPAL

LSA

EXPERTISE

Community Planning/Environmental Analysis

Project Management

Planning Generalist

EDUCATION

California State Polytechnic University, Pomona, Bachelor of Science in Urban Planning, June 1973.

PROFESSIONAL EXPERIENCE

Principal, LSA Associates, Inc., environmental planning consultants, Northern and Southern California, 1983 present. Managing Principal for the Rocklin office, 1994-present.

Project Manager, The Reynolds Environmental Group, site planning and landscape architectural consultants, Costa Mesa, CA, 1982-1983.

Senior Planner, L. D. King, Inc., planning and engineering consultants, Santa Ana, CA, 1978-1982.

PROFESSIONAL AFFILIATIONS

American Planning Association

Building Industry Association

PROFESSIONAL RESPONSIBILITIES

Principal/project manager for and contributor to environmental and planning studies, land use programs, site plan layout and design implementation programs, Specific Plans and other special land use programs, General Plans, zoning documentation, and Environmental Impact Reports. Responsibilities include project definition and organization, planning research and analysis, report preparation, design concept and illustration, project administration/project management and coordination, and public presentations.

PROJECT EXPERIENCE

Mr. Mayer is skilled in preparing the environmental documentation for bridge, transportation, and roadway improvement projects in support of obtaining clearances from local governments and agencies. He manages projects involving both federal and State environmental review, including the technical studies and resource agency permits required for project implementation. Projects that he served as Principal-in-Charge or managed include bridge replacements, freeway interchanges, roadway improvements, and bicycle trails having both State and federal funding; and complex permit requirements, environmental review, and resource agency coordination. Mr. Mayer's bridge experience is as follows:

- Floriston Bridge Replacement in Truckee (Nevada County)
- Purdon Road Bridge Rehabilitation in Nevada County
- Maybert Bridge Replacement in Nevada County
- Cook Riolo Bridge Replacement in Roseville (Placer County)
- Wise Road Bridge Replacement in Roseville (Placer County)
- Historical Park Bridge in San Benito County
- Cienega Road Bridge in San Benito County
- Lone Tree Road Bridge in San Benito County
- Corps Park Bicycle Trail and Bridge in Ripon
- Squaw Creek Bridge Replacement in Squaw Valley (Placer County)
- Main Avenue Bridge Replacement in Sacramento
- El Camino Avenue Bridge Replacement in Sacramento
- Walerga Road Bridge Replacement in Placer County
- Floriston Road Bridge Replacement in Nevada County

ANDREW LEE PULCHEON

ASSOCIATE/CULTURAL RESOURCES MANAGER
REGISTERED PROFESSIONAL ARCHAEOLOGIST
REGISTERED PROFESSIONAL HISTORIAN
CERTIFIED PLANNER

LSA

EXPERTISE

Prehistoric and Historical Archaeology

Cultural Resources Management

Historical Research and Evaluations

Historic Preservation Planning

Initial Study/Environmental Impact Report Preparation

EDUCATION

U.C. Davis Extension, Davis, California.
Certificate in Land Use and Environmental Planning 2007

Sonoma State University, Rohnert Park, California.
Thesis: *Portrait of the Forgotten Fields: Sonoma County and its Auxiliary Airfields of WWII.*
M.A., Cultural Resources Management, 2000

Humboldt State University, Arcata, California.
B.A., Anthropology (minor in Geography), 1994

PROFESSIONAL AFFILIATIONS

Society for California Archaeology

Society for Historical Archaeology

American Planning Association

Western Chapter of the Association for Preservation Technology

PROFESSIONAL RESPONSIBILITIES

Mr. Pulcheon has 17 years of research, field, project management, and collections management experience. His experience includes project coordination and field direction; public/private sector and Native American consultation; field, archival, and laboratory research on projects throughout central and northern California; Section 106 and CEQA historical resource evaluations; NEPA analysis; CEQA document preparation; development of treatment and management plans; and museum curation and collections management. He is a Registered Professional Archaeologist (#11693); Registered Professional Historian (#581); and a member of the American Institute of Certified Planners (#21490).

PROJECT EXPERIENCE

Sierra College Boulevard/Interstate 80 Interchange Improvements Project, Rocklin, Placer County, California
LSA did archival and background research, field studies, archaeological and historical architecture survey, evaluations of historical buildings and prehistoric and historical archaeological sites, and Native American and historical society contacts to address Section 106 of the National Historic Preservation Act and the California Environmental Quality Act for this City of Rocklin/Caltrans local assistance project. LSA evaluated the archaeological remains of two 20th century Japanese-American fruit ranches.

SR-68/San Benancio Road Intersection Improvements Project Monterey County, California
LSA did archival and background research, conducted archaeological field survey, consulted with interested parties, and conducted Phase II archaeological investigations in support of Section 106 and CEQA permitting for an intersection improvements project proposed by the Monterey County Department of Public Works.

Lucas Valley Road Slide Repair Project, Novato, Marin County
LSA conducted cultural resources studies to prepare a Historic Property Survey Report and Archaeological Survey Report. LSA conducted background research which included a literature and records search for cultural resources; consultation with the Native American Heritage Commission, local Native American representatives, and local historical societies; field survey; and an archaeological sensitivity analysis. No archaeological resources were identified within or adjacent to the APE.

Han-Bin Liang, Ph.D., P.E.

Hydraulic Design Lead

WRECO

YEARS OF EXPERIENCE

26 Years / 16 Years with WRECO

EDUCATION

Ph.D., Civil Engineering, University of California, Berkeley, 1988
M.S., Civil Engineering, University of California, Berkeley, 1984
B.S., Agricultural Engineering (Hydraulics), National Taiwan University, 1981

PROFESSIONAL REGISTRATION

Civil Engineer: CA, #C48404

KEY QUALIFICATIONS

Dr. Liang has a strong career commitment in civil engineering, water resources, environmental hydrology, and coastal engineering. During his career, he has been involved in over 500 infrastructure and water resources projects in the State of California. Dr. Liang has been responsible for civil design, hydrologic and watershed studies, hydraulic analyses, utility studies, water and sewer system design, drainage system design, pump station design, floodplain studies, erosion control, stormwater management, wetland restoration, and coastal engineering of these projects. He has performed hydraulic studies for more than 150 bridges in the State of California for Caltrans, U.S. Army Corps of Engineers, and local cities and counties.

RELEVANT PROJECT EXPERIENCE

Seventh Street Bridge over Tuolumne River, City of Modesto, CA
For Stanislaus County, Hydraulic Task Leader. Dr. Liang was responsible for performing a preliminary hydraulic study for the project.

Santa Fe Avenue Bridge over Tuolumne River Replacement Project, Stanislaus County, CA
For Stanislaus County, Hydraulic Task Leader. Dr. Liang was responsible for performing a bridge design hydraulic analysis, floodplain evaluation study, and scour analysis for the proposed replacement of the Santa Fe Avenue Bridge in the City of Empire.

Pacific Avenue Bridge Retrofit over the Calaveras River, City of Stockton, CA
For City of Stockton, Hydraulic Task Leader. Dr. Liang performed bridge hydraulic and scour studies for this scour critical bridge retrofit project. He also prepared the Scour Plan of Action that summarized the scour history, scour vulnerability, scour countermeasures, implementation schedule, and the need of a detour plan. The design was complicated by high design flows and the erodible bed materials' proximity to the tidally influenced San Joaquin River.

Rawhide Road Bridge over Woods Creek, Town of Jamestown, CA
For Tuolumne County, Hydraulic Study Lead. Dr. Liang was responsible for the hydrologic, hydraulic and scour analyses and preparing the Bridge Design Hydraulic Study Report.

Soulsbyville Road Bridge over Curtis Creek, City of Sonora, CA
For Tuolumne County, Hydraulic Study Lead. Dr. Liang was responsible for the hydrologic, hydraulic and scour analyses and preparing the Bridge Design Hydraulic Study Report.

Dillard Road Bridge Improvement Project, Sacramento County, CA
For Sacramento County, Hydraulic Task Leader. Dr. Liang was responsible for the bridge hydraulic study, scour analysis, Technical Report, and the Scour Plan of Action for the project. Caltrans has identified Dillard Road Bridge over Cosumnes River as a scour critical bridge.

City of Bakersfield Bridge Projects over Kern River, City of Bakersfield, CA
For City of Bakersfield, Hydraulic Task Leader. Dr. Liang was responsible for bridge hydraulic and scour studies for three bridges over Kern River (Allen Road, Mohawk Street and Westside Parkway).

Chris Sewell, P.E.

Senior Hydraulic Engineer

WRECO

YEARS OF EXPERIENCE

16 Years / 11 Years with WRECO

EDUCATION

BASc., Civil Engineering, University of British Columbia, 2000

PROFESSIONAL REGISTRATION

Civil Engineer: CA, #C64807
Qualified SWPPP Developer and Practitioner (QSD/QSP): CA, #00618, 2011

KEY QUALIFICATIONS

Mr. Sewell has more than 16 years of experience in a number of transportation projects involving drainage, floodplain, erosion control, water supply and utility relocation issues. He has been involved in projects from preliminary study, environmental study, through PS&E phase. Mr. Sewell is familiar with hydrologic and hydraulic models, as well as CADD tools. He has also been involved in various feasibility studies and numerous development of roadway and bridge alternatives.

RELEVANT PROJECT EXPERIENCE

Santa Fe Avenue Bridge, City of Empire, CA
For Stanislaus County, Project Engineer. Mr. Sewell performed hydrologic analysis and a floodplain impact study for the proposed replacement Santa Fe Avenue Bridge over Tuolumne River. The hydraulic analysis of this site is complicated by the presence of two existing railroad bridges located immediately downstream of the existing highway bridge.

Pacific Avenue Bridges Retrofit Project, City of Stockton, CA
For City of Stockton, Project Engineer. Mr. Sewell performed Bridge Design Hydraulic Study for the Pacific Avenue Bridges over Calaveras River. The bridges have been declared scour critical by Caltrans inspectors.

Rawhide Road Bridge over Woods Creek, Town of Jamestown, CA
For Tuolumne County, Senior Hydraulic Engineer. Mr. Sewell was responsible for the hydrologic, hydraulic and scour analyses and preparing the Bridge Design Hydraulic Study Report.

Soulsbyville Road Bridge over Curtis Creek, City of Sonora, CA
For Tuolumne County, Senior Hydraulic Engineer. Mr. Sewell was responsible for the hydrologic, hydraulic and scour analyses and preparing the Bridge Design Hydraulic Study Report.

Main Avenue Bridge over Natomas East Main Drainage Canal, City of Sacramento, CA
For City of Sacramento, Project Engineer. Mr. Sewell performed hydrologic and hydraulic analyses for the design of the proposed bridge. Key tasks performed included 1) acquisition and dissemination of pertinent hydrologic information, 2) a hydraulic analysis for the proposed bridge to determine the water surface elevations and flow velocities at the project site, and 3) a bridge scour analysis to determine potential scour depths at piers and abutments.

Robinson Creek Road Bridge over Robinson Creek, Mendocino County, CA
For Mendocino County, Senior Engineer. For this bridge replacement project, Mr. Sewell was responsible for field review of the creek hydraulic conditions, development of the Bridge Design Hydraulic Study and evaluation scour at the bridge abutments. The creek hydraulics for this project were complicated by the steep terrain and sharp angular thalweg.

Historic Park Bridge over Tres Pinos Creek Project, San Benito County, CA
For San Benito County, Hydraulic Engineer. Mr. Sewell prepared the Bridge Location Hydraulic Study and Bridge Design Hydraulic Study for the proposed bridge over Tres Pinos Creek. He also performed bridge scour analysis per the methodologies in the Federal Highway Administration HEC-18 and HEC-23 manuals.

Y&C Transportation Consultants

DANIEL YAU
Principal

EDUCATION

- University of California, Berkeley, MS in Transportation Engineering, 1984
- California State University, Fresno, BS in Civil Engineering, 1983

LICENSES

- Registered Professional Traffic Engineer, State of California (TR1471)
- Registered Professional Civil Engineer, State of California (C44611)
- Registered Professional Civil Engineer, State of Nevada (13945)
- Certified Professional Traffic Operation Engineer (PTOE), Institute of Transportation Engineers (211)

EXPERIENCE

Mr. Yau has over 27 years of experience in traffic engineering specializing in traffic signal and lighting design, signing and striping design, construction stage traffic control, and traffic signal system. He has completed plans, specifications, and estimates (PS&E) for more than 500 traffic design projects in over 100 jurisdictions, including the County of Stanislaus. Many of these projects involved bridges.

Mr. Yau's selected relevant project experience includes:

- ***Folsom Lake Crossing, City of Folsom.*** Prepared plans, specifications, and estimates (PS&E) for six traffic signals, a signal interconnect system, bridge lighting and street lighting as part of the Folsom Lake Crossing Project in the City of Folsom.

- ***Maxwell Bridge Replacement Project, City of Napa.*** Prepared PS&E for traffic signal, decorative street and bridge lighting, signing and striping. Prepared traffic analysis for key intersections in various construction stages. Since Maxwell Bridge is on S.R. 121, all designs were reviewed and approved by the City of Napa and Caltrans.

- ***Hazel Avenue Bridge and Road Improvement Phase I, County of Sacramento.*** Prepared PS&E for traffic signal, fiber optic signal interconnect system, CCTV, bike path lighting and decorative street lighting for Hazel Avenue between US 50 and Curragh Downs Drive. This project included widening of a 1,500-ft bridge from 4 lanes to 6 lanes.

- ***Third Street Bridge Replacement Project, City of Napa.*** Prepared PS&E for traffic signal, decorative street and bridge lighting, up-lighting, and traffic handling. Signal PS&E included stage construction signals with video detection systems.

- ***9th Street Bridge Replacement Project, City of Modesto.*** Prepared PS&E for decorative street and bridge lighting including temporary lighting for construction stages. The length of the new bridge exceeds 2,000 feet with four traffic lanes.

- ***Traffic Congestion Relief Project "A" on Geer Road and Albers Road, Stanislaus County.*** Prepared traffic signal PS&E for the Albers Road/Milnes Road and Geer Road/Service Road intersections and lighting PS&E for the Geer Road/Fox Road and Albers Road/Dusty Lane intersections in Stanislaus County as part of the Traffic Congestion Relief Project "A".

- ***Carpenter Road/Orangeburg Road Intersection Improvement, City of Modesto.*** Prepared traffic signal, signing and striping PS&E for the Carpenter Road/Orangeburg Road/Sisk Road/Briggsmore Avenue intersection in Modesto as part of the intersection improvement project. This project was to widen Orangeburg Road and Sisk Road to add more lanes on these

approaches.

Y&C Transportation Consultants

KIN CHAN
Principal

EDUCATION

- San Jose State University, MS in Transportation Engineering, 1994
- San Jose State University, BS in Civil Engineering, 1991

LICENSES

- Registered Professional Civil Engineer, State of California (C55391)

EXPERIENCE

Mr. Chan has 20 years of experience in traffic engineering design specializing in traffic signal and lighting design, signing and striping design, and construction stage traffic handling. He has prepared plans, specifications, and estimates for more than 400 traffic design projects in various agencies, including the County of Stanislaus. Many of these projects involved bridges.

Mr. Chan's selected relevant project experience includes:

- ***Folsom Lake Crossing, City of Folsom.*** Prepared plans, specifications, and estimates (PS&E) for six traffic signals, a signal interconnect system, bridge lighting and street lighting as part of the Folsom Lake Crossing Project in the City of Folsom.

- ***Maxwell Bridge Replacement Project, City of Napa.*** Prepared PS&E for traffic signal, decorative street and bridge lighting, signing and striping. Prepared traffic analysis for key intersections in various construction stages. Since Maxwell Bridge is on S.R. 121, all designs were reviewed and approved by the City of Napa and Caltrans.

- ***Hazel Avenue Bridge and Road Improvement Phase I, County of Sacramento.*** Prepared PS&E for traffic signal, fiber optic signal interconnect system, CCTV, bike path lighting and decorative street lighting for Hazel Avenue between US 50 and Curragh Downs Drive. This project included widening of a 1,500-ft bridge from 4 lanes to 6 lanes.

- ***Third Street Bridge Replacement Project, City of Napa.*** Prepared PS&E for traffic signal, decorative street and bridge lighting, up-lighting, and traffic handling. Signal PS&E included stage construction signals with video detection systems.

- ***Arden-Garden Connector, City of Sacramento.*** Prepared PS&E for traffic signal and lighting for the Arden-Garden Connector Project. The Arden-Garden Connector Bridge is the longest bridge in the City of Sacramento.

- ***9th Street Bridge Replacement Project, City of Modesto.*** Prepared PS&E for decorative street and bridge lighting including temporary lighting for construction stages. The length of the new bridge exceeds 2,000 feet with four traffic lanes.

- ***Traffic Congestion Relief Project "A" on Geer Road and Albers Road, Stanislaus County.*** Prepared traffic signal PS&E for the Albers Road/Milnes Road and Geer Road/Service Road intersections and lighting PS&E for the Geer Road/Fox Road and Albers Road/Dusty Lane intersections in Stanislaus County as part of the Traffic Congestion Relief Project "A".

- ***Carpenter Road/Orangeburg Road Intersection Improvement, City of Modesto.*** Prepared traffic signal, signing and striping PS&E for the Carpenter Road/Orangeburg Road/Sisk Road/Briggsmore Avenue intersection in Modesto as part of the intersection improvement project. This project was to widen Orangeburg Road and Sisk Road to add more lanes on these

approaches.

Y&C Transportation Consultants

Hamid Zolfaghari
Supervising Transportation Engineer

EDUCATION

- California State University, Sacramento, BS in Electrical Engineering, 1982

LICENSES

- Registered Professional Electrical Engineer, State of California (E 15636)
- Registered Professional Electrical Engineer, State of Nevada (19337)

EXPERIENCE

Mr. Zolfaghari has 29 years of experience in electrical engineering, specializing in ITS design, lighting design, and signal system projects. He has prepared signal, lighting, ITS, and electrical PS&E for numerous transportation projects in various jurisdictions. Many of these projects involved bridges and overcrossings. Prior to joining consulting, Mr. Zolfaghari was with Caltrans for 12 years, including six years as a Senior Transportation Electrical Engineer for Caltrans District 3.

Mr. Zolfaghari's selected relevant project experience includes:

- ***US 50/Watt Avenue Interchange in Sacramento County, California.*** Prepared PS&E for traffic signals, lighting, sign illumination, fiber optic signal interconnect system, ramp metering, and CCTV for the US 50/Watt Avenue interchange in Sacramento County. All project traffic signals are equipped with Opticom detector to control a reversible Bus Rapid Transit (BRT) lane in the middle of Watt Avenue.

- ***I-5/Richards Boulevard Interchange in the City of Sacramento, California.*** Prepared PS&E for traffic signals, fiber optic signal interconnect, freeway lighting, sign illumination, decorative street lighting, roadway weather information system, and traffic operations system for the I-5/Richards Boulevard Interchange Improvement Project in the City of Sacramento.

- ***SR 70/Feather River Boulevard Interchange in Yuba County, California***. Prepared PS&E for traffic signals, lighting, sign illumination, and ramp metering for the S(70/Feather River Boulevard interchange in Yuba County.

- ***I-5/Metro Air Parkway Interchange in Sacramento County, California.*** Prepared PS&E for lighting, sign illumination, and traffic operations system for the brand new interchange of I-5 and Metro Air Parkway in Sacramento County.

- ***SR 65/Sunset Avenue Interchange in Placer County, California.*** Prepared the electrical plans, specifications, and estimates for the new interchange at SR65/Sunset Boulevard. The scope of work included traffic signal plans, lighting and sign illumination, temporary traffic signal design, and ramp metering system.

- ***SR 99/Sheldon Road and SR 99/Grantline Road Interchanges in Elk Grove, California.*** Prepared PS&E for traffic signals, signal interconnect, freeway lighting, sign illumination, decorative street lighting, and ramp metering for the SR 99/Sheldon Road and SR 99/Grantline Road interchnages in Elk Grove.

