RESOLUTION - ACTION REQUESTED 2014-435

MEETING: August 19, 2014

TO: The Board of Supervisors

FROM: Peter Rei, Public Works Director

RE: Approve an Agreement with Willdan Engineering for Bridge Design

RECOMMENDATION AND JUSTIFICATION:
Approve an Agreement with Willdan Engineering for Bridge Design for Tip Top Road Over the Middle Fork of the Chowchilla River Bridge in the Not to Exceed Amount of $113,540.30, and Authorize the Board of Supervisors Chair to Sign the Agreement.

Willdan Engineering will provide project management, topographic survey and right-of-way mapping, geotechnical engineering, hydraulics, preliminary engineering and environmental surveys and constraints mapping.

Staff has prepared the necessary federal documents for the authorization of $140,000 in Federal Bridge funds for Project Number BRLO 5940(112) - Tip Top Road Over MF Chowchilla River Bridge. Mariposa County has received authorization for the project from Caltrans.

The Federal Highway Administration administers the Federal Highway Bridge Program as part of the current Federal Transportation Bill, MAP-21. Caltrans manages the program in the State of California.

Under current regulations 100% of the cost are reimbursable from the Highway Bridge Program.

Your Board should note that this contract is with Willdan Engineering. The County's Interim Public Works Director is a Willdan employee working under contract. Mr. Wilson played no role in the selection of Willdan for this contract and direct supervision of the work will be provided by another engineer within the Department. Given the level of expertise Willdan Engineering can provide to the County it is recommended that your Board award this contract at this time.

BACKGROUND AND HISTORY OF BOARD ACTIONS:

ALTERNATIVES AND CONSEQUENCES OF NEGATIVE ACTION:
The Board could choose not to approve the Agreement which would mean that the
bridge would not be replaced.

FINANCIAL IMPACT:
Funds will be allocated into the Bridge Replacement/Repair fund #512 during Final Budget Adjustments in September 2014.

ATTACHMENTS:
Professional Agreement with Willdan Eng-Tip Top Road Bridge (PDF)
E-76 Allocation (Tip Top Road Bridge) (PDF)

CAO RECOMMENDATION
Requested Action Recommended

[Signature]
Rick Benson, County Administrative Officer

RESULT: ADOPTED AS AMENDED BY CONSENT VOTE [UNANIMOUS]
MOVER: Merlin Jones, District II Supervisor
SECONDER: Janet Bibby, District III Supervisor
AYES: Stetson, Jones, Bibby, Cann, Carrier
TO: DOUG WILSON, Interim Public Works Director
FROM: RENE’ LaROCHE, Clerk of the Board
SUBJECT: Approval of Consent Agenda
RES. 14-434, 14-435 and 14-437

THE BOARD OF SUPERVISORS OF MARIPOSA COUNTY, CALIFORNIA
ADOPTED THIS Order on August 19, 2014

ACTION AND VOTE:

Chair Cann also noted that the contracts with Willdan in CA15, CA16, and CA18 were all negotiated a couple of months ago before the Interim Public Works Director, who is from the same company, was hired; but that Paragraph 2.03 will be edited to noted that all direct supervision will be provided by the Assistant Public Works Director of Operations; that it is not anticipated that either CA15 or CA16 will have any significant work performed while we are in an interim situation, but that CA18 does have some deadlines. Steven W. Dahlem/County Counsel added that the contracts that are attached to the agenda do not have that modification but that the modification will be made if the Board so directs. Chair Cann noted that a motion to adopt the consent agenda will require that additional language.

CA15. Public Works RES-2014-434
Approve an Agreement with Willdan Engineering for Bridge Design for the Usoha Road Over the Middle Fork of the Chowchilla River Bridge in the Not to Exceed Amount of $135,880.56, and Authorize the Board of Supervisors Chair to Sign the Agreement

Approve an Agreement with Willdan Engineering for Bridge Design for Tip Top Road Over the Middle Fork of the Chowchilla River Bridge in the Not to Exceed Amount of $113,540.30, and Authorize the Board of Supervisors Chair to Sign the Agreement

CA18. Public Works RES-2014-437
Approve an Agreement with Willdan Engineering for Preparation of the Bridge Preventative Maintenance Program (BPMP) in the Not to Exceed Amount of $50,982, and Authorize the Board of Supervisors Chair to Sign the Agreement
PROFESSIONAL SERVICE AGREEMENT

THIS AGREEMENT is made this 14th day of August, 2014 between:

COUNTY: Mariposa County Department of Public Works
4639 Ben Hur Road
Mariposa, CA 95338

and

CONTRACTOR: Willdan Engineering
2240 Douglass Blvd., Suite 270
Roseville, CA 95661

ARTICLE 1. TERM OF AGREEMENT

1.01 Agreement Term: This Agreement shall become effective on July 1, 2014, and shall terminate on December 31, 2016, unless terminated in accordance with the provisions of Article 7 of this Agreement.

ARTICLE 2. INDEPENDENT CONTRACTOR STATUS

2.01 Independent Contractor: It is the express intention of the parties that Contractor is an independent Contractor and not an employee, agent, joint venturer or partner of County. Nothing in this Agreement shall be interpreted or construed as creating or establishing the relationship of employer and employee between County and Contractor or any employee or agent of Contractor. Both parties acknowledge that Contractor is not an employee for state or federal tax purposes. Contractor shall retain the right to perform services for others during the term of this Agreement.

