MTCO has prepared the following scope of work based upon the scope of services provided in the RFP.

**PHASE 1 – PROJECT APPROVAL AND ENVIRONMENTAL DOCUMENT**

1.0 PROJECT MANAGEMENT

1.1 Project Management: MTCO will perform general project management activities and coordination with the City’s project manager. MTCO will develop and maintain a critical path method (CPM) design schedule.

1.2 Project Development Team (PDT) Meetings: MTCO will conduct a project kick-off meeting and subsequent PDT meetings during critical milestones throughout the design of the project (a total of 12 meetings have been assumed).

1.3 Agency Coordination: MTCO coordinate with the City, Caltrans, and other agencies, as needed, to keep the project on schedule. Coordination with these agencies will include meetings, phone calls and e-mails.

2.0 ENVIRONMENTAL DOCUMENTATION

2.1 Initiate Preliminary Study, Complete Project Description and Conduct Early Coordination/Field Review and Pre-Application Meetings: ESA will coordinate with the City and City Engineer to schedule and attend an initial (kick-off) meeting to discuss the various parameters of the project to ensure a sound project scope. After this meeting, ESA will prepare a draft project description to be used in the environmental compliance documents. The project description will identify the project purpose and need, project objectives, major project elements, project location, and timing. As part of the project description, an draft APE map will also be prepared.

Using preliminary environmental site data, ESA will prepare and submit a draft Preliminary Environmental Study (PES) form and APE (Footprint Map) map to the City and Caltrans. Based on our preliminary review of the Study Area and project description in the RFP, our scope of work assumes preparation of a few several technical studies.

ESA will also assist the City in scheduling a Field Review (site visit) with Caltrans staff to review the project site and confirm the assumptions outlined in the draft PES form and APE map. Upon completion of the site visit, ESA will revise the draft PES and APE as appropriate and resubmit the final forms/maps to the City and Caltrans staff. If necessary, ESA will discuss any required changes (additions or reductions) to this preliminary scope of work and prepare a final scope of work/cost estimate for City approval prior to commencing the remaining tasks identified under this work program.

**Deliverables**

- Project description, draft and final PES Form (and supporting documentation), and APE Map (3 copies each).
- Coordinate and attend field review/scoping meeting with City staff.
2.2 Technical Studies: Based upon a review of the project area, the project description provided in the Request for Proposals, other recent projects in the area, and ESA’s experience, this project scope assumes that there will be a number of technical studies will be required, resulting in drafting and submitting technical memorandums. The PES and investigative efforts will be the basis of determining what studies will be required.

ESA will conduct needed field reviews and field work in accordance with current laws and applicable regulations and typical professional practice to prepare an administrative draft of each technical study/report for the City and Caltrans’ review. After revising the studies based on City and Caltrans comments, the reports will be included as appendices to the environmental document. Electronic copies of all final reports will be provided to the City in an acceptable format (e.g. MS Word and/or Adobe Acrobat).

All technical studies/memorandums will be prepared in accordance with Caltrans’ Standard Environmental Reference and Environmental Handbooks as well as other guidance documentation. Based on our initial review of the project, the ESA Team will prepare the following studies for the project:

2.2.1 Natural Environment Study Report, Biological Assessment and Wetland Delineation. Some technical reports are expected will be prepared to address biological resources. These reports include a Natural Environment Study (NES), Biological Assessment (BA), and a Wetland Delineation which will also be used for both the CEQA/NEPA document. Based upon ESA’s review of the site and knowledge of similar projects within the Napa Valley, the Napa River and riparian corridor near the bridge site is assumed to may harbor _____________, including California Freshwater Shrimp (Syncaris pacifica), Steelhead Trout (Oncorhynchus mykiss), Northwestern Pond Turtle (Emys marmorata marmorata), California Red-Legged Frog (Rana draytonii), and Foothill Yellow-Legged Frog (Rana boylii). and that subsequently may need to be investigated. In the event that one or more of these species does not need to be investigated, the budget will be revised to reflect these circumstance as necessary.

The NES will be prepared to address the above listed species and other special-status species and sensitive habitats with the potential to be affected by the proposed project. Water quality issues and invasive plant species effects will also be included as part of the NES.