Steven Harris
Project Manager
Overland, Pacific & Cutler, Inc.

Professional Credentials

Initial Year in Industry: 2006
Initial Year with OPC: 2006

Education:

Business Administration/Public Relations Curriculum, California State University, Sacramento
Additional Coursework: Real Estate Acquisition Under the Uniform Act

California Dept. of Real Estate Courses:

Real Estate Principles
Property Management
Real Estate Practice
Fair Housing
Ethics
Risk Management

IRWA Courses:

100 – Principles of Land Acquisition
200 – Principles of Real Estate Negotiation

In-House Courses:

Advanced Business Relocation Training
Residential Relocation
Property Management

FTA – Courses

Right of Way Training for Local Agencies

License:

Real Estate License, California

Overview

Mr. Harris is a dedicated professional with more than 30 years of management experience. He is a Project Manager and Area Manager for Overland, Pacific & Cutler's Sacramento Office. As Project Manager, he directs OPC staff and provides oversight for multi-parcel acquisition and relocation projects. The projects require compliance with local, state and federal regulations. As Area Manager, Mr. Harris is tasked with the administrative activities associated with operating and staffing the Sacramento Office.

Project Examples

County of Fresno – Academy Avenue Road Widening Project – Right of way and real property acquisition. Provided acquisition and relocation services for over 80 parcels.

City of Redding – Stillwater Business Park Project – Right of way and real property acquisition of approximately 30 parcels.

Sacramento Area Flood Control Agency and Army Corp of Engineers – Natomas Levee Improvement Project – providing acquisition and relocation services for 150 parcels impacted by the project. Also providing coordination on an ongoing effort to provide right of entry and property access for all SAFCA consultants for surveys and studies to complete design plan for over 43 miles of the flood control project. Coordination with Agency legal counsel to provide support for litigation resolution.

Washoe County – Truckee River Flood Management Project – Provide real property acquisition and relocation services for Truckee River Flood Management Project. Provide consultant services for advanced acquisition and negotiating to acquire three commercial parcels located within flood way. Providing relocation advisory services to 45 business tenants potentially impacted by the project.

Sacramento Housing and Redevelopment Agency – Hotel Berry Relocation Project – Provided relocation services for 35 permanent relocations. K Street Redevelopment Project – provided relocation assistance services for ten business relocations.

City of Rancho Cordova – Folsom Blvd., Mather Field Road – Provided relocations advisory and implementation services for two business relocations.

Placer County Redevelopment Agency – North Lake Tahoe RD Project – Provided relocation assistance and advisory services for 32 affordable housing tenants.

PROFESSIONAL QUALIFICATIONS

William F. Bambas, MAI
2027 Grand Canal Blvd., Suite 33
Stockton, California 95207-6650

Telephone (209) 478-9204 Direct E-Mail: bambow@sbcglobal.net Facsimile (209) 952-0837

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ASSOCIATION

2006 - Present, Owner -- W. F. Bambas Appraisal Company

1992 - 2006, Partner -- Bambas & Willmette

From 1987 - 92, worked in association with Richard B. Bradford, MAI; Allan Thode, Inc.; and Bruce R. Willmette, MAI.

EXPERIENCE

Assisted in and prepared appraisals of agricultural, commercial, industrial, multi-family residential, recreational, and special purpose properties throughout Northern California. Assignments prepared for public agencies, private individuals, federally regulated lenders, attorneys, trusts, partnerships, utilities, etc.; providing valuation services involving public acquisitions, condemnation, easement valuation, litigation support, mortgage financing, estate planning, tax filing, asset disposition, etc. Qualified as expert witness in Superior Court in San Joaquin and Merced Counties, California. Served as Review Appraiser for various lending institutions since 1997.

PROFESSIONAL DESIGNATION

Elected to membership in the Appraisal Institute, 1996, MAI No. 10958.

PROFESSIONAL INVOLVEMENT

Appraisal Institute
Member, Northern California Chapter
Member, Sacramento Sierra Chapter
Director, Northern California Chapter, 2001-2004
Representative, Region I, 2002-2004

STATE CERTIFICATION

State of California, State Certified General Real Estate Appraiser, No. AG002955 (Expires 2/8/13)

EDUCATION

Graduate of California State University, Hayward, 1985 with a B.S. Degree in Business Administration - Finance

Current on CE for Appraisal Institute and California License

REPRESENTATIVE CLIENT LIST

2002 - 2011

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Stewart C. Adams, Jr., Esq.
Susan Marchant Angel, Esq.
Arnold, Bleuel, LaRochelle, Mathews & Zirbel
Anthony M. Barkett, Esq.
Charles Bellig, Esq.
Steven Belzer, Esq.
Brown, Hall, Shore & McKinley
Bullivant Houser Bailey
Freeman, D'Aiuto, Pierce, Gurev Keeling & Wolf
Germaine & Mackay
Gianelli & Polley
Gibson, Dunn & Crutcher
Hakeem, Ellis & Marengo
Richard W. Konig, Esq.
Kroloff, Belcher., Smart, Perry & Christopherson
Kronick, Moskovitz, Tiedmann & Girard
Kuhn & Levy
Mayall, Hurley, Knutsen, Smith & Green
Merrill, Nomura & Molineux
Michael & Cammack
Murphy Austin Adams Schoenfeld
Neumiller & Beardslee
Nomellini, Grilli & McDaniel
John J. Patridge, Esq.
Perry, Johnson, Anderson, Miller, & Moskowitz
Steven B. Piser, Esq.
Peter Rausch, Esq.
Rishwain & Hastings
Thoits, Love, Hershberger & McLean
Wilke, Fleury, Hoffelt, Gould & Birney
Thomas Woodruff, Esq.

Kjeldsen, Sinnock & Neudeck

Kalfsbeek & Co.
Richesin, Silva & Groom

Aurora Bank
Bank of Agriculture & Commerce
Bank of America
Bank of Rio Vista
Bank of Stockton
Bank of the West
Central Valley Commercial Bank
Comerica Bank
Community Bank of San Joaquin
Community Bank of Central CA
Community Banks of Northern CA
County Bank
Delta National Bank
First Northern Bank
Fleet National Bank
GE Capital
Mercantile Financial
Oak Valley Community Bank
Owens Financial
Pacific State Bank
Pinnacle Bank
Premier Valley Bank
Service 1st Bank
Union Safe Deposit Bank
U.S. Bank
Wells Fargo Bank

CA Dept. of Transportation
Calaveras Unified School District
City of Lathrop
City of Lodi
City of Manteca
City of Modesto
City of Sonora
City of Stockton
Lodi Unified School District
Reclamation Dist No. 800
San Andreas Sanitation District
SJ Area Flood Control Agency
SJ County
SJ Regional Rail Commission
SJ Regional Transit District
Stockton Unified School District
Tuolumne County
US Army Corps of Engineers

American AgCredit
Aspire Public Schools
Athena Medical
Calaveras Materials
California Cedar Products
Catholic Healthcare West
Center for Sight
Central Valley Eye
CIWMB
El Concilio
Ford Construction Company
Hospice of San Joaquin
Human Resources Council
Kautz Family Vineyards
Lodi Memorial Hospital
Medcore Medical Group
MVP Property Management
P. G. & E.
Port of Stockton
San Joaquin CDC
Sierra Lumber Manufacturing
Smart & Final
St. Joseph's Medical Center
Stemilt Growers
The Nature Conservancy
The Newark Group
The Record
Thompson Group
Trigon-EPC
United States Postal Service
University of the Pacific

Honda -- Lodi
Manteca Auto Plaza
Nissan, Jeep, Isuzu - Stockton

Beacon Harbor
Bruno's Island Yacht Harbor
Delta Cove Marina
Delta Yacht Club
Mariner Cove
Rivers End Marina
Tiki Lagun Marina
Walnut Grove Marina
Willow Berm Marina

Judith Buethe
Communications

YEARS OF EXPERIENCE
32+

EDUCATION
- B.S., Applied Behavioral Sciences, University of California, Davis
- M.P.A., Public Administration, University of San Francisco

NOTABLE AWARDS
- ATHENA, Greater Stockton Chamber of Commerce
- San Joaquin County Commission on the Status of Women, Susan B. Anthony Award
- Small Businessperson of the Year, Greater Stockton Chamber of Commerce

PROFESSIONAL AND CIVIC ORGANIZATIONS
- Business Council, Inc.
- San Joaquin County Hispanic Chamber of Commerce
- Greater Stockton Chamber of Commerce Board of Directors
- Chinese Cultural Society of Stockton
- Public Relations Society of America
- Central Valley Community Bank Advisory Board
- Downtown Stockton Alliance

CALTRANS CERTIFICATIONS
- DBE, UDBE, SWBE #37196

CITY OF STOCKTON
- Business License #09-00091621

JUDITH BUETHE

Judith Buethe Communications (JBC)

Judith Buethe, founder and owner of JBC, has more than 32 years of private and public sector experience in public relations, and consensus building. Judith designs and implements effective strategic public involvement plans, project team communication plans, public meetings and open houses, public outreach and education, cross-cultural communications, social marketing, meeting facilitation, stakeholder identification, media relations, newsletters, direct mail campaigns, advertising, events (large and small), consensus development, and staffs Hotlines. She has designed and facilitated formal focus groups, regional surveys, and walked door-to-door in mobile home parks to survey tenants and satisfy environmental justice requirements. She has served as a hearing officer.

The firm's mission, *Making Your Best Intentions Happen,* drives every project.

Relevant Public Outreach and Public Participation Programs

Among the more than 300 public participation programs designed and implemented in the Central Valley and Foothills are these:

Regional Transportation Plan (2009-2010)
Client: StanCOG
Contact: Carlos Yamzon, (209) 525-4638
Developed and implemented a public outreach program that included public meetings, public hearing, media relations, hotlines, direct mail, coded stakeholder lists, advertising, and extensive outreach to civic organizations and agencies throughout Stanislaus County.

North County Corridor Project Route Adoption and PA&ED
Client: North County Corridor Transportation Expressway Authority
Contact: Laurie Barton, (209) 525-4151, Project Manager
Developed a Team Communications Plan and developed and implemented a strategic Community Outreach Plan for both phases for this project, which has elicited keen interest in the community. In addition to ensuring that NEPA/CEQA requirements for outreach have met, Judith has coordinated all logistics, media relations, and notifications for public meetings, workshops, and hearings. She has also served as the hearing officer and organizes and facilitates quarterly meetings of a Community Focus Group of people representing various community interests.

SR-132 West Freeway/Expressway
Client: StanCOG
Contact: Charles Turner, (209) 525-4600
Developed and implemented a strategic Community Outreach Plan for this long-awaited project. Judith has coordinated all logistics, media relations, and notifications, for public meetings. She also organizes and facilitates quarterly meetings of a Project Implementation Plan group representing community interests. NEPA/CEQA requirements for outreach and environmental justice needs are being met.

EXHIBIT 10-O1 Local Agency Proposer UDBE Commitment (Consultant Contracts)

NOTE: PLEASE REFER TO INSTRUCTIONS ON THE REVERSE SIDE OF THIS FORM

LOCAL AGENCY: Stanislaus County Department of Public Works LOCATION: 1716 Morgan Road, Modesto, CA 95358

PROJECT DESCRIPTION: Hills Ferry Road Bridge Seismic Retrofit Project

PROPOSAL DATE: August 19, 2011

PROPOSER'S NAME: T.Y. Lin International

CONTRACT UDBE GOAL (%): 3.1%

WORK ITEM NO.	DESCRIPTION OR SERVICES TO BE SUBCONTRACTED (or contracted if the proposer is a UDBE)	UDBE CERT NO. AND EXPIRATION DATE	NAME OF EACH UDBE (Must be certified at the time proposals are due - include UDBE address and phone number)	PERCENT PARTICIPATION OF EACH UDBE
2.9	Public Outreach	37196 10/1/11	Judith Buethe Communications	1.75%
			445 West Weber Ave, Suite 221, Stockton, CA 95203	
			(209) 464-8707	
1.3.1.2	Hydraulics/Hydrology	30066 8/1/13	WRECO	2.62%
2.3			1243 Alpine Road, Suite 108, Walnut Creek, CA 94596	
			(925) 941-0017	
2.6	Traffic/Electrical	28989 3/20/14	Y&C Transportation Consultants	1.72%
3.1			3250 Ramos Circle, Sacramento, CA 95827	
3.2			(916) 366-8000	

For Local Agency to Complete:

Local Agency Proposal Number: _____

Federal-Aid Project Number: _____

Federal Share: _____

Proposal Date: _____

Local Agency certifies that the UDBE certifications have been verified and all information is complete and accurate/unless noted otherwise.

Print Name _____ Signature _____ Date _____

Local Agenc Representative

(Area Code) Telephone Number: _____

Total Claimed UDBE Commitment: 6.09 %

Signature of Proposer

August 19, 2011 (916) 366-6331

Date (Area Code) Tel. No.

Mark Ashley Senior Vice President

Person to Contact (Please Type or Print)

Local Agency Proposer UDBE Commitment (Consultant Contracts)
(Rev 6/27/09)

Distribution: (1) Original - Local agency files

EXHIBIT 10-O2 Local Agency Proposer DBE Information (Consultant Contracts)

NOTE: PLEASE REFER TO INSTRUCTIONS ON THE REVERSE SIDE OF THIS FORM

LOCAL AGENCY: Stanislaus County Department of Public Works LOCATION: 1716 Morgan Road, Modesto, CA 95358

PROJECT DESCRIPTION: Hills Ferry Road Bridge Seismic Retrofit Project

TOTAL CONTRACT AMOUNT ($): $696,719.83

PROPOSER'S NAME: T.Y. Lin International

WORK ITEM NO.	DESCRIPTION OR SERVICES TO BE SUBCONTRACTED (or contracted if the proposer is a DBE)	DBE CERT NO. AND EXPIRATION DATE	NAME OF EACH DBE (Must be certified at the time proposals are due - include DBE address and phone number)	DOLLAR AMOUN T OF EACH DBE
2.9	Public Outreach	37196 10/1/11	Judith Buethe Communications	$12,200.00
			445 West Weber Avenue, Suite 221, Stockton, CA 95203	
			(209) 464-8707	
1.3.1.2	Hydraulics/Hydrology	30066 8/1/13	WRECO	$18,250.00
2.3			1243 Alpine Road, Suite 108, Walnut Creek, CA 94596	
			(925) 941-0017	
2.6	Traffic/Electrical	28989 3/20/14	Y&C Transportation Engineering	$12,000.00
3.1			3250 Ramos Circle, Sacramento, CA 95827	
3.2			(916) 366-8000	

For Local Agency to Complete:

Local Agency Contract Number: _____

Federal-Aid Project Number: _____

Federal Share: _____

Contarct Award: _____

Local Agency certifies that the DBE certifications have been verified and all informations is complete and accurate.

_____ _____ August 19, 2011

Print Name Signature Date

Local Agency Representative

(Area Code) Telephone Number:

Total Claimed DBE Participation: $ 6.09

6.09 %

_____

Signature of Proposer

August 19, 2011 (916) 366-6331

Date (Area Code) Tel. No.

Mark Ashley Senior Vice President

Person to Contact (Please Type or Print)

For Caltrans Review:

_____ _____ _____

Print Name Signature Date

Caltrans District Local Assistance Engineer

Local Agency Proposer DBE Information (Consultant Contarcts)
(Rev 6/27/09)

Distribution: (1) Copy - Fax or scan a copy to the Caltrans District Local Assistance Engineer (DLAE) within 15 days after contract execution. Failure to send a copy to the DLAE within 15 days after contract execution may result in deobligation of funds for this project.
(2) Original - Local agency files

Department of General Services

Blackburn Consulting - #18473

SUPPLIER PROFILE			
Legal Business Name	Blackburn Consulting		
Doing Business As	Blackburn Consulting		
Address	11521 Blocker Drive, Suite 110 AUBURN, CA 95603	Phone FAX	(530) 887-1494 (530) 887-1495
Email	bidsync@blackburnconsulting.com		
Web Page	http://www.blackburnconsulting.com		
Business Types	Service		
Service Areas	Amador, Butte, Calaveras, Colusa, Contra Costa, El Dorado, Fresno, Humboldt, Kern, Lake, Lassen, Madera, Marin, Mariposa, Mendocino, Merced, Napa, Nevada, Placer, Plumas, Sacramento, San Francisco, San Joaquin, San Luis Obispo, San Mateo, Santa Clara, Santa Cruz, Shasta, Sierra, Siskiyou, Solano, Sonoma, Stanislaus, Sutter, Tehama, Trinity, Tulare, Tuolumne, Yolo, Yuba,		
Keywords	geotechnical geoenvironmental materials forensics engineering construction management inspections soils testing materials testing		
Classifications	811519 - Geology		

Active Certifications

TYPE	STATUS	FROM	TO
SB	Approved	Sep 14, 2010	Sep 30, 2011

Certification History

TYPE	STATUS	FROM	TO
SB	Expired	Aug 31, 2009	Aug 31, 2010
SB	Expired	Feb 21, 2008	Aug 31, 2009
SB	Expired	Mar 16, 2006	Feb 29, 2008
SB	Expired	Oct 7, 2003	Mar 31, 2006
SB	Expired	Nov 22, 2000	Oct 31, 2003
SB	Expired	Dec 16, 1998	Dec 31, 2000

CALIFORNIA UNIFIED CERTIFICATION PROGRAM
DISADVANTAGED BUSINESS ENTERPRISE CERTIFICATE

WRECO

1243 ALPINE ROAD SUITE 108
WALNUT CREEK, CA 94596

Owner: HAN-BIN LIANG
Business Structure: CORPORATION

This certificate acknowledges that said firm is approved by the California Unified Certification Program (CUCP) as a Disadvantaged Business Enterprise (DBE) as defined by the U.S. Department of Transportation (DOT) CFR 49 Part 26, as may be amended, for the following NAICS codes:

NAICS Code(s) * Indicates primary NAICS code

* 541330 Engineering Services
541340 Drafting Services
541490 Other Specialized Design Services
541690 Other Scientific and Technical Consulting Services
541519 Other Computer Related Services
541618 Other Management Consulting Services
541512 Computer Systems Design Services

Licenses

CERTIFYING AGENCY:
BAY AREA RAPID TRANSIT DISTRICT (BART)
300 LAKESIDE DRIVE, 18TH FLOOR
OAKLAND, CA 94612 0000
(510) 464-7580

UCP Firm Number : 30066

July 21, 2008
CUCP OFFICER

CALIFORNIA UNIFIED CERTIFICATION PROGRAM
DISADVANTAGED BUSINESS ENTERPRISE CERTIFICATE

Y & C TRANSPORTATION CONSULTANTS, INC.

3250 RAMOS CIRCLE
SACRAMENTO, CA 95827

Owner: KWOKHUNG YAU
Business Structure: CORPORATION

This certificate acknowledges that said firm is approved by the California Unified Certification Program (CUCP) as a Disadvantaged Business Enterprise (DBE) as defined by the U.S. Department of Transportation (DOT) CFR 49 Part 26, as may be amended, for the following NAICS codes:

NAICS Code(s) * Indicates primary NAICS code

* 541330 Engineering Services

541618 Other Management Consulting Services

Work Category Code(s)

C8703	TRAFFIC ENGINEER	C8707	FEASIBILITY STUDIES
C8710	ENGINEERING	C8715	CONSULTANT, ENGINEERING
C8720	CIVIL ENGINEERING	C8730	SAFETY STUDIES

Licenses

EC Civil Engineer

ET Traffic Engineer

CERTIFYING AGENCY:
DEPARTMENT OF TRANSPORTATION
1823 14TH STREET
SACRAMENTO, CA 95811 0000
(916) 324-1700

UCP Firm Number : 28989

June 21, 2011

CUCP OFFICER

It is CUCP's policy and objective to promote and maintain a level playing field for DBEs in California on Federal-aid contracts. We ensure nondiscrimination in the award and administration of U.S. DOT assisted contracts based on the requirements of 49 CFR Parts 21 and 26.