2.03 Contractor Qualifications: Contractor represents that it has the necessary competence, experience and qualifications for the services to be performed.

2.03 Agreement Management: Contractor shall report to the Assistant Public Works Director of Operations who will review the activities and performance of the Contractor and administer this Agreement.

ARTICLE 3. SERVICES TO BE PERFORMED BY CONTRACTOR

3.01 Scope of Services: Contractor agrees to provide services to the Department of Public Works per the scope of work attached hereto. Willdan Engineering will provide Project Management as described on Exhibit “A” attached for Tip Top Road over the Middle Fork of the Chowchilla River Bridge.

3.02 Method of Performing Services: Contractor will determine the method, details, and means of performing the above-described services. County shall not have the right to, and shall not, control the manner or determine the method of accomplishing Contractor’s services.

3.03 Employment of Assistants: Contractor may, at the Contractor’s own expense, employ such assistants as Contractor deems necessary to perform the services required of
3.02 Method of Performing Services: Contractor will determine the method, details, and means of performing the above-described services. County shall not have the right to, and shall not, control the manner or determine the method of accomplishing Contractor's services.

3.03 Employment of Assistants: Contractor may, at the Contractor's own expense, employ such assistants as Contractor deems necessary to perform the services required of Contractor by this Agreement. County may not control, direct, or supervise Contractor's responsibility for assistants or employees in the performance of those services. Contractor assumes full performance of those services. Contractor assumes full and sole responsibility for the payment of all compensation and expenses of such assistants and for all state and federal income tax, unemployment insurance, Social Security, disability insurance and other applicable withholdings.

ARTICLE 4. COMPENSATION

4.01 Compensation: In consideration for the services to be performed by Contractor, County agrees to pay Contractor in proportion to the services satisfactorily performed in the not to exceed amount of $113,540.30. Items designated as "time and materials", the consultant shall be paid, and reimbursed for costs, a total sum not to exceed the amount shown in Exhibit "A" attached hereto. In the event payments equal the "not to exceed" amount, Consultant shall complete all services required under this agreement without further compensation or cost reimbursement.

[ ] Total sum to be paid upon completion of services, or
[ X ] Incremental payments based on the following schedule:
  Submittal of monthly invoices

4.02 Invoices: Contractor shall submit detailed invoices for all services being rendered from the Contractor to the County. All invoices shall reference contract number.

4.03 Date for Payment of Compensation: County will endeavor to make payment within 45 days of invoices being submitted from the Contractor to the County, and approval and acceptance of the work by the County.

4.04 Expenses: Contractor shall be responsible for all costs and expenses incident to the performance of services for County, including but not limited to, all costs of equipment provided by Contractor, all fees, fines, licenses, bonds or taxes required of or imposed against Contractor and all other of Contractor's costs of doing business. County shall not be responsible for any expense incurred by Contractor in performing services for County.

ARTICLE 5. OBLIGATIONS OF CONTRACTOR

5.01 Tools and Instrumentalities: Contractor will supply all tools and instrumentalities, required to perform the services under this Agreement. Contractor is not required to purchase or rent any tools, equipment or services from County. County shall not provide working space, supplies, materials or other such support to Contractor in the performance of the services and tasks as described herein.
5.02 Indemnification: Contractor shall indemnify and hold County harmless against any and all liability imposed or claimed, including attorney's fees and other legal expenses, to the extent caused by the negligent performance of services by Contractor or Contractor's assistants, employees or agents, including all claims relating to the injury or death of any person or damage to any property. Contractor agrees to maintain a policy of liability insurance in the minimum amount of One Million Dollars ($1,000,000) or an amount as otherwise determined appropriate by the County Risk Manager to cover such claims. Contractor shall furnish a certificate of insurance evidencing such insurance and naming the County as an additional insured for the above-cited liability coverage prior to commencing work. Acceptance by County of insurance certificates and endorsements required under this Agreement does not relieve Contractor from liability under this indemnification and hold harmless clause. By execution of this Agreement, Contractor acknowledges and agrees to the provisions of this Section and that it is a material element of consideration.

5.03 General Liability and Automobile Insurance: During the term of this Agreement Contractor shall obtain and keep in full force and effect a commercial, general liability and automobile policy or policies of at least $1,000,000 combined limit for bodily injury and property damage; provided that the County, its officers, employees, volunteers and agents are to be named additional insureds under the policies, and that the policies shall stipulate that this insurance will operate as primary insurance for work performed by Contractor and its sub-contractors, and that no other insurance effected by County or the named insureds will be called on to cover a loss covered hereunder. The General Liability insurance shall be provided by an ISO Commercial General Liability policy, with edition dates of 1985, 1988, or 1990. The County will be named as an additional insured using ISO form CG 2010 1185 or the same form with an edition date no later than 1990, or in other form satisfactory to County.

5.04 Professional Liability Coverage: Contractor shall provide proof of professional liability coverage satisfactory to County prior to commencing work under the Agreement.

5.05 Certificate of Insurance: Contractor shall complete and file with the County prior to engaging in any operation or activity set forth in this Agreement, certificates of insurance evidencing coverage as set forth in paragraphs 5.02, 5.03 and 5.04 above and which shall provide that no cancellation by the insurance company will be made during the term of this Agreement, without thirty (30) days written notice to County prior to the effective date of such cancellation, ten (10) day notice if cancellation is for nonpayment of premium.