Key Assumptions

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

- The scope of work does not include protocol-level surveys or exclusion and/or relocation efforts for listed species. If deemed necessary, ESA is qualified and available to provide those services upon request by the City.
- This scope of work also does not include preparation of a Fisheries BA or an Essential Fish Habitat Assessment (for the National Oceanic and Atmospheric Administration Fisheries) due to a lack of anadromous fisheries resources at the project site.
2.2.2 Hydraulics/Floodplain Studies. As the City is very well aware, this project is located in the Federal Emergency Management Agency 100-year floodway. As such, it is expected that a technical Location Hydraulic Study will need to be prepared to determine any impacts caused by the proposed project. A more detailed discussion on the expected hydraulics work is discussed in the Hydraulics portion of the work plan.

2.2.3 Archaeological Survey Report, and Historic Property Survey Report, and Historic Resource Evaluation Report (Optional Study). Several technical reports will be required to address cultural resources. These reports include an Archaeological Survey Report and a Historic Property Survey Report. The following scope of work was developed following a literature review that included review of Caltrans Historic Bridge Inventory (Caltrans, 2010), as well as regional topographic and geographic maps. Additional research was conducted using the files and literature at ESA. The Berry Street Bridge over the Napa River is listed as “Category 5,” not eligible for the National Register of Historic Places” according to the Caltrans Historic Bridge Inventory.

The study area is located in an area that may have been attractive to prehistoric inhabitants based on its proximity to the waterway; therefore, it is possible that buried archaeological sites could occur within the study area.

Caltrans and FHWA have oversight given the involvement of federal funds. The City is therefore required to comply with: (1) Section 106 of the National Historic Preservation Act of 1966 (36 CFR 800, revised 1999); and (2) CEQA; Public Resources code, Section 21000 et seq., revised January 1999), which mandate federal and California public agencies to consider the effects of projects on historic properties. Project oversight will be provided by Caltrans Local Assistance, and compliance with Section 106 is being carried out in accordance with the January 1, 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 (Programmatic Agreement).

Primary concerns are: the delineation of an adequate APE (to be approved prior to a pedestrian survey, with later adjustments made to include full site boundaries); determining the potential for subsurface resources (through research of geology, soils, and landscape to assess the potential for soils that might contain buried cultural remains); conducting adequate pre-field research that includes contact with the interested public, primarily local Native American tribes; preparation of adequate documentation (field notes, site records, and concise write-up of research findings, methods, survey findings, and recommendations, with associated maps); confirmation of the initial historic evaluation of the bridge; and mitigation for impacts resulting from the demolition of the bridge, if required. Tasks to be undertaken by ESA and Francis Heritage include:
**Background Research.** Pre-field investigations will begin with a record search at the California Historical Resources Information System (CHRIS) at the Central California Northwest Information Center (CCNWIC) at California State University, Stanislaus Sonoma. The records search will identify previously recorded resources within or near the study area, and determine whether the study area has been previously surveyed up to current standards. In addition to the CHRIS search, ESA will assist Caltrans on Native American consultation, which will consist of draft letters for the Native American Heritage Commission (NAHC) and those groups and individuals whose contact information is provided by the NAHC. These contacts are intended to determine if project locations are known to be of particular concern to local Native Americans.

**Buried Site Sensitivity Study.** A preliminary archaeological assessment of the potential for buried archaeological sites in the study area will be conducted using relevant maps and documents (e.g., archaeological studies, geologic reports, Quaternary geologic maps, Merced County Soil Survey). The assessment results will be developed in a GIS format, and presented as a map that shows the age and extent of archaeologically sensitive landforms in and near the study area. The map will be accompanied by text that describes the map units and explains the estimated archaeological potential of each.

**Pedestrian Survey.** Field work would entail an intensive pedestrian survey of the APE. All areas of exposed ground would be closely inspected for the presence of cultural materials. Areas of dense vegetation will be inspected as closely as possible and any exposed cut banks in adjacent drainages will be carefully examined for the presence of buried cultural resources.

If an archaeological deposit is encountered, a preliminary assessment of site boundaries would be made through surface inspection and auger borings. Any archaeological material recovered will be recorded, cataloged, and re-deposited. A map will be prepared depicting site boundaries in relation to the APE, and the site will be recorded on a standard archaeological site record (DPR 523 form).

**Documentation.** Once the field phase is completed, ESA will process appropriate forms. A form for each resource, including, but not limited to a site sketch map, site location map, artifact and feature sketches, photographic record, and descriptive narrative will be completed. In compliance with federal and state requirements, two copies of each form will be submitted to the CCNWIC for issuance of a permanent state trinomial or appropriate number and inclusion into the CHRIS data base. These forms will be included in the report as a confidential appendix.

