

SECOND AMENDMENT TO AGREEMENT FOR PROFESSIONAL SERVICES

This Second Amendment ("Amendment"), dated as of _____, 20____ ("Effective Date") is made by and between the County of Sonoma, a political subdivision of the State of California ("County"), and Quincy Engineering, Inc. ("Consultant").

RECITALS

WHEREAS, County and Consultant previously entered into that certain Agreement for Professional Services dated September 24, 2013 (the "Original Agreement") to provide engineering design services for the Freestone Flat Bridge Project (C11004); and

WHEREAS, County and Consultant first amended the Original Agreement on November 10, 2015 (the "First Amendment") in order to extend the term to December 31, 2020; and

WHEREAS, The Original Agreement as amended by the First Amendment shall be referred to herein as the "Agreement"; and

WHEREAS, County and Consultant desire to further amend the Agreement in order to increase the Not-to-exceed value of the Agreement and provide such other modifications as are necessary;

NOW, THEREFORE, in consideration of the foregoing recitals and the mutual covenants contained herein, the parties hereto agree as follows:

AGREEMENT

1. Article 1.1 of the Agreement is deleted in its entirety and replaced with the following:

1.1. Consultant's Specified Services

Consultant shall perform the services described in Exhibit "A", attached to this Amendment and incorporated herein by this reference (hereinafter "Scope of Work"), and within the times or by the dates provided for in Exhibit "A" and pursuant to Article 7, Prosecution of Work. In the event of a conflict between the body of this Agreement and Exhibit "A", the provisions in the body of this Agreement shall control. Without limiting the foregoing, Consultant expressly agrees to comply with all Disadvantaged Business Enterprise ("DBE"), requirements imposed on this Agreement as more specifically described in Section 13.4 below, and Exhibit D hereto.

2. Article 2 of the Agreement is deleted in its entirety and replaced with the following:

2. Payment.

For all services and incidental costs required hereunder, Consultant shall be paid on a time and material/expense basis in accordance with the budget set forth in Exhibit "B" to this Amendment, provided, however, that total payments to Consultant shall not exceed \$553,774, without the prior written approval of County. Consultant shall submit its bills in arrears on a monthly basis in a form approved by County's Auditor and the Head of the County Department receiving the services. The bills shall show or include: (i) the task(s) performed; (ii) the time in quarter hours devoted to the task(s); (iii) the hourly rate or rates of the persons performing the task(s); and (iv) copies of receipts for reimbursable materials/expenses, if any. Expenses not expressly authorized by the Agreement shall not be reimbursed. Consultant must submit required DBE Subcontractor Payment Declaration with every invoice. All amounts paid to the Consultant shall be subject to audit by the County.

Contingency:

A 10% contingency will be paid for authorized services as deemed necessary for services not included in Exhibit B, provided, however, that total payments to the Consultant do not exceed \$55,377. Work shall not commence on any contingency services until written authorization is received from the County. Any contingency work done without written authorization may not be reimbursable.

Upon completion of the work, Consultant shall submit its bill[s] for payment in a form approved by County's Auditor and the Head of the County Department receiving the services. The bill[s] shall identify the services completed and the amount charged.

Unless otherwise noted in this agreement, payments shall be made within the normal course of county business after presentation of an invoice in a form approved by the County for services performed. Payments shall be made only upon the satisfactory completion of the services as determined by the County.

Pursuant to California Revenue and Taxation code (R&TC) Section 18662, the County shall withhold seven percent of the income paid to Consultant for services performed within the State of California under this agreement, for payment and reporting to the California Franchise Tax Board, if Consultant does not qualify as: (1) a corporation with its principal place of business in California, (2) an LLC or Partnership with a permanent place of business in California, (3) a corporation/LLC or Partnership qualified to do business in California by the Secretary of State, or (4) an individual with a permanent residence in the State of California.

If Consultant does not qualify, County requires that a completed and signed Form 587 be provided by the Consultant in order for payments to be made. If consultant is qualified, then the County requires a completed Form 590. Forms 587 and 590 remain valid for the duration of the Agreement provided there is no material change in facts. By signing either form, the contractor agrees to promptly notify the County of any changes in the facts. Forms should be sent to the County pursuant to Article 12. To reduce the amount withheld, Consultant has the option to provide County with either a full or partial waiver from the State of California.

3. Article 3 of the Agreement is deleted in its entirety and replaced with the following:

3. Term of Agreement

The term of this Agreement shall be from Effective Date to December 31, 2022 unless terminated earlier in accordance with the provisions of Article 4 below.

4. Article 9.7 of the Agreement is deleted in its entirety and replaced with the following:

9.7 Statutory Compliance / Living Wage Ordinance.

Consultant agrees to comply with all applicable federal, state and local laws, regulations, statutes and policies, including but not limited to the County of Sonoma Living Wage Ordinance, applicable to the services provided under this Agreement as they exist now and as they are changed, amended or modified during the term of this Agreement. Without limiting the generality of the foregoing, Consultant expressly acknowledges and agrees that this Agreement is subject to the provisions of Article XXVI of Chapter 2 of the Sonoma County Code, requiring payment of a living wage to covered employees. Noncompliance during the term of the Agreement will be considered a material breach and may result in termination of the Agreement or pursuit of other legal or administrative remedies.

COUNTY AND CONSULTANT HAVE CAREFULLY READ AND REVIEWED THIS AMENDMENT AND EACH TERM AND PROVISION CONTAINED HEREIN AND BY

**EXECUTION OF THIS AMENDMENT, SHOW THEIR INFORMED AND VOLUNTARY
CONSENT THERETO.**

SIGNATURES FOLLOW ON NEXT PAGE -

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CONSULTANT:

By: _____

Name: _____

Title: _____

Date: _____

Name: _____

Title: _____

Date: _____

COUNTY OF SONOMA:

CERTIFICATES OF INSURANCE ON
FILE WITH AND APPROVED AS
TO SUBSTANCE FOR COUNTY:

By: _____

Department Analyst

Date: _____

APPROVED AS TO FORM FOR
COUNTY:

By: _____

Director of Transportation & Public
Works

Date: _____

By: _____

County Counsel

Date: _____

By: _____

Chair Board of Supervisors

Date: _____

ATTEST

By: _____

Clerk of the Board of Supervisors

Freestone Flat Road Bridge over Salmon Creek - Br. No. 20C0440

Quincy Engineering, Inc. (QEI) personnel and the Project Team, including Taber Consultants Inc. and WRECO, have provided plans, specifications, and estimates (PS&E) for a large number of Federal Highway Bridge Program (HBP) projects throughout California. The Team recognizes the importance of maintaining close coordination and cooperation with the County throughout the PS&E process. With this in mind, we have developed and utilize an efficient project approach that expedites this process. Tasks are defined and numbered in this discussion in accordance with the scope of work typical of HBP projects.

It is the County's desire to construct a **new two-lane bridge** to replace the existing 1955 two-span steel girder/truss bridge on **Freestone Flat Road at Salmon Creek**. The westerly span was constructed with steel girders and a concrete deck while the easterly span consists of welded steel army modular box trusses with a steel grate deck. The existing 103 foot long bridge is one lane wide with a clear width of only 12 feet. It is *structurally deficient* and has a sufficiency rating of 34.1 making it eligible for federal HBP *replacement* funding.

Freestone Flat Road east of the bridge has no outlet and serves rural residential areas. To the west approximately 0.2 miles, the road ends at the intersection with Bohemian Highway. The County estimated average daily traffic (ADT) on Freestone Flat Road is 96 vehicles, making it a low volume rural local road. Freestone Flat Road is off the federal aid road system and is expected to be fully funded by the HBP. The land surrounding the bridge is open land with some agriculture.

The County has indicated that closing this dead end road during construction is not an option. The goal for replacing the existing bridge is to minimize roadwork and right-of-way costs as much as possible while improving roadway approach geometry and allowing public traffic to pass through the site during construction. The County plans to provide a one-lane traffic controlled detour over the existing and a portion of the new bridge for local traffic, so the proposed bridge will be constructed in two stages around the existing bridge. Up to two proposed bridge configurations and roadway alignments are expected to be considered during the preliminary engineering phase of the project to determine the most economical and effective replacement alternative. All bridge configurations are expected to be single span bridges to minimize environmental impacts and permit requirements. The roadway alignment within 400 feet beyond each end of the bridge will require adjustment to accommodate traffic staging/handling and improve roadway approach geometry. The new completed roadway alignment is expected to shift slightly downstream of the existing alignment at the bridge to move away from the angled portion of the creek channel and to avoid large trees just upstream of the existing bridge.

The new bridge is expected to be approximately 120 to 130 feet long. The preferred bridge type is expected to be a single span composite welded steel girder structure. Another structure type that will be considered is a precast prestressed concrete girder bridge. Steel and precast concrete construction types are being considered to allow for two stages of construction in one construction season, and to avoid using temporary falsework supports required by cast-in-place construction in the environmentally sensitive creek channel. Cast-in-place concrete bridge types may also be considered, however, given the longer two-stage construction period required will likely only be included for comparison purposes. The new bridge will have a minimum 24 foot clear width made up of two 9 foot lanes and 3 foot shoulders. A wider bridge may result from the two stage construction sequence depending on final 40 mile per hour roadway geometry relative to the position of the existing bridge. Caltrans Type 80 concrete bridge railing is expected to be used to allow through rail visibility into the creek area. The bridge rails are attached directly to the bridge deck, and result in a total bridge deck width of approximately 27.5 feet.

Short retaining walls connecting to the east abutment may be required to keep roadway fill from entering Salmon Creek. A long retaining wall, up to 500 feet, is expected west of the proposed bridge between the roadway and creek, with heights up to 12 feet in some areas.

Quincy Engineering's approach for the Freestone Flat Road Bridge Replacement Project (Br. No. 20C0440) is described in the following "Scope of Work" section.

PRELIMINARY DESIGN PHASE

TASK 1: Field Review/Kickoff Meeting and Project Management

Kick-off Meeting: For a successful project, it is very important for key personnel from Sonoma County (County) and the Quincy Engineering Team (Team) to thoroughly discuss the project background, scope, concepts, schedule, and management, and gather all existing information about the project that has not been previously obtained.

As part of this task, Team members will attend a field review/kick-off meeting to bring the County, the Quincy Engineering Team, and all interested parties together to form a cooperative effort toward timely completion of this project.

The County will prepare the project's environmental documents and obtain the necessary permits from the various affected agencies (State Department of Fish and Game, U.S. Army Corps of Engineers, State Department of Water Resources, and California Regional Water Quality Control Board).

We have assumed that the County will obtain rights-of-entry for all studies during the preliminary design phase. The Team will work with the County to identify properties and study limits. Prior to actual site visits, Team members will contact property owners to inform them of their presence.

Project Management: Communication is the key to a successful project. Our management style is very "hands on" from a coordination point of view and is a continuous activity from the scoping/negotiations phase through the final design.