5.06 Workers' Compensation: During the term of this Agreement Contractor agrees to provide workers' compensation insurance for Contractor's employees and agents and agrees to hold harmless and indemnify County for any and all claims arising out of any injury, disability, or death of any of Contractor's employees or agents.

5.07 Public Employees Retirement System (CalPERS): In the event that Contractor or any employee, agent, or subcontractor of Contractor providing services under this Agreement is determined by a court of competent jurisdiction or the Public Employees Retirement System (CalPERS) to be eligible for enrollment in CalPERS as an employee of the County, Contractor shall indemnify, defend, and hold harmless County for the payment of any employee and/or employer contributions for CalPERS benefits on behalf of Contractor or its employees, agents, or subcontractors, as well as for the payment of any penalties and interest on such contributions, which would otherwise be the responsibility of County.
5.08 **State and Federal Taxes:** As Contractor is not County's employee; Contractor is responsible for paying all required state and federal taxes. In particular:

a) County will not withhold FICA (Social Security) from Contractor's payments;
b) County will not make state or federal unemployment insurance contributions on behalf of Contractor;
c) County will not withhold state or federal income tax from payment to Contractor;
d) County will not make disability insurance contributions on behalf of Contractor;
e) County will not obtain workers' compensation insurance on behalf of Contractor.

5.09 **Records:** It is understood and agreed that all plans, studies, specifications, and data magnetically or otherwise recorded on computer or computer diskettes, records, files, reports, etc., in possession of the Contractor relating to the matters covered by this Agreement shall be the property of the County, and Contractor hereby agrees to deliver the same to the County upon request. It is understood and agreed that the documents and other materials including but not limited to those set forth hereinabove, prepared pursuant to this Agreement are prepared specifically for the County and are not necessarily suitable for any future or other use. Contractor shall maintain such records for a minimum of three (3) years or as otherwise required by law.

5.10 **Contractor’s Books and Records:** Contractor shall maintain any and all ledgers, books of account, invoices, vouchers, canceled checks, and other records or documents evidencing or relating to charges for services or expenditures and disbursements charged to the County for a minimum of three (3) years, or for any longer period required by law, from the date of final payment to the Contractor. Any records or documents required to be maintained shall be made available for inspection, audit and/or copying at any time during regular business hours, upon oral or written request of the County.

5.11 **Assignability of Agreement:** It is understood and agreed that this Agreement contemplates personal performance by the Contractor and is based upon a determination of its unique personal competence and experience and upon its specialized personal knowledge. Assignments of any or all rights, duties or obligations of the Contractor under this Agreement will be permitted only with the express written consent of the County.

**ARTICLE 6. OBLIGATIONS OF COUNTY**

6.01 **Cooperation of County:** County agrees to comply with all reasonable requests of Contractor and provide access as allowed by law to all documents reasonably necessary to the performance of Contractor's duties under this Agreement.

6.02 **Assignment:** Neither this Agreement nor any duties or obligations under this Agreement may be assigned by County without the prior written consent of Contractor.

**ARTICLE 7. TERMINATION OF AGREEMENT**

7.01 **Termination Occurrence of Stated Events:** This Agreement shall terminate automatically on the occurrence of any of the following events:

1. Bankruptcy or insolvency of Contractor;
2. Death of Contractor.

Revised 5/06/13
7.02 Termination by County for Default of Contractor: Should Contractor default in the performance of this Agreement or materially breach any of its provisions, County, at County's option, may terminate this Agreement by giving written notification to Contractor.

7.03 Termination for Convenience of County: County may terminate this Agreement at any time by mailing a notice in writing to Contractor that the Agreement is terminated. Said Agreement shall then be deemed terminated and no further work shall be performed by Contractor. If the Agreement is so terminated, the Contractor shall be paid for that percentage of the phase of work actually completed, based on a pro rata portion of the compensation for said phase satisfactorily completed at the time the notice of termination is received.

7.04 Termination of Funding: The parties acknowledge that the nature of government finance is unpredictable, and that the rights and obligations set forth in this Agreement are necessarily contingent upon the receipt and/or appropriation of the necessary funds. In the event that funding is terminated, in whole or in part, for any reason, at any time, this Agreement and all obligations of County arising from this Agreement shall be immediately discharged. County agrees to inform Contractor no later than thirty (30) calendar days after County determines, in its sole judgment, that funding will be terminated and the final date for which funding will be available.

ARTICLE 8. GENERAL PROVISIONS

8.01 Notices: Any notices to be given hereunder by either party to the other may be effected either by personal delivery in writing or by mail, registered or certified, postage prepaid and return receipt requested. Mailed notices shall be addressed to the parties at the addresses appearing in the introductory paragraph of this Agreement, but each party may change the address by written notice in accordance with this paragraph. Notices delivered personally will be deemed communicated as of actual receipt; mailed notices will be deemed communicated as of two (2) days after mailing.