Michelle Ellis

From: BidSync [notices@bidsync.com]
Sent: Monday, June 14, 2010 3:37 PM
To: Michelle Ellis
Subject: State of CA Notification Letter

State of California • Department of General Services • Arnold Schwarzenegger, Governor
PROCUREMENT DIVISION
Office of Small Business and DVBE Services
707 Third Street, 1st Floor, Room 400 • PO Box 989052
West Sacramento, California 95798-9052 • (800) 559-5529

Jun 14, 2010

Supplier #42622
NORTHSTAR ENGINEERING GROUP, INC.
909 14TH STREET
MODESTO CA 95354

Dear Business Person:

Congratulations on your certified small business status with the State of California. Your certification entitles you to benefits under the state's Small Business Participation Program within state contracting, including a five percent bidding preference and special provisions under the Prompt Payment Act.

Certification Period

From Jun 14, 2010 to Jun 30, 2012

Business Types

Service

Classifications

811015 - Civil engineering

Proof of Certification Status

To verify your firm's small business certification status go to http://www.eprocure.dgs.ca.gov/default.htm and select "SB/DVBE Search."

BUSINESS ENTERPRISE CERTIFICATE

JUDITH BUETHE COMMUNICATIONS

445 WEST WEBER AVENUE STE. 221
STOCKTON, CA 95203

Owner: JUDITH BUETHE

Business Structure: SOLE PROPRIETORSHIP

STATE WOMEN BUSINESS ENTERPRISE

This certificate acknowledges that said firm is approved by the California Department of Transportation as a State Minority Business Enterprise or State Women Business Enterprise (or in some cases both) in accordance with Assembly Bill Number 486, Chapter 1329 and the California Public Code, Chapter 2.5 (commencing with Section 2050), for the following NAICS codes:

	541830	Media Buying Agencies
	541810	Advertising Agencies
*	541820	Public Relations Agencies

* Indicates primary NAICS code

CERTIFYING AGENCY:
DEPARTMENT OF TRANSPORTATION
1823 14TH STREET, MS 79
SACRAMENTO, CA 95814 0000
(916) 324-1700

Firm Number : 37196
Renewal Date : October 1, 2011

September 28, 2009

JANICE SALAIS , CERTIFYING AGENCY REPRESENTATIVE

DETAILED SCOPE OF SERVICES

The following scope of services reflects our proposed approach for developing and delivering the Hills Ferry Road Bridge Seismic Retrofit Project for Stanislaus County-Department of Public Works. Staffing utilization is described by indicating the team member that would participate in each task. Based on the described utilizations, the project team will satisfy the County's established DBE Participation Level of 3.6% and UDBE Participation Level of 3.1%. Upon entering into negotiations with the County, updated LAPM Exhibits 10-O1 and O2 (Local Agency UDBE & DBE Commitment) will be completed and submitted with the final Scope of Services.

TYLI has assembled a highly skilled, extremely adaptive project team capable of delivering full turnkey services for the Plans, Specifications, and Estimate (PS&E) and providing comprehensive construction support for either the retrofit or replacement project alternatives. As identified in the 2004 Final Strategy Report and confirmed in discussions with Caltrans District 10 Local Assistance, the amount of funding available for this project will be limited to that corresponding to work contained in developing and constructing the project defined in the approved Strategy Report. The following detailed scope of services and attached fee proposal reflect a comprehensive work plan **for completing the bridge retrofit project**. The detailed scope contains several additional task items identified as "Optional Task for Replacement". The optional tasks have been included to allow the County to evaluate the additional items of work necessary for a replacement project. The additional fee proposal associated with the optional tasks of work is available upon request. The optional tasks will be added to the contract by negotiation and agreement with the County, if a bridge replacement alternative is selected by the County. The determination of retrofit or replacement of the existing bridge is expected at the conclusion of Phase 1.

Project Delivery Team (PDT) - The following professional companies and individuals have been assembled to develop and deliver this bridge seismic retrofit project. Each entity has a distinguished service history performing the necessary roles and interacting with the responsible reviewing resource agencies to deliver a successful project for the County.

Professional Firm		Project Role	Responsible Personnel
T.Y. Lin International		Project Management and Principal-in-Charge Project Engineer and Lead Bridge Engineer Environmental Cert. Management Lead Roadway Engineer	Mark Ashley, PE Chris Hodge, PE Jack Gouge Kevin Bewsey, PE
WRECO, Inc.	UDBE	Hydraulics & Hydrology; Drainage	Han-Bin Liang, PhD, PE
Blackburn Consulting, Inc	SBE	Geotechnical; Phase 1 ISA	Ben Crawford, GE, PE
North Star Engineering	SBE	Surveys, Channel/Levee Topography	Kent Hysell, PLS
Y&C Transportation	UDBE	Signing & Striping; Traffic & Electrical	Dan Yau, PE, TE, PTOE
LSA Associates		Environmental Studies, CEQA/NEPA	Kelly Jackson
Judith Buethe Communications	UDBE	Community Outreach	Judith Buethe
Codgill & Giomi		Appraisals	Jim Cogdill
W.F. Bambas Appraisals		Appraisals Review	Bill Bambas
Overland, Pacific, & Cutler		R/W Negotiations & Acquisitions	Steve Harris

**Optional scopes of service may be defined and added via contract amendment and are not included in this proposal.*

Design Standards - The design shall comply with *Chapter 11: Design Standards*, of the Local Assistance Procedure Manual (LAPM) and the design standards required by the County. The PS&E preparation will be performed, as directed by the County, in English units, and will comply with *Chapter 12: Plans, Specifications, & Estimates* of the LAPM.

PROJECT MANAGEMENT
PHASE 1: Strategy Determination
PHASE 2: Project Design
PHASE 3: Construction and Support

PROJECT MANAGEMENT

This activity commences with receiving the Notice-to-Proceed, continues through submittal of the final project deliverables, and concludes at the completion of construction and close-out. Key tools of our project management program include Project Delivery Team meetings; monthly progress reports; and work progress direction, monitoring, coordination, and communications. TYLI's Project Manager will direct and monitor project work activities in accordance with the contracted scope, schedule, and budget. Regular project team meetings will be held to review work in progress. The Project Manager, Project Engineer, and Bridge, Roadway, and Environmental Leads are the primary staff utilized under this task.

Task PM.1 – Project Initiation

Following the Notice to Proceed, the TYLI Project Manager (PM), Mr. Mark Ashley, will confirm with County staff the scope, deliverables, and schedule for completion. Subsequently, the PM will quickly organize the team members to determine the most efficient approach to completing the project within the schedule and budget specified by the County.

Task PM.1.1 – Preliminary Research and Background Data

TYLI will obtain pertinent existing information from local, state, and federal agencies related to this project. The County will deliver any additional project information available to TYLI at the subsequent kick-off meeting. In addition, the task Leads of the project team will be responsible for the collection of data relevant to their respective project work. The team members shall collect and catalog all available pertinent data. It is assumed that the County will assist TYLI in identifying locations or agencies of "known" information. A bulleted-listing of all information gathered will be provided to the County and the PDT in a "Data Review Memorandum". This task is managed and owned by the Task Leads, but specific elements will be delegated to bridge design and roadway design engineers, environmental specialists, geotechnical and hydraulics engineers, and survey team members.

Task PM.1.2 – Initial Project Management

Establish Project Baseline Schedule: TYLI will finalize the critical path schedule (CPM) baseline project schedule (per the final negotiated scope of services) showing each task, start and end dates, and task duration. Schedule updates will be coordinated with the County as part of the Project Management responsibilities. TYLI will notify the County immediately of any problems that could adversely impact the project schedule.

Project Information Binder: A project information binder will be prepared and provided to the County's Project Manager. This binder is a "living" document used to organize commonly referenced project details for easy access. The information contained in the binder includes: project description and background information, organization chart and contact list, meeting minutes, approvals and authorizations, the project work plan (scope of

services, schedule, and budget), amendments, and the project schedule and updates. In addition, a copy of the project information binder is distributed to all key project personnel to share with their support staff to ensure that project information is readily available to everyone working on the project.

Project FTP Site: TYLI will Establish and maintain a password protected FTP site throughout the duration of the project. Current project information and design data will be uploaded to the FTP site to allow the County and the project delivery team instant access to up-to-date project details.

Deliverables:

- Data Review Memorandum
- MS Project CPM Baseline Schedule
- Project Information Binder
- Password Protected Project FTP Site

Task PM.2 – Management

Task PM.2.1 – FHWA Programming & Caltrans Local Assistance Paperwork
TYLI's PM will prepare the paperwork necessary to comply with the requirements of FHWA HBP funding and Caltrans Local Assistance procedures for the County's signature and submittal to Caltrans District 10 Local Assistance. These submittals include, but are not limited to, the requests for obligation/authorization for each phase of the project: preliminary engineering, right-of-way, utility relocation, and construction.

Task PM.2.2 – PDT Milestone Monitoring Program
Biweekly (or an interval determined by the County) PDT status meetings/conference calls will be held to facilitate the transfer of critical project information across team disciplines. The PDT milestone-monitoring program will reflect the discussions, conclusions, and agreements covered in the PDT meetings and assigns clear ownership of action items with completion dates. The action items are not limited to only the milestone deliverables but additionally include the intermediate steps necessary for completion of those deliverables. In addition, TYLI will create and maintain an "Issues Log" for the project. The Log will record project interim and milestone submittals; issues requiring decisions identifying date logged, the responsible decision-maker, and date resolved; and project notes for the contract special provisions. The Log will be distributed to the County at a regular interval to be determined.

Task PM.2.3 – Monthly Progress Report and Invoicing
As part of general project management responsibilities, TYLI will prepare status reports addressing the progress of the project, project design schedule, decisions that must be made to keep the project on schedule, and a list of work that has been accomplished in the previous month and forecasted for the upcoming month. In addition, monthly invoicing will be accompanied by a budget summary, indicating task breakdowns for budget, percent-complete, spent to date, and remaining balance. Invoice submittals will include updates to the CPM schedule, as needed.

Task PM.2.4 – Quality Control/Quality Assurance
The TYLI Team will utilize a quality control plan/process for this project whereby deliverables are reviewed for uniformity, compatibility, and constructability as well as general conformance with the Federal HBP requirements. The QC Plan will include procedures and checklists for deliverables, including but not limited to conceptual plans, planning studies, technical memoranda and reports, and estimates. Quality control will be accounted for and shown on the final CPM project schedule. Senior level roadway and

bridge PS&E review will be incorporated with Task 2.7 Preliminary Engineering and Task 2.10 Final PS&E.

Task PM.2.5 – Miscellaneous Project Coordination
TYLI will prepare for, attend, and document additional meetings and conference calls with the County throughout the duration of the project. In addition, TYLI will assist the County with the preparation of memoranda and correspondence for the Board of Supervisors presentations.

Task PM.2.6 – Resource Agency and Stakeholder Coordination
In coordination with the County and at the County's direction, TYLI will actively coordinate the following agencies in regards to this project:

a) U.S. Fish and Wildlife Service
b) National Marine Fisheries Service
c) State Department of Fish & Game
d) Army Corps of Engineers
e) Central Valley Flood Projection Board
f) Regional Water Quality Control Board
g) Utility Companies
h) Rights of Entry will be required for topographic and environmental surveys, geotechnical investigation, and other studies outside of the existing Right-of-Way as necessary. TYLI will prepare the Rights of Entry as necessary for use by the County. TYLI assumes the County will send the prepared letters to the affected owners.

Deliverables:

- FHWA HBP Programming and Caltrans Local Assistance Paperwork
- PDT Meetings and Milestone Monitoring Memoranda
- Project Issues Log
- Monthly Progress Report, Invoicing, and CPM Schedule Updates
- Additional Meetings (total 12) and Conference Calls (total 24) with County
- Rights of Entry, as needed

PHASE 1 – Strategy Determination

This phase will encompass the work necessary to initiate the project and to update the approved retrofit strategy and construction cost.

Task 1.1 – Field Review (Kick-Off Meeting)
TYLI will coordinate a kick-off meeting with the County's Project Manager, Caltrans Local Assistance, the consultant team, and any other project stakeholders described in LAPG §7.8 that may be appropriate to thoroughly discuss the project background, scope, concepts, schedule, and management. This meeting will result in an understanding amongst the project stakeholders as to the project scope and schedule. Major project issues that have already been identified by project stakeholders will be shared at this meeting.

In conjunction with the kick-off meeting, TYLI will conduct a visual on-site field investigation to identify existing conditions and establish preliminary design assumptions and parameters. TYLI will review any as-built information on file. TYLI will also confer with Caltrans Division of Structures Local Assistance and Caltrans District 10 Local Assistance as necessary to confirm project assumptions and physical project limits for eligible Seismic Retrofit/HBP work. This will include preparing the field review request and field review forms.

Deliverables:

- Kick-Off Meeting Agenda and Minutes
- Field Investigation Notes

- Field Review Form with Attachments

Task 1.2 – Preliminary Environmental Study
The TYLI team will prepare a Preliminary Environmental Study (PES) as required under the Caltrans Local Assistance Procedures Manual (Environmental Procedures) for federally funded projects. The PES includes a checklist that establishes the basis for any needed technical studies and is used to identify the likely environmental clearance. The PES is also used to identify agency coordination requirements, as well as environmental permits, that will be needed for the project.

Deliverables:
- PES Form

Task 1.3 – Seismic Strategy Verification
This task will be led by TYLI with support services from the geotechnical and hydraulic engineers. The project team will attempt to verify the finding of the previous retrofit study that bridge replacement is the most cost effective alternative for ensuring public safety ("no collapse") at the crossing.

Task 1.3.1 – Engineering Studies
The project team will perform the engineering analyses and studies to update the previous determinations regarding the as-built structure vulnerabilities, necessary retrofit measures, and feasible replacement alternatives.

Task 1.3.1.1 – Geotechnical Engineering
The scope of services includes preparation of a Preliminary Foundation Report for the purpose of advanced planning and type-selection for the project.

Site Visit, Document Review, Coordination, and Project Meetings: Blackburn Consulting Inc. (BCI) will make a site visit and review bridge alternatives, existing as-built data, existing geotechnical boring/scour data, geologic/seismic maps and literature pertaining to the site. BCI's Project Manager will provide geotechnical project coordination and attend the kick-off meeting.

Preliminary Engineering Evaluation and Analysis: BCI will review the existing boring data and perform preliminary engineering evaluation and analysis (using computer software where applicable) for the following: compression/tension/lateral pile capacity; estimated pile downdrag forces; site seismicity, including performing a site specific response spectrum per current Caltrans Seismic Design Criteria (for sites with significant liquefaction hazards, this has yet to be completed); scour; slope stability/erosion; liquefaction, lateral spreading, and seismic settlement potential (including preliminary mitigation alternatives).

Preliminary Foundation Report: BCI will prepare and submit the Preliminary Foundation Report (PFR) to be used during advanced planning and bridge type-selection. The PFR will include: Project Description; Site Geology and Subsurface Conditions; Scour Evaluation; Seismic Recommendations (including site specific ARS curve; liquefaction, seismic settlement, and lateral spreading potential; and preliminary ground improvement options); Slope Stability/Erosion; As-Built Foundation Data; Compression/Tension/Lateral Pile Capacity, Preliminary Foundation Recommendations (e.g., Caltrans Standard driven pile types, steel H-piles, large diameter cast-in-drilled-hole piles, anticipated pile lengths, anticipated bearing capacities and estimated downdrag forces); Preliminary Geotechnical/Geologic issues pertaining to soil corrosivity, and constructability issues; Necessary additional Field Work and Laboratory Testing; Vicinity Map; As-Built Log of Test Borings.

Task 1.3.1.2 – Hydraulic Engineering
The scope of services includes preparation of a Preliminary Hydraulic Technical Memorandum for the purpose of advanced planning and type-selection for the project.

Data Review: WRECO will review available data provided by the County and the Project Team. Key information to review will be the available hydrologic and hydraulic data for San Joaquin River and Merced River from the U.S. Army Corps of Engineers (USACE), Department of Water Resources (DWR) and Central Valley Flood Protection Board (CVFPB).

Field Reconnaissance: WRECO will conduct a field reconnaissance to assess the existing conditions in the vicinity of the Project site.

Preliminary Hydraulic Technical Memorandum: WRECO will prepare a Preliminary Hydraulic Technical Memorandum to discuss the preliminary hydraulic analyses to compare the retrofit and replacement alternative schemes.

Deliverables:
- Preliminary Foundation Report
- Preliminary Hydraulic Technical Memorandum

Task 1.3.2 – Retrofit Studies
TYLI will evaluate the existing as-built structure using elastic-dynamic finite element computer models (SAP2000), hand calculations, push-over analyses, and moment-curvature section analysis software (XTRACT) to confirm the seismic vulnerabilities. Modeling and performance of the existing structure will be evaluated using Caltrans Memo to Designers §20-4, Caltrans SDC v1.6, current acceleration response spectra, and updated liquefaction considerations. Seismic vulnerabilities will be demonstrated through tabulating a series of demand-to-capacity (D/C) ratios for critical structure component and member forces. D/C ratios larger than 1.0 denote vulnerabilities.

The retrofit scheme contained in the 2004 Strategy Report will be validated by making the necessary modifications to the as-built structure models and repeated the analyses. D/C ratios for the retrofitted structure will be tabulated. Retrofit scheme validation will be measured by D/C ratios less than 1.0 for the critical structure components and member forces. If the previous retrofit scheme does not satisfy current seismic performance standard, additional measures or a revised retrofit scheme will be determined. If the D/C ratios are significantly less than 1.0, additional modifications will be made to reduce the retrofitting implemented to determine an "optimal" scheme, i.e., the minimum amount of retrofitting required to ensure a "no collapse" performance.

Upon finalizing an updated seismic retrofit scheme, a bridge general plan depicting the location of retrofit measures will be drafted. In addition, sufficient conceptual details of the retrofit scheme will be created to demonstrate the suitability of the retrofit measures. A construction cost estimate of the updated retrofit scheme will be completed.

Task 1.3.3 – Replacement Studies
As an alternative to the retrofit scheme, a bridge replacement alternative will be evaluated. The initial replacement alternative will be based on the bridge type and configuration included in the 2004 Strategy Report. However, opportunities for refinement based on updated seismic performance standards and reduced ARS values will be integrated to reduce the overall dimensions of the bridge and the size of the structural components.

Upon finalizing the bridge replacement alternative, a bridge general plan depicting the layout of the structure and typical section will be drafted. In addition, a construction cost estimate of the appropriate retrofit scheme will be completed.

Task 1.4 – Retrofit Strategy Report
This task will be led by TYLI.

Cost/Benefit Analysis: A key task during the alternatives analysis will be to perform a detailed Cost/Benefit Analysis to compare the project alternatives and to further demonstrate the best use of available funding. Cost/Benefit Analysis is recognized as a valid approach by both Caltrans and FHWA for evaluating transportation investments. TYLI will utilize standard Caltrans and FHWA methodologies. Factors to be considered in the Cost/Benefit analysis will include projected life expectancy, initial project cost, life cycle costs, risk cost, and cost vs. life expectancy. The process and conclusions from the Cost/Benefit analysis will be included in the strategy report.

Strategy Report: The retrofit strategy report will summarize the analytical assumptions, processes, and conclusions from the engineering, retrofit, and replacement studies. The report will also discuss relative environmental impacts, utility conflicts, constructability, and right-of-way impacts. A comparison of the performance of the as-built, retrofitted, and replacement structures will be made using summary tables of the D/C ratios for the critical structural components and member forces.

A preliminary draft Strategy Report will be provided to the County in advance of formal submittal to the Strategy Review team. County comment will be discussed and resolved. The preliminary draft will be updated. TYLI will prepare and forward the necessary copies of the Draft Strategy Report to Caltrans Local Assistance for distribution to the strategy review team. After the Strategy Meeting (described in the following), TYLI will prepare the Final Retrofit Strategy Report, incorporating all comments and revisions as agreed in the meeting. Additionally, minutes from the Strategy Meeting and the Seismic Retrofit Assessment Form (completed for signature by Caltrans) will be included in the final report. The approved Final Retrofit Strategy will set the measures and construction cost available to the County in moving forward into Final PS&E.