A negative or positive Archaeological Survey Report (ASR) and a Historic Property Survey Report (HPSR) will be prepared, depending on findings. The ASR/HPSR will be prepared that includes appropriate background research, site records and recommendations for additional work. Both reports will include results of background research, descriptions of field work, findings, appropriate maps and photos, and a record of Native American contact. Francis Heritage will
coordinate with Caltrans cultural resource personnel assigned to the project and provide support to the County City and ESA for U. S. Army Corps of Engineers permit requirements.

A cover letter will detail management recommendations, which could include avoidance or test excavations to determine site significance.

**Key Assumptions**

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

1. ESA will prepare a cost estimate based upon anticipated number of resources within the APE and will need to revise the estimate if the APE is expanded or additional resources require evaluation. ESA will record up to three resources (archaeological sites, bridge, built environment) or isolates over 50 years of age on State of California Department of Parks and Recreation (DPR) 523 forms.

2. The cultural resources assessment work presented herein does not include any archaeological Extended Phase I or Phase II work to formally evaluate National Register significance for any site.

3. ESA assumes, per review of the proposed APE, no historic architectural resources would be located within the APE or affected by the proposed project. In the event that the APE is altered to include areas outside of the existing right-of-way or City-owned lands, an optional task could be implemented to analyze and evaluate these areas, and determine the potential impacts of the proposed bridge replacement project, as well as potential mitigation options to avoid or lessen impacts. Optional, additional historic period architectural resources can be evaluated at an average cost of $1000 per resource.

4. ESA assumes that a geotechnical report will be completed for the bridge abutment planning, and that this document will be available to ESA for use in the ASR.

### 2.2.4 Water Quality Assessment Report

Potential impacts to water quality will be evaluated in a Water Quality Assessment Report (WQAR). The scope of the study will follow the Water Quality Assessment Report Content and Recommended Format (June 2012) and the Revised Scoping Questionnaire for Water Quality Issues (February 2010). It is anticipated that the entire scope of the WQAR template will not be necessary for this project and only relevant sections will be included in the report. Construction-related and long-term water quality impacts will be qualitatively evaluated for the proposed project. Both direct and cumulative impacts in the proposed area will also be described. The report will also address regulatory compliance, including conformance with the Statewide National Pollutant Discharge Elimination System (NPDES) Storm Water Permit for construction activities and identify applicable regulatory water quality objectives and best management practices for the proposed project. If significant impacts are identified, mitigation measures (typically best management practices) will be recommended within the WQAR.

### 2.2.5 Hydraulics/Floodplain Studies

Similar to other bridge replacement projects completed, ESA will work with other team members to ensure the Hydraulics/Floodplain studies are completed. The
information contained in these studies will be necessary to complete the WQAR (described above).

2.2.6 Noise Study (Technical Memorandum). Based on our initial field visit, potential sensitive receptors have been identified within the APE. A technical memorandum will be prepared to address construction-related noise issues.

Deliverables (All Technical Studies, Reports and Memorandums)

➢ Draft and final technical studies, reports and memorandum for distribution to the project development team (3 copies each).

2.3 Option Technical Studies/Memorandums: Depending on the recommended bridge design and the final APE (project footprint) approved for the proposed project, several additional technical studies or memorandums may be required by Caltrans for the project. Given our experience with similar bridge replacement projects, the following studies/memorandums may also be required and are identified as optional studies:

2.3.1 Visual Impact Assessment (minor level). In the event that the proposed bridge design or profile is significantly different than the existing structure, Caltrans may require preparation of a minor level visual impact assessment report. ESA has prepared similar reports for several other bridge replacement projects. An ESA landscape architect will prepare the report consistent with Caltrans requirements.

2.3.2 Preliminary Site Investigation. Similar to other bridge replacement projects, ESA will work with other team members to ensure the Preliminary Site Investigation is prepared should it be deemed necessary by Caltrans staff.

2.3.3 Initial Site Assessment Report. The goal of the Initial Site Assessment (ISA) is to identify significant soil/groundwater contamination issues that could affect the constructability, feasibility, and/or the cost of the proposed improvements. The ISA will also focus on hazardous material issues associated with removal of the existing bridge/infrastructure. Specifically, the ISA will focus on two distinct concerns:

• Construction Issues – The potential for contaminated soil/groundwater to impact planned project construction.
• Liability Issues – The potential of the City acquiring properties with known or suspected soil and/or groundwater contamination.