8.02 Entire Agreement of the Parties: This Agreement supersedes any and all agreements, either oral or written, between the parties hereto with respect to the rendering of services by Contractor for County and contains all the covenants and agreements between the parties with respect to the rendering of such services in any manner whatsoever. Each party to this Agreement acknowledges that no representations, inducements, promises, or agreements, oral or otherwise, have been made by any party, or anyone acting on behalf of any party, which is not embodied herein, and that no other agreement, statement, or promise not contained in this Agreement shall be valid or binding. Any modification of this Agreement will be effective only if it is in writing signed by the party to be charged and approved by the County as provided herein or as otherwise required by law.

8.03 Partial Invalidity: If any provision in this Agreement is held by a court of competent jurisdiction to be invalid, void, or unenforceable, the remaining provisions will nevertheless continue in full force without being impaired or invalidated in any way.

8.04 Attorney’s Fees: If any action at law or in equity, including an action for declaratory relief, is brought to enforce or interpret the provisions of this Agreement, the prevailing party will be entitled to reasonable attorneys’ fees, which may be set by the court in the same action or in a separate action brought for that purpose, in addition to any other relief to which that party may be entitled.
8.05 Conformance to Applicable Laws: Contractor shall comply with the standard of care regarding all applicable federal, state and county laws, rules and ordinances. No discrimination shall be made by Contractor in the employment of persons who work under this Agreement because of race, color, national origin, ancestry, disability, sex or religion of such person.

8.06 Waiver: In the event that either County or Contractor shall at any time or times waive any breach of this Agreement by the other, such waiver shall not constitute a waiver of any other or succeeding breach of this Agreement, whether of the same or any other covenant, condition or obligation.

8.07 Governing Law: This Agreement and all matters relating to it shall be governed by the laws of the State of California and County of Mariposa and any action brought relating to this Agreement shall be held exclusively in a state court in the County of Mariposa.

Executed at Mariposa, California, on the date and year first above written.

COUNTY:

KEVIN CANN, Chairman
Mariposa County Board of Supervisors

9-4-14
Date:

CONTRACTOR:

Ken Taylor, PE
Director of Engineering

8-1-14
Date:

APPROVED AS TO FORM:

STEVEN W. DAHLEM
County Counsel

9-3-14
Date:

APPROVED BY:

PETER M. REI, PE
Public Works Director

8/5/14
Date:

GARY TAYLOR
Assistant Public Works Director of Operations

DATE:

Revised 5/06/13
APPLICABLE STANDARDS

All work process and products subject to this Agreement shall be completed in strict accordance with the most recent version of Caltrans Local Assistance Procedures Manual (LAPM) as necessary to secure project authorization from Caltrans/FHWA for bridge replacement / Widening and Rehabilitation. In addition, the project shall conform to the following design and environmental standards:

- Mariposa County Public Works improvement standards & specifications
- Caltrans 2010 Standard Plans & Specifications
- Local Assistance Procedures Manual
- Caltrans Highway Design Manual
- Caltrans Memos to Designers
- Caltrans Seismic Design Criteria
- Caltrans Bridge Design Aids
- Caltrans Bridge Design Details
- Caltrans Seismic Design Criteria
- Caltrans Standard Environmental Reference

DELIBERABLES

All work products are subject to review and approval by the County. Willdan shall provide the County with sufficient time and opportunity to review and comment on all deliverables prior to final publishing and/or submittal to Caltrans/FHWA. As such, all deliverables shall be provided to the County in draft and final versions. The County’s comments on draft submittals shall be addressed by Willdan and incorporated into the final submittal, where appropriate.

Unless otherwise noted herein, Willdan shall provide: draft submittals to the County in an acceptable digital format; and all final documents in both paper (four copies, including one photo-ready) and digital formats (both PDF and native). For final record documents, Willdan will provide the following in addition to the above:

- Specifications and other text documents — Provide one unbound wet stamped original of the final version.
- Plans and drawings — Provide two wet stamped originals of the final version.
- Electronic files – Provide one CD containing plans, specifications, and estimate in AutoCAD, MS Word, and MS Excel formats.
WORK PLAN

September 2013

Following is a complete work breakdown for phase 1 of the project.

The following conventions are noted. Where the subject is implied, it shall be assumed to refer to the Willdan. Use of the word, “County”, shall refer to the County Contract Manager. Unless otherwise noted, it shall be assumed that Willdan shall provide separate deliverables for each bridge site. Where a task is labeled “CONTINGENT”, Willdan shall not commence work until a separate notice to proceed has been issued by the County.

TASK 1 PROJECT MANAGEMENT

1.1 COMMUNICATIONS AND COORDINATION

Willdan shall maintain frequent contact with the County, stakeholders, and task leaders to keep the lines of communication open and to facilitate and ensure successful project delivery. Willdan shall:

- Establish and implement a project document/correspondence management and distribution system to assure that information flows between all parties of the Project as intended.

- Maintain a project contact list with names and contact information for all interested parties.

- Develop and maintain a project document retention system, which shall be transferred to the County upon Project completion or contract termination. Said system shall catalog and retain all significant project correspondence and work products in their native format.

1.2 MEETINGS

Willdan shall organize, schedule, and chair meetings as necessary to provide progress updates, coordinate between technical disciplines, and facilitate overall project communication. For each meeting, Willdan shall prepare meeting agendas and minutes for all meetings. The agendas are to be submitted to the County for review five (5) working days prior to the meeting. The minutes shall be distributed to all attendees and everyone who was invited within five (5) working days after the meeting. The minutes shall include, but not be limited to, a list of attendees with phone numbers and email, a synopsis of discussion items, any pertinent information, action items, and follow-up to action items. The following meetings are anticipated for this project.