Deliverables:
- Preliminary Draft Retrofit Strategy Report (County)
- Draft and Final Retrofit Strategy Report (Strategy Review team)
- Seismic Retrofit Assessment Form

Task 1.5 – Strategy Meeting
This task will be led by TYLI. After completion of the Draft Retrofit Strategy Report, TYLI coordinate and schedule a Strategy Meeting with strategy review team. Members of the review team will include, but are not limited to, staff from Stanislaus and Merced Counties; members from the TYLI's Project Delivery Team; and Caltrans Local Assistance (Liaison and Structures), Earthquake Engineering, Structure Design, Maintenance and Investigations, Hydraulics, and Geotechnical.

TYLI will present the process and findings contained in the Draft Strategy Report and discuss any issues or concerns with members of the strategy review team. The conclusion of the Strategy Meeting should be a consensus by the review team on an approved Final Retrofit Strategy.

Deliverables:
- Coordinate and attend Strategy Meeting
- Prepare and distribute Meeting Minutes

PHASE 2 – Project Design

In general, this phase will encompass the work necessary to ensure compliance with the CEQA and NEPA environmental processes and the engineering design development to adequately define the project and its impacts in support the environmental process.

Task 2.1 – Topographic Surveying and Right-of-Way Mapping

This task will be led by North Star Engineering Group Inc. (North Star). TYLI's Project Manager will coordinate requests for survey and mapping with the County. The topographic surveying and right-of-way mapping for the project will include record search and calculations, Right-of-Way and Control Field Survey, Aerial Imagery, Topographic Survey, River Cross Sections, and Right-of-Way and Mapping Services. The task will be coordinated with the Bridge and Roadway Leads.

Task 2.1.1 –Record Research and Calculations

North Star will perform record research at Stanislaus County and Merced County to locate recorded control maps, right-of-way maps, records of survey, corner records, and other official maps of records. Calculate record right-of-way lines and property lines located within the project limits in accordance with record maps, record deeds, and documents as required to calculate field search positions for existing right-of-way monuments, street survey monuments, and parcel corner monuments.

Task 2.1.2 –Right-of-Way and Control Field Survey

Perform a Topographic and Right-of-Way Survey to provide design control and right-of-way mapping for the project. Set horizontal and vertical control points for project mapping in accordance with Stanislaus County horizontal and vertical control requirements. All surveying and mapping shall be in compliance with the provisions of the Professional Land Surveyors Act, Sections 8700 to 8805 Business and Professions Code, the provisions of the California Coordinate System, Sections 8801 to 8819 of the Public Resources Code, and any other applicable code in the State of California. The horizontal datum will be based on the North American Datum 83 (NAD 83) as shown in Volume 22 of Surveys, Page 51 (22-S-51), Stanislaus County Records. The vertical datum shall be based on the North American Vertical Datum of 1988 (NAVD 88) as in shown in Volume 22 of Surveys, Page 51 (22-S-51), Stanislaus County Records. Perform a field survey to search and locate existing survey monuments and physical evidence required to establish existing rights-of-way and property lines at those locations where any portion of the project infringes upon the required setback limits or lies within 50 feet of project improvements, work areas, storage, and staging areas.

Task 2.1.3 – Aerial Imagery

North Star will provide a color orthorectified aerial image which will cover the project limits and will be utilized in the development, planning and design. North Star will utilize Aero-Graphics to prepare the color orthorectified aerial imagery. Photography will be acquired at 1:3000 and imagery will be .25' pixel resolution. NorthStar will set ground control in accordance with aerial flight plan provided by Aero-Graphics, and will provide coordinates and elevations on ground control for aerial orientation.

Task 2.1.4 – Aerial Topographic Survey (Optional Task for Replacement)

North Star will provide an aerial survey by using Aero-Graphics to prepare the aerial topographic survey, with one foot topographic mapping, planimetry, DTM, and the color orthorectified aerial imagery.

Task 2.1.5 –Topographic Survey
North Star will perform detailed field survey of existing roadways, physical improvements, visible utilities, and drainage features. Cross sections and tie-in surveys will ensure an accurate design and smooth transitions from existing roadway and infrastructure features. All work and files will be based on project coordinate control in accordance with County requirements for the preparation of documents and maps. Topographic field survey will locate existing site improvements and visible utilities including, but not limited to, trees, ground shots, Hills Ferry Road cross sections, striping, headwalls, wing walls, fences, driveways, pavement elevations, guard rails, and other miscellaneous visible features. Cross sections will be taken at 50 foot intervals along Hills Ferry Road. Cross sections will begin 300' west of the bridge and end 300' beyond the existing bridge. In addition to these cross sections, centerline only shots will be provided at 50' intervals a total of 850' of the west roadway approach and 1100' of the east roadway approach to the bridge.

Task 2.1.5.1 –Topographic Bridge Survey
North Star will perform detailed field survey of the existing bridge. Cross sections will be taken at 50 foot intervals along the bridge. The Topographic bridge survey will include but is not limited to top edge of deck, joint locations, center of pile/columns, edge of piers, edge of abutments, wing walls, ground shots, and visible utilities.

Task 2.1.5.2 –Topographic Rivers Survey
North Star will perform detailed field survey of the Rivers and develop 8 channel cross sections for utilization in HEC-RAS hydraulic study.

River Sections:
- 3 Sections downstream
- 2 Sections at the existing bridge (1 at upstream face, 1 at downstream face)
- 1 Section at the confluence of the Merced and San Joaquin Rivers
- 1 Section upstream of the confluence on the Merced River
- 1 Section upstream of the confluence on the San Joaquin River

Task 2.1.5.2 –Topographic Road Survey (Optional Task for Replacement)
North Star will extend the Topographic Survey using 50' interval sections cross sections to include a total of 850' of the west roadway approach and 1100' of the east roadway approach to the bridge.

Task 2.1.6 – Right-of-Way and Mapping Services
North Star will prepare a Right-of-Way Requirements Map based on identified right-of-way requirements. The Right-of-Way Requirements Map shall define all property acquisition required. It appears that no right-of-way dedications will be required based on a review of the Stanislaus County and Merced County Assessor's Maps. Prepare an Easement Requirements Map based on identified easement requirements. The Easement Requirements Map shall define all easement acquisitions required. Prepare appropriate right-of-way and easement legal descriptions and exhibits for seven locations.
- Procure Preliminary Title Reports for each property affected by right-of-way and/or easement acquisition (4 Title Reports).
- Prepare legal descriptions and plats for temporary construction easements, staging areas, and disposal areas for excess soil generated by project construction (7 legal descriptions and plats).
- Specify existing and proposed rights-of-way, land dedications, and easement agreements.
- Prepare and file a Record of Survey for any new right-of-way required, and/or for any other triggers specified in the Professional Land Surveyors Act.
- Prepare final right-of-way map and legal descriptions for acquisition of all necessary parcels and easements.

Deliverables:

- Three (3) Plots of topographic survey & boundary survey
- Control Diagram with Local Control, with Basis of Bearings, & Vertical Control
- Survey Notes, including existing alignments & monumentation.
- CD of Drawings & Electronic Deliverables which include:
  - topographic survey & boundary survey drawing
  - Point file in PNEZD comma delimited text file
  - DTM of Existing Ground without Structure
  - DTM of Existing Ground with Structure
  - Land XML file or AutoCAD Civil3D 2010 file to include Points, DTM, & Alignment.
- Title Reports
- Right-of-Way Requirements Map
- Seven (7) Plats and Legals
- Record of Survey

Task 2.2 –Geotechnical Engineering

This task will be led by Blackburn Consulting, Inc. (BCI). Geotechnical services for the project include site review, geologic reconnaissance, drilling and sampling of test borings, laboratory testing, the "Log of Test Borings" drawing, engineering evaluation, analysis and written report, and consultation/plan review. Services would also include additional logged/sampled test borings in evaluation of approach roadway embankment/subgrade conditions, as needed. The work is managed by the Geotechnical Lead and supported by a geotechnical engineer and drilling crew. The task will be coordinated with the Bridge and Roadway Leads.

Task 2.2.1 – Bridge Geotechnical Foundation Report

Permits/USA Clearance: BCI will comply with any special permit requirements of the Lower San Joaquin Levee District and Central Valley Flood Protection Board. BCI will field locate the borings and call for USA clearance and will coordinate the fieldwork with the drilling subcontractor, County, and the design team. Field exploration will be within the County right-of-way. BCI will obtain the necessary County Boring and Encroachment Permits as well as any other permits if necessary to complete the subsurface exploration, including Fish & Game. Rights-of entry to privately owned parcels are not expected.

Field Exploration: For the bridge, BCI will complete additional subsurface exploration and laboratory testing to supplement the existing boring data in order to further assess soil susceptibility to liquefaction and lateral spreading, to help evaluate the lateral/vertical capacity of existing piles, and to provide foundation analysis/recommendations. BCI will observe, log and sample two exploratory borings to depths ranging from 120 to 140 feet below existing ground surface. For approach roadway improvements, BCI will complete 4 to 5 shallow exploratory test borings to depths between 5 and 10 feet below existing grade within the approach locations. The borings will be drilled with a truck-mounted drill rig using auger and/or mud-rotary drilling methods. BCI will collect soil samples at approximate 5-foot intervals with Standard Penetration Test (SPT) or California Modified samplers to obtain blow count information for geotechnical design. A BCI Engineer or Geologist will log the borings and direct the sampling operations consistent with current Caltrans guidelines. Surface and ground water levels will be noted, where encountered. BCI will backfill the drill rig borings in accordance with County requirements. BCI plans to drill at least one deep boring from the existing bridge deck. For this boring, BCI makes provision for a lane closure with flaggers. BCI will locate the other borings in the shoulder areas off of the existing roadways and on the floodplain below the existing bridge so that traffic control at most will consist of safety signs/cones for shoulder work without flaggers.

Laboratory Testing: BCI will perform the following laboratory tests on relatively undisturbed samples obtained from the exploratory borings: Moisture Content and Unit Weight for bearing capacity, lateral capacity and slope stability analysis; Unconfined Compression Strength testing and/or Direct Shear testing for bearing capacity; Sieve Analysis and Plasticity Index for liquefaction analysis and scour analysis (by others); R-value for pavement design, and Resistivity, pH, Sulfate Content and Chloride Content for soil corrosivity analysis.

Engineering Evaluation and Analysis: BCI will perform engineering evaluation and analysis (using computer software where applicable) for the following: lateral and vertical bearing capacity; site seismicity, including updating the site specific response spectrum per Caltrans Seismic Design Criteria (SDC) v 1.6; liquefaction potential; lateral spreading; seismic settlement; slope stability; lateral earth pressure; sliding coefficient; pavement sections; and soil corrosivity.

Prepare Draft and Final Geotechnical Foundation Report: BCI will prepare and submit a Draft Foundation Report. The report will include recommendations for design in accordance with SDC v 1.6 and current Caltrans guidelines including: Scope of Work; Project Description; Field Exploration; Laboratory Testing; Site Geology and Subsurface Conditions; Ground Water; Scour Evaluation; Corrosion Evaluation; Seismic Data and Recommendations; As-Built Foundation Data; Slope Stability Analyses; Foundation Recommendations; New Approach Pavement Section Recommendations; Construction Considerations, and; Appendices (Vicinity Map, Site Plan, ARS Curve, Log of Test Borings, As-Built Log of Test Borings, Boring Logs, Laboratory Test Results, and Analyses and Calculations). BCI will provide preliminary liquefaction and lateral spreading mitigation alternatives. Additional services will be required to provide specific mitigation recommendations based on the selected alternative. Once BCI receives all draft report comments, we will issue the Final Foundation Report incorporating the comments as necessary.

Deliverables:

- Draft and Final Geotechnical Foundation Report
- Log of Test Borings Sheet

Task 2.3 –Hydrology and Hydraulics

This task will be led by WRECO. Location Hydraulic Studies and Bridge Design Hydraulic Studies will be prepared for the bridge project in conformance with Caltrans LAPM and HBP Guidelines. The work is managed by the Hydraulics Lead and supported by technical staff. The task will be coordinated with the Bridge and Roadway Leads. WRECO will provide the Project Team's structural engineers with necessary hydraulic data for their bridge structure and foundation design.

Task 2.3.1 – Data Review

WRECO will review available data, including previous studies, provided by Stanislaus County (County) and the Project Team. Key information to review will be the available hydrologic and hydraulic data for the San Joaquin River and Merced River from the U.S. Army Corps of Engineers (USACE), Department of Water Resources (DWR) and Central Valley Flood Protection Board (CVFPB).

Task 2.3.2 – Field Reconnaissance

WRECO will conduct a field reconnaissance to assess existing conditions in vicinity of the Project site.

Task 2.3.3 – Hydrologic Assessment
WRECO will research the Federal Emergency Management Agency's (FEMA) Flood Insurance Study (FIS) for the design peak discharges. WRECO will coordinate with the County, USACE, DWR and CVFPB to confirm the design flows. WRECO does not expect to perform a detailed hydrologic study for this Project.

Task 2.3.4 – Hydraulic Analyses
WRECO will perform hydraulic analyses to determine the design flow characteristics for the existing and proposed conditions. WRECO will perform the hydraulic analysis of the San Joaquin River using the USACE's HEC-RAS computer model. WRECO will coordinate with the Project Team to obtain the surveyed river cross-sections to be used for the hydraulic analysis, and integrate the proposed bridge design into the hydraulic model. WRECO will work with the Project Team to ensure that the bridge design will consider future flood control projects proposed for the San Joaquin River in the vicinity of the Project site. By taking this approach, our study can provide a thorough assessment of the potential floodplain impacts from the proposed Project.

Task 2.3.5 – Location Hydraulic Study
WRECO will perform a Location Hydraulic Study and conduct a floodplain risk assessment for the proposed Project. WRECO will prepare a Bridge Location Hydraulic Study Report, which will include the standard Summary of Floodplain Encroachment Form and technical discussions.

Deliverables:
- Draft and Final Bridge Location Hydraulic Study Report

Task 2.3.6 – Scour Analysis
WRECO will perform a bridge scour analysis to determine the scour potential per the methodology specified in the Federal Highway Administration's HEC-18 and HEC-23 Manuals. WRECO will make recommendations on the need for scour countermeasures.

Task 2.3.7 – Construction Period Flood Risk Assessment for Central Valley Flood Protection Board/U.S. Army Corps of Engineers (Optional Task for Replacement)
WRECO will perform additional hydraulic analysis to evaluate the impact of flood risk due to the proposed project construction. Construction items to consider include dewatering and falsework used for the construction.

Task 2.3.8 – Bridge Design Hydraulic Study Report
WRECO will prepare a Bridge Design Hydraulic Study Report to summarize the recommendations and results from the hydraulic and scour analyses and recommendation for bridge scour countermeasures. The report will include all the detailed hydraulic model output and results.

Deliverables:
- Draft and Final Construction Period Flood Risk Assessment Report (Optional)
- Draft and Final Bridge Design Hydraulic Study Report

Task 2.4 – Utility Survey and Coordination
TYLI will coordinate with utility companies to relocate or protect facilities in place through the A-B-C letter process. TYLI will provide initial utility coordination for the proposed project as required for the preliminary design. This task will consist preparing and sending out the "A" letter on County letter head and will provide initial contact with the utility companies notifying them of the project and requesting their facility maps for the project area. It appears that there are overhead power lines and potentially underground analog and fiber optic telephone lines. No underground gas/petroleum lines were evident at the site. However, all utilities known to operate in the vicinity of the project will be contacted.

TYLI will continue to coordinate with utility agencies and companies to identify the locations of their facilities through final PS&E. This task includes the utilities identified for modification. Unless specifically stated, it is assumed that all new or relocated utility facilities will be designed and constructed by the applicable utility owners. Information provided by the utility agencies will be incorporated into the project design.

When project design is approximately 60% complete, TYLI will prepare and send out the "B" letter on County letter head to verify the location of the utilities, identify potential conflicts, request potholing, request owner liability, and provide initial relocation notices following Caltrans latest procedures outlined in Section 14 of the Local Programs and Procedures Manual. TYLI will forward to the County a copy of Utility letters sent and all correspondence received.

At the 60% submittal, TYLI will set up a project utility coordination meeting with the affected utilities. The meeting will be held at the site, where conceptual relocation details can be discussed.

At the draft final (90%) PS&E stage, another utility coordination meeting will be held at the site to confirm the final relocation strategy and schedule for construction. After this coordination is complete TYLI will prepare Reports of Investigation for affected utilities with utility agreements, Utility plan, & cost breakdown for review and approval by the Caltrans District 10 Utility coordinator. This approval would include FHWA approval of Utility agreements and/or FHWA specific authorization to relocate utilities.

Final relocation notices following Caltrans latest procedures outlined in LAPM Section 14 will be prepared by TYLI and likewise sent to the County for distribution upon submittal of the 90% PS&E package.

TYLI will also provide the necessary information to process the Request for Authorization for Utility Relocation. This task is managed by the Roadway Lead and supported by the roadway and bridge design engineers.

Deliverables:

- Utility "A-B-C" letters
- Preliminary Utility Conflict Plans (3 copies)
- Prepare and Update Caltrans Report of Investigation Exhibits (LAPM Section 14)
- Prepare and Update Caltrans Utility Agreements Exhibits (LAPM Section 14)
- 60% and 90% PS&E Utility Coordination Meeting

Task 2.5 – Traffic Analysis and Handling

Based on the high vehicle speeds (85th percentile user speeds) and the high ADT counts, full closure of the crossing has been eliminated as an option during construction. Construction operations will be allowing to impact no more than one lane at any time while maintaining single reversible lane in the remaining lane. The entrances on both ends of this reversible lane will be controlled by traffic signals. TYLI will prepare the necessary traffic analysis to ensure the reversible lane will provide adequate capacity for both directions on Hills Ferry Road.

TYLI will prepare traffic analyses to evaluate any potential impacts of various proposed construction alternatives and delay durations. Standard synchronizing and modeling software will be used to analyze the traffic conditions through the project site. The traffic analysis will be summarized in a technical memorandum and submitted to the County for review. Any comments by the County will be incorporated into the final tech memo.

Deliverables:

- Traffic Analysis Technical Memorandum (Draft and Final)

Task 2.6 – Electrical and Lighting

Task 2.6.x – Temporary Traffic Signal

Y&C will obtain the electronic file of the construction stage traffic handling plan from the Prime Consultant and prepare temporary traffic signal plan for a reversible lane on the bridge during construction. We assume two construction stages would require temporary traffic signal to control the reversible lane. Y&C will submit temporary traffic signal PS&E to the County for review at 30%, 60%, and 90% levels. Any comments by the County will be incorporated into final PS&E.

Deliverables:

- Six sheets of 1"=20' temporary traffic signal plan
- Technical Specifications and Cost Estimates

Task 2.6.x – Lighting on Bridge (Optional Task for Replacement)

Providing lighting for the proposed bridge replacement would enhance safety for motorist on the bridge. However, too much light spill over into the river would impact the habitat of wild life at night. Y&C will work closely with the environmental consultant, the bridge engineer, and the County staff to ensure no excessive light will be spillover into the river. Y&C will use VISUAL lighting analysis to simulate lighting patterns and limit illumination on bridge deck.

Y&C will obtain electronic base plan from the Prime Consultant. Y&C will prepare lighting analysis for the proposed new bridge based on the lighting pole and fixture selected by the County of Stanislaus. Based on the lighting analysis, Y&C will prepare lighting plans, specifications, and estimate (PS&E) for the proposed bridge. The PS&E will be submitted to the County for review at 30%, 60%, and 90% levels. Any comments by the County will be incorporated into final PS&E.

Y&C will also coordinate with the utility company in identifying electrical service point location.