Project Meetings: We will work with the County to schedule, prepare agenda items, prepare engineering visual displays, attend, and compile project meeting minutes for distribution. We anticipate up to **three meetings** to discuss the project status and to review work in progress. The meetings are expected to include the 35%, 65%, and 95% PS&E completion stage. No public meetings are anticipated for this project.

Project Schedule: We will develop a project schedule showing each task, start and end dates, and task duration. This schedule will be updated and coordinated with the County as appropriate. Note that the schedule assumes that final design will start prior to obtaining final environmental approvals for the project, pending approval by the County.

Project Progress Reports: We will also prepare and submit monthly progress reports for County review. These reports will include progress-to-date, schedule updates, County action items, consultant action items, work product deliveries, problems encountered with suggested solutions, and anticipated work for the next month. These reports will in general be submitted with monthly invoices.

As a means of efficiency, our Team also utilizes the latest communication technology. Electronic copies of reports and plans can be forwarded from Quincy Engineering to the County via e-mail, through our FTP site, and/or Internet access.

Product: **Final Scope/Schedule**
 Field Review/Kickoff Meeting
 Progress Meetings and Minutes (Total 3)
 Monthly Project Progress Reports

TASK 2: Topographic Survey, Stream Cross-Sections, Preliminary Right-of-Way

Topographic Survey: QEI will conduct topographic surveys, preliminary right-of-way surveys, and survey creek cross-sections. All surveys will be relative to state plane coordinates (NAD 83) and acceptable vertical datum (NGVD 29 or NAVD 88). Sufficient survey control will be placed at permanent locations to ensure preservation throughout the project. QEI will conduct all necessary surveying to produce a 1"=20' topographic map, including features such as existing roadway, asphalt limits, existing bridge components, structures, fence lines, visible utility apparatuses, utility markings on the pavement, driveways, trees six(6)

inches in diameter and larger, and any other pertinent information that will aid the project design team. In addition to special areas of interest, the topographic survey will cover a 100-foot wide strip approximately 800 feet long measured along the proposed roadway alignment. The roadway coverage will be increased if additional area is required for traffic handling plans or realignments.

Stream Cross-Sections: QEI will survey cross-sections of the waterway at various locations for a hydraulic analysis. Cross-sections will be used as stream modeling data for determining water surface profiles in the Hydraulic Study. The waterway cross-sections will be surveyed at ten locations, as defined by the hydraulics engineer.

Preliminary Right-of-Way: QEI will utilize research including record documents, title documents, and record maps to show right of way boundary lines and adjoiners on the survey base map. Field observations and measurements will be taken and boundary evidence will be observed. Based upon all evidence a boundary determination will be made. The boundary survey will be integrated into the survey base mapping and will include boundary lines necessary to prepare legal descriptions for temporary construction easements (TCEs) and right-of-way takes if needed. Right-of-way documentation and title reports will be provided by the county and utilized to determine the existing right-of-way limits. Preliminary review of existing maps indicates that up to six parcels will be impacted for this scope of work.

Existing utility information will also be shown on the base mapping.

Product: **Topographic Surveys and Mapping**
 Creek Cross Sections
 Preliminary Right-of-Way, Adjoining Property Information, TCE & Utility Information

TASK 3: Location Hydraulic Report & Hydraulic Design Report

The Location and Design Hydraulic Study will be performed by WRECO as part of QEI team.

Location Hydraulic Studies (LHS) and Design Hydraulic Studies (DHS) are required by the Federal Highway Administration and Caltrans for bridges using Federal funds. According to the Caltrans *Local Programs Manual*, Location Hydraulic Studies need to provide the following information:

- 1) A brief description of the hydrology;
- 2) Description of the type of traffic using the route;
- 3) Comments on constraints that influence selection of available alternatives;
- 4) Location of property at risk;
- 5) Estimate of potential damage to property at risk; and
- 6) Discussion of the environmental impacts.

Several of these requirements as well as bridge and approach geometry rely upon accurate hydrologic and hydraulic analyses. In addition to including appropriate information from the LHS, the Design Hydraulic Study identifies bridge design criteria (soffit elevation, bridge opening, potential scour depth, etc.) and identifies the effects of the proposed bridge on the creek hydraulics.

WRECO will conduct a site visit and initial meeting to discuss bridge design considerations and identify high water marks, if possible, potential hydraulic constraints to bridge configuration, and potential property at risk of flooding. WRECO will provide assistance in locating cross-sections and other survey requirements for hydraulic modeling purposes. Photographs will be taken at the bridge site and data available from the County of Sonoma (i.e., traffic, state bridge reports and field review forms, historic photographs, etc.) will be collected during the kickoff meeting with the County and the Project Team.

WRECO will identify the appropriate design flood (usually the most probable 50-year flood), base flood (most probable 100-year), flood of record (if possible) and the overtopping flood. It should be noted that Caltrans has de-emphasized the use of the greatest flood of record in establishing the design flood for both bridges and culverts. However, the greatest flood of record should still be evaluated. As required by FHWA and Caltrans, these floods will be identified using two or more methods including regional methodology (comparison with flood hydrology of representative gaged basins in the region), local hydrologic procedures

and/or regional regression (Magnitude and Frequency of Floods in California, USGS, 1977). Previously prepared hydrologic analysis will be reviewed and considered as appropriate. A flood frequency curve at the bridge will be prepared.

WRECO will then set up an *existing* condition backwater model at the bridge and calibrate to known high water marks if available. WRECO will also prepare existing condition stage discharge curves and flood profiles at the bridges. The Corps of Engineer's HEC-RAS backwater computer model steady state flow mode will be used for this analysis. In some cases, the unsteady flow mode will be used since it can handle overbank storage, off-channel storage, split flows, spillways, bridges and reservoirs better. WRECO will identify the existing condition water surface profiles for the most probable 50- and 100-year floods, flood of record and identify the flow of the overtopping flood.

Next WRECO will set up a backwater model for the *proposed* bridge configuration. WRECO will identify the appropriate design floods and determine the water surface profiles of the Design Flood, Base Flood (most probable 100-year flood), and other floods of significance. WRECO will also determine the appropriate soffit elevations, the conveyance capacities, and the effects, if any, of the proposed bridge configurations on the risk of flood damage to structures. Figures showing flood profiles and stage discharge curves will be prepared as appropriate. The hydraulic characteristics necessary for estimating potential scour will be calculated.

The Team will determine additional potential abutment, contraction, and pier scour (if applicable) as a result of the new bridge. Potential bridge scour will be estimated using the procedures described in the FHWA HEC-18 Manual. The potential for degradation and channel migration considering changes in channel geometry and upstream land using the Type 1 qualitative analysis described in FHWA HEC-20 will be determined. If needed, WRECO will recommend scour countermeasures following the guidelines described in FHWA HEC-18 and HEC-23 Manuals.

Product: Design Hydraulic Study Report (Draft and Final)
Location Hydraulic Study (Draft and Final)

TASK 4: Preliminary Geotechnical Investigations

Preliminary geotechnical investigations will be performed by Taber Consultants as part of OEI team.

All existing geotechnical information that is currently available on or near the project sites will be obtained, reviewed, and assessed for applicability to this project. This information includes any Logs of Test Borings or Foundation Reports on nearby County or State highway structures and site reconnaissance. The Preliminary Geotechnical Memo summarizes this data and makes general recommendations for alternative foundation types to be considered during preliminary design. Drilled piles (including large diameter piles) and spread footing foundations all will be considered for the supports.

The memo will also discuss bank/approach-stability, erosion control, groundwater, scour, and other potential subsurface conditions as they may affect foundation design and type selection, approach roadway design, construction or service, and will make preliminary recommendations for consideration in the preliminary design phase. Site seismicity will be included in the memo.

Product: Preliminary Foundation Memo

TASK 5: Preliminary Roadway Plans/Bridge Advance Planning Studies (APS)

Preliminary Roadway Plans: Alternative alignments will be discussed with the County staff, with special emphasis placed on the 40 mile per hour design speed and safety through the project limits. Discussions shall include design, right-of-way, environmental, economic, and safety issues. Preliminary Plan and Profile (Geometric Approval) drawings will be prepared for each alignment alternative. **Up to two alignments** will be considered for the project site. Each alternative will be clearly defined (e.g., Alternative A and B) and all aspects of each alternative will be discussed separately for ease of reference in the environmental documents. An Engineers Estimate will be prepared and will include appropriate contingency factors for this level of design. We will also address other issues affecting the final design such as right-of-way, construction staging

and access, utility relocation, traffic staging, drainage, and anticipated design exceptions (if required). A separate drainage study report is not expected to be needed for this project.

Scott Robin Road intersects Freestone Flat Road near the bridge. QEI will prepare intersection design and details to address sight distance issues on Scott Robin Road. This may require adjusting the Freestone Flat Roadway alignment (downstream) to allow for a better approach angle from Scott Robin Road. Realignment studies for the intersecting roadway will be performed by QEI during this phase of the project.

A long retaining wall, up to 500 feet, is expected west of the proposed bridge between the roadway and creek, with expected heights up to 12 feet in some areas.

Advanced Planning Studies (APS): The appropriate bridge structure type will be dictated by public safety, environmental and hydraulic concerns, right-of-way, and economics. Depending on the final site information, preliminary geotechnical memo, hydraulics report and the preliminary environmental findings, the Team will pursue up to **three bridge alternatives** in the Advance Planning Study (APS) stage of the project. Different foundation types (i.e., CIDH piles, spread footings, etc.) will also be evaluated at this time. The purpose of the APS will be to evaluate the feasible structure alternatives and develop a recommendation for the County's review and approval. The APS will include:

- Feasible alternative bridge types, span arrangements, and construction methods. If aesthetic treatments are needed, they will be considered at this time.
- Concept drawings defining each alternative that will include plans, elevations, and section views as required illustrating each of the proposed alternatives.
- Exploring the need for retaining walls connecting to the east abutment.
- A description of the advantages and disadvantages of each alternative so that the County can judge each alternative on its own merits.
- An Engineer's Estimate for each alternative.
- Our Team's recommendation as to which of the alternatives is the most appropriate for the site.

Preliminary Right-of-Way: At this time, the Team will determine preliminary right-of-way and temporary construction easement needs for the proposed alignment based on information developed by the Team and obtained from the County.

Utility Coordination: The Team will provide communication and coordination with the utility companies during the preliminary and final design process. We will coordinate the relocation and protection of the existing utilities for the project based on information obtained from the various affected utilities. We typically also provide adequate openings for the relatively small utilities in the bridge. It will be the responsibility of each utility owner to provide a design of their facility.

Product: **Preliminary Plan and Profile Sheets**
 Preliminary Roadway Cost Estimates
 Bridge Advance Planning Studies
 Bridge Preliminary Structure Cost Estimates
 Utility Coordination Correspondence

TASK 6: Environmental Studies / Documents – CEQA/NEPA

Environmental requirements for the project will be performed by the COUNTY.