PDT Meetings: The project development team (PDT) meetings will serve as the primary forum for reviewing the status of the project and identifying and resolving project issues. Attendees will include Willdan’s Project Manager, and task leads as needed, and County and Caltrans staff and other
Scope of Work (Phase 1)
Tip Top Road over Middle Fork Chowchilla River Bridge Project

stakeholders as necessary. Throughout the anticipated duration of the project design phase, Willdan shall attend and facilitate up to one (1) PDT meetings and one (1) Kickoff meeting.

**Deliverable(s):**

*Meeting notices, agendas, special exhibits and minutes*

### 1.3 PROJECT SCHEDULE

To identify and manage the Project critical path, Willdan shall prepare a detailed project baseline schedule based on a work breakdown structure that will include tasks of parties involved in the Project and will take into account agency staff review time. The schedule shall include the following information:

- Task dependencies as predecessors and successors;
- Anticipated task durations with beginning and end dates; and
- Critical path with milestones.

Willdan shall routinely update the schedule to manage/monitor work progress as the Project progresses. Updates shall be provided to the County on a monthly basis.

**Deliverable(s):**

*Project Schedule (baseline and monthly thereafter in digital format only)*

### 1.4 PROJECT ADMINISTRATION

Willdan shall monitor and control the effort and progress of the work as follows:

- **Monitor subconsultant progress and review/approve invoices:** Willdan shall track the work progress of the proposed subconsultants and review their invoices for format and content compliance.
- **Prepare monthly progress reports and client invoices:** During the term of the agreement, Willdan shall be responsible for reporting progress to the County on a regular basis and as necessary to keep the Project schedule up to date and the Project team “on the same page.” Willdan shall submit a monthly Progress Report to accompany invoices. The reports will generally include a narrative on work accomplished during the reporting period; work planned for the next reporting period; information/decisions required to maintain the Project schedule and complete deliverables; problems encountered that may affect the schedule, budget, and anticipated work items; and recommendations to resolve issues. This report can be customized and formatted to best suit the needs of the County.

**Deliverable(s):**

*Monthly progress reports (digital format only)*
1.5 QUALITY CONTROL

Willdan shall establish and implement a process to ensure that all deliverables (including draft) are complete and accurate, including but not limited to, ensuring that design calculations are independently checked and that exhibits and plans are checked, corrected and back-checked. Willdan shall review subconsultant submittals to ensure that appropriate background information, study methodology, interpretation of data, format and content are completed in accordance with the scope of work and applicable standards. Transmittals for all deliverables shall include the name(s) and contact information of the person(s) involved in ensuring quality deliverables.

**Deliverable(s):**

*Document transmittals with QC reviewer contact information*

1.6 FEDERAL AID (LOCAL PROGRAMS) ASSISTANCE

Willdan will closely coordinate with the County and Caltrans District 10 Local Programs staff throughout the design phase of the project. Willdan will provide assistance with preparing and processing the required Federal forms for authorizing and allocating HBP funds for the project. Willdan will prepare the forms for the County’s signature. After the County has signed each form, Willdan will forward the forms to the appropriate Caltrans staff member and follow up with phone calls and meetings as required to verify the forms have been accepted, processed, and approved.

**Deliverable(s):**

*Federal Aid (Local Assistance Programs) Forms:*

<table>
<thead>
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<th>Exhibit No.</th>
<th>Form Name</th>
<th>Needed For HBP Authorization</th>
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<td>LAPM 3-E</td>
<td>Request for Authorization to Proceed Data Sheets</td>
<td>Yes</td>
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<tr>
<td>LAPM 3-O</td>
<td>Completed Finance Letter</td>
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<td>LAPM 6-A</td>
<td>Preliminary Environmental Study (PES)</td>
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<tr>
<td>LAPM 7-B</td>
<td>Field Review Form (Previously Prepared)</td>
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<td>LAPM 7-C</td>
<td>Roadway Data Sheet (Previously Prepared)</td>
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<td>LAPM 7-D</td>
<td>Major Structure Data (Previously Prepared)</td>
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<td>LAPM 12-A</td>
<td>Preliminary Estimate of Cost</td>
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<td>LAPM 14-D</td>
<td>Utility Notification</td>
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<td>LAPG 6-A</td>
<td>HBP Application/Scope Definition (Revised)</td>
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<td>LAPG 6-D</td>
<td>HBP Scope/Cost/Schedule Change Request</td>
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TASK 2 ENGINEERING STUDIES

2.2 SURVEY, RESEARCH AND MAPPING

Review Background Information and Research

Willdan will obtain and review existing as-built plans, photos, reports, assessor maps, topography, and any other pertinent data for the project area from the County and other sources. Willdan will also perform a field review of the project area and document its findings in writing and with digital photographs.