To if the preparation of the an ISA is required, we will complete the following scope items. If the ISA findings identify the potential for significant soil/groundwater contamination impacts to the project, additional investigation may be required.

Database Search. Data review will focus on potential contamination sources or issues. The records check will extend 1/8 mile each way from the environmental survey limits (ESL), and if
significant soil/groundwater contamination issues are noted within this corridor, they will be presented in the ISA. We will also review regional geology and groundwater conditions.

The records review will use a commercial database including federal, state, and city records for indications of releases, use, misuse, or storage of hazardous and/or potentially hazardous materials on or near the site.

ESA will also conduct a limited site visit to observe current land use and potential indications of contamination on or adjacent to project limits.

**Historical Research.** To research potential sources for contamination, ESA will review historical aerial photographic coverage and topographic map coverage. Our historical research will attempt to identify past and present operations conducted on the properties to assess the potential for soil/groundwater contamination impacts to the planned improvement areas.

**Report Preparation.** ESA will prepare a draft report summarizing the findings of our review, site reconnaissance, historical photograph evaluation, and regulatory records review. We will address identified known or suspected soil/groundwater contamination issues, and the potential impact of these issues to the project development. The report will also identify recommendations for further investigation and analysis if necessary. Once we receive draft report comments, we will finalize the ISA incorporating the review comments.

If our ISA identifies the potential contamination of soil and/or groundwater within the project limits, further investigation may be necessary to confirm or characterize potential contamination and is beyond the current scope.

**Deliverables**

➢ Draft and final technical studies, reports and memorandum for distribution to the project development team (3 copies each).

2.4 Initial Study/Mitigated Negative Declaration: ESA will prepare the Initial Study/Mitigated Negative Declaration (IS/MND) (including all necessary versions – administrative draft, draft, and final IS/MND) to comply with CEQA for the project. It is the goal of the IS/MND to support adoption of a MND by the City. The draft IS/MND will include:

2.4.1 Project Description. This section will include a description of the project, its location, the purpose and need statement, the project alternatives, any responsible agencies who may rely upon the IS/MND, and a list of permits and other approvals required to implement the project.

2.4.2 Affected Environment, Environmental Consequences, and Avoidance, Minimization, and/or Mitigation Measures. Using information from the technical studies and the City’s Initial Study Checklist, this section will identify the affected environment, including the regulatory setting and the baseline environmental conditions. The consequences of the proposed project will be analyzed for both the construction and operational phases. A Section 4(f) Analysis will be
included to evaluate Project impacts to public lands (i.e., the City park adjacent to the east Berry Street Bridge abutment. Cumulative impacts, i.e. the effects of the project in combination with other likely projects, will be assessed. Feasible mitigation measures will be identified, and the significance of the impact after incorporating mitigation measures will be discussed.

2.4.3 Comments and Coordination. This section will describe the scoping process and any contacts or coordination with responsible and trustee agencies made during the preparation of the technical reports. Public comments and tribal consultation will be included here.

2.4.4 List of Preparers. The List of Preparers includes all individuals, including consultants, that prepared or helped to prepare the environmental document and supporting technical studies.

As indicated above, technical studies/memorandums will be prepared to support the conclusions of the IS/MND.

To ensure that the final product is acceptable to the City and Caltrans, an outline of the document will be submitted to the project team for review before document preparation begins. ESA will make the needed corrections and then prepare and submit public notices in applicable or typical publications for the 30-day public comment period.

At the conclusion of the 30-day public comment period, we will meet with the project development team to discuss the comments received and the preparation of the final document. CEQA does not require preparation of a “final mitigated negative declaration” but the City must consider the comments received and any substantial environmental issues raised before adopting the MND. Comments and responses will be included in Chapter 3 of the Final IS/MND. Minor changes made as a result of comments received will be made to the document. Depending on the volume and nature of the comments, the hours allocated and budget may be reassessed at that time. This scope of work assumes that all substantial environmental comments can be adequately responded to without performing additional analyses.

In addition, a Mitigation Monitoring and Reporting Program (MMRP) for CEQA will be prepared as part of the final document. The MMRP will include the following information for each measure:

- The individual, department or other entity responsible for implementing the measure
- The timing for implementation of the measure
- A signature and date line

Deliverables

➢ Administrative Draft IS/MND (3 copies).
➢ Screen Check Draft IS/MND (3 copies).
➢ Public Draft IS/MND (30 copies plus one electronic copy).
➢ ESA will prepare a Notice of Completion for the State Clearinghouse and deliver it with 15 bound copies of the draft IS/MND, and 1 electronic copy of the draft IS/MND.