A California Department of Transportation (Caltrans) Preliminary Environmental Studies Form (PES) was completed for the project in 2011. The PES requires several technical studies to be completed as part of the NEPA and CEQA processes. A Categorical Exclusion (CE) with appropriate Technical Studies is assumed to be required under the National Environmental Policy Act (NEPA) and an Initial Study/Mitigated Negative Declaration (IS/MND) is assumed to be required under the California Environmental Quality Act (CEQA).

TASK 7: Project Report

A Project Report will summarize the findings of *Tasks 1* through 6. In summary, the report will include the following:

- Site visit (field investigation) notes
- Geometric Approval Drawings
- Draft Design Hydraulic Study
- Preliminary Geotechnical Report
- Preliminary right-of-way information
- Utility relocation/protection information
- Construction staging and detour requirements
- Bridge APS drawings
- Potential retaining wall type drawings
- APS discussion and evaluation
- Summary of environmental studies
- Construction cost estimate for each alternative
- Schedule to complete final design
- Site photos

This report will be presented to and discussed with the County in draft form. All comments will be addressed and incorporated in the final report. Final design will proceed only upon concurrence by the County. The approved report will become the basis for the project's final design.

Product: Draft & Final Project Reports

FINAL DESIGN PHASE

This phase of the work plan will commence upon approval/NTP by the County.

TASK 8: Geotechnical Investigations

Foundation investigation, reporting, and design concurrence will be performed by Taber Consultants as part of QEI team.

Field Exploration: The proposed exploration program is based upon two borings up to 60 feet in depth, one at each proposed abutment area. The boring locations will depend upon the available access and traffic control limitations. For the long retaining wall at the northwest bridge corner an additional three borings are proposed spaced at approximately 100 to 125 feet on center in the westbound travel lane. One boring will be to a depth of 40±feet (or 20±feet into rock) near the west end of the retaining wall; the other borings will be selectively sampled and intended to determine depth to rock along the wall alignment. Taber anticipates using a truck mounted rotary wash drill rig for their work. Traffic control efforts are not expected to be needed and have not been included in this scope since the roadway has a very low ADT and drill locations are easily visible. Simple cones and warning signs are expected to suffice.

All permits will be obtained by Taber Consultants for exploration in the field. They expect that Sonoma County environmental health and encroachment permits will be required for their scope of work (encroachment permits anticipated no-fee for this County project). No other permits are expected to be required for this project, including Caltrans permits.

Fees for the environmental health permits are anticipated to be \$690. Additional time for inspections (if required by the County, but not anticipated) will require additional fees.

Taber is familiar with the general geologic conditions and has worked on other bridges in County. A site specific foundation study will be done for this bridge project including site specific retaining walls. Services include site review, drilling and sampling of test borings, laboratory testing, the "Log of Test Borings" drawing, evaluation, analysis, and a written report. Subsurface exploration to adequately define earth materials and foundation conditions at this site will require drilled, logged, and fully sampled test borings. The location, number, and depth of the test borings will be re-evaluated after preliminary planning with particular consideration of the design scour elevations and proposed foundation loading. Approach roadway sub-grade and pavement structural section requirements will include sampled test borings at each approach.

Typically, borings for shorter bridges can be done outside of the existing creek channel to avoid obtaining Fish & Game or other permits. USA will be contacted for location of buried utilities before starting the field exploration. Taber expects to recirculate and contain all drill fluid and to dispose of excess drill fluid/soil cuttings outside of the active channel. Field exploration will be coordinated with the County as necessary. Field work is expected to take approximately two to three days to complete.

Laboratory testing will include moisture content-dry density and unconfined compressive strength determinations as well as engineering classification tests (gradation and Atterberg Limits) and corrosivity (pH/minimum Resistivity/sulfate/chloride content) on selected suitable samples. The approach pavement evaluation will include a Stabilometer Resistance R-value.

Foundation Report: The Foundation Report summarizes the data and makes specific recommendations for type, elevation, and loading of foundation elements. Drilled piles and spread footing foundations will be considered for the supports. Drilled pile foundation recommendations include pile type; penetration criteria; pile loading; and estimated and/or specified tip elevations. Spread footing foundation recommendations will include footing elevations, bearing material penetration, and allowable design loading. Foundation recommendations will be consistent with Caltrans design and construction practices utilizing Caltrans "Standards".

The Foundation Report will also discuss bank/approach-stability/erosion, groundwater, scour, and other subsurface conditions encountered as they may affect foundation design, approach roadway design, construction or service, and will make recommendations for consideration in design/construction. Site seismicity will be evaluated in accordance with current Caltrans Division of Structures-Design procedures, based upon subsurface data obtained for the evaluation of the bridge foundation support.

As a part of our proposed services, we have included plan review time to verify that final design meets with Taber's recommendations.

Materials Report: Two test borings to a depth of 5 feet below existing site grade are proposed for evaluation of roadway subgrade conditions near project conforms. It is anticipated that roadway work will be limited to within about 200-400 feet of each abutment location.

The Materials Report letters will be generated after project fieldwork, summarize the encountered soil conditions, discuss results of R-Value testing, and present design pavement sections for approach roadway.

Product: **Draft & Final Foundation Reports**
 Materials Report
 Log of Test Boring Sheet

TASK 9: Design

Bridge Design: Final bridge design will be performed in accordance with AASHTO LRFD Bridge Design Specifications (2012) with the latest Caltrans amendments to this specification. Other Caltrans design manuals and practices will also be incorporated into the design. The bridge design will be based on the "Load Resistance Factor Design" method, with HL-93 legal loads and Caltrans permit truck design live loads. Seismic design practice will be performed in accordance with Caltrans Seismic Design Criteria V1.6 (November 2010). The expected structure type is a **composite steel girder type** bridge.

Approach Roadway Design: The final approach roadway design will be performed in accordance with County Standards, AASHTO "A Policy on Geometric Design of Highways and Streets", Caltrans Highway Design Manual, and Caltrans Standard Specifications. Final grading and drainage details will be developed as well as new/existing roadway conformance details, as required. Cross-sections will be developed on approximately 50-foot intervals. Design work will be done using **AutoCAD Civil 3D** design software.

Stage Construction / Detour: Stage construction or temporary detour plan sheets will be needed since the existing bridge is to remain open to traffic.

Retaining Wall Design: Project retaining walls described above are expected to be potentially a **combination of both standard and non-standard design types**. Standard wall types may include Caltrans Type 1 retaining walls and non-standard designs may include a cantilever steel soldier pile type. Designs will meet AASHTO and Caltrans design standards for retaining walls.

Utility Relocation: The Team will provide communication and coordination with the utility companies during the preliminary and final design process. We will coordinate the relocation and protection of the existing utilities for the project based on the information obtained from the various affected utilities. We typically also provide adequate openings for the utilities in the bridge. It will be the responsibility of each utility owner to provide a design of their facility.

Environmental: Environmental mitigation requirements will be included in the plans, specifications, and estimates. We have assumed only minor mitigation requirements will be needed for this project.

Revegetation requirements, such as tree replanting ratios, will be identified during the environmental process by the Team. The Team will also provide a revegetation plan sheet. QEI assumes that the County will hire a biologist and be responsible for implementing the long term requirements of the revegetation plan per the environmental/permit documents. It is expected that the County biologist will provide the Team with site specific revegetation specification information related to planting, if required.

Regional Water Quality Control Board – NPDES General Construction Permit

The County will have a Qualified SWPPP Developer (QSD) prepare a “conceptual” Storm Water Pollution Prevention Plan (SWPPP) for obtaining an NPDES Construction Permit from the State Water Resources Control Board.

Other: Bridge demolition, traffic handling plans, and project signing will be developed as well as bridge and roadway embankment protection (rock slope protection) details. Temporary traffic signals, if required for construction, are expected to be provided by the County or the construction contractor.

TASK 10: Detailing

The plan sheets will be prepared in **AutoCAD Civil 3D** according to County and QEI drafting standards. Plans will be prepared in English units and will be consistent with Caltrans’ Standard Plans. All plans will be signed by the civil engineer (registered in the state of California) in responsible charge of the design, in accordance with the Local Programs Manual. Typically, the plans, specifications, and estimate (PS&E) will contain the following plan sheets for a single span precast prestressed concrete girder type structure (the number of sheets will vary depending on the site and the final structure details):

Title Sheet and Location Map	Bridge General Plan
Typical Cross-Sections	Deck Contour Plan
Layout Sheet	Foundation Plan
Profile and Superelevation Sheet (2)	Abutment Layouts (2)
Drainage Details	Abutment Details
Construction Signs / Traffic Handling (3)	Bridge Typical Section
Summary of Quantities Sheet	Girder Layout
Construction Details (2)	Girder Details
Pavement Delineation and Sign Plans	Cross Frame Details
Revegetation Plan	Miscellaneous Steel Girder Details
Retaining Wall Details (5)	Bridge Railing Details
	Approach Slab Details
	Log of Test Borings Sheets

(Total of 33 sheets anticipated)

TASK 11: Submittal of 65% Plans (Unchecked Details)

Open communication between the County's staff and the Quincy design Team will allow both parties the opportunity for input during the plan preparation stage. This will ensure that both roadway and bridge design parameters are adequately addressed. This approach should save considerable time in the County's review of the Draft PS&E because most of the major issues will have been previously discussed and addressed.

Product: 65% Plans (11x17)

TASK 12: Independent Design Check

An independent check of the design will be performed. This involves a completely independent analysis of the project using the unchecked bridge plans and 65% roadway plans by engineers that have not been involved in the design. This is a big part of the Team's QA/QC Plan and is identical to the Caltrans/Local Agency process. Based upon the independent check and agreement to revisions by the checker and designer, the plans will be revised.

Product: Independent Design Check Calculations

TASK 13: Technical Special Provisions (Specifications)

Project technical specifications, including edited special provisions based on Caltrans Standard Special Provisions (SSP) will be developed in Microsoft Word. We will provide two hard copies and a disc copy of the specifications for the County's initial and final reviews. QEI will combine the technical specifications with standard County or Caltrans boilerplate specifications and prepare the final bid packages for advertising.

Product: Technical Specifications (2 copies)

TASK 14: Construction Quantities & Estimate

Construction quantities and the Team's estimate of construction costs (Q and E) will be developed. Quantities will be calculated in accordance with Caltrans' practice and segregated into pay items. The final estimate will show quantities and costs as well as a project cost summary. Summary sheets of various structures items for the Construction Resident Engineers use will also be provided.

Product: Roadway & Structure Quantities (2 copies)
Structure Check Quantities (2 copies)
Project Construction Cost Estimate (2 copies)

TASK 15: Quality Control & Constructibility Review

As an integral part of the Quincy QA/QC Program, a senior level engineer will review the entire draft PS&E (90% PS&E) package for uniformity, compatibility, and constructibility as well as conformance with the federal HBP requirements prior to submittal to the County.

The review will include comparing bridge plans with the roadway plans for conflicts or inconsistencies, and to ensure that the final design is in accordance with environmental documents, permit requirements, hydraulics reports, and foundation recommendations. The specifications and estimate will be reviewed for consistency with the plans and to ensure that each construction item has been covered. Once the QC reviewers' comments have been addressed, the 95% PS&E package is completed.