2.2.1 UTILITY RESEARCH AND MAPPING

Based on a preliminary site visit for the preparation of this proposal, there are overhead and underground utilities in the area. Willdan will obtain utility atlases, as-built drawings, and/or preliminary design plans for any proposed and/or existing utility improvements. Willdan will delineate the existing and proposed utilities within the project limits, which will be used as a base mapping for the design plans. Willdan will verify that the project’s final design is compatible with the utilities within the project area by clearly indicating on the plans the adjustment or relocation of the utility facilities and providing time for any necessary adjustments or relocations in the construction schedule. Willdan will indicate the disposition of all utilities requiring relocation on the plans. The County will issue Notice-to-Relocate to the utility companies requiring such relocation. The design and preparation of relocation detail plans is not included in this scope of services.

2.2.2 SURVEYS AND BASE MAPPING

Willdan will utilize our subconsultant, Golden State Surveying Engineering, to perform survey services for this project. To obtain the information necessary for the hydrologic and hydraulic modeling efforts, aerial mapping supplemented with detailed topographic surveys at the bridge sites will be utilized. The survey effort will consist of:

2.2.3. PROJECT CONTROL-NET
- Establish aerial photo control.
- Horizontal control (section corners, property corners, etc.) CCS83 coordinate system.
- Vertical control (benchmarks, temporary benchmarks, etc.) NAVD88 vertical datum.

2.2.4. AERIAL PHOTOGRAMMETRY
- Determine flight and photography.
- Digital mapping (1-ft contour intervals, spot elevations, planimetrics, DTM, etc.)
- Map compilation to produce a complete topographic base map (1"=40’).
- Rectified digital orthophotos (1"=40’).

2.2.5. LAND-NET RECOVERY (SUFFICIENT TO ESTABLISH RIGHT OF WAY)
Scope of Work (Phase 1)
Tip Top Road over Middle Fork Chowchilla River Bridge Project

- Land survey retracement (lateral section corners, block corners, etc.).
- Record data search (County record maps, Caltrans maps, deeds, etc.).
- Map compilation to produce a complete land-net base map
- Perform monument reestablishment and perpetuation.

2.2.6. SUPPLEMENTAL SURVEYS
- Obtain details at conform areas, intersections and existing bridges.
- Obtain drainage details that are not visible in aerial photogrammetry.
- Map compilation to produce a complete topographic base map (1"=40’).
- Trees greater than 4-inch diameter shall be noted, including species names.
- 10 Channel Cross Sections upstream and 5 downstream.

**Deliverable(s):**
Research (Parcel Map, Record of Survey, as-built plans, deeds, APN maps, etc.)
Prepare Topographic and right of way base map at 1" = 40’ scale
Provide hard copies & Electronic File (AutoCAD 2010)

2.2.7 RIGHT OF WAY ENGINEERING

Reserved
2.3 HYDROLOGY AND HYDRAULICS

WRECO will attend one (1) combined kickoff field meeting for Tip Top Road bridges. WRECO will also participate in two (2) conference calls with the County and Project Team staff.

2.3.1 DATA REVIEW

WRECO will review available data, including previous studies, provided by the County and the Project Team. Key information to review will be the available hydrologic and hydraulic data for Middle Fork Chowchilla River.

2.3.2 FIELD RECONNAISSANCE

WRECO will perform one (1) field reconnaissance for both bridges to assess the existing conditions in the vicinity of the project sites.

2.3.3 HYDROLOGIC ANALYSIS

WRECO’s preliminary research of the Federal Emergency Management Agency’s (FEMA) Flood Insurance Study (FIS) indicated that there are no detailed studies available at the bridge site. WRECO will perform hydrologic analyses using the following two methods to estimate the design flows: 1) USGS Regional Regression Method and 2) Unit Hydrograph Analysis. WRECO will identify the appropriate design floods (usually the 50-year flood), base flood (100-year flood), flood of record (if possible), and the overtopping flood.

2.3.4 HYDRAULIC ANALYSIS

WRECO will perform a hydraulic analysis to determine the design flow characteristics for the existing condition through the study area including the limits and water surface profile through the study area for the base flood. The hydraulic model of choice will be the U.S. Army Corps of Engineers’ HEC-RAS Model. WRECO will coordinate with the Project Team to obtain the surveyed channel cross-sections for setting up the hydraulic model.

2.3.5 BRIDGE 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 Memo, which will include the standard Summary of Floodplain Encroachment Form and technical discussions.

**Deliverables:**

Bridge Location Hydraulics Study Memo (Draft [3 hard copies] and Final [5 hard copies])
2.4 GEOTECHNICAL SERVICES FOR BRIDGE REPLACEMENT

Willdan Geotechnical (WG) will complete Foundation Reports for preliminary and final design of the proposed bridge replacement at Tip Top Road over Middle Fork Chowchilla River. The Foundation Report will also include geotechnical design recommendations for new pavement sections associated with the approach roadway. WG's scope of geotechnical services assumes a two-span bridge replacement on similar location/alignment to the existing bridge. WG's scope and fee does not include recommendations for retaining walls other than for standard wingwalls.

2.4.1 PRELIMINARY RESEARCH, COORDINATION AND MARKING AND CLEARING OF BORING LOCATIONS

WG will coordinate with Willdan to discuss the project issues and schedule; review published geologic mapping; review preliminary project data; and perform a field site review. WG will review the site for drill rig access, mark exploratory boring locations and notify Underground Service Alert (USA). WG will obtain the necessary Mariposa County boring permit and encroachment permit. WG assumes that Willdan will provide rights-of-entry if needed and the County will waive the encroachment permit fees and bond requirements.