➢ Administrative Final IS/MND and MMRP (3 copies).

➢ Final IS/MND and MMRP (2510 copies plus one electronic copy).

3.0 PRELIMINARY ENGINEERING

3.1 Survey: This will include roadway cross sections, new abutment locations, on-site parcel topography (acquisitions), creek cross sections (500 feet upstream and downstream of the existing bridge), survey of visible utilities, driveway conforms, fences, and existing trees over 6-inch dbh.

3.2 Geotechnical Report: As-built log-of-test borings and existing subsurface information are not available for the existing structure; therefore the most cost effective method of approaching the Berry Street Bridge project is to perform a single exploration program followed by a design level combination Materials, Geotechnical Design and Foundation Report. This combination report will be completed early in the process allowing it to be utilized for Type Selection.

To prepare a Caltrans combination Materials, Geotechnical Design and Foundation Report for the bridge replacement project, Crawford & Associates, Inc. (CAInc) will perform the following:

3.2.1 Coordination, Permits, and Mark for USA. CAInc will coordinate with the design team and the City to discuss the project needs and schedule, review published geologic mapping, and review preliminary project data. We will review the site for drill rig access, mark exploratory boring locations and notify Underground Service Alert (USA). We will obtain encroachment and boring permits required by the City. We assume that the City will waive the required encroachment permit fees. We will complete our explorations within the public right-or-way; therefore rights-of-entries are not expected to be needed.

3.2.2 Subsurface Exploration. CAInc will perform two explorations to depths ranging from 60 to 80 ft. below ground surface at each abutment location for foundation design. For approach roadway design, CAInc will complete two to four additional shallow test borings (upper 10 ft) at each site to provide information on subgrade soil and collect bulk samples for R-value testing.

Our Engineer/Geologist will direct the sampling and log the borings. At a minimum, we will sample at 5-foot intervals. We will deliver the samples to an independent laboratory for testing. The drilling contractor will advance the borings with a rubber-tired, truck-mounted drill rig using 6 to 8-inch-diameter hollow and solid stem augers and mud-rotary techniques. Standard Penetration Testing (SPT) and California Modified sampling will be performed within the borings to obtain samples and blow count information. The borings will be backfilled according to the County permit requirements.
The borings will be located along the proposed bridge and roadway alignment. We assume encroachment permit fees will be waived by the City. Traffic Control will consist of a combination of shoulder closures (roadway improvements and south abutment) and lane closures with flagmen (north abutment location).

The auger cuttings will be drummed up onsite and we assume the City maintenance department will dispose of them following our fieldwork.

3.2.3 Laboratory Testing. CAInc 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; compression, and/or Direct Shear for bearing capacity and lateral capacity; Sieve Analysis for liquefaction analysis and scour information; Resistance Value for pavement design; and, Resistivity, pH, Sulfate Content and Chloride Content for soil corrosivity analysis.

3.2.4 Evaluation and Engineering Analysis. CAInc will perform engineering analysis (using computer software where applicable) for the following: bearing capacity; lateral capacity; site seismicity including, deterministic/probabilistic procedures consistent with current Caltrans Seismic Design Criteria to determine the site acceleration response spectrum (ARS) and liquefaction potential; lateral earth pressure and coefficient of friction to resist sliding; soil corrosivity; and pavement section recommendations (based on Traffic Index values provides by the design team).

3.2.5 Geotechnical/Foundation Report. CAInc will prepare and submit a Draft Geotechnical/Foundation Report. The report will include recommendations for design consistent with current Caltrans guidelines by combining Materials, Geotechnical Design and Foundation Reports into a single report. The report will include: Scope of Work; Site Description; Project Description; Field Exploration; Laboratory Testing; Site Geology and Subsurface Conditions; Seismic Data and Evaluation; Liquefaction Evaluation; Geotechnical Scour Considerations; Foundation Recommendations (i.e., type, elevation and allowable loading of bridge foundation elements); Approach Recommendations; New Pavement Section Recommendations; Construction Considerations; Location Map; ARS Curve; Log of Test Borings; and Laboratory Test Results.

Following receipt of all Draft Geotechnical/Foundation Report comments, CAInc will prepare a Final Geotechnical/Foundation Report for each structure.