Product: QA/QC Checklist

TASK 16: Submittal of 95% PS&E

The plans, specifications, and estimate, along with design, check, and quantity calculations, will be submitted to the County at the 95% completion stage.

Product: Full Size Reproducible Plans – 1 full size set of vellums
11x17 plans – 3 sets
Edited Technical Specifications – 2 copies
Design Calculations – 1 copy
Bridge Design Check Calculations – 1 copy

TASK 17: Submittal of Final (100%) PS&E

Upon receiving review comments from the County and other agencies, each comment will be reviewed, discussed, and addressed in writing. All apparent conflicts will be resolved as necessary. Appropriate modifications will be made to the plans, specifications, and estimate. We will furnish a final PS&E package in full-sized and half-sized plans as well as hard copy and computer files (MS Word format) of special provisions for bidding purposes.

QEI will compile the actual bid documents and turn them over to the County for duplication and advertising.

Product: Final Project PS&E Package
Bid Documents (Duplication Ready)

TASK 18: Right-of-Way Engineering

After the County has reviewed and commented on the project geometrics, QEI will prepare retracement surveys, utilizing available County record mapping, title reports, exception documents, and vesting documents, which will be provided by the County. Field surveys will be conducted to determine existing right of way and property lines within the proposed project footprint. Right of Way Mapping will be prepared showing existing property lines. These maps will become the basis for Legal Descriptions and a Record of Survey to be prepared later.

A total of up to four (4) parcel/acquisitions and up to six (6) temporary construction easements are assumed for the site. Individual plats will be prepared in addition to legal descriptions for each parcel involved with acquisitions and easements. The plats will include the same basic information as contained in the Right-of-Way Mapping with respect to encumbrances and will detail any property line changes.

Each proposed parcel take and easement will be staked out at the time of the property owner appraisal meeting to ensure the limits of the parcels are clearly defined. A Record of Survey will be filed with the Sonoma County Surveyor in accordance with section 8762 of the Land Surveyor's Act. Substantial and durable monuments will be set at all boundary points marked in the field. The Record of Survey will show the positions of all points set and how those positions were determined based upon boundary evidence and standard survey practices. Associated review and filing fees will be paid by the County.

Product: Right-of-Way and Adjoining Property Information
Plats and Legal Descriptions (up to total of 10)
Record of Survey

TASK 19: Right-of-Way Appraisal & Acquisition (Provided by County)

The County will provide all necessary right-of-way and temporary construction easement appraisals and acquisition services.

TASK 20: Obtain Regulatory Agency Permits

Preparation of permit applications for the project will be performed by the COUNTY.

The proposed project may affect wetlands or other jurisdictional waters in Salmon Creek that may be under the jurisdiction of the ACOE, RWQCB, and/or CDFG. Impacts to jurisdictional waters may require permits from the regulatory agencies.

TASK 21: Bidding Assistance

The individuals that were directly involved in the design will be available during the bid period to interpret the plans and specifications, assist with preparing addenda if needed, and provide general consultation to the County to obtain bids. When the construction bids are opened, we will be available to provide analysis and recommendations concerning award of the contract.

Product: **Assist with Addenda (if needed)**
 Bid Review

June 12, 2019

Joel LeCureaux
County of Sonoma Department of Transportation and Public Works
2300 County Center Drive, Suite B100
Santa Rosa, CA 95403

Re: Amendment 2 Scope of Work - Freestone Flat Road Bridge Replacement

Dear Mr. LeCureaux,

Task 1. Environmental

Quincy Engineering, Inc. (Quincy) and our subconsultant Panorama will prepare the following Environmental studies, documents and support to assist the County in obtaining NEPA and CEQA clearance on the Freestone Flat Road Bridge Replacement Project.

Environmental studies will be completed pursuant to the Caltrans Standard Environmental Reference (SER). Quincy and Sonoma County (County) will define the project study area including all work areas (e.g., staging areas and access roads) prior to environmental study. The following studies are included in this scope of work:

- Water Quality Technical Memo (WQAR)
- Natural Environment Study (NES)
- Biological Assessment (BA)

Panorama will prepare draft studies for Quincy and the County to review and comment. Quincy will review studies for conformance with the project description and the feasibility of incorporating any proposed mitigation measures into the PS&E. It is expected that draft studies will be provided by the County to Caltrans for review and comment. Caltrans has indicated that all studies must be signed by the County. Final studies will incorporate Quincy, County and Caltrans comments. The budget for each study assumes two drafts and one final study will be prepared.

Task 1.1 - Prepare Water Quality Assessment Report

Panorama will prepare a WQAR according to Caltrans requirements. A WQAR is required due to the use of a clear water diversion/creek protection during construction. The WQAR will include a description of the proposed project, the physical setting of the project area, and the regulatory framework with respect to water quality. The WQAR will provide information on known surface water and groundwater resources within the project area, water quality data, water quality impairments and beneficial uses, and potential water quality impacts/benefits associated with the proposed project. Recommended avoidance and/or minimization measures for potentially adverse impacts will be addressed. The WQAR will not make conclusions regarding significance of the impacts; the determination of impact significance will be addressed in the NEPA/CEQA document based on information provided in the WQAR. A draft WQAR will be submitted to the County for review and comment. A revised draft WQAR will be prepared following receipt of County comments and provided to Caltrans for review and comment. A final WQAR will be prepared upon receipt of Caltrans comments.

developing YOUR vision | delivering YOUR project



Task 1.2 - Natural Environment Study

Panorama will prepare an NES and a BA according to Caltrans requirements identified in the SER. Per Panorama's conversation with the County and Quincy on April 18, 2019, baseline biological studies will not be conducted. Draft documents will be submitted to the County for review and comment. Revised documents will be prepared following receipt of County comments and provided to Caltrans for review and comment. Final documents will be prepared upon receipt of Caltrans comments.

Panorama will update the NES prepared by Sonoma County by conducting a review of the following databases for special-status species records within the project area and 5-mile radius surrounding the project:

- California Natural Diversity Database (CNDDB)
- California Native Plant Society Online Inventory of Rare and Endangered Plants
- U.S. Fish and Wildlife Service (USFWS) database

Panorama will update the NES to reflect any additional information obtained during the literature search on special-status species potential to occur in the project area.

Panorama will define mitigation measures as appropriate to reduce impacts to special-species that could occur in the project area. No focused species surveys are included in this proposal. Panorama will assume presence of any species that have a potential to be affected by the project due to the presence of suitable habitat within the project action area. This task assumes preparation of a Draft and Final NES for Caltrans review.

The NES will be used to support a NEPA Categorical Exclusion determination by Caltrans.

Task 1.3 - Biological Assessment

Several federally listed species are known to occur in Salmon Creek, including steelhead, Coho salmon, California freshwater shrimp, and California red-legged frog.

Panorama will prepare a BA to support the Section 7 consultation with USFWS.

Panorama will prepare the BA using the most recent Caltrans template and in accordance with the USFWS Section 7 Consultation Handbook. To the extent feasible, Panorama will use information contained in the NES during preparation of the BA. The BA will include a description of the affected environment, federally listed species that could occur in the area, potential species effects, and species mitigation measures (referred to by USFWS as conservation measures). No fieldwork is anticipated for preparation of the BA.

Task 1.4 - Prepare Draft IS/MND

Environmental documentation in compliance with CEQA is required for the project. An Initial Study/Mitigated Negative Declaration (IS/MND) is expected to be the appropriate level of review for the project. The potential effects of the project are not expected to warrant preparation of an Environmental Impact Report (EIR) under CEQA.

Panorama will coordinate with the County prior to beginning the CEQA process.

Panorama will obtain examples of prior IS/MNDs from the County to determine the level of analysis that is expected for this project. Panorama will prepare the project description through coordination with Quincy and the County Public Works Department. The project description will form the basis for analysis of environmental impacts under



Exhibit A1 - Amendment 2 Scope of Work

CEQA. The project description will describe activities involved with both construction of the project and ongoing maintenance activities. Using the CEQA Checklist (Appendix G of the CEQA Guidelines), Panorama will prepare a complete Administrative Draft IS/MND for Sonoma County Planning review. The Administrative Draft IS/MND will include all 21 environmental resource topics included in Appendix G of the CEQA Guidelines (updated on December 28, 2018). The following 15 of the 21 environmental issue areas included in the CEQA checklist are anticipated to warrant discussion, analysis, and potentially mitigation in the IS/MND:

- **Aesthetics:** The project would result in a change to the visual landscape with the replacement of the existing single-lane bridge with a two-lane bridge.
- **Agricultural Resources:** The project site is located adjacent to farmland and the additional right-of-way needed for construction of the replacement bridge may require encroachment into agricultural land.
- **Air Quality:** Project construction would result in temporary equipment emissions and dust generation that could affect air quality. Project operation and maintenance would be expected to have a negligible impact on air quality.
- **Biological Resources:** Project construction could result in impacts to sensitive species and habitat.
- **Cultural Resources:** The existing bridge to be replaced is not considered eligible for listing in the NRHP and Panorama is not aware of any recorded cultural resources or tribal cultural resources within the project vicinity; however, project construction could result in impacts to buried and previously unknown cultural resources.
- **Energy:** Project construction would require use of fuel.
- **Geology:** Project construction would involve work in a creek channel and excavation for the new bridge foundations that could result in erosion or slope instability.
- **Greenhouse Gases:** Project construction would involve use of heavy equipment, which would emit greenhouse gases.
- **Hazards and Hazardous Materials:** The existing bridge could contain lead-based paint and it is anticipated that special precautions may need to be taken for the dismantling and disposal of the existing bridge.
- **Hydrology and Water Quality:** Construction activities in the creek channel could have an effect on hydrology and water quality.
- **Noise:** Construction activities would result in a temporary increase in noise, which could have an effect on nearby residents.
- **Traffic and Transportation:** Project construction activities could result in temporary interruptions in vehicular, bicyclist, and pedestrian traffic. Operation of the replacement bridge would result in improved traffic access across Salmon Creek. The improved access would need to be analyzed in accordance with recent changes to CEQA Guidelines.
- **Utilities:** No utilities are attached to the existing bridge; however, overhead lines adjacent to the bridge contain electric, telephone, and possibly cable lines. These overhead lines would likely need to be relocated as a result of the proposed project.



Exhibit A1 - Amendment 2 Scope of Work

- **Tribal Cultural Resources:** The project could impact tribal cultural resources during ground disturbing activities, if any occurred in the area.
- **Wildfire:** The project is located in or near an area that would require evaluation of wildfire hazards.

The proposed project is anticipated to have little to no impacts on the six remaining environmental topic areas: mineral resources, land use, population and housing, public services, and recreation. Mitigation and analyses presented in the CEQA document will be based largely on the NEPA studies discussed in Task 1.