2.4.2 FIELD INVESTIGATION

For a new single-span structure, WG will drill, log and sample two (2) exploratory borings to depths of 30 to 40 feet below existing grade to obtain subsurface information and soil/rock samples for testing. We expect that rock coring will be necessary for drilling into shallow bedrock at this site. WG will complete a boring at each abutment.

The borings will be drilled with a track-mounted drill rig using auger and/or mud-rotary drilling methods through soil, and then diamond-bit core drilling where hard rock is encountered. WG will collect samples at approximate 5-foot intervals with Standard Penetration Test (SPT) or California Modified samplers to obtain blow count information for geotechnical design. Where hard rock is encountered, WG will obtain continuous rock core samples during coring and record recovery and rock quality.

A WG Engineer or Geologist will log the borings and direct the sampling operations consistent with current Caltrans procedures/requirements. Surface and ground water elevations will be noted, where encountered. WG will spread drill cuttings at the site and backfill the borings with cement grout. WG will drill the borings in the vicinity of the proposed abutments within the existing shoulder and a portion of the traveled-way, maintaining a single 10-foot traffic lane as required by the County. We will provide warning signs and traffic cones (without flaggers) consistent with traffic control for low volume roadways.
2.4.3 LABORATORY TESTING

WG will perform the following laboratory tests on relatively undisturbed samples obtained from the exploratory borings: Moisture Content and Unit Weight for bearing capacity and lateral capacity; Triaxial Compression or Direct Shear for bearing capacity and lateral capacity; Sieve Analysis for scour analysis data; Resistance Value for pavement design; and, Resistivity, pH, Sulfate Content and Chloride Content for soil corrosivity analysis.

2.4.4 PRELIMINARY FOUNDATION REPORT

After completion of the subsurface exploration, WG will prepare and submit a Preliminary Foundation Report (PFR) for the bridge, consistent with Caltrans procedures and format, for use in the Bridge Type Selection Phase of the project. The Preliminary Foundation Report will include: Project Location and Vicinity Map; Summary of Site Geology and Subsurface Conditions; Seismic Data and Evaluation (using current Caltrans seismic design criteria, including preliminary ARS curve); Liquefaction Considerations; Approach Roadway (subgrade preparation and new pavement sections); Preliminary Foundation Alternatives (e.g., spread footings, driven piling, and cast-in-drilled-hole piling); Preliminary Foundation Recommendations (spread footing recommendations, pile types, pile tip elevation ranges); and Preliminary Construction Considerations.

Deliverable(s)

Preliminary Foundation Report
Log of Test Borings
3. ENVIRONMENTAL REVIEW

Willdan Engineering and Sycamore Environmental will coordinate with Caltrans, United States Fish and Wildlife Service, Army Corps of Engineers, Federal Highway Administration, State Historic Preservation Office, California Department of Fish and Wildlife, California Regional Water Quality Control Board, the County, and any other regulatory agency involved in preparing the technical studies required for the project under the National Environmental Policy Act (NEPA) and the California Environmental Quality Act (CEQA).

The Preliminary Environmental Studies (PES) will be prepared as part of the Caltrans District 10 Local Assistance environmental oversight process. As the PES preparation is pending, the scope and extent of technical studies that may be needed to support the environmental review are as yet undetermined. Sycamore Environmental is familiar with the technical studies and memoranda that District 10 is likely to require and which may be contingent. Nevertheless, the scope of work will be determined by the outcome of the field review and approved PES form. Accordingly, the scope of work outlined in the following sections is indefinite and is intended to be more comprehensive than what may be necessary. Where such efforts are as yet indefinite, they are considered “contingent” tasks and are subject to a separate notice to proceed to be issued by the County.

3.1 PRELIMINARY ENVIRONMENTAL STUDY (PES) FORM

Sycamore Environmental shall prepare a draft PES Form for the project and shall coordinate with Willdan Engineering, the County, and Caltrans to setup a field review prior to approval of the PES Form. It is assumed the field review meeting will be conducted the same day as another PES review field meeting at a nearby County companion project. During the field review meeting at the project site, the County, Caltrans, Willdan Engineering, and Sycamore Environmental representatives will review and finalize the PES form. Participants will discuss each element of the PES checklist form, refine the environmental study limits and potential modifications to the preliminary bridge replacement structure, and identify issues of concern and required technical studies. The PES form will outline the recommended federal environmental documentation, technical studies, surveys, approvals, agency coordination, and permits required for the bridge replacement project. Based on e-mail conversations with the Caltrans District 10 air quality specialist for other Mariposa County bridges, we anticipate the proposed project meets the definition of an exempt project in 40 CFR 93.126 (safer, non-federal aid system roads). The project is not subject to regional and project level conformity determinations. The two page Caltrans Transportation Air Quality Conformity Findings Checklist will be completed during preparation of the PES. No additional air quality technical studies will be required by Caltrans.