3.3 Hydraulic Study: ESA will perform hydrologic and hydraulic analysis to evaluate the existing and proposed structures. A detailed HEC-RAS model will be used to accurately represent proposed improvements at the site including design refinements to bridge deck elevations, pier dimensions, and other bridge geometry that will influence conveyance and hydraulics. Preliminary modeling efforts will quantify scour and provide rock slope protection (RSP) sizing recommendations. A draft Caltrans Summary Floodplain Encroachment Report form will be completed to summarize results from the Location Hydraulic Study. ESA will prepare a draft and
final bridge hydraulic study documenting the hydraulic performance of the new structure and include summary tables of existing and proposed hydraulic characteristics along the project reach. The final report will be submitted with a “no-rise” technical memorandum to the Director of Planning & Building to satisfy NFIP and the City.

3.4 Geometric Study: MTCo will prepare conceptual geometric plans and cost estimates for the proposed roadway alignment discussed in the Project Understanding Section. The conceptual geometrics will include two iterations for the roadway and bridge replacement along the existing alignment based upon the constraints of the project site, including the temporary access road and bridge location. This will include roadway typical section, bridge width/length, approach roadway limits, and preliminary right of way impacts.

3.5 Utility Coordination: MTCo will provide utility coordination consisting of initial contact with the utility companies, Verification Letter to Owner, notifying them of a potential project and requesting their facility maps for the project area. MTCo will provide final relocation Notice to Owner (NTO) letters and coordinate any utility relocation work with the affected utility companies.

3.6 Right of Way: MTCo will prepare plats and descriptions for each acquisition. It is assumed that temporary acquisitions will be necessary from three parcels and that Preliminary Title Reports (PTR) will be provided by the City. It is assumed that an appraisal for each parcel will not be required because the valuation problem is uncomplicated and the fair market value is estimated at $10,000 or less based on a review of available data. A “Waiver Valuation” will be prepared for each parcel. A waiver valuation is not an appraisal and is to be used as documentation for support of the amount of just compensation to be paid to the property owner.

3.7 Structure Type Selection: MTCo will prepare and submit a Type Selection Report to the City and Caltrans for review. The Type Selection Report will contain a General Plan, General Plan Estimate and Foundation Plan for two structure replacement alternatives. The report will also include a memorandum addressing constructability, geotechnical, hydraulic, utility, environmental and cost issues along with a recommendation for structure type.

3.8 Community Input and Outreach

3.8.1 Bridge Aesthetics: CALA will prepare conceptual level design plans for bridge aesthetics such as facades, artwork, adornments, colors, light fixtures and railing design. The conceptual designs will be fleshed out through a design review process and a final conceptual design will be developed.

3.8.2 Community Outreach: The City will lead the community outreach effort, along with input from MTCo. This effort will solicit input and gain consensus on the project design form the local businesses, residents, stakeholders, and other members of the community. The community outreach will be accomplished by holding public workshops to discuss the project at various phases of the project development.
3.9 Preliminary Engineering (30% Design): MTCo will prepare preliminary roadway plans for the proposed roadway alignment. The preliminary roadway plans will show, amongst other things, the proposed roadway layout and profile, typical roadway sections, bridge width/length, approach roadway limits, and preliminary right of way impacts, if any. These plans will serve as the geometric approval drawings.

4.0 Permitting

4.1 Permitting: ESA will prepare and submit permit applications to the appropriate regulatory agencies, including a Streambed Alteration Agreement from the CDFG, a Section 404 permit from the USACE, and a Section 401 certification or waiver from the California Regional Water Quality Control Board (RWQCB).

**PHASE 2 – PLANS, SPECIFICATIONS, AND ESTIMATE**

5.0 Final Design

5.1 65% Roadway Plans: MTCo will prepare draft engineering plans for roadway approaches based upon the approved geometric approval drawings. The plans will include typical sections; layouts; profiles; construction details; and drainage, traffic control, and signing and striping plans.

5.2 Structure Design (65% Unchecked Plans): MTCo will prepare structural calculations and bridge plans for the selected bridge replacement alternative. At the 65% submittal, MTCo will submit a complete, unchecked set of bridge plans to the City. The structure design will be performed in accordance with AASHTO LRFD Bridge Design Specifications, 4th Edition with Caltrans Amendments dated November 2011, and Caltrans Seismic Design Criteria, Version 1.7.

5.3 90% Roadway Plans: The 90% submittal will represent a complete, biddable plan package where major design features will have been reviewed.