Panorama will incorporate Quincy and County comments on the Administrative Draft IS/MND into a screen check Draft IS/MND. Panorama will produce the Draft IS/MND for public review upon County approval of the screen check Draft IS/MND. Panorama will send CDs to the State Clearinghouse along with the Notice of Completion. It is assumed that Panorama will produce 5 hard copies of the Draft IS/MND and up to 15 CDs. The County will be responsible for distributing public notices including the Notice of Public Hearing, the Notice of Intent to Adopt the MND, newspaper notices, and posting with the County Clerk. Preparation of notices by Panorama would require a scope and budget augment.

Task 1.5 - Prepare Final IS/MND

Panorama assumes the Draft IS/MND will be available for public review for 30 days. It is expected that nominal comments will be received from the permitting agencies (due to previous consultation) and possibly from local landowners. Panorama will compile comments received during the public review period and prepare the Administrative Final IS/MND. The Administrative Final IS/MND will include responses to public and agency comments and errata to the IS/MND. Panorama will submit the Administrative Final IS/MND to the County for review. Panorama will incorporate County comments into the Final IS/MND for acceptance by the Sonoma County Department of Transportation and Public Works. It is assumed that Panorama will produce 5 hard copies of the Final IS/MND and up to 15 CDs. It is assumed that the County will prepare the Mitigation Monitoring and Reporting Program. The County will be responsible for preparing the Notice of Determination and filing it with the State Clearinghouse.

Task 1.6 - Project Management and Meetings

Effective project management and coordination is a key component of any successful project. The objective of this task is to keep the project on schedule and budget while keeping the County informed of progress and any necessary changes or obstacles encountered during the environmental review process. Panorama will coordinate with agencies early during the preparation of NEPA and CEQA documents to inform them of the project. Panorama and Quincy assumes that consultation with the agencies would include discussions related to CEQA and Caltrans environmental study review, as well as permitting approach.

This task also includes attendance at one Environmental Review Committee (ERC) meeting by Panorama. Panorama's role at the ERC meeting would be to support the County staff and answer questions about the environmental analyses completed for the project. This scope of work does not include preparation of presentation slides or a presentation of the project at the ERC meeting.



Exhibit A1 - Amendment 2 Scope of Work

Task 1.7 - Agency Consultation

Over the course of the project, Panorama and Quincy will coordinate with the County, and agencies (assumed to be Caltrans, CDFW, USFWS, NCRWQCB, and USACE) on an ongoing, as-needed basis. Panorama will regularly communicate via phone and email with the County and Quincy to clarify the project description, discuss environmental constraints, and ensure that the CEQA and Caltrans documents align with the permits, which will be prepared by the County. It is assumed that Panorama will participate in up to four conference calls with the County and Quincy to discuss the project.

Task 1 - Assumptions

- All agencies (Caltrans, CDFW, and USFWS) will allow the County to assume presence of species listed under the Endangered Species Act (ESA) or California ESA without additional reconnaissance or species-specific surveys
- Sonoma County will provide Panorama with GIS for mapped vegetation communities within the biological study area for the bridge
- Sonoma County will provide Panorama with GIS or GPS data indicating the location of the ordinary high water mark of Salmon Creek in the project area
- The appropriate CEQA document is an Initial Study/Mitigated Negative Declaration
- Panorama will have access to technical studies prepared by the County and other consultants, which are required for the preparation of the Administrative Draft CEQA IS/MND
 - Traffic Technical Memorandum
 - Noise Technical Memorandum
 - Hazardous Waste Technical Memorandum
 - Floodplain Study
 - Right-of-Way Technical Memorandum
 - Farmlands Technical Memorandum
 - Cultural Resources Study (Area of Potential Effects [APE] Map, Archaeological Survey Report [ASR], and Historic Property Survey Report [HPSR])
 - Equipment Staging Technical Memorandum
 - This scope of work includes the preparation of the Administrative Draft IS/MND.
 - Panorama assumes the County will prepare the Mitigation Monitoring and Reporting Plan
 - Noticing for the CEQA document is not included in this scope of work
 - Panorama assumes the County will complete Native American consultation pursuant to Assembly Bill 52
 - The County will present project materials at the ERC meeting; Panorama will attend the ERC meeting, but would not prepare any materials specifically for the meeting
 - The County will prepare permit applications for CDFW 1602, USACE 404, and NCRWQCB 401



Task 2 - Stormwater Treatment PS&E

Quincy and WRECO will prepare the PS&E for the Post Construction Water Quality Treatment Design. Quincy anticipates two plan sheets will be required for the BMP details. Quincy assumes that dikes, concrete barriers and super elevation will be used to collect water within the project limits and divert it to three drainage basins. Quincy assumes that bioretention basins will then be required at these three locations and that the bioretention area will need to be no more than 4% of each basin watershed area. Quincy assumes that it will be possible to design the project drainage so that offsite drainage that runs onto the project will not need to be treated.

Quincy has attached a schematic design that shows anticipated basin locations. If requirements imposed by the board are different from assumptions made above, and those requirements result in a higher level of effort, then an additional amendment may be required.

WRECO will provide design recommendations to comply with the low impact development conditions required under the Project-specific Clean Water Act Section 401 Water Quality Certification. In addition, WRECO will prepare a Stormwater Technical Memorandum documenting the water quality setting, regulatory requirements, and the worksheets and forms identified in the Storm Water Low Impact Development Technical Design Manual (City of Santa Rosa and County of Sonoma 2017).

WRECO, on a monthly basis, will provide the Quincy Engineering, Inc. Project Team (Project Team) with invoices and progress reports for the Project. WRECO will attend a kickoff conference call meeting with the Project Team and participate in two (2) conference call coordination meeting.

WRECO will review available data, including previous and current plans and studies, provided by the County and Project Team.

WRECO will develop redline plans and details identifying the design recommendations for low impact development and stormwater treatment measures. WRECO will use the plans set and drawings provided by the Project Team to develop the redline plans. The redline plans and details will be developed for two (2) rounds of agency review and comments and a final time for development of the final design submittal for advertisement and construction.

WRECO will prepare a Stormwater Technical Memorandum summarizing the Project impacts to water quality and the proposed measures to comply with the low impact development requirements of the Project-specific Clean Water Act 401 Water Quality Certification. The memorandum will only address the impacts from the roadway and bridge improvements. The memorandum will include the design calculations used to size of the proposed stormwater treatment measures, and contain the worksheets and forms for the stormwater low impact development submittals identified in the Storm Water Low Impact Development Technical Design Manual (City of Santa Rosa and County of Sonoma 2017).



Task 2 - Assumptions

- The Project is required to obtain a Clean Water Act Section 401 Water Quality Certification from the North Coast Regional Water Quality Control Board that will include conditions requiring low impact development and stormwater treatment design measures.
- The low impact development and stormwater treatment measures will be designed using the methods presented in the Storm Water Low Impact Development Technical Design Manual (City of Santa Rosa and County of Sonoma 2017)
- Quincy Engineering, Inc. will develop the post-construction stormwater, drainage, and erosion control plans, specifications, and estimate, and provide WRECO the drainage watershed maps and drainage design calculations.
- WRECO will not perform any CAD work, nor prepare plan, specifications, quantities, or estimates for the Project's bid package
- WRECO will submit no more than two (3) round of redline plans and details for postconstruction stormwater design recommendations

Task 3 - Tree Survey

The County has requested that Quincy perform field surveys for smaller trees. See attached "Tree Impact Exhibit" for the "green and blue" highlighted areas referenced below. The work scope is as follows:

- Verify the location, size, and type of the trees within the blue highlighted area; Locate any additional trees if found.
- 6" DBH and above within the blue highlighted area that are currently not shown on the attached exhibit.
- Locate all trees 3" DBH and above within the green highlighted/riparian area as shown on the aforementioned exhibit. *Note: if any of the trees located in the green highlighted area are inaccessible, an approximation of the size and location of the tree will be made for the tree exhibit.
- Quincy will prepare a "Tree Impact Exhibit" which will include all trees that are located within the above referenced areas which meet the previously mentioned size requirements. The Tree Impact Exhibit will show all trees to be removed and a table of the affected trees with the sizes and stations of the subject trees will be prepared and incorporated therein.
- It is assumed the County will visually field verify the trees, number them and list specifies if not supplied, and Quincy will incorporate those comments into the final tree exhibit table.

Please let us know if this proposal meets your expectations.

Sincerely,
Quincy Engineering, Inc.

A handwritten signature in blue ink that reads "Greg Young".

Greg Young, P.E.
Project Manager

Exhibit A1 - Amendment 2 Scope of Work

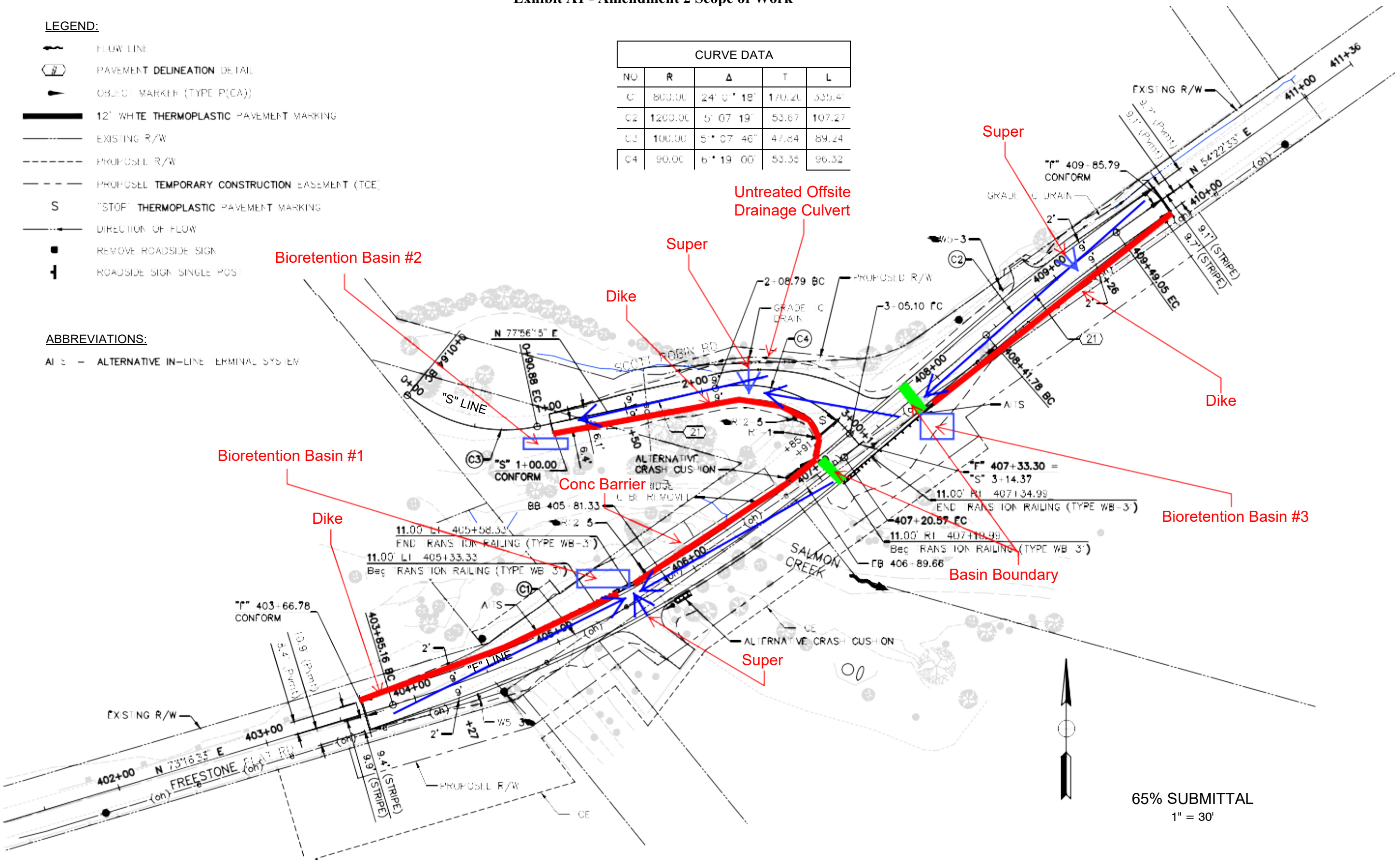
LEGEND:

- FLOW LINE
- PAVEMENT DELINEATION DETAIL
- OBJECT MARKER (TYPE P(CA))
- 12" WHITE THERMOPLASTIC PAVEMENT MARKING
- EXISTING R/W
- PROPOSED R/W
- PROPOSED TEMPORARY CONSTRUCTION EASEMENT (TCE)
- "STOP" THERMOPLASTIC PAVEMENT MARKING
- DIRECTION OF FLOW
- REMOVE ROADSIDE SIGN
- ROADSIDE SIGN SINGLE POST

ABBREVIATIONS:

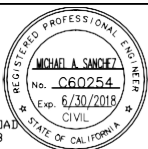
ALTS - ALTERNATIVE IN-LINE TERMINAL SYSTEM

CURVE DATA				
NO	R	Δ	T	L
C1	800.00	24° 0' 18"	170.20	335.41
C2	1200.00	5° 07' 19"	53.67	107.27
C3	100.00	5° 07' 46"	47.84	89.24
C4	90.00	6° 19' 00"	53.36	96.32



DESIGN BY B.GRIMM
DRAWING BY B.GRIMM
CHECKED BY M. SANCHEZ

REGISTERED CIVIL ENGINEER
1/21/2015
PLANS APPROVAL DATE
S:\CLIENT\SONOMA COUNTY - S22\FREESTONE FLAT ROAD
S22-200\CAD\ROADWAY\S22-200_L-1.DWG 1/31/2018
8:53 AM



CONSTRUCTION COMPLETED:
"AS BUILT" INFORMATION TO BE COMPLETED AFTER CONSTRUCTION
RESIDENT ENGINEER
AS BUILT DRAWINGS BY:
DATE BY APPROVED

QUINCY ENGINEERING, INC.
11017 Cobblerock Drive, Suite 100
Sacramento, CA 95670



COUNTY OF SONOMA
DEPARTMENT OF TRANSPORTATION & PUBLIC WORKS
SUSAN KLASSEN, DIRECTOR

LAYOUT		ROAD NUMBER	XXX
FREESTONE FLAT ROAD BRIDGE REPLACEMENT		BUDGET NUMBER	XXX
		FISCAL YEAR	2015-16
		SHEET NUMBER	3
		TOTAL SHEETS	32

EXHIBIT B

Cost Proposal

Project Name: Sonoma County - Freestone Flat Road Bridge Replacement Project

Date: 7/19/2013

Quincy Engineering, Inc.

Direct Labor:	\$103,520.89
Escalation for Multi-Year Project (3.0%):	\$3,105.63
Overhead (1.731):	\$184,570.50
A. Labor Subtotal	\$291,197.02

Subconsultant Costs:

Panorama Environmental	\$0.00
Taber	\$49,000.00
WRECO	\$17,280.00
0	\$0.00
0	\$0.00
B. Subconsultant Subtotal	\$66,280.00

Other Direct Costs:

Plotter/Computer		hours @	\$10.00	\$0.00
Travel	2200	miles @	\$0.565	\$1,243.00
Pier Diem/ Hotel	6	days @	\$150.00	\$900.00
Phone/Fax				\$0.00
Delivery	5	@	\$20.00	\$100.00
Printing: Blue Line				
Vellum / Mylars	0	sheets @	\$25.00	\$0.00
8 1/2 X 11 Reproduction				\$100.00
11 X 17 Reproduction				\$0.00
Mounting Boards for Presentations				\$0.00
Prevailing Wage Differential				\$1,950.54
Mailings (6x)				
C. Other Direct Cost Subtotal:				\$4,293.54

Labor Subtotal A. =	\$291,197.02
Fee (10.0%):	\$29,119.70
Subconsultant Subtotal B. =	\$66,280.00
Fee (0.0%):	\$0.00
Other Direct Cost Subtotal: C. =	\$4,293.54
Fee (0.0%):	\$0.00

TOTAL =

\$390,890.26

Note: Invoices will be **based upon actual QEI hourly rates** plus overhead at 173.1% plus fee. Subconsultant and Other Direct Costs will be billed at actual cost.

Year 2013 Hourly Rates (Design and Construction Management)

Rates are effective January 1, 2013 through December 31, 2013

<u>Labor by Classification</u>	<u>Hourly Rate</u>
Principal Engineer	\$60 - \$75
Senior Engineer	\$45 - \$70
Associate Engineer	\$32 - \$55
Assistant Engineer*	\$25 - \$40
Senior Engineering Tech*	\$30 - \$45
Engineering Tech/Assistant*	\$18 - \$35
CAD Manager*	\$32 - \$50
CAD Tech*	\$20 - \$32
Administrative Assistant/Support Staff*	\$10 - \$35
Senior Project Manager/Proj Manager	\$50 - \$75
Project Engineer	\$35 - \$72
Resident Engineer/Bridge Rep	\$40 - \$68
Senior Inspector*	\$35 - \$58
Inspector*	\$20 - \$45
Overhead Rate	173.1%

Other Direct Costs

Office Computer & Software	Included in Overhead
Office Phone/Cell/Fax	Included in Overhead
Reproduction	
Black & White in office	Included in Overhead
Color in office	Included in Overhead
Vendor	Cost
Delivery	Cost
Mileage	Current Federal Rate (\$.565/mi.)
Other Travel	Cost
Subconsultants	Cost
Short Term Per Diem	\$160 per day
Long Term Per Diem	\$2,100 per month
Field Vehicle	\$1,450 per month
Field Computer/Printer	\$210 per month
Field Cellular Phone	\$125 per month
Prevailing Wage Differential**	Cost Plus Payroll Taxes
Misc. Cost	Cost

Fee

Labor + Overhead	10% - 15%
Other Direct Costs	0% - 10%

Notes:

*Overtime rates apply to these classifications and will be charged at 1.5 times the hourly rate.

**Prevailing Wage Differentials may apply for Construction Inspection Services.

Labor Costs to be invoiced based on actual hourly rate plus overhead plus fee.

Other Direct Costs to be invoiced at actual cost plus fee.

Cost Proposal

Project Number: JP1-518		Project Name: Sonoma County - Freestone Flat Road Bridge Replacement Project																												
	TASKS	Principal In Charge	Project Manager	Senior Engineer- Roadway Project Engineer	Senior Engineer- Bridge Project Engineer	Senior Engineer	Associate Engineer - DE	Associate Engineer - DE	Assistant Engineer - DE	Assistant Engineer - DE	Assistant Engineer - DE	Assistant Engineer - DE	Survey Dept Manager	Survey Party Chief	Survey Party Chief - OT	Survey Chairman	Survey Chairman - OT		Drafter 3	Drafter 2	Senior Engineer (QC/QA)	Admin	Quincy Total Hours <small>(QC/QA Labor Dollars)</small>	Panorama Environmental	Taber	WRECO			Subconsultant Subtotal	
No.	Initial Hourly Rate	\$68.86	\$67.22	\$54.95	\$63.17	\$58.87	\$49.00	\$49.00	\$39.00	\$33.70	\$39.00	\$33.70	\$48.05	\$45.00	\$67.50	\$35.00	\$52.50		\$41.72	\$26.26	\$58.25	\$30.97								
1	Project Management / Meetings																													
	Project Management		90																			20	110							\$0
	Kickoff Meeting		6	12	8																		26							\$0
	Meetings (total 3)			30	24																6		60							\$0
	Funding Applications (Optional Scope)																						0							\$0
2	Topographic Survey & Prelim ROW		1	2					2				10	26	8	56	8			2			115							\$0
3	Hydraulics Analysis and Reports		2	2	4			4															12			\$17,280				\$17,280
4	Prelim. Geotechnical Investigation		2		2						2												6		\$6,700					\$6,700
5	Preliminary Design (w/estimates)																													
	Prelim Roadway Plans (Alts A & B)			30			90		50														170							\$0
	Preliminary Right-of-Way		1	4	1				6														12							\$0
	Bridge APS Drawings (Up to 3 total)				16			20				20							2	24			82							\$0
	Preliminary Ret Wall Drawings (Up to 2 total)		1		4			10				20							2	20			57							\$0
	Utility Coordination			12	2		30																44							\$0
6	Environmental Doc's / Studies		6	8	4				4		4												26							\$0
7	Project Report (35%)		1	12	24					10		10											57							\$0
8	Geotechnical Investigation		1		2			8															11		\$42,300					\$42,300
9	Final Design																													
	Bridge Design (Steel PL Grdrs)				8			180				8											196							\$0
	Ret Wall Design(s)				8			30				50											88							\$0
	Approach Roadway Design			16			80			60													156							\$0
10	Detailing																													
	Structure Detailing (14)				4			6											4	160			174							\$0
	Roadway & Ret Wall Detailing (19)			4			40												4	110			158							\$0
11	Submittal of 65% Plans (Unchecked Det)		2	8	8		8	4											1	4			35							\$0
12	Independent Design Check																													
	Bridge				4						110												114							\$0
	Retaining Walls				4						50												54							\$0
	Roadway			2					24														26							\$0
13	Specifications (Technical SSP's)			2	2	110																	114							\$0
14	Construction Quantities and Estimate			8	8		20	24	24		34												118							\$0
15	QC and Constructibility Review			2	2																24		28							\$0
16	Submittal of 95% PS&E		4	4	4	4	4	4	4		4	2							6	12			52							\$0
17	Submittal of Final (100%) PS&E (Bid Ready)		4	8	8	20	4	1	1		1								2	12			61							\$0
18	Right-of-Way Engineering		1	2			2						16	16	4	66	4						111							\$0
19	R/W Appraisal and Acquisition (County)																						0							\$0
20	Obtain Permits		2	2	2				2		8												16							\$0
21	Bidding Assistance		1	4	4																		9							\$0
22	Construction Engineering Services (TBD)																						0							\$0
23	Prepare As-built Drawings (TBD)																						0							\$0
	Subtotal- Hours	0	125	174	157	134	278	291	117	70	213	110	26	42	12	122	12	0	21	350	24	20	2298							0
	Other Direct Costs																													0
	Total Cost	\$0	\$8,403	\$9,561	\$9,918	\$7,889	\$13,622	\$14,259	\$4,563	\$2,359	\$8,307	\$3,707	\$1,249	\$1,890	\$810	\$4,270	\$630	\$0	\$876	\$9,191	\$1,398	\$619	\$103,521	\$0	\$49,000	\$17,280	\$0	\$0	\$66,280	