Once the draft PES Form is completed, it will be reviewed by Willdan Engineering, the County, and Caltrans. Sycamore Environmental will submit the County approved PES to Caltrans for signature prior to initiating technical studies. This task assumes Field Review meetings with Caltrans concurrently with the sister project.
Scope of Work (Phase 1)
Tip Top Road over Middle Fork Chowchilla River Bridge Project

Deliverable(s):
- Preliminary Environmental Study Form
- Field review meeting with Caltrans (concurrently with sister project)
- Five (5) copies of a Draft PES Form and Final PES Form, Meeting Agenda, Meeting Notes

3.2 AREA OF POTENTIAL EFFECTS MAP

Sycamore Environmental and Francis Heritage, the cultural consultant, will prepare the APE map that delineates the archaeological APE. The APE map will be prepared pursuant to Attachment 3 of the 2014 First Amended Programmatic Agreement among the Federal Highway Administration, the Advisory Council on Historic Preservation, the California State Historic Preservation Officer, and Caltrans regarding Compliance with Section 106 of the National Historic Preservation Act (Programmatic Agreement). If an architectural (historic) APE needs to be prepared, it will be included under the HRER task. District 10 may want the County engineer to sign the APE map in addition to Caltrans staff and the District Local Assistance Engineer.

4. Bridge / Roadway Study

4.1 DRAFT FEASIBILITY STUDY REPORT

Willdan will investigate the existing Tip Top Road Bridge Number 40C0066 and develop a Draft Feasibility Study Report that outlines the existing site conditions and required engineering criteria and studies needed to successfully prepare and deliver this project.

Willdan will investigate the rehabilitation and widening options and conduct a detailed Feasibility Study that addresses the repair and widening alternatives, their estimated cost, constructability, and seismic capacity of various repair option and also evaluates the cost and impact of a replacement structure. As part of the Feasibility Study, we will also include costs for a potential replacement (including staging, roadway, and environmental work) so that the appropriate strategy can be determined. Willdan will address traffic and environmental impacts, and associated funding needs. We will address the existing hydraulic impacts that are associated with various substructure repairs/ rehabilitation. A detailed hydraulic study will be developed to analyze the Middle Fork Chowchilla River and the control and influence of seasonal runoff. Willdan will evaluate the 100 year water surface elevation for overtopping, and if the approach roadway are overtop within the 100 year event we will pursue a design exception for the hydraulic clearance. All design alternatives will place public safety first. The roadway approaches and bridge access will meet the AASTO standards for low volume roads, stopping sight distance requirements and lane width requirements.
4.1.1 DRAFT PRELIMINARY REPORT

Willdan will prepare a Draft Preliminary Report for the County’s review and comment. The Draft Preliminary Report will outline the roadway geometrics, right-of-way, preliminary findings from the geotechnical and hydraulic studies, and any permitting issues. The Draft Preliminary Report will be developed following Caltrans standards and guidelines outlined in the Local Assistance Procedure Manual.

As part of the Draft Preliminary Report, Willdan will develop an alignment study for the replacement alternatives that addresses the roadway’s horizontal and vertical geometrics. The emphasis of this study will be to refine the limits of the horizontal and vertical alignments and determine roadway superelevations, transitions, fill slope impacts, and right-of-way requirements.

It is assumed that the approach roads will be approximately 200 to 400-ft long per the HBRP application and LAGP Section 6.4.2. The Draft Preliminary Report will include preparation of a 1”=40’ scale base sheet of the project’s limits. The roadway geometrics will be coordinated with the bridge type alternative and the traffic staging plans. The plan sheets will be developed to a 35% level and will show existing and proposed conditions along Tip Top Road.

Willdan will summarize findings from the review of existing data/information and field visit(s). The Draft Project Study Report will provide comments on constructability and a cost estimate for each alternative, as well as outlining construction procedures for the recommended option.

Assumptions:
Willdan shall develop one (1) preferred horizontal alignment for the replacement structure that will remain unchanged for all bridge replacement alternatives. The vertical alignment will vary depending on the bridge typical section depth.

4.1.2 PRELIMINARY STAGED CONSTRUCTION PLANS

Willdan will prepare Preliminary Staged Construction Plans showing the conceptual construction sequence and staging for the preferred roadway alignment alternative. The Traffic Control Plans will identify the construction stages and temporary traffic routes through the project site, as well as indicating design parameters (design speed, lane widths, clear roadway widths lane shifts and tapers). Willdan will also provide concepts for detour or alternate route plans, as appropriate.

Assumptions:
Signing design is not required for the Preliminary Traffic Control Plans.

Deliverables:
Draft Project Study Report
Draft Advance Planning Study
Preliminary Traffic Control Plans
4.2 FINAL PROJECT STUDY AND REPORTs

After the Caltrans’ Local Assistance group and County’s team have reviewed and commented on the Draft Preliminary Report, Feasibility Study Report, and Preliminary Staged Construction Plans Willdan will prepare a comment log form to track all comments through to their final resolution.

Willdan will finalize the Draft Project Study Report, Type Selection Report, and Traffic Control plan sheets to reflect the comments and recommendations received from the County and Caltrans, and Willdan will recommend the preferred alternative that will be advanced to design.

Deliverable(s)
Final Project Study Report
Comment Log

5. Phase 2 Technical Studies

5.1 FINAL PROJECT STUDY TECHNICAL STUDIES

Reserved

6. Phase 2 Environmental Studies and Reports

6.1 NEPA and CEQA Technical Studies and Reports

Reserved

7. Phase 2 Bridge and Roadway PS&E

7.1 Bridge and Roadway PS&E

Reserved

7. Phase 2 Right-of-Way

7.1 Bridge and Roadway PS&E

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