Deliverables:

- One sheet of 1"=40' lighting plan
- One sheet of no scale construction details and notes
- Technical Specifications and Cost Estimates

Task 2.7 – Preliminary Engineering (30%) (Optional Task for Replacement)

This task includes the development of the design concept for the preferred alternative for environmental approval, permitting, and final design. This work includes the following:

Task 2.7.1 – Develop Design and Staging Requirements

The project team will investigate alignment alternatives, structure types, and staging alternatives to achieve reduced right-of-way impacts and project cost, to limit impacts of the travelling public, and to limit or avoid the need for obtaining any design exceptions. At the County's direction, this review will consist of the following items of work:

- Prepare a Design Criteria Memorandum identifying roadway geometric design standards
- Consultation with County for investigation and inclusion of potential alignments
- Meet with County to discuss potential roadway design refinements and identify design and staging alternatives to investigate
- Develop planning level assessment of layout and cost estimate impactsPrepare a two-page Design and Staging Alternative Memorandum describing the selected refinements with a

"Pros vs. Cons" evaluation addressing overall project limits, right-of-way impacts, construction impacts, identified design exceptions, and estimated effects on project cost.

- Meet with County to determine alignment design and staging alternative to be carried forward to the 30 percent design milestone
- Bridge Advance Planning Studies for each alternative will be prepared. The bridge profile and structure type will be determined in conjunction with the hydraulic studies to provide the best fit for the project site. Geometric Layout Drawings for each alternative showing the horizontal alignment and vertical profile will be prepared and submitted to the County for approval. The layout drawings will include construction staging if applicable, indicate right-of-way limits, and preliminary permanent and temporary easements required.
- Finalize the preferred alignment alternative

Deliverables:

- Design Criteria Memorandum (3 copies, draft and final)
- Planning level assessment of 3 alignment alternatives
- Alignment Design and Staging Alternative Memorandum (3 copies, draft and final)
- Bridge Advance Planning Studies for each alternative.

Task 2.7.2 – Preliminary Alignment & Bridge Studies (Design Concept Approval)

Once the preferred alignment alternative is identified, the proposed bridge and roadway details will be developed to the 30% level. The bridge profile and span arrangement will be determined in conjunction with the hydraulic studies to provide the best fit for the project site. Depending on stage construction requirements, the existing roadway alignment may need to be adjusted to accommodate restricted travel through the project limits.

A set of geometric alignment drawings (GAD's) which will include the horizontal alignment and vertical profile, superevelation sheet (if required), traffic handling, utility locations, preliminary landscape/erosion control plans as necessary, preliminary construction signage and a Bridge Type Selection study will be prepared in accordance with Caltrans Memo to Bridge Designers 1-29 and submitted to the County for approval.

The Bridge General Plan will be prepared and circulated in 11x17 format to the County, Caltrans and other agencies and stakeholders as necessary. A Bridge General Plan Estimate will be prepared and combined with an updated roadway estimate to produce a complete updated project estimate of the estimated construction cost.

Deliverables:

- Geometric Approval Drawings (2 copies at 24x36; 3 copies at 11x17)
- Bridge Type Selection Report with recommended Bridge General Plan (3 copies, draft and final)
- Preliminary Cost Estimate (3 copies)

Task 2.8 – Environmental Clearance

This task will be led by LSA. It is uncertain at this time whether the project would replace the existing bridge on the same alignment, or if a seismic retrofit would be required. It is assumed that a seismic retrofit would require improvements to bridge abutments and piers, requiring work within the San Joaquin River, similar to a replacement approach. Therefore, the following scope will apply to either approach.

One of the most sensitive environmental issues associated with replacement/retrofit of the bridge is biological resources. Sensitive biological resources that could potentially be affected during the proposed project include (but are not limited to) protected Valley elderberry longhorn beetle (VELB), special status bats, anadromous fish (e.g., Central Valley steelhead and Chinook

salmon), Pacific pond turtle, riparian habitat, and jurisdictional waters. Early coordination with the Caltrans biologist and LSA's and TYLI's extensive knowledge of the region will ensure that analysis of biological resources will be accomplished in a timely manner.

Local assistance projects within Caltrans District 10 are currently constrained due to the shortage of environmental staff available to process and approve environmental documents. To assist Caltrans in expediting the review process, LSA will prepare a comprehensive Preliminary Environmental Study (PES) form as well as detailed work plan for technical studies. These steps will ensure that Caltrans' expectations are met through every step of the environmental process, thus improving the quality of documents Caltrans will review, and accelerating review times.

No significant impacts are expected to occur as a result of the proposed bridge retrofit or replacement. Therefore, an Initial Study/Mitigated Negative Declaration (ISMND) is considered the appropriate document for CEQA clearance. For NEPA, a Categorical Exclusion (CE) will be required. Typically Caltrans prepares the NEPA CE, but LSA will be available to provide support to Caltrans if requested. The preparation of the NEPA CE is not included in this scope of work.

Task 2.8.1 – Environmental Project Management and Meetings
LSA will attend up to three (3) project development team meetings, a field review meeting and an agency/field meeting. We will provide written documentation of all substantive project developments in the form of client memos and/or phone conversation records, and will follow up our submittals to outside parties and conduct coordination as necessary to ensure efficient and timely review.

Task 2.8.2 – Prepare Preliminary Environmental Study (PES) Form
LSA will prepare a comprehensive PES as required under the Caltrans Local Assistance Procedures Manual (Environmental Procedures), for federally funded projects. The PES includes a checklist that establishes the basis for any needed technical studies, and is used to identify the likely environmental clearance. The PES is also used to identify environmental permits that will be needed for the project. A Draft PES will be submitted to Caltrans before a field review meeting is scheduled. LSA will then attend the field meeting, revise the PES accordingly, and resubmit to Caltrans for signatures.

Task 2.8.3 – Work Plan
Prior to the start of the technical studies, LSA will prepare a work plan for the technical specialty, for submittal to Caltrans. This work plan will ensure that expectations of technical reports, including format, content, and submittal requirements, are met. The work plan will succinctly summarize LSA's approach to each technical report and identify use of specific software (where required). Caltrans approval of work plans will be necessary prior to technical analysis.

Task 2.8.2.4 – Technical Studies
LSA will prepare the listed technical studies related to Biology

Biology: LSA will evaluate the biological resources present within the project area and determine project effects to those resources. A key objective of the evaluation will be to identify any special status plant or wildlife species, or sensitive habitats that may be affected by the project.

Research & Coordination: LSA will request a list of special status species from the U.S. Fish and Wildlife Service (USFWS) and will query the California Natural Diversity Data

Base and California Native Plant Society Online Database. As part of this process, LSA biologists will informally coordinate with the California Department of Fish and Game (CDFG), National Marine Fisheries Service (NMFS), and/or USFWS, as necessary, regarding the potential presence of special status species on the project site.

Field Surveys: The following field surveys are proposed.

General Field Survey. LSA will conduct a general field survey to map plant communities and assess habitat conditions and evaluate potential impacts to sensitive biological resources from the proposed project. During this survey, LSA will inventory native trees 4 inches diameter at breast height (dbh) or larger within the project area and any elderberry shrubs within the project area and an approximate 100-foot radius from the limits of work. In addition, we will also inspect the existing bridge for presence of bats and swallows or other nesting birds.

Jurisdictional Delineation. During the same visit as the General Field Survey, LSA will conduct a jurisdictional waters delineation of the project area to determine any areas potentially subject to regulation by the U.S. Army Corps of Engineers (ACOE) and/or Regional Water Quality Control Board (RWQCB). The delineation will be conducted in accordance with the ACOE Arid West Regional Supplement to the Wetland Delineation Manual (September 2008). Riparian areas within CDFG jurisdiction will also be delineated.

Documentation: LSA proposes to prepare the following reports to document biological resources in the project area and evaluate potential project effects to biological resources.

Natural Environment Study (NES): The results of the field surveys will be documented in an NES prepared in accordance with the most recent Caltrans' Guidance (currently August 2009). The NES will include a discussion of plant communities present on the site, as well as a discussion of common plant and animal species occurring (or expected to occur) on the site based on the communities present. A generalized vegetation map will be prepared showing plant community types as well as the locations of any sensitive biological resources. The results of the jurisdictional delineation will also be summarized in the NES. The NES will include an assessment of project impacts on the biological resources present, and recommended mitigation measures where appropriate.

Delineation Report: The results of the delineation field work will be documented in a brief letter report that will include a discussion of methods and results, the completed wetland data forms, location and vicinity maps, and a preliminary delineation map showing the limits of all potential waters of U.S. on the site. The delineation report should be submitted to the ACOE for verification with a request for a Preliminary Jurisdictional Delineation in accordance with Regulatory Guidance Letter 08-02. Note that all findings should be considered preliminary until verified by the ACOE.

Biological Assessment (BA): LSA will prepare a BA in accordance with the most recent Caltrans guidance (currently August 2009) to evaluate project effects to Central Valley (CV) steelhead and possibly VELB, both federally threatened species, and identify appropriate avoidance and minimization measures. Caltrans

will utilize the BA to facilitate Section 7 consultation with NMFS (anadromous fish) and USFWS (VELB).

Since the bridge retrofit or replacement will likely include pile driving, potential acoustical effects to anadromous salmonids will be evaluated in accordance with the *Technical Guidance for Assessment and Mitigation of Hydroacoustic Effects of Pile Driving on Fish*, dated February 2009. LSA will coordinate with NMFS, as necessary, during preparation of the BA.

Cultural Resources: LSA will conduct cultural resource studies that are needed for the County and Caltrans to address requirements of Section 106 of the National Historic Preservation Act, the National Environmental Policy Act (NEPA), the California Environmental Quality Act (CEQA), and the Caltrans 2004 Programmatic Agreement Among The Federal Highway Administration, the Advisory Council on Historic Preservation, the California State Historic Preservation Officer, and the California Department of Transportation Regarding Compliance With Section 106 of the National Historic Preservation Act, as it Pertains to the Administration of the Federal-Aid Highway Program in California.

LSA will conduct a records search; background research; contact Native Americans and historical societies; conduct field studies; and prepare an Area of Potential Effects (APE) map, a Historic Property Survey Report (HPSR), and an Archaeological Survey Report (ASR), as required by Caltrans.

The following tasks will be completed:

- Prepare an Archaeological/Architectural APE map to Caltrans standards.
- A records search will be conducted at the Central California Information Center of the California Office of Historic Preservation's California Historical Resources Information System. A literature review, as necessary, of archaeological, ethnographic, historical, and environmental publications and maps at historical archives and LSA will be completed. The records search and literature review will identify previously recorded or otherwise known cultural resources and previous cultural resource studies of or adjacent to the APE.
- Review cultural resource inventories to identify cultural resources that may be listed within or adjacent to the Study Area. Relevant listings are the California Inventory of Historic Resources, Five Views: An Ethnic Sites Survey for California, California Historical Landmarks, California Points of Historical Interest, National Historic Landmarks, and the Directory of Properties in the Historic Property Data File which contains the listings of the National Register of Historic Places and the California Register of Historical Resources. If available, appropriate county listings will be reviewed.
- Contact the Native American Heritage Commission in Sacramento for (1) a review of the Sacred Lands File to determine if the Study Area contains any listed sites, and (2) a list of Native American contacts who may have concerns about the Study Area. Local Native Americans on that list will be contacted by letter and follow-up telephone calls, as necessary, to inquire about any concerns or information they may have.
- Contact the Stanislaus County Historical Society and McHenry Museum for any information or concerns they may have about the APE.
- Conduct Archaeological field studies.

For this scope, it is assumed that retrofit and/or replacement activities would not have an affect on adjacent structures in excess of 50 years old. Should this not be the case, a Historic Resources Evaluation Report will be required.

Hydrology/Water Quality: LSA will conduct a Floodplain Report Summary/Water Quality Report in accordance with Caltrans guidelines and requirements. The Floodplain Report Summary will evaluate potential changes in hydrology due to retrofit or replacement and bridge construction. Technical hydrological data will be provided by the project hydrology engineer in accordance with the technical Hydraulic Study. In light of the probability that the bridge construction will likely improve conditions within the 100-year floodplain, and not result in an increase in the backwater flood elevations, the impacts will probably be insignificant. Nonetheless, the characteristics associated with the watershed, local hydrologic conditions, etc. will be documented for the summary. The Floodplain Report Summary will summarize the risks associated with the project, the impacts on natural and beneficial floodplain values, the support for incompatible development in the base floodplain caused by the project, and measures to minimize floodplain impacts and restore and preserve the natural and beneficial floodplain values. The Floodplain Report Summary requires response to seven (7) questions regarding potential effects of the project as described in the applicable hydraulic study. LSA will assist in addressing the environmental questions included on the form. Negative responses to these questions eliminate the need for any further floodplain studies. Caltrans and/or FHWA must approve the completed summary.

The report will also evaluate potential water quality impacts from bridge retrofit or replacement actions and long term operations on the stream resource. Potential project impacts associated with construction activities, maintenance activities, and roadway runoff will be evaluated. Potential causes of erosion, and siltation, and sources of pollutants and the effects of these substances on the quality of receiving waters will be evaluated. Mitigation measures, including Best Management Practices specified in Caltrans' Storm Water Quality Handbook - Planning and Design Guide, will be identified for any significant water quality impacts that may occur during construction and/or operation of the retrofitted or new bridge structure.

Visual Impact Assessment Memorandum: LSA will prepare a VIA memo which evaluates the aesthetic compatibility of the proposed project with the surrounding area. The VIA memo will consider the consistency of the project with the applicable Stanislaus County General Plan visual resources policies, the Caltrans SER, the FHWA Visual Impact Assessment for Highway Projects guidelines, and other applicable regulations and guidance. The VIA memo will describe the existing setting, identify important visual resources, and identify potential project visual impacts. The analysis will include ground-level photographs from several viewpoints near the project site. Visual conditions and project impacts will be discussed qualitatively. It is assumed the project design for the proposed project will include landscaping consistent with applicable County and Caltrans guidelines. If required, measures to avoid, minimize, or mitigate adverse project visual impacts or to provide consistency with the County General Plan will be identified. A licensed Landscape Architect will review and sign the VIA memo.

Phase I Initial Site Assessment: BCI will prepare a Phase I Initial Site Assessment (ISA) study report for the proposed project. There are two distinct concerns related to how hazardous materials (existing contamination) may affect land/right-of-way acquisition and project design and construction.

- Construction Issues - If soil and/or groundwater contamination exists, will it affect construction of the planned bridge and approach roads?
- Liability Issues - Will the project require Stanislaus County to acquire parcels, or portions of parcels, with known or suspected soil and/or groundwater contamination?

The overall purpose of the ISA is to attempt to identify significant hazardous materials issues that could affect the constructability, feasibility, and/or cost of the proposed project. BCI will complete the following scope items for the ISA. The scope is limited to that considered appropriate for typical ISA and is not a Preliminary Site Assessment/Characterization (or Phase I Environmental Site Assessment). If, base on the results of the initial assessment, there is the potential for significant hazardous materials, additional investigation may be required.

The following activities will be conducted by BCI:

- Review readily available reports for the project area and/or adjacent locations, and review the site geology and groundwater conditions.
- Conduct a limited site visit to observe current land use and potential indications of contamination on or adjacent to the corridor.
- Review historical aerial photographic, topographic and Sanborn map coverage of the corridor and surrounding properties for indications of potential contamination sources.
- Review federal, state, and county records for indications of the use, misuse, or storage of hazardous and/or potentially hazardous materials on or near the site.
- Attempt to identify past and present operations conducted on the properties to assess the potential for hazardous materials impacts to the site.
- Prepare a report summarizing the findings of our review, site reconnaissance, historical aerial photo and map evaluation, and regulatory records review. BCI will address identified potential hazardous materials impacts and provide recommendations for further investigation and analysis if necessary.

If the results of the ISA indicate the potential for hazardous materials to impact soil and/or groundwater within the project site, it may be necessary to investigate these locations and confirm or characterize potential contamination. If this is necessary, BCI can provide these services. The scope of the site characterization will depend on the potential contamination type, location, and potential impacts.

Limited Phase II Assessment - (Optional Task): BCI anticipate that a Phase II assessment may include evaluation of the existing bridge structure for lead-containing paint, asbestos-containing building materials, and traffic striping. The assessment would be conducted by a California Certified Asbestos Consultant and California Department of Public Health Certified Lead Inspector/Assessor. In addition, Phase II work may include owner interviews and soil sampling for acquisition parcels as well as aerially deposited lead (ADL) evaluation along existing roadway.

Task 2.8.5 – Prepare Initial Study/Mitigated Negative Declaration (ISMND)
Replacement or retrofit of the existing bridge is not expected to generate significant impacts that are unmitigable. Accordingly, the bridge project will be processed through the use of an IS/MND for CEQA purposes. Technical Studies prepared for NEPA review will serve as the back-up for the CEQA IS/MND. It is also expected that the MND will be used for environmental review in conjunction with the Section 1602 Streambed Alteration Agreement and 401 Certification.

Administrative Draft IS/MND: LSA will prepare an IS/MND for County review. The format will be based on the CEQA (County or state) Initial Study checklist and an expanded evaluation of each issue area. Included in the IS/MND will be a project description, discussion of the environmental review process, and project methodology. A total of three (3) copies will be printed for review.

Preliminary Draft IS/MND: Following review by the County, LSA will prepare a Preliminary Draft IS/MND. This second version will evaluate each of the County's comments on the Administrative Draft IS/MND. Three (3) copies of the Preliminary Draft IS/MND will be submitted for review by the County.

Public Review Draft IS/MND: The purpose of this task will be to respond to the County's comments on the Preliminary Draft IS/MND, complete necessary revisions, submit the document for County approval, and publish for public review. Fifty (50) copies of the Draft IS/MND will be provided to the County to circulate for public review. It is expected that the County will be responsible for publishing all legal notices and advertisements. LSA will assist the County in the preparation of notices including the notice of availability for public review, public notice of intent to adopt the MND, and the Notice of Completion for the State Clearinghouse.

Response to Comments on Preliminary Final MND: The purpose of this task is to prepare written responses to comments received on the Draft IS/MND that raise significant environmental issues and submit them for County staff review after the close of the public comment period. LSA will also include a Mitigation Monitoring Program in the document that outlines timing and responsibility assignments for implementing each measure. Two (2) copies of the Mitigation Monitoring Program and final mitigation measures will be submitted separately to the County.

Final MND: LSA will incorporate the final comments and responses into the Final MND and will submit 30 copies of the approved document for distribution by the County to agencies that commented on the Draft IS/MND. Final adjustments to the Mitigation Monitoring Program will be made based on staff review and comment.

Task 2.8.6 – Permitting

The proposed project may affect wetlands or other jurisdictional waters in the San Joaquin River that may be under the jurisdiction of the ACOE, CVWQCB, and/or CDFG. Impacts to jurisdictional waters may require permits from the regulatory agencies, as described below.

Nationwide Permit Verification (Clean Water Act, Section 404). The proposed project may result in discharge of material into waters of the U.S. In the event this occurs, the project will require authorization from the ACOE. It is likely that any discharge resulting from this project can be authorized using one or more Nationwide Permits (NWP). LSA will prepare a Preconstruction Notification (PCN) to submit to the ACOE requesting verification that the project can be authorized using the specified NWP(s). LSA will also submit a Preliminary Jurisdictional Delineation and request verification by the ACOE.

Water Quality Certification (Clean Water Act, Section 401). A Water Quality Certification may be required from the CVWQCB for the proposed project, if it will affect wetlands or other waters of the State, to certify that the project is consistent with water quality goals and objectives. LSA will prepare an application package for submittal to the CVWQCB. A processing fee must be included with the submittal (to be provided by the County, amount to be determined).

Streambed Alteration Agreement (Fish and Game Code, Section 1602). The proposed project may require notification of proposed streambed alteration to the CDFG if the project will have an affect on the San Joaquin River. LSA will prepare an application package for submittal to CDFG. A processing fee must be included with the submittal (to be provided by the County, amount to be determined).

This task involves one field meeting with agency staff to review the project. We have also included 10 hours for responses to agency comments on the applications.