5.3.1 90% Planting and Irrigation Plans: Review available existing record drawing information, as made available to us, to assess existing irrigation points of connection and coordinate with MTCo for new irrigation points of connection where they may be necessary. CALA will coordinate with City landscape maintenance staff for input regarding preferred and/or standard irrigation equipment to be used.

Once these initial tasks are complete, CALA shall proceed to prepare landscape plans (in AutoCAD format) to a 90% level of completion. Plan package to include:

- irrigation plan with equipment list
- irrigation details
- planting plan with plant list
- planting details
- technical specifications (in CSA format)
- cost estimate
Package will be transmitted to MTCO via emailed pdf for incorporation into the submittal for Staff review and comment. Once the review is complete, for each bridge site, CALA will attend one (1) joint review meeting with project team, City Staff, and others as warranted.

5.4 Independent Structure Check (90% Plans): Upon completion of the 65% submittal, MTCO will perform an independent design check of the bridge plans in conformance with Caltrans bridge design procedures. Calculations and computer runs will be performed to check the bridge layout and structural integrity.

5.5 Estimate: MTCO will prepare preliminary construction cost estimates and submit them with each plan submittal. The estimates will be comprised of unit prices placed on detailed quantity and check quantity calculations. Unit prices will be developed using current bids results from similar projects, Caltrans database information, and Caltrans’ latest Construction Cost Manual.

5.6 Special Provisions: MTCO will develop project special provisions using 2010 Caltrans Standard Special Provisions. Special provisions will be submitted at the 90% and final submittals. The City’s boilerplate contract language will be incorporated into the specifications.

5.7 Final PS&E: Based upon comments received from the City on the 90% PS&E, MTCO will make final corrections to the PS&E package and will submit to the City a bid ready set.

5.7.1 100% Landscape Plans (bid-set): Based on comments received, CALA will finalize the plans to a 100% or bid level of completion, submit hard copies (stamped and signed) and email pdf versions of the plans to MTCO for incorporation into the project bid sets.

5.8 Storm Water Pollution Prevention Plan (SWPPP): MTCO will prepare the SWPPP for the project, including uploading Permit Registration Documents (PRDs) to the state-wide database of construction projects (referred to as the Storm Water Multi-Application Report Tracking System or SMARTS database). The PRDs include the Notice of Intent (NOI), a risk assessment, post-construction calculations, a site map, a SWPPP, a signed certificate and the first annual permit fee (to be paid by the City).

6.0 Bidding Assistance

6.1 Bidding Assistance: MTCO and subconsultants will provide assistance to the City as required during bidding of the project. This may include answering questions from prospective bidders, assisting the City in the preparation of addenda to the PS&E during the advertisement period, and providing consultation and interpretation of the construction documents.

7.0 Construction Management

7.1 Construction Support: MTCO and subconsultants will provide assistance to the City as required during construction of the project. This may include responding to requests for information (RFIs), reviewing shop drawings, and attending construction meetings. Since the scope of construction support is difficult to determine at this time, MTCO has provided a “budget”
amount to be used on a time and materials basis, as requested by the City. This scope and fee will be refined upon the approval of the project plan set.

7.2 Engineer’s Meeting: Prior to beginning a detailed review of the plans and specifications and other contract documents—CALTROP Resident Engineer will meet with the City and the Engineer of Record—Mark Thomas and Company to be briefed on the scope of the project, PS&E requirements, anticipated construction schedule, mitigation measures, project objectives, project constraints and project funding.

7.3 Pre-Bid Contract Document Review: Our CM construction document review is based on our key personnel’s past General Contracting experience. We will involve the City’s Project Manager and Designer in a teaming atmosphere for a thorough sounding of the plans, specifications, permits and agreements for:

- Value Engineering
- Plan and Specification Connectivity
- Safety
- Construction Sequencing (Order of Work)
- Project CPM Schedule (Verification of Working Days)
- Stage Construction Continuity
- Means and Methods
- Quantity Verification

Within two weeks of the CM service contract approval we will produce to the City our findings of our review of the contract documents and the project schedule.

7.4 File Review: As part of the plan review process, the Resident Engineer will review the Designer’s file of memoranda to the Resident Engineer, quantity calculations and other relevant documents that have been generated during the design process.