EXHIBIT B1 - Amendment 2 Cost Proposal for Environmental Work

Local Assistance Procedures Manual

EXHIBIT 10-H
Cost Proposal

Exhibit 10-H1 Cost Proposal Actual Cost-Plus-Fixed Fee Contracts

☒ Prime Consultant ☐ Subconsultant

Consultant **Quincy Engineering, Inc.**

Project Name **Freestone Flat Bridge Replacement Project**

Project No. **S22-200**

Contract No. **C11004**

Date **6/12/2019**

DIRECT LABOR

Classification/Title	Name	Initials	Range	Hours	Initial Hourly Rate	Total
Principal Eng.	Steve Mellon	SM	\$70-\$120	0	\$ 92.30	\$ -
Senior Eng. *	Greg Young	GY	\$50-\$95	56	\$ 76.40	\$ 4,278.40
Assoc Pr. Eng.	Lance Schrey	Lsch	\$70-\$105	0	\$ 87.00	\$ -
CAD Tech	Patrick Kenney	PK	\$25-\$40	40	\$ 34.80	\$ 1,392.00
Assoc Eng.	Andrew Mitchell	AM	\$35-\$65	89	\$ 58.90	\$ 5,242.10
Senior PM	Carolyn Davis	CD	\$60-\$100	5	\$ 82.60	\$ 413.00
Survey Mgr	Jim Thornton	JT	\$40-\$70	5	\$ 64.40	\$ 322.00
Survey Tech	Alfonso Dabu	AD	\$29-\$47	8	\$ 45.00	\$ 360.00
Senior Eng. Tech	Craig Polglase	CP	\$33-\$62	0	\$ 59.40	\$ -
Assist Eng. II	Carlos Silva	CS	\$34-\$62	0	\$ 55.70	\$ -
Assist Eng. I	Scott Sinclair	SS	\$26-\$46	0	\$ 28.20	\$ -
Assoc Eng.	Krassimir Panayotov	KP	\$35-\$65	0	\$ 60.50	\$ -
CAD Tech	Patrick Kenney	PK	\$25-\$40	0	\$ 34.80	\$ -
Admin Asst	Phyllis Jordan	PJ	\$15-\$62	0	\$ 39.80	\$ -
Survey Chief of Party **	Survey Chief of Party	SCoP	\$37-\$67	12	\$ 33.60	\$ 403.20
Survey Chainman / Rodman **	Survey Chainman / Rodman	SCR	\$29-\$47	8	\$ 29.30	\$ 234.40
				223		\$ 12,645.10

LABOR COSTS

- a) Subtotal Direct Labor Costs \$12,645.10
 b) Estimated Salary Increases for Multi-Year Project \$14.80 (see calculation page attached)
 c) **TOTAL DIRECT LABOR COSTS** [(a) + (b)] \$12,659.90

INDIRECT COSTS

- d) **Fringe Benefits (Rate: 43.02%):** e) Total Fringe Benefits [(c) x (d)] \$5,446.29
 f) **Overhead (Rate: 130.08%):** g) Overhead [(c) x (f)] \$16,468.00
 h) **General Administration (Rate: 0.0%):** i) Gen & Admin [(c) x (h)] \$0.00
 j) **TOTAL INDIRECT COSTS** [(e) + (g) + (i)] \$21,914.29

FIXED FEE

- k) **Fixed Fee (10.0%):** l) **TOTAL FIXED FEE** [(c) + (j)] x (k) \$3,457.42

CONSULTANT'S OTHER DIRECT COSTS (ODC)

Travel (@ active IRS mileage rate)	166 miles @	\$0.580	\$96.28
Pier Diem/ Hotel	0 days @	\$150.00	\$0.00
Delivery	0 @	\$20.00	\$0.00
Vendor Reproduction			
	Vellum @		\$0.00
	8 1/2 X 11 Reproduction @		\$0.00
	11 X 17 Reproduction @		\$0.00
	Mounting Boards for Presentations @		\$0.00
	Newsletters (Translation and printing) @		\$0.00
	Subtotal Vendor Reproduction		<u>\$0.00</u>
Title Report	0 @	\$0.00	\$0.00
Miscellaneous			<u>\$0.00</u>
m) TOTAL OTHER DIRECT COSTS			<u>\$96.28</u>

- n) **SUBCONSULTANT COSTS** (attach detailed cost proposal for each subconsultant)

Panorama	\$104,737.00
WRECO	\$20,018.19
0	\$0.00
0	\$0.00
0	\$0.00
0	\$0.00
0	\$0.00
0	\$0.00
0	<u>\$0.00</u>
	<u>\$124,755.19</u>

- o) **TOTAL COST** [(c) + (j) + (l) + (m) + (n)] **\$162,883.08**

NOTES:

- Key personnel marked with an asterisk (*).
- Employees subject to prevailing wage marked with two asterisks (**).
- Anticipated salary increases calculation (Item "b") on attached page.
- Note: Invoices will be based upon actual QEI hourly rates plus overhead at 173.1% plus prorated portion of fixed fee. Subconsultant and Direct Costs will be billed at actual cost. The overhead rate (ICR) shall remain fixed for the contract duration or until both parties agree to modify the rate in writing.

EXHIBIT 10-H1 COST PROPOSAL

PAGE 2 OF 2

ACTUAL COST-PLUS-FIXED FEE CONTRACTS

(CALCULATIONS FOR ANTICIPATED SALARY INCREASES TASK 1 ONLY)

Consultant Quincy Engineering, Inc.

Contract No. C11004

Date 6/12/2019

Freestone Flat Bridge Replacement Project

1. Calculate Average Hourly Rate for 1st year of the contract (Direct Labor Subtotal divided by total hours)

Direct Labor Subtotal per Cost Proposal	Total Hours per Cost Proposal		Avg Hourly Rate	5 Year Contract Duration
\$ 4,940.80	72	=	\$68.62	Year 1 Avg Hourly Rate

2. Calculate hourly rate for all years (Increase the Average Hourly Rate for a year by proposed escalation %)

	Avg Hourly Rate	Proposed Escalation =	3.0%		
Year 1	\$68.62	+	1.5%	=	\$69.65 Year 1 Avg Hourly Rate
Year 2	\$69.65	+	3.0%	=	\$71.74 Year 2 Avg Hourly Rate
Year 3	\$71.74	+	3.0%	=	\$73.89 Year 3 Avg Hourly Rate
Year 4	\$73.89	+	3.0%	=	\$76.11 Year 4 Avg Hourly Rate
Year 5	\$76.11	+	3.0%	=	\$78.39 Year 5 Avg Hourly Rate

3. Calculate estimated hours per year (Multiply estimate % each year by total hours)

	Estimated % Completed Each Year		Total Hours per Cost Proposal		Total Hours per Year	
Year 1	80.00%	*	72.0	=	57.6	Estimated Hours Year 1
Year 2	20.00%	*	72.0	=	14.4	Estimated Hours Year 2
Year 3	0.00%	*	72.0	=	0.0	Estimated Hours Year 3
Year 4	0.00%	*	72.0	=	0.0	Estimated Hours Year 4
Year 5	0.00%	*	72.0	=	0.0	Estimated Hours Year 5
Total	100%		Total	=	72.0	

4. Calculate Total Costs including Escalation (Multiply Average Hourly Rate by the number of hours)

	Avg Hourly Rate (calculated above)		Estimated hours (calculated above)		Cost per Year	
Year 1	\$68.62	*	58	=	\$3,952.64	Estimated Hours Year 1
Year 2	\$69.65	*	14	=	\$1,002.96	Estimated Hours Year 2
Year 3	\$71.74	*	0	=	\$0.00	Estimated Hours Year 3
Year 4	\$73.89	*	0	=	\$0.00	Estimated Hours Year 4
Year 5	\$76.11	*	0	=	\$0.00	Estimated Hours Year 5
	Total Direct Labor Cost with Escalation			=	\$4,955.60	
	Direct Labor Subtotal before Escalation			=	\$4,940.80	
	Estimated total of Direct Labor Salary Increase			=	\$14.80	Transfer to Page 1

NOTES:

- This assumes that an average of one half year will be worked at the rate on the cost proposal.

Cost Proposal

	Project Number: S22-200 Project Name: Freestone Flat Bridge Replacement Project																								
	TASKS	Principal Eng.	Senior Eng.	Assoc Pr. Eng.	CAD Tech	Assoc Eng.	Senior PM	Survey Mgr	Survey Tech	Senior Eng. Tech	Assist Eng. II	Assist Eng. I	Assoc Eng.	CAD Tech	Admin Asst	Survey Chief of Party **	Survey Chainman / Rodman **	Quincy Total Hours	Quincy Total Labor Dollars	Quincy Labor	Quincy Profit	Quincy NLF Budget	Panorama	WRECO	Subconsultant Subtotal
		SM	GY	Lsch	PK	AM	CD	JT	AD	CP	CS	SS	KP	PK	PJ	SCoP	SCR		Direct Labor	Labor+OH Multiplier	Fee Multiplier	Actual Labor Multiplier			
No.	Initial Hourly Rate	\$92.30	\$76.40	\$87.00	\$34.80	\$58.90	\$82.60	\$64.40	\$45.00	\$59.40	\$55.70	\$28.20	\$60.50	\$34.80	\$39.80	\$33.60	\$29.30								
Realignment Study																				2.731	10%	3.004			
1	Environmental																	0	\$0	\$0	\$0.00	\$0			\$0
1.1	Water Quality Technical Memo (WQAR)		4															4	\$306	\$835	\$83.46	\$918	\$17,429.76		\$17,430
1.2	Natural Environment Study (NES)		4			4												8	\$541	\$1,478	\$147.80	\$1,626	\$16,718.52		\$16,719
1.3	Biological Assessment (BA)		4			4												8	\$541	\$1,478	\$147.80	\$1,626	\$12,884.00		\$12,884.00
1.4	Prepare Draft IS/MND		12			12												24	\$1,624	\$4,434	\$443.41	\$4,877	\$28,293.00		\$28,293
1.5	Prepare Final IS/MND		4															4	\$306	\$835	\$83.46	\$918	\$16,226.97		\$16,227
1.6	Project Management and Meetings		6			6												12	\$812	\$2,217	\$221.70	\$2,439	\$5,673.38		\$5,673
1.7	Agency Consultation		6			6												12	\$812	\$2,217	\$221.70	\$2,439	\$6,093.93		\$6,094
2	Stormwater Treatment PS&E																	0	\$0	\$0	\$0.00	\$0			\$0
	Project Management		8															8	\$611	\$1,669	\$166.92	\$1,836			\$0
	Coordination with WRECO					21												21	\$1,237	\$3,378	\$337.80	\$3,716		\$20,018.19	\$20,018
	Design					24												24	\$1,414	\$3,861	\$386.05	\$4,247			\$0
	Plans				40													40	\$1,392	\$3,802	\$380.16	\$4,182			\$0
	Specs and Estimate		4															4	\$306	\$835	\$83.46	\$918			\$0
	QAQC						4											4	\$330	\$902	\$90.23	\$993			\$0
3	Tree Survey																	0	\$0	\$0	\$0.00	\$0			\$0
	Office Work		4			12	1	5	8									30	\$1,777	\$4,853	\$485.30	\$5,338			\$0
	Field Work															12	8	20	\$638	\$1,741	\$174.13	\$1,915			\$0
																		0	\$0	\$0	\$0.00	\$0			\$0
																			\$0						\$0
	Subtotal- Hours	0	56	0	40	89	5	5	8	0	0	0	0	0	0	12	8	223	\$12,645.10	\$34,533.77	\$3,453.38	\$37,987.14			0
	Estimated Salary Increases for Multi-Year Project																		\$14.80	\$40.42	\$4.04	\$44.46	\$308.88		
	Other Direct Costs																						\$96.28	\$1,108.56	1,109
	Total Cost	\$0	\$4,278	\$0	\$1,392	\$5,242	\$413	\$322	\$360	\$0	\$0	\$0	\$0	\$0	\$0	\$403	\$234	\$12,645	\$12,660	\$34,574	\$3,457	\$38,128	\$104,737.00	\$20,018	\$124,755