Task 2.9 – Public Outreach

Task 2.9.1 – Project Management

Task 2.9.1.1 – Project Initiation and Planning

- Prepare Community Outreach Plan with key messages and effective outreach strategies to engage the public and targeted stakeholders in reviewing the project to ensure that community and agency input is encouraged and is timely, coordinated, and can be considered in the design, when possible.
- Prepare Team Communications Management Plan to address communication protocols among the lead agency, responsible/cooperating agencies, and consultants by staff type.
- Promote participation in the process, and improve communication and understanding between decision-makers and community residents.
- Prepare a Final Report of Public Outreach Activities and Outcomes.

Deliverables:

- Community Outreach Plan
- Team Communications Management Plan
- Final Report of Community Outreach

Task 2.9.1.2 – Coordination and Meetings

- Participate in meetings that include, but are not limited to, the following:
  - Agency briefings/presentations
  - Contingency for any other project coordinating meetings required during the course of the project

Deliverables:

- Participation in meetings
- Print materials and meeting records as needed

Task 2.9.1.3 – Stakeholder Meetings

- Schedule, prepare agenda, make arrangements, and facilitate up to four (4) one-on-one meetings (to include a technical member of the project team) with property owners/businesses/key stakeholders to discuss issues of pertinent interest.
- Extend invitations, confirm attendance, facilitate, provide summary reports of each meeting, and arrange for an appropriate response to individual questions and comments.

Deliverables

- Meetings with property owners/businesses/key stakeholders
- Summary reports of each meeting with key stakeholders, including identification of key concerns

Task 2.9.2 – Consensus Building and Outreach

Task 2.9.2.1 – Public Meetings

- Plan, organize, and facilitate two neighborhood meetings as part of the environmental process to update the community on the project and comply with environmental process requirements.
- Prepare, print, and distribute notification materials, including, but not limited to, display advertisements and placements, news releases, and direct mail to key stakeholders and the general community and for upload to the County's Web site.

- Prepare and print/produce meeting materials, including up to 3 exhibit boards, agendas, Frequently Asked Questions (FAQs), sign-in sheets, comment sheets, name badges, signage, and refreshments.
- Identify appropriate location to host the meetings for approximately 25 attendees and make all arrangements.
- Participate in and follow up to a "dry run" for each meeting with Stanislaus County executives (optional).
- Document meeting proceedings, including comments from participants.
- Prepare and disseminate a newsletter to inform interested persons of the project's outcome.

Deliverables

- Notification materials (workshop/meeting announcement, display advertisement, news release, elected officials letter, information for County Web site, direct mail)
- Workshop and meeting materials (exhibit boards (3), agendas, FAQs, sign-in sheets, comment sheets, name badges, signage, refreshments)
- Dry runs with Stanislaus County (optional)
- Meeting arrangements and facilitation
- Meeting Summary Reports
- Spanish-language translation, if indicated

Task 2.9.2.2 – Agency Coordination - 6002 Process

- Identify and maintain agency representative and key stakeholder list for ongoing coordination and discussion of issues.

Deliverables

- Agency and key stakeholder contact list.

Task 2.9.2.3 – Database Development and Comment Tracking

- Develop and maintain database—for example, property owners, tenants, businesses, emergency responders, civic and community organizations, project team –for up to 150 contacts for the duration of the project.
- Provide up to three (3) Comment Tracking Reports, as requested, outlining categories of issues and disposition.
- Catalog and track comments, issues, and resolutions originally identified by key stakeholders.
- Document participation in the neighborhood meeting, as well as Hotline and other contacts.

Deliverables

- Database with contact information and activity/issues/comments noted.
- Comment Tracking Reports, up to three (3)

Task 2.x – Project Design Report (Optional Task for Replacement)

The Project Design Report will summarize the results and findings for each alternative of the Preliminary Engineering and Environmental Documentation items identified in this scope, as well as addressing those project opportunities and constraints determined by the Project Team as the project develops. Specific topics to be addressed include, but are not limited to, the following sections:

- Alignment Studies – Alignment studies for the alternatives investigated will be performed to determine the most efficient vertical and horizontal alignments for the replacement of the existing bridge. The studies will include typical sections and will take into consideration the existing roadway configuration and the results of other preliminary engineering studies, including the hydraulic review as it impacts the structure profile, the

construction staging as it impacts on the horizontal alignment, and structure location as it impacts the levees.

- Structure Selection – Summarize the Type Selection study as it evaluates the pros and cons of different structure types and the related impacts to the project location. This will consider the alignment and profile of the replacement structure from our alignment studies.
- Environmental Analysis / Permits – Provide preliminary information with regard to permits, existing and future land use and Environmental Mitigation Measures. Other issues that will be addressed in the memorandum include historic preservation (Section 106) and water quality (Section 401/404) issues.
- Location Hydraulic Study – Provide a summary of the results from the Location Hydraulic Study and Summary Floodplain Encroachment Permit prepared for the site. This summary will contain a description of the hydrology, constraints which will influence the bridge type selection, and a flood frequency curve for the bridge site. This study will be in compliance with Caltrans Local Assistance Procedures Manual (Exhibit 6-N) requirements and is required as part of the environmental documentation.
- Hydraulics – Prepare a summary of the Hydraulic Report for the site. This summary will contain a description of the hydrology, constraints which will influence the bridge type selection, summary of the 50-year, 100-year and overtopping floods, scour depths and potential scour mitigation measures if applicable.
- Construction Staging / Traffic Handing – In conjunction with the structure type selection and the alignment studies, TYLI will address the project's traffic handling requirements, consider the benefits of stage construction, and address issues of access to adjacent properties.
- Drainage – Identify potential impacts to the existing drainage systems and potential solutions to address existing drainage problems if they exist.
- Project Aesthetics – During the environmental process, the impact of the project on local residents will be assessed. In an effort to maximize the project's benefit to these individuals, bridge aesthetics will be considered.

Other issues that will be addressed in the Project Report will include right-of-way, utility impacts and relocation, and the construction cost estimates for each alternative.

Deliverables:

- Project Design Report (3 copies, draft and final)

Task 2.10 – Final PS&E

This task will be led by TYLI and covers project development through the final design of the project, including preparation of 60% & 90% submittals, Final PS&E submittal, and obtaining all final approvals.

Task 2.10.1 – Final Design

Design activities shall include all work (including bridge and civil design), quality control and constructability reviews, and other design activities necessary to supplement the design of the bridge and roadway approaches as required for a fully developed functional facility. In order to expedite the schedule for project construction, TYLI can proceed with completion of the PS&E concurrent with the County obtaining approval of the environmental documentation, if agreed to by the County. However, TYLI is mindful of the HBP scheduling requirements regarding design work, environmental work, and right-of-way acquisitions. This task is managed by the PM, as well as the bridge and roadway task leads, with the design tasks directly performed by the technical engineering staff. Drawings will be prepared by CAD technicians for each task discipline.

Upon receipt of the County's comments and prior to commencing revisions, TYLI will schedule Comment Review Meetings with the County and reviewing agencies, if necessary, to confirm the intent of comments.

Bridge design will be in accordance with Caltrans bridge design practices and applicable sections of the Bridge Memos to Designers and Bridge Design Aids manuals. The design will meet County, Caltrans, and FHWA standards in effect as of the date of Notice to Proceed. Currently, the design shall comply with AASHTO LRFD Bridge Design Specification, 4th Edition with California Amendments ("blue sheets"). Seismic design will be performed in accordance with latest edition of the Caltrans Seismic Design Criteria v1.6.

Roadway design will be in accordance with latest editions of AASHTO's A Policy on Geometric Design of Highways and Streets, Caltrans Highway Design Manual, and Stanislaus County's Standards.

Detailing of plans will be in accordance with Caltrans Bridge Design Details Manual. Both the design and detailing will be based on the use of the latest Stanislaus County Standards and Caltrans 2010 Standard Plans and "XS" sheets. Final plans will be completed in AutoCAD Civil 3D 2010 format.

Comprehensive lists of anticipated plan sheets are included as attached exhibits to this scope. General descriptions of the sheets are included in the following lists:

Seismic Retrofit:
Typical Bridge Plans – General Plan, Foundation Plan, Abutment Retrofit Layout and Details, Bent Retrofit Layout and Details, Pier Footing Retrofit and Details, Joint Retrofit Details, Log of Test Borings

Typical Road Plans, as necessary - Title Sheet, Construction Details, Erosion Control, Grading, Traffic Control, Construction Area Signs

Bridge Replacement:
Typical Bridge Plans – General Plan, Deck Contours, Foundation Plan, Abutment Layout and Details, Bent Layout and Details, Typical Section, Girder Layout and Reinforcement, Barriers/Railings, Log of Test Borings

Typical Road Plans, as necessary - Title Sheet, Typical Sections, Plan and Profile, Construction Details, Grading, Drainage Plans, Utility Plans, Stage Construction, Traffic Control, Construction Area Signs, Signing and Striping, Retaining Walls, and Quantities

Task 2.10.2 – Independent Design Check
Upon completion of the 60% P&E submittal, TYLI will perform an independent design check of the bridge plans in conformance with standard Caltrans bridge design procedures. A plan set will be marked up and discrepancies resolved prior the Final PS&E Submittal.

Task 2.10.3 – Engineers Estimate
Two independent sets of bridge quantity calculations will be prepared by individuals experienced in this work. The roadway and bridge quantity calculations will be organized and detailed for use by field inspectors during construction. Standard Caltrans summary sheets will be used for bridge and road quantity calculations, aiding in facilitating the review process and use by the construction personnel. Bridge quantity estimators must agree within tolerances prescribed in Caltrans Bridge Design Aids Manual, Chapter 11. Any deviations will be resolved and the Marginal Estimate sheet will be prepared.

Unit prices will be applied to each contract item resulting in the Engineer's Estimate of Probable Construction Cost (Estimate). Prices used will be based on the latest available data from the County and Caltrans, reflecting the location of the project and the quantity of each item. The estimate will be segregated into two categories: roadway and bridge. Non-participating costs, if any, will also be segregated.

Task 2.10.4 – Specifications

Prior to the 90% PS&E Submittal, the plans will be reviewed by the PDT and an updated contract items list will be produced. The technical specifications will then be compiled using the contract items list to collect and edit the Caltrans 2010 Standard Special Provisions (SSP's). The PDT will prepare required technical special provisions for Sections 8, 9 and 10, and will provide County with project information relevant to other sections, including Order of Work, Time of Completion, etc. The basis of the contract construction specifications shall be the Caltrans 2010 Standard Specifications. Required environmental commitments and mitigation measures and permitting requirements from the environmental permits will be included in the specifications. TYLI will assemble the final project technical specifications ready for printing in the contract documents.

Deliverables:

- Comment Review Meeting Minutes (distributed electronically via PDF to reviews, as directed by the County)
- 60% Plans, Estimate, & Contract Items List Submittal (3 copies at 11x17 plans and 3 copies at 8.5x11 estimate & pay item list)
- 90% Plans, Specification & Estimate Submittal (1 copy at 22x34 + 3 copies at 11x17 plans and 3 copies at 8.5x11 estimate & specification special provisions)
- Response to Comments on 60% Plans, Estimate & Contract Items List submittal (3 copies)

Task 2.10.5 – 100% (Final) Design

TYLI will furnish the final PS&E for advertising, as well as hard copy and electronic files of spreadsheets used to create the estimates. TYLI will complete and submit the PS&E Certification and Checklist, in accordance with the LAPM. In addition, TYLI will prepare the Resident Engineer's Pending File (RE File) for the County's use. This task is managed by the Project Manager.

Deliverables:

- Final PS&E (size, quantity, and medium will be developed in conjunction with the County)
- CD containing PDF copies of the signed Final PS&E
- Resident Engineer's File
- 1"=4' (4-Scale) Deck Contour Sheet

Task 2.11 – Right-of-Way Services

This task will be led by Overland Pacific & Cutler Inc (OPC) and will utilize the services of Cogdill & Giomi (C&G) to perform right-of-way appraisals and W. F. Bambas Appraisal Company (WFB) for appraisal reviews.

Task 2.11.1 – Right-of-Way Data Sheets and Cost Estimates

Overland, Pacific & Cutler (OPC) has been tasked with analyzing and researching the right-of-way impacts of the proposed Hills Ferry Road Bridge Seismic Retrofit Project assessing any temporary and permanent easement and permanent fee impacts for up to (4) unique

Assessor's Parcel Numbers. Up to (3) alignment studies will be analyzed. This information will be gathered for inclusion into the project's financial programming documents. Information ascertained from this analysis will be used to assist in the clarification of design concerns throughout the planning and PSE phases of the project. Additionally, the identification of critical property acquisitions will influence program management decisions pertaining to the project delivery schedule, project financing, project risk management approaches and other significant factors. OPC will facilitate the integration of this analysis into the appropriate project documents and assist the project team in understanding how the right-of-way component of the project influences all aspects required for a successful project delivery.

Design Review and Project Team Coordination: This task involves 3 subtasks:

- Ascertain all relevant design plans available for review of project impacts.
- Coordinate with Project Design Team to review impacts and confirm impact assumptions.
- Continue coordination with Design Team as new findings are revealed throughout field research phase.

Field Research: This task involves 3 subtasks:

- Individual field agent design review of assigned parcels. Individual meetings with appropriate OPC management ensue, as necessary to examine impacts and potential remediation possibilities.
- Physical viewing of site, appropriate data recorded. Online data of individual properties incorporated into field research, where necessary.
- Integration of field research into appropriate OPC cost estimating formats.

Property Analysis: This task involves 2 subtasks:

- Field Agent and OPC Property Analysts meeting to discuss data and draw impact conclusions and property remediation strategies.
- Reporting to Design Team of initial property impact conclusions. Opportunities provided to Project Team for creative problem-solving either in design or property remediation strategies.

Caltrans Data Sheet Drafts: This task involves 2 subtasks:

- Preparation of latest approved Caltrans Right-of-Way Data Sheet form, and draft per the standards and guidelines presented in the revised Caltrans Right-of-Way Manual.
- Coordination with relevant Caltrans district representatives and/or design leads to address comments and recommendations.

Quality Assurance Reviews / Report Drafts and Submittal: This task involves 3 subtasks:

- Concurrent with the Design Team's review of OPC's initial conclusions on select parcels, the OPC QA/QC Team will review its internal data reporting, analysis and conclusions for accuracy and consistency.
- Once property remediation and design assumptions are finalized and property impact conclusions are confirmed, data is finalized into the approved cost estimating formats.
- The report is subsequently submitted to the client for their formal review.

Project Oversight and Post-Submittal Design Team Follow-up: This task involves 3 subtasks:

- Review of initial comments from Project's Design Team and possible coordination of subsequent team meetings to clarify assumptions and strategize about cost and/or remediation strategies.

- Potential new analyses are determined from revised assumptions.
- Incorporation of new analysis and conclusions into the revised cost estimate analysis and subsequent re-submittal of report, where necessary.

QA/QC: The QA/QC Plan for the Right-of-Way Data Sheets and Cost Estimates entail a three-fold scope involving thorough design coordination, detailed field research and a multi-party property impact analysis review. Errors in cost estimating for right-of-way often occur because of an estimator's inability to understand the nuances of a project's design impacts on any given property. Related to this, the lack of consistent, informed correspondence with the appropriate design personnel - throughout the estimating process - can lead to an impact analysis based on faulty assumptions. For these reasons, OPC is committed to working closely with the design team to understand the issues and thereby assure that impact conclusions are based on correct assumptions. Second, quality assurance and quality control can be maintained when a well trained, organized and experienced estimator performs field research with an eye toward all relevant issues. Simply viewing the site is insufficient. Factors such as multiple design alternatives and potential property remediation options need to be understood to complete an effective field analysis. Finally, once the design is understood and the field research is complete, an in-depth property impact analysis overseen by multiple, experienced right-of-way professionals, completes the process. This review entails both a higher level, program management view as well as a detailed, in-depth analytical approach. This process assures a quality dependable product for project programming purposes.

Task 2.11.2 – Right-of-Way Appraisal

Codgill & Giomi (C&G) will perform the right-of-way appraisal for each parcel. This task will generally involve the following subtasks:

- Appraiser will mail a notification letter and acquisition policies brochure to the property owner, requesting permission to conduct an on-site inspection of the property, advising them of their right to accompany the appraiser at the time of the inspection, and requesting information regarding the property appraised which could influence the appraised value.
- Appraiser will review title information pertaining to respective ownerships and will review drawings and other pertinent information relative to the parcel.
- Appraiser will inspect each property personally with the owner (if possible) and document the inspection with photographs for use in the report.
- Appraiser will inventory all improvements affected by the proposed taking including notes on their manner of disposition (i.e., pay-for and remove vs. move back).
- Further, Appraiser will retain a specialty appraisal to establish the value for fixtures & equipment for non-residential full take properties.
- Appraiser will perform market research to support the selected appraisal methodologies and will document and confirm comparable sales information.
- Appraiser will prepare a narrative appraisal report that conforms to the Uniform Standards of Professional Appraisal Practice (USPAP). The appraisal study and report are intended to serve as an acquisition appraisal and will be prepared in a summary format consistent with the specifications for narrative appraisal reports.
- OPC will receive and analyze the completed appraisal reports including the independent right-of-way appraisal review and will reconcile the real estate and fixtures and equipment conclusions as necessary.

Task 2.11.3 – Formal Appraisal Review

W.F. Bambas Appraisals(WFB) will perform the independent right-of-way appraisal review for each parcel in accordance with federal regulations and Caltrans procedures manual.

Task 2.11.4 – Property Owner and Tenant Acquisition/Negotiations

OPC will perform the right-of-way acquisitions and negotiation services for each parcel. This task will generally involve the following subtasks:

- Establish and maintain a complete and current record file for each ownership in a form acceptable to the client.
- Receive and analyze title information, approved appraisal reports and legal descriptions in sufficient detail to negotiate with property owners and other parties.
- Prepare all offer letters, summary statements, and lists of compensable items of fixtures and equipment, in accordance with state or federal regulations and approval of client.
- Present written purchase offers to owners or their representatives in person, when possible. Secure receipt of delivery of offer as practical and present and secure tenant information statements, as applicable.
- Follow-up and negotiate with each property owner, as necessary; prepare and submit recommended settlement justifications to client for review and approval; review any independent appraisal secured by property owner and coordinate reimbursement of appraisal fees (up to $5,000) with client. Ongoing negotiations and settlement discussions will continue for 8 weeks after the initial offer or until we reach settlement or impasse.
- Prepare and assemble acquisition contracts, deeds and related acquisition documents required for the acquisition of necessary property interests. Legal descriptions to accompany easements or to accompany partial acquisition deeds are not included in this Scope of Work.
- Maintain a diary report of all contacts made with property owners or representatives and a summary of the status of negotiations indicating attitude of owners, problem areas, and other pertinent information. Copies of all applicable written correspondence will be maintained in files.
- Prepare an impasse letter for any parcel where, after diligent attempts to settle by negotiation, it appears eminent domain will be needed or prudent to acquire the needed interest.
- Transmit executed acquisition documents to client. Each transmittal package shall include a fully executed and properly notarized deed(s), fully executed acquisition contract with attachments, and a brief settlement memorandum which summarizes the pertinent data relative to the transaction.

Escrow Coordination/Title Clearance: If by Negotiated Settlement: Assist the escrow/title company in the following:

- Open escrow and coordinate execution of closing instructions providing for title insurance coverage at the settlement amount.
- Provide escrow officer with fully executed acquisition contract and notarized deed.
- Review settlement statement for accuracy.
- Coordinate deposit of acquisition price and estimated closing costs with escrow.

Title Clearance Services

- Work in conjunction with escrow officer to facilitate the clearance of title matters as set forth in the settlement memorandum and escrow instructions.
- Secure full or partial reconveyance instruments from lien holders of record.
- Coordinate and facilitate recordation of corrective deeds to clear vesting issues.
- Secure subordination agreements from conflicting easement holders.