7.5 Schedule Development and Review: The Resident Engineer will develop a tentative project schedule that will incorporate all information regarding:

- Project staging
- Submittal reviews
- Falsework installation and removal
- Activities broken down into parts of the work to facilitate easier review
- Time lines for permits and agreements
- Critical path
- Internal milestone and end construction deadlines
Risk to the owner
Utility relocations
Environmental and permit windows

7.6 Environmental Review: The Resident Engineer will review all environmental documents and permits to ensure that staff is fully familiar with the mitigation and regulatory agency requirements. The Resident Engineer will develop a comprehensive schedule of all mitigation and permit requirements. These will be introduced to the project master schedule as milestones.

7.7 Assistance During Bidding and Evaluation of Bids: At the City’s request, the Resident Engineer can assist the City and Designer during the construction bidding phase by reviewing and commenting on RFI, addendums and bids received, and provide written recommendations. Once bids are received and opened, we will evaluate the bids for cost, required attachments and adherence to the Notification to Bidders and will provide a recommendation of award to the City based upon our evaluations.

7.8 Pre-Construction Conference: Following the selection of the construction contractor(s) the Resident Engineer will organize a pre-construction conference with the contractor, subcontractors, City staff, Designer, utility companies, construction management team members and other interested parties to discuss the project and the work involved. The conference is intended to introduce the staff from each organization that will be involved in the work; discuss administrative matters including lines of communication, submittals, contractor payment application and labor compliance requirements; safety including jobsite and public safety, rules for visitors to the project site, accident prevention and emergency response; traffic control; storm water pollution prevention; and schedule and working days. The conference will also provide a forum to answer questions from the contractor and other interested parties, and address issues that need to be resolved before work commences. The Resident Engineer will prepare an agenda and meeting minutes.
## COST PROPOSAL FOR PROJECT SCOPE

**City of Calistoga - Berry Street Bridge over the Napa River**

<table>
<thead>
<tr>
<th>Principal</th>
<th>Structural Manager</th>
<th>Engineering Manager</th>
<th>Engineer X</th>
<th>Engineer IX</th>
<th>Engineer VII</th>
<th>Engineer VI</th>
<th>Engineer V</th>
<th>Engineer IV</th>
<th>Engineer III</th>
<th>Engineer Technician III</th>
<th>MTCO HOURS</th>
<th>COST PROPOSAL</th>
<th>SUBCONSULTANT FEES</th>
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### PHASE 1 - PROJECT APPROVAL/ENVIRONMENTAL DOCUMENT

#### Task 1 - Project Management

<table>
<thead>
<tr>
<th>1.1 - Project Management</th>
<th>1.2 - PDT Meetings</th>
<th>1.3 - Agency Coordination</th>
<th>Subtotal Task 1</th>
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#### Task 2 - Environmental Documentation

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<tr>
<th>2.1 - Coordination and PES Form</th>
<th>2.2 - Technical Studies</th>
<th>2.3 - IS/MND</th>
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#### Task 3 - Preliminary Engineering

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<tr>
<th>3.1 - Survey</th>
<th>3.2 - Geotechnical Report</th>
<th>3.3 - Hydraulic Study</th>
<th>3.4 - Geometric Study</th>
<th>3.5 - Utility Coordination</th>
<th>3.6 - Right of Way</th>
<th>3.7 - Structure Type Selection</th>
<th>3.8 - Community Input &amp; Outreach</th>
<th>3.9 - Preliminary Engineering (30% Design)</th>
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#### Task 4 - Permitting

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### PHASE 2 - PLANS, SPECIFICATIONS, AND ESTIMATE

#### Task 5 - Final Design

<table>
<thead>
<tr>
<th>5.1 - 65% Roadway Plans</th>
<th>5.2 - Structure Design (65% Unchecked Plans)</th>
<th>5.3 - 90% Roadway Plans</th>
<th>5.4 - Independent Structure Check (90% Plans)</th>
<th>5.5 - Estimate</th>
<th>5.6 - Special Provisions</th>
<th>5.7 - Final PS&amp;E</th>
<th>5.8 - Draft Stormwater Pollution Prevention Plan</th>
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#### Task 6 - Bidding Assistance

| Subtotal Task 6 |

### PHASE 3 - CONSTRUCTION MANAGEMENT

#### Task 7 - Construction Management

| Subtotal Task 7 |

<table>
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<tr>
<td>$1,362</td>
<td>$3,523</td>
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</tbody>
</table>

|                      | $2,160 | $1,362 | $3,523 |

**Berry Street Fee Proposal-reduced.xlsx** 1  3/62016