Eminent Domain Assistance: If Settlement by Eminent Domain: Assist eminent domain counsel with the following:

- Provide eminent domain counsel with available right-of-way maps and legal descriptions, preliminary title reports and title review documents, and information on how to contact each owner or interest holder.
- Provide eminent domain counsel with a duplicate copy of the parcel file, together with a copy of the appraisal, offer to purchase, correspondence, acquisition contract, and deed as presented.

Task 2.11.5 – Right-of-Way Certification

OPC will prepare the right-of-way certification. This task will generally involve the following subtasks:

- Ensure appraisal maps/right-of-way maps and legal descriptions are all properly identified and prepared in conformance with approved right-of-way numbering system.
- Ensure that all interests necessary for the project have been secured and all relocation activities have been performed in compliance with applicable law and regulations.
- Prepare certification forms in coordination with engineer and client to include the compilation of all necessary back-up documents required including; deed, final order of condemnation, access easements, cooperative agreements, permits, right of entries, etc.

Task 2.12 – Permitting and Documentation

This task will be led by TYLI. The project team will assist the County in identifying and coordinating work with all agencies involved with the project and obtaining all non-environmental and resource agency permits required. Necessary steps shall be taken to ensure that all project requirements are reviewed by the County and incorporated into the project, as appropriate. Some of the affected agencies may include, but are not limited to: California Department of Water Resources, Central Valley Flood Protection Board/Reclamation Boards, Lower San Joaquin Levee District (LSJLD), USACE, & the California State Lands Commission. This task is managed by the Roadway Lead and supported by the Project Manager and Environmental Services Coordinator. Identified permits are described below.

Central Valley Flood Protection Board (CVFPB) Encroachment Permit: The proposed project is with the jurisdiction of the CVFPB and will affect the San Joaquin River (Merced River – Salt Slough) designated floodway. TYLI will coordinate with both the LSJLD (local reclamation district) & CVFPB. If necessary, TYLI will conduct a pre-permit meeting during the strategy determination to identify potential project constraints. TYLI will work with the LSJLD to prepare a draft permit application package for their endorsement and submit the endorsed application package with LSJLD permit conditions to the CVFPB.

State Lands Commission Temporary Permit for Entry: The proposed project crossed over San Joaquin River. Since the river itself is considered non-tidal navigable river and all land below low water is owned by the State Lands Commission. A temporary permit for entry may be required if the current right-of-way is part of a expired State Lands Commission lease or work outside the right-of-way will be required. This work may include site surveys or preconstruction environmental mitigation such as temporary bat habitat or transplanting protected plant species. TYLI will prepare a letter request that describes the type of work, methodologies, schedule, and appropriate figures.

State Lands Commission Lease Agreement or Amendment of Existing Lease: TYLI will prepare the five part application package for lease of state lands for review and signature by the County.

PHASE 3 –Construction and Support

Task 3.1 – Bidding Support and Analysis

During the advertisement and bidding process, this work will include answering questions for prospective bidders, preparation of addenda to the contract PS&E, and providing consultation and interpretation of the construction documents. TYLI will provide bidding period assistance to the County. To aid in the tracking of RFI's, CCOs, and submittals, TYLI will maintain a construction issues log. The log assigns each item a unique tracking ID, designated responsible party with response dates, and the the project action. An example sheet is included within the appendix to this proposal.

Deliverables:

- Prepare Responses to prospective bidder's Requests for Information, as needed
- Prepare Addenda to the contract documents, as needed
- Construction Issues Log

Task 3.2 – Construction Support

During project construction, this work will include (on an as-needed basis) attending the project pre-construction meeting, review and comment on contract change orders, prepare plan revisions as necessitated by contract change orders, provide construction engineering assistance, respond to requests for information, and review and approve submittals and shop drawings. All work will be coordinated through the County's project manager or assigned representative (construction manager/resident engineer). The task is managed by the Project Manager and the task leads, as needed, with support from the appropriate technical staff.

Task 3.3 – Project Close-Out

TYLI will use the marked notes on the contract plans ("redlines") and recorded change orders provided by the County's Construction Manager/Resident Engineer to prepare the As-Built drawings in hard copy format for the project. TYLI will also provide Project Records to the County in accordance with the conditions set forth in the original RFP.

Deliverables:

- As-Built Plans (1 copy at 22x34 on mylar)

EXHIBIT A – BRIDGE RETROFIT ESTIMATED PLAN LIST

Count	Sheet Title
1	Title Sheet
1	Project Control and Monumentation
1	Construction Details – Miscellaneous
1	Erosion Control Plan
2	Grading & Slope Protection
1	Construction Area Signs & Traffic Control
2	Stage Construction and Traffic Handling Plan
1	Stage Construction and Traffic Handling Details
2	Signing and Striping
4	Temporary Signal Plans
1	Summary of Quantities
1	General Plan
1	Foundation Plan
1	Abutment Retrofit Layout
1	Abutment Details
1	Bent Retrofit Layout
2	Bent Retrofit Details
1	Pierwall Footing Retrofit Layout
1	Pierwall Footing Retrofit Details
1	Joint Retrofit Details
2	Miscellaneous Details
3	Log of Test Borings

32 = Estimated Total Sheet Count

EXHIBIT B – BRIDGE REPLACEMENT ESTIMATED PLAN LIST

Count	Sheet Title
1	Title Sheet
2	Typical Cross Sections
1	Project Control
2	Layout
2	Profile
4	Construction Details
2	Erosion Control Plan
2	Erosion Control Details/Quantities
1	Erosion Control Plan (Scour)
1	Erosion Control Plan/Details (Scour)
2	Grading
2	Drainage Plan
2	Drainage Profile
2	Drainage Details
2	Drainage Quantities
1	Utility Plan
1	Construction Area Signs
2	Stage Construction
2	Traffic Handling Plan
1	Traffic Handling Details
1	Traffic Handling Quantities
2	Pavement Delineation & Sign Plan and Details
1	Pavement Delineation & Sign Quantities
5	Temporary Signal Plans
1	Summary of Quantities
1	General Plan
1	Index to Plans
2	Structure Plan
1	Deck Contours
2	Foundation Plan
4	Abutment Layout and Details
3	Pier Layout and Details
1	Typical Section
2	Girder Layout
1	Girder Details
1	Bearing Details
1	Joint Seals
2	Barrier Railing and Details
2	Structure Approach Type and Details
1	Structure Approach Drainage Details
1	Miscellaneous Details
3	Log of Test Borings

74 = Estimated Total Sheet Count

EXHIBIT C

CONSULTANTS FEE SCHEDULE

TYLI FEE PROPOSAL SUMMARY
Hills Ferry Road Bridge Seismic Retrofit

Total Replacement Design Fee Summary

T.Y. LIN INTERNATIONAL FEE SUMMARY BY PHASE / TASK

Preliminary Engineering , Design, and Construction Support Phase

Phase	TASK	TYLI LABOR	SUBS	EXPENSES	FIXED FEE	TOTAL
1	Strategy Determination	$138,294	$37,183	$219	$12,446	$188,141
2	Project Design (Replacement)	$333,095	$296,055	$1,859	$29,979	$660,987
3	Bidding and Construction Support	$63,778	$2,000	$336	$5,740	$71,855
	Totals:	$535,167	$335,238	$2,414	$48,165	$920,983

FEE BREAKDOWN BY FIRM

FEE SUMMARY BY PHASE AND FIRM

		FIRM								
Phase	PHASE	TYLI	LSA	BCI	WRECO	NORTHSTAR	Y&C	Judith Buethe	OPC	TOTAL
1	Strategy Determination	$150,959	$6,818	$25,865	$4,500	$0	$0	$0	$0	$188,141
2	Project Design (Replacement)	$364,932	$74,850	$75,650	$15,800	$57,935	$18,000	$12,200	$41,620	$660,987
3	Bidding and Construction Support	$69,855	$0	$0	$0	$0	$2,000	$0	$0	$71,855
	Totals:	$585,745	$81,668	$101,515	$20,300	$57,935	$20,000	$12,200	$41,620	$920,983

TYLI FEE PROPOSAL
Hills Ferry Road Bridge Seismic Retrofit
Phase 1 - Strategy Determination

T Project Hills Ferry Road Bridge Seismic Retrofit
Phase: 1 Strategy Determination

Task		Description	Estimated Labor Hours												Labor Totals	
				Bridge				Roadway			Environmental	QA	Admin			
			Project Manager/ PIC	Project Engineer/ Lead Bridge Designer	Bridge Engineer	Bridge Engineer	Bridge CAD Technician	Lead Civil Engineer	Civil Engineer	Civil Engineer	Environmental Services Manager	QA Manager	Admin Assist	Admin Assist	Hours	Amount
PM	1	Project Initiation	20	24											44	$3,976.80
PM	2	Project Management	70	40											110	$10,478.00
1	1	Field Review	8	12	12			12			12				56	$3,598.20
	2	Preliminary Environmental Study		16				4			16				36	$2,344.80
	3	Seismic Strategy Verification		60	60	60		100	54		16				350	$18,278.20
	4	Retrofit Strategy Report		40	40	40	40					40	24	40	264	$13,132.00
	5	Strategy Meeting		12	8	8									28	$1,587.20
															0	$0.00
															0	$0.00
															0	$0.00
															0	$0.00
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		Total Hours:	98	204	120	108	40	116	54	0	44	40	24	40	888	
		Rate:	$105.00	$78.20	$44.60	$36.50	$47.30	$51.60	$49.50	$41.05	$55.45	$87.05	$27.50	$18.15		
		Subtotal - Labor:	$10,290	$15,953	$5,352	$3,942	$1,892	$5,986	$2,673	$0	$2,440	$3,482	$660	$726		$53,395.20

Salary Increases	0%	$	-
OVERHEAD	159%	$	84,898.37
Subtotal - LABOR + OVERHEAD			$138,293.57

Other Direct Costs:

REIMBURSABLE EXPENSES				
Travel (mileage)	308 Miles	@	$0.555	$171
Meals	0 Lunch	@	$0.00	$0
Plan Reproduction	0 Full Size Sheets	@	$5.00	$0
Outside Photocopies	0 Each	@	$0.10	$0
Overnight Service	6 Each	@	$8.00	$48
Color Copies	0 Each	@	$1.00	$0
Graphics	0 Figures	@	$45.00	$0

Subtotal - REIMBURSABLE EXPENSES $219

Subconsultant Services:

Subconsultant	Task	Description	
LSA	1.1	Field Review	$563.50
	1.2	Preliminary Environmental Study	$6,254.00
BCI	1.3.1.1	Seismic Strategy Verification - Engineering Studies - Geotechnical Engineering	$25,865.00
WRECO	1.3.1.2	Seismic Strategy Verification - Engineering Studies - Hydraulic Engineering	$4,500.00

Subtotal - SUBCONSULTANT SERVICES $37,182.50
Subconsultant Markup 0% $0

SUBTOTAL - OTHER DIRECT COSTS $37,401

FEE 9.000% on Direct Labor + Overhead $12,446

$188,141

TYLI FEE PROPOSAL
Hills Ferry Road Bridge Seismic Retrofit
Phase 2 - Project Design (Replacement)

T Project Hills Ferry Road Bridge Seismic Retrofit
Phase: 2 Project Design (Replacement)

Task		Description	Estimated Labor Hours												Labor Totals	
				Bridge				Roadway			Environmental	QA	Admin			
			Project Manager/ PIC	Project Engineer/ Lead Bridge Designer	Bridge Engineer	Bridge Engineer	Bridge CAD Technician	Lead Civil Engineer	Civil Engineer	Civil Engineer	Environmental Services Manager	QA Manager	Admin Assist	Admin Assist	Hours	Amount
PM	2	Project Management	84												84	$8,820.00
2	1	Survey and Right-of-Way Mapping		8				24		8					40	$2,192.40
	2	Geotechnical Engineering		8	8			4							20	$1,188.80
	3	Hydrology and Hydraulics		8	8			8							24	$1,395.20
	4	Utility Survey and Coordination		8				24							32	$1,864.00
	5	Traffic Analysis and Handling		8				24							32	$1,864.00
	6	Electrical and Lighting		8				8							16	$1,038.40
	7A	Preliminary Engineering		16	40		24	120		80					280	$13,646.40
	7B	Project Design Report		16	24			24		16					80	$4,216.80
	8	Environmental Clearance		24							80				104	$6,312.80
	9	Public Outreach		16											16	$1,251.20
	10	Final PS&E		80	280	220	230	385		345		60	40	40	1680	$78,730.25
	11	Right-of-Way Services		8				8							16	$1,038.40
	12	Permitting and Documentation		8				40			16				64	$3,576.80
															0	$0.00
															0	$0.00
															0	$0.00
															0	$0.00
															0	$0.00
															0	$0.00
															0	$0.00
															0	$0.00
		Total Hours:	84	216	360	220	254	669	0	449	96	60	40	40	2488	
		Rate:	$105.00	$78.20	$44.60	$36.50	$47.30	$51.60	$49.50	$41.05	$55.45	$87.05	$27.50	$18.15		
		Subtotal - Labor:	$8,820	$16,891	$16,056	$8,030	$12,014	$34,520	$0	$18,431	$5,323	$5,223	$1,100	$726		$127,135.45

Salary Increases	3%	$ 3,814.06
OVERHEAD	159%	$ 202,145.37
Subtotal - LABOR + OVERHEAD		$333,094.88

Other Direct Costs:

REIMBURSABLE EXPENSES				
Travel (mileage)	2156 Miles	@	$0.555	$1,197
Meals	0 Lunch	@	$0.00	$0
Plan Reproduction	64 Full Size Sheets	@	$5.00	$320
Outside Photocopies	0 Each	@	$0.10	$0
Overnight Service	9 Each	@	$8.00	$72
Color Copies	0 Each	@	$1.00	$0
Graphics	6 Figures	@	$45.00	$270

Subtotal - REIMBURSABLE EXPENSES $1,859

Subconsultant Services:

Subconsultant	Task	Description	
North Star	2.1	Topographic Survey and Right of Way Mapping	$57,935.00
BCI	2.2	Geotechnical Engineering: Ph 1 ISA and Limited Ph 2 Assessment	$75,650.00
WRECO	2.3	Hydrology and Hydraulics	$15,800.00
Y&C	2.6	Electrical and Lighting	$18,000.00
LSA	2.8	Environmental Clearance	$74,850.00
Judith Buethe	2.9	Public Outreach	$12,200.00
OPC	2.11	Right-of-Way Services	$41,620.00

Subtotal - SUBCONSULTANT SERVICES $296,055.00
Subconsultant Markup 0% $0

SUBTOTAL - OTHER DIRECT COSTS $297,914

FEE 9.000% on Direct Labor + Overhead $29,979

$660,987

TYLI FEE PROPOSAL
Hills Ferry Road Bridge Seismic Retrofit
Phase 3 - Construction Support

T Project Hills Ferry Road Bridge Seismic Retrofit
Phase: 3 Project Design

Task		Description	Estimated Labor Hours												Labor Totals	
				Bridge				Roadway			Environmental	QA	Admin			
			Project Manager/ PIC	Project Engineer/ Lead Bridge Designer	Bridge Engineer	Bridge Engineer	Bridge CAD Technician	Lead Civil Engineer	Civil Engineer	Civil Engineer	Environmental Services Manager	QA Manager	Admin Assist	Admin Assist	Hours	Amount
PM	2	Project Management	37												37	$3,885.00
3	1	Bidding Support and Analysis		32											32	$2,502.40
	2	Construction Support		40	56	40	80	40			24		20	20	320	$15,177.40
	3	Project Closeout		32											32	$2,502.40
															0	$0.00
															0	$0.00
															0	$0.00
															0	$0.00
															0	$0.00
															0	$0.00
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															0	$0.00
															0	$0.00
															0	$0.00
															0	$0.00
															0	$0.00
		Total Hours:	37	104	56	40	80	40	0	0	24	0	20	20	421	
		Rate:	$105.00	$78.20	$44.60	$36.50	$47.30	$51.60	$49.50	$41.05	$55.45	$87.05	$27.50	$18.15		
		Subtotal - Labor:	$3,885	$8,133	$2,498	$1,460	$3,784	$2,064	$0	$0	$1,331	$0	$550	$363		$24,067.20

Salary Increases	6%	$ 1,444.03
OVERHEAD	159%	$ 38,266.85
Subtotal - LABOR + OVERHEAD		$63,778.08

Other Direct Costs:

REIMBURSABLE EXPENSES				
Travel (mileage)	462 Miles	@	$0.555	$256
Meals	0 Lunch	@	$0.00	$0
Plan Reproduction	0 Full Size Sheets	@	$5.00	$0
Outside Photocopies	0 Each	@	$0.10	$0
Overnight Service	10 Each	@	$8.00	$80
Color Copies	0 Each	@	$1.00	$0
Graphics	0 Figures	@	$45.00	$0

Subtotal - REIMBURSABLE EXPENSES $336

Subconsultant Services:

Subconsultant	Task	Description	
Y&C	3.1	Bidding Support	$1,000.00
	3.2	Construction Support	$1,000.00

Subtotal - SUBCONSULTANT SERVICES $2,000.00
Subconsultant Markup 0% $0

SUBTOTAL - OTHER DIRECT COSTS $2,336

FEE 9.000% on Direct Labor + Overhead $5,740

$71,855

TYLI FEE PROPOSAL SUMMARY
Hills Ferry Road Bridge Seismic Retrofit

Total Retrofit Design Fee Summary

T.Y. LIN INTERNATIONAL FEE SUMMARY BY PHASE / TASK

Preliminary Engineering , Design, and Construction Support Phase

Phase	TASK	TYLI LABOR	SUBS	EXPENSES	FIXED FEE	TOTAL
1	Strategy Determination	$138,294	$37,183	$219	$12,446	$188,141
2	Project Design (Retrofit)	$156,341	$284,875	$1,859	$14,071	$457,145
3	Bidding and Construction Support	$63,778	$2,000	$336	$5,740	$71,855
	Totals:	$358,413	$324,058	$2,414	$32,257	$717,141

FEE BREAKDOWN BY FIRM

FEE SUMMARY BY PHASE AND FIRM

		FIRM								
Phase	PHASE	TYLI	LSA	BCI	WRECO	NORTHSTAR	Y&C	Judith Buethe	OPC	TOTAL
1	Strategy Determination	$150,959	$6,818	$25,865	$4,500	$0	$0	$0	$0	$188,141
2	Project Design (Retrofit)	$172,270	$74,850	$75,650	$13,750	$56,805	$10,000	$12,200	$41,620	$457,145
3	Bidding and Construction Support	$69,855	$0	$0	$0	$0	$2,000	$0	$0	$71,855
	Totals:	$393,084	$81,668	$101,515	$18,250	$56,805	$12,000	$12,200	$41,620	$717,141

TYLI FEE PROPOSAL
Hills Ferry Road Bridge Seismic Retrofit
Phase 1 - Strategy Determination

Project Hills Ferry Road Bridge Seismic Retrofit
Phase: 1 Strategy Determination

Task		Description	Estimated Labor Hours											Labor Totals	
				Bridge				Roadway			Environmental	QA	Admin				
			Project Manager/ PIC	Project Engineer/ Lead Bridge Designer	Bridge Engineer	Bridge Engineer	Bridge CAD Technician	Lead Civil Engineer	Civil Engineer	Civil Engineer	Environmental Services Manager	QA Manager	Admin Assist	Admin Assist	Hours	Amount
PM	1	Project Initiation	20	24											44	$3,976.80
PM	2	Project Management	70	40											110	$10,478.00
1	1	Field Review	8	12	12			12			12				56	$3,598.20
	2	Preliminary Environmental Study		16				4			16				36	$2,344.80
	3	Seismic Strategy Verification		60	60	60		100	54		16				350	$18,278.20
	4	Retrofit Strategy Report		40	40	40	40					40	24	40	264	$13,132.00
	5	Strategy Meeting		12	8	8									28	$1,587.20
															0	$0.00
															0	$0.00
															0	$0.00
															0	$0.00
															0	$0.00
															0	$0.00
															0	$0.00
															0	$0.00
															0	$0.00
															0	$0.00
															0	$0.00
															0	$0.00
															0	$0.00
															0	$0.00
		Total Hours:	98	204	120	108	40	116	54	0	44	40	24	40	888	
		Rate:	$105.00	$78.20	$44.60	$36.50	$47.30	$51.60	$49.50	$41.05	$55.45	$87.05	$27.50	$18.15		
		Subtotal - Labor:	$10,290	$15,953	$5,352	$3,942	$1,892	$5,986	$2,673	$0	$2,440	$3,482	$660	$726		$53,395.20

Salary Increases	0%	$ -
OVERHEAD	159%	$ 84,898.37
Subtotal - LABOR + OVERHEAD		$138,293.57

Other Direct Costs:

REIMBURSABLE EXPENSES				
Travel (mileage)	308 Miles	@	$0.555	$171
Meals	0 Lunch	@	$0.00	$0
Plan Reproduction	0 Full Size Sheets	@	$5.00	$0
Outside Photocopies	0 Each	@	$0.10	$0
Overnight Service	6 Each	@	$8.00	$48
Color Copies	0 Each	@	$1.00	$0
Graphics	0 Figures	@	$45.00	$0

Subtotal - REIMBURSABLE EXPENSES $219

Subconsultant Services:

Subconsultant	Task	Description	
LSA	1.1	Field Review	$563.50
	1.2	Preliminary Environmental Study	$6,254.00
BCI	1.3.1.1	Seismic Strategy Verification - Engineering Studies - Geotechnical Engineering	$25,865.00
WRECO	1.3.1.2	Seismic Strategy Verification - Engineering Studies - Hydraulic Engineering	$4,500.00

Subtotal - SUBCONSULTANT SERVICES $37,182.50
Subconsultant Markup 0% $0

SUBTOTAL - OTHER DIRECT COSTS $37,401

FEE 9.000% on Direct Labor + Overhead $12,446

$188,141

TYLI FEE PROPOSAL
Hills Ferry Road Bridge Seismic Retrofit
Phase 2 - Project Design (Retrofit)

Project: Hills Ferry Road Bridge Seismic Retrofit
Phase: 2 Project Design (Retrofit)

Task		Description	Estimated Labor Hours												Labor Totals	
			Bridge					Roadway			Environmental	QA	Admin			
			Project Manager/ PIC	Project Engineer/ Lead Bridge Designer	Bridge Engineer	Bridge Engineer	Bridge CAD Technician	Lead Civil Engineer	Civil Engineer	Civil Engineer	Environmental Services Manager	QA Manager	Admin Assist	Admin Assist	Hours	Amount
PM	2	Project Management	100												100	$10,500.00
2	1	Survey and Right-of-Way Mapping		8				24	8						40	$2,260.00
	2	Geotechnical Engineering		8	8			4							20	$1,188.80
	3	Hydrology and Hydraulics		8	8			8							24	$1,395.20
	4	Utility Survey and Coordination		8				24							32	$1,864.00
	5	Traffic Analysis and Handling		8				24							32	$1,864.00
	6	Electrical and Lighting		8				8							16	$1,038.40
	8	Environmental Clearance		8	24			8	16		80				136	$7,336.80
	9	Public Outreach		8											8	$625.60
	10	Final PS&E		40	60	60	40	120	60		16	60	40	40	536	$26,984.20
	11	Right-of-Way Services		8				8							16	$1,038.40
	12	Permitting and Documentation		8				40			16				64	$3,576.80
															0	$0.00
															0	$0.00
															0	$0.00
															0	$0.00
															0	$0.00
															0	$0.00
															0	$0.00
															0	$0.00
															0	$0.00
		Total Hours:	100	120	100	60	40	268	84	0	112	60	40	40	1024	
		Rate:	$105.00	$78.20	$44.60	$36.50	$47.30	$51.60	$49.50	$41.05	$55.45	$87.05	$27.50	$18.15		
		Subtotal - Labor:	$10,500	$9,384	$4,460	$2,190	$1,892	$13,829	$4,158	$0	$6,210	$5,223	$1,100	$726		$59,672.20

Salary Increases	3%	$ 1,790.17
OVERHEAD	159%	$ 94,878.80
Subtotal - LABOR + OVERHEAD		$156,341.16

Other Direct Costs:

REIMBURSABLE EXPENSES				
Travel (mileage)	2156 Miles	@	$0.555	$1,197
Meals	0 Lunch	@	$0.00	$0
Plan Reproduction	64 Full Size Sheets	@	$5.00	$320
Outside Photocopies	0 Each	@	$0.10	$0
Overnight Service	9 Each	@	$8.00	$72
Color Copies	0 Each	@	$1.00	$0
Graphics	6 Figures	@	$45.00	$270

Subtotal - REIMBURSABLE EXPENSES $1,859

Subconsultant Services:

Subconsultant	Task	Description	
North Star	2.1	Topographic Survey and Right of Way Mapping	$56,805.00
BCI	2.2	Geotechnical Engineering; Ph 1 ISA and Limited Ph 2 Assessment	$75,650.00
WRECO	2.3	Hydrology and Hydraulics	$13,750.00
Y&C	2.6	Electrical and Lighting	$10,000.00
LSA	2.8	Environmental Clearance	$74,850.00
Judith Buethe	2.9	Public Outreach	$12,200.00
OPC	2.11	Right-of-Way Services	$41,620.00
			-

Subtotal - SUBCONSULTANT SERVICES		$284,875.00
Subconsultant Markup	0%	$0
SUBTOTAL - OTHER DIRECT COSTS		$286,734
FEE	9.000% on Direct Labor + Overhead	$14,071
		$457,145

TYLI FEE PROPOSAL
Hills Ferry Road Bridge Seismic Retrofit
Phase 3 - Construction Support

Project Hills Ferry Road Bridge Seismic Retrofit
Phase: 3 Project Design

Task		Description	Estimated Labor Hours												Labor Totals	
				Bridge				Roadway			Environmental	QA	Admin			
			Project Manager/ PIC	Project Engineer/ Lead Bridge Designer	Bridge Engineer	Bridge Engineer	Bridge CAD Technician	Lead Civil Engineer	Civil Engineer	Civil Engineer	Environmental Services Manager	QA Manager	Admin Assist	Admin Assist	Hours	Amount
PM	2	Project Management	37												37	$3,885.00
3	1	Bidding Support and Analysis		32											32	$2,502.40
	2	Construction Support		40	56	40	80	40			24		20	20	320	$15,177.40
	3	Project Closeout		32											32	$2,502.40
															0	$0.00
															0	$0.00
															0	$0.00
															0	$0.00
															0	$0.00
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															0	$0.00
															0	$0.00
															0	$0.00
															0	$0.00
															0	$0.00
		Total Hours:	37	104	56	40	80	40	0	0	24	0	20	20	421	
		Rate:	$105.00	$78.20	$44.60	$36.50	$47.30	$51.60	$49.50	$41.05	$55.45	$87.05	$27.50	$18.15		
		Subtotal - Labor:	$3,885	$8,133	$2,498	$1,460	$3,784	$2,064	$0	$0	$1,331	$0	$550	$363		$24,067.20

Salary Increases	6%	$ 1,444.03
OVERHEAD	159%	$ 38,266.85
Subtotal - LABOR + OVERHEAD		$63,778.08

Other Direct Costs:

REIMBURSABLE EXPENSES				
Travel (mileage)	462 Miles	@	$0.555	$256
Meals	0 Lunch	@	$0.00	$0
Plan Reproduction	0 Full Size Sheets	@	$5.00	$0
Outside Photocopies	0 Each	@	$0.10	$0
Overnight Service	10 Each	@	$8.00	$80
Color Copies	0 Each	@	$1.00	$0
Graphics	0 Figures	@	$45.00	$0

Subtotal - REIMBURSABLE EXPENSES $336

Subconsultant Services:

Subconsultant	Task	Description	
Y&C	3.1	Bidding Support	$1,000.00
	3.2	Construction Support	$1,000.00

Subtotal - SUBCONSULTANT SERVICES $2,000.00
Subconsultant Markup 0% $0

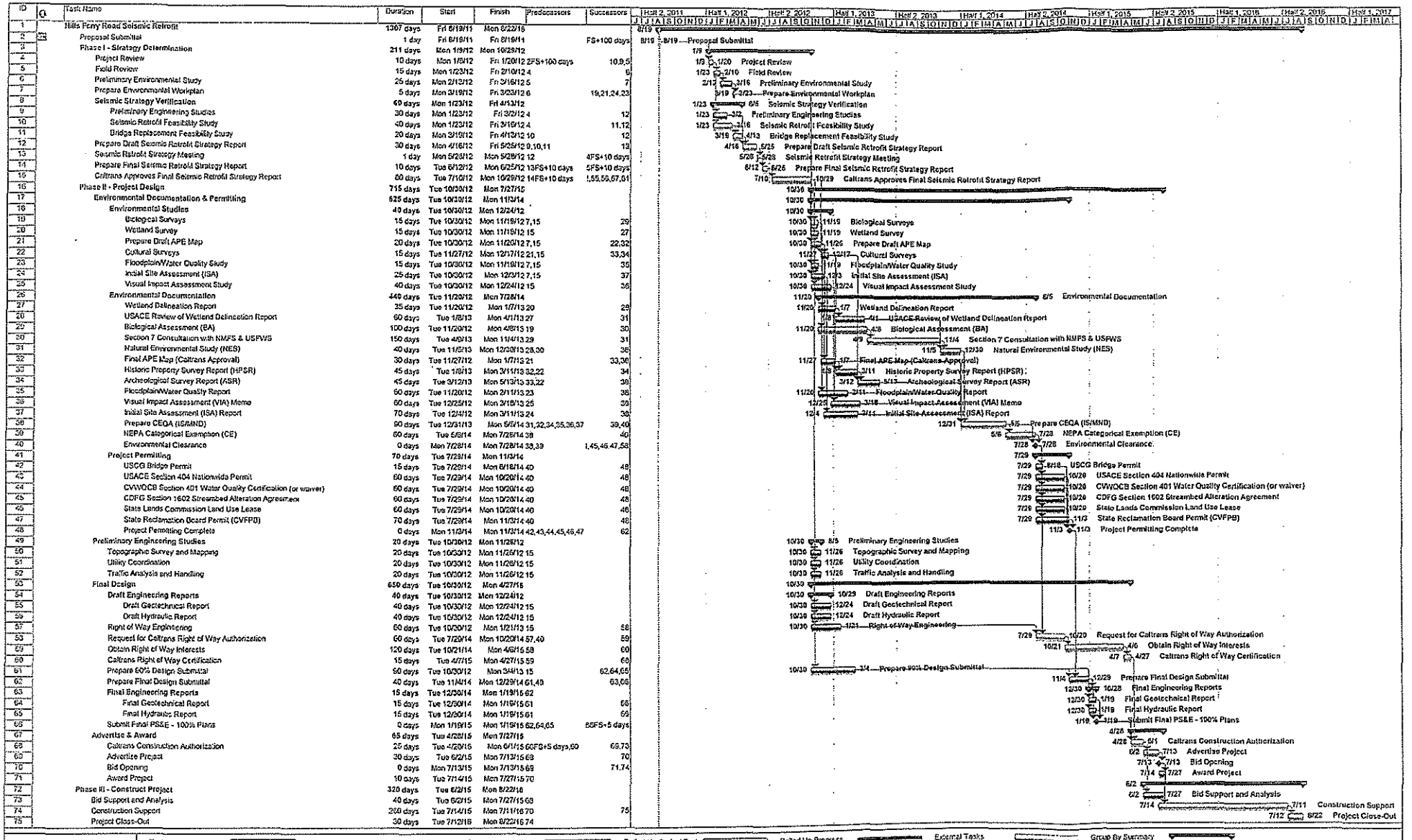
SUBTOTAL - OTHER DIRECT COSTS $2,336

FEE 9.000% on Direct Labor + Overhead $5,740

$71,855

EXHIBIT D

PROJECT SCHEDULE



ID	Task Name	Duration	Start	Finish	Predecessors	Successors
1	Hills Ferry Road Seismic Retrofit	1367 days	Fri 8/19/11	Mon 8/22/16		
2	Proposal Submittal	1 day	Fri 8/19/11	Fri 8/19/11		FS+100 days
3	Phase I - Strategy Determination	211 days	Mon 1/9/12	Mon 10/29/12		
4	Project Review	10 days	Mon 1/9/12	Fri 1/20/12	2FS+100 days	10,9,5
5	Field Review	15 days	Mon 1/23/12	Fri 2/10/12	4	6
6	Preliminary Environmental Study	25 days	Mon 2/13/12	Fri 3/16/12	5	7
7	Prepare Environmental Workplan	5 days	Mon 3/19/12	Fri 3/23/12	6	19,21,24,23
8	Seismic Strategy Verification	69 days	Mon 1/23/12	Fri 4/13/12		
9	Preliminary Engineering Studies	30 days	Mon 1/23/12	Fri 3/2/12	4	12
10	Seismic Retrofit Feasibility Study	40 days	Mon 1/23/12	Fri 3/16/12	4	11,12
11	Bridge Replacement Feasibility Study	20 days	Mon 3/19/12	Fri 4/13/12	10	12
12	Prepare Draft Seismic Retrofit Strategy Report	30 days	Mon 4/16/12	Fri 5/25/12	9,10,11	13
13	Seismic Retrofit Strategy Meeting	1 day	Mon 5/28/12	Mon 5/28/12	12	4FS+10 days
14	Prepare Final Seismic Retrofit Strategy Report	10 days	Tue 6/12/12	Mon 6/25/12	13FS+10 days	5FS+10 days
15	Caltrans Approves Final Seismic Retrofit Strategy Report	80 days	Tue 7/10/12	Mon 10/29/12	14FS+10 days	1,55,59,67,61
16	Phase II - Project Design	715 days	Tue 10/30/12	Mon 7/27/15		
17	Environmental Documentation & Permitting	525 days	Tue 10/30/12	Mon 11/3/14		
18	Environmental Studies	40 days	Tue 10/30/12	Mon 12/24/12		
19	Biological Surveys	15 days	Tue 10/30/12	Mon 11/19/12	7,15	29
20	Wetland Survey	15 days	Tue 10/30/12	Mon 11/19/12	15	27
21	Prepare Draft APE Map	20 days	Tue 10/30/12	Mon 11/26/12	7,15	22,32
22	Cultural Surveys	15 days	Tue 11/27/12	Mon 12/17/12	21,15	33,34
23	Floodplain/Water Quality Study	15 days	Tue 10/30/12	Mon 11/19/12	7,15	35
24	Initial Site Assessment (ISA)	25 days	Tue 10/30/12	Mon 12/3/12	7,15	37
25	Visual Impact Assessment Study	40 days	Tue 10/30/12	Mon 12/24/12	15	36
26	Environmental Documentation	440 days	Tue 11/20/12	Mon 7/28/14		
27	Wetland Delineation Report	35 days	Tue 11/20/12	Mon 1/7/13	20	28
28	USACE Review of Wetland Delineation Report	60 days	Tue 1/8/13	Mon 4/1/13	27	31
29	Biological Assessment (BA)	100 days	Tue 11/20/12	Mon 4/8/13	19	30
30	Section 7 Consultation with NMFS & USFWS	150 days	Tue 4/9/13	Mon 11/4/13	29	31
31	Natural Environmental Study (NES)	40 days	Tue 11/5/13	Mon 12/30/13	28,30	36
32	Final APE Map (Caltrans Approval)	30 days	Tue 11/27/12	Mon 1/7/13	21	33,36
33	Historic Property Survey Report (HPSR)	45 days	Tue 1/8/13	Mon 3/11/13	32,22	34
34	Archeological Survey Report (ASR)	45 days	Tue 3/12/13	Mon 5/13/13	33,22	38
35	Floodplain/Water Quality Report	60 days	Tue 11/20/12	Mon 2/11/13	23	38
36	Visual Impact Assessment (VIA) Memo	60 days	Tue 12/25/12	Mon 3/18/13	25	38
37	Initial Site Assessment (ISA) Report	70 days	Tue 12/4/12	Mon 3/11/13	24	38
38	Prepare CEQA (IS/MND)	60 days	Tue 12/31/13	Mon 5/5/14	31,32,34,35,36,37	39,40
39	NEPA Categorical Exemption (CE)	60 days	Tue 5/6/14	Mon 7/28/14	38	40
40	Environmental Clearance	0 days	Mon 7/28/14	Mon 7/28/14	38,39	1,45,46,47,58
41	Project Permitting	70 days	Tue 7/29/14	Mon 11/3/14		
42	USCG Bridge Permit	15 days	Tue 7/29/14	Mon 8/18/14	40	48
43	USACE Section 404 Nationwide Permit	60 days	Tue 7/29/14	Mon 10/20/14	40	48
44	CVWQCB Section 401 Water Quality Certification (or waiver)	60 days	Tue 7/29/14	Mon 10/20/14	40	48
45	CDFG Section 1602 Streambed Alteration Agreement	60 days	Tue 7/29/14	Mon 10/20/14	40	48
46	State Lands Commission Land Use Lease	60 days	Tue 7/29/14	Mon 10/20/14	40	48
47	State Reclamation Board Permit (CVFPB)	70 days	Tue 7/29/14	Mon 11/3/14	40	48
48	Project Permitting Complete	0 days	Mon 11/3/14	Mon 11/3/14	42,43,44,45,46,47	62
49	Preliminary Engineering Studies	20 days	Tue 10/30/12	Mon 11/26/12		
50	Topographic Survey and Mapping	20 days	Tue 10/30/12	Mon 11/26/12	15	
51	Utility Coordination	20 days	Tue 10/30/12	Mon 11/26/12	15	
52	Traffic Analysis and Handling	20 days	Tue 10/30/12	Mon 11/26/12	15	
53	Final Design	650 days	Tue 10/30/12	Mon 4/27/15		
54	Draft Engineering Reports	40 days	Tue 10/30/12	Mon 12/24/12		
55	Draft Geotechnical Report	40 days	Tue 10/30/12	Mon 12/24/12	15	
56	Draft Hydraulic Report	40 days	Tue 10/30/12	Mon 12/24/12	15	
57	Right of Way Engineering	60 days	Tue 10/30/12	Mon 1/21/13	15	58
58	Request for Caltrans Right of Way Authorization	60 days	Tue 7/29/14	Mon 10/20/14	57,40	59
59	Obtain Right of Way Interests	120 days	Tue 10/21/14	Mon 4/6/15	58	60
60	Caltrans Right of Way Certification	15 days	Tue 4/7/15	Mon 4/27/15	59	66
61	Prepare 60% Design Submittal	60 days	Tue 10/30/12	Mon 3/4/13	15	62,64,65
62	Prepare Final Design Submittal	40 days	Tue 11/4/14	Mon 12/29/14	61,48	63,66
63	Final Engineering Reports	15 days	Tue 12/30/14	Mon 1/19/15	62	
64	Final Geotechnical Report	15 days	Tue 12/30/14	Mon 1/19/15	61	66
65	Final Hydraulic Report	15 days	Tue 12/30/14	Mon 1/19/15	61	66
66	Submit Final PS&E - 100% Plans	0 days	Mon 1/19/15	Mon 1/19/15	62,64,65	68FS+5 days
67	Advertise & Award	65 days	Tue 4/28/15	Mon 7/27/15		
68	Caltrans Construction Authorization	25 days	Tue 4/28/15	Mon 6/1/15	66FS+5 days,60	69,73
69	Advertise Project	30 days	Tue 6/2/15	Mon 7/13/15	68	70
70	Bid Opening	0 days	Mon 7/13/15	Mon 7/13/15	69	71,74
71	Award Project	10 days	Tue 7/14/15	Mon 7/27/15	70	
72	Phase III - Construct Project	320 days	Tue 6/2/15	Mon 8/22/16		
73	Bid Support and Analysis	40 days	Tue 6/2/15	Mon 7/27/15	68	
74	Construction Support	200 days	Tue 7/14/15	Mon 7/11/16	70	75
75	Project Close-Out	30 days	Tue 7/12/16	Mon 8/22/16	74	