Exhibit 10-H1 Cost Proposal
Actual Cost-Plus-Fixed Fee Contracts

☐ Prime Consultant ☒ Subconsultant

Consultant **Panorama Environmental, Inc.**

Project Name Freestone Flat Road Bridge Replacement Proj

Project No. S22-200

Contract No.

Date 5/6/2019

DIRECT LABOR

Classification/Title	Name	Initials	Range	Hours	Initial Hourly Rate	Total
Principal *	Tania Treis	TT	\$70-\$100	22	\$ 84.13	\$ 1,850.86
Director of Env Projects *	Susanne Heim	SH	\$70-\$100	22	\$ 76.92	\$ 1,692.24
Project Manager *	Rita Wilke	RW	\$40-\$65	130	\$ 50.48	\$ 6,562.40
Senior Manager	Iain Fisher	IF	\$50-\$70	40	\$ 62.50	\$ 2,500.00
Env Planner III	Caitlin Gilleran	CG	\$40-\$65	40	\$ 50.48	\$ 2,019.20
Env Planner I	Yingying Cai	YC	\$25-\$40	160	\$ 31.25	\$ 5,000.00
Env Analyst III	Sean Pagnon	SP	\$40-\$60	78	\$ 31.25	\$ 2,437.50
Env Analyst I	Kathleen Cuschieri	KC	\$25-\$40	140	\$ 26.44	\$ 3,701.60
GIS Specialist III	Corey Fong	CF	\$40-\$60	106	\$ 46.93	\$ 4,974.58
Editor/Admin	Arielle Landaverde	AL	\$25-\$40	52	\$ 36.06	\$ 1,875.12
		0		0		\$ -
		0		0		\$ -
		0		0		\$ -
		0		0		\$ -
		0		0		\$ -
		0		0		\$ -
				790		\$ 32,613.50

LABOR COSTS

- | | |
|--|--|
| a) Subtotal Direct Labor Costs | <u>\$32,613.50</u> |
| b) Estimated Salary Increases for Multi-Year Project | <u>\$97.50</u> (see calculation page attached) |
| c) TOTAL DIRECT LABOR COSTS [(a) + (b)] | <u>\$32,711.00</u> |

INDIRECT COSTS

- | | | | |
|--|--|-------------|-------------|
| d) Fringe Benefits (Rate: 17.0%): | e) Total Fringe Benefits [(c) x (d)] | \$5,560.87 | |
| f) Overhead (Rate: 142.0%): | g) Overhead [(c) x (f)] | \$46,449.62 | |
| h) General Administration (Rate: 29.0%): | i) Gen & Admin [(c) x (h)] | \$9,486.19 | |
| | j) TOTAL INDIRECT COSTS [(e) + (g) + (i)] | | \$61,496.68 |

FIXED FEE

- | | |
|-----------------------|--|
| k) Fixed Fee (10.0%): | l) TOTAL FIXED FEE [(c) + (j)]x (k) <u>\$9,420.77</u> |
|-----------------------|--|

CONSULTANT'S OTHER DIRECT COSTS (ODC)

Travel (@ active IRS mileage rate)	305 miles@	\$0.545	\$166.23
Pier Diem/ Hotel	0 days @	\$150.00	\$0.00
Delivery	0 @	\$20.00	\$0.00
Vendor Reproduction			
	Vellum @		\$0.00
	8 1/2 X 11 Reproduction @		\$0.00
	11 X 17 Reproduction @		\$0.00
	Mounting Boards for Presentations @		\$0.00
	Newsletters (Translation and printing) @		\$0.00

Subtotal Vendor Reproduction

IS/MND (hard copy Draft and Final)	10	@	\$50.00	\$500.00
Miscellaneous (CD, Postage, Copies)				\$442.33

m) TOTAL OTHER DIRECT COSTS	<u>\$1,108.56</u>	\$1,108.56
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- n) **SUBCONSULTANT COSTS** *(attach detailed cost proposal for each subconsultant)*

0	\$0.00	
0	\$0.00	
0	\$0.00	
0	\$0.00	
0	\$0.00	
0	\$0.00	
0	\$0.00	
0	\$0.00	
0	\$0.00	
0	<u>\$0.00</u>	
	\$0.00	\$0.00

o) TOTAL COST [(c) + (j) + (l) + (m) + (n)]		\$104,737.00
--	--	---------------------

NOTES:

1. Key personnel marked with an asterisk (*).
2. Employees subject to prevailing wage marked with two asterisks (**).
3. Anticipated salary increases calculation (Item"b") on attached page.
4. Note: Invoices will be based upon actual hourly rates plus overhead as shown plus prorated portion of fixed fee. Subconsultant and Direct Costs will be billed at actual cost. The overhead rate (ICR) shall remain fixed for the contract duration or until both parties agree to modify the rate in writing.

EXHIBIT 10-H1 COST PROPOSAL

PAGE 2 OF 2

ACTUAL COST-PLUS-FIXED FEE CONTRACTS

(CALCULATIONS FOR ANTICIPATED SALARY INCREASES)

Consultant Panorama Environmental, Inc.Contract No. C11004Date 5/6/2019reestone Flat Road Bridge Replacement Proje**1. Calculate Average Hourly Rate for 1st year of the contract (Direct Labor Subtotal divided by total hours)**

Direct Labor Subtotal per Cost Proposal	Total Hours per Cost Proposal		Avg Hourly Rate	5 Year Contract Duration
\$ 32,613.50	790	=	\$41.28	Year 1 Avg Hourly Rate

2. Calculate hourly rate for all years (Increase the Average Hourly Rate for a year by proposed escalation %)

Proposed Escalation =		3.0%			
Avg Hourly Rate		Proposed Escalation			
Year 1 \$41.28	+	1.5%	=	\$41.90	Year 1 Avg Hourly Rate
Year 2 \$41.90	+	3.0%	=	\$43.16	Year 2 Avg Hourly Rate
Year 3 \$43.16	+	3.0%	=	\$44.45	Year 3 Avg Hourly Rate
Year 4 \$44.45	+	3.0%	=	\$45.78	Year 4 Avg Hourly Rate
Year 5 \$45.78	+	3.0%	=	\$47.15	Year 5 Avg Hourly Rate

3. Calculate estimated hours per year (Multiply estimate % each year by total hours)

	Estimated % Completed Each Year		Total Hours per Cost Proposal		Total Hours per Year	
Year 1	80.00%	*	790.0	=	632.0	Estimated Hours Year 1
Year 2	20.00%	*	790.0	=	158.0	Estimated Hours Year 2
Year 3	0.00%	*	790.0	=	0.0	Estimated Hours Year 3
Year 4	0.00%	*	790.0	=	0.0	Estimated Hours Year 4
Year 5	0.00%	*	790.0	=	0.0	Estimated Hours Year 5
Total	100%		Total	=	790.0	

4. Calculate Total Costs including Escalation (Multiply Average Hourly Rate by the number of hours)

	Avg Hourly Rate (calculated above)		Estimated hours (calculated above)		Cost per Year	
Year 1	\$41.28	*	632	=	\$26,090.80	Estimated Hours Year 1
Year 2	\$41.90	*	158	=	\$6,620.20	Estimated Hours Year 2
Year 3	\$43.16	*	0	=	\$0.00	Estimated Hours Year 3
Year 4	\$44.45	*	0	=	\$0.00	Estimated Hours Year 4
Year 5	\$45.78	*	0	=	\$0.00	Estimated Hours Year 5
Total Direct Labor Cost with Escalation				=	\$32,711.00	
Direct Labor Subtotal before Escalation				=	\$32,613.50	
Estimated total of Direct Labor Salary Increase				=	\$97.50	Transfer to Page 1

NOTES:

- This assumes that an average of one half year will be worked at the rate on the cost proposal.

Cost Proposal

	Project Number: S22-200 Project Name: Freestone Flat Road Bridge Replacement Project																	
	TASKS	Principal	Director of Env. Projects	Project Manager	Senior Manager	Env. Planner III	Env. Planner I	Env. Analyst III	Environmental Analyst I	GIS Specialist III	Editor/Admin	Panorama Total Hours	Total Labor Dollars	Labor	Profit	Panorama NLF Budget		Subconsultant Subtotal
		TT	SH	RW	IF	CG	YC	SP	KC	CF	AL		Direct Labor	Labor+OH Multiplier	Fee Multiplier	Actual Labor Multiplier		
No.	Initial Hourly Rate	\$84.13	\$76.92	\$50.48	\$62.50	\$50.48	\$31.25	\$31.25	\$26.44	\$46.93	\$36.06							
														2.880	10%	3.168		
1	TASK 1. NEPA Technical Studies											0	\$0	\$0	\$0.00	\$0		\$0
1.1	Water Quality Technical Memo (WQAR)	3	8	24		3	18		69	15	5	145	\$5,502	\$15,845	\$1,584.52	\$17,429.766		\$0
1.2	Natural Environment Study (NES)	2	3	6	10	4	58	31		16	6	136	\$5,277	\$15,199	\$1,519.87	\$16,718.518		\$0
1.2	Biological Assessment (BA)	2	2	6	10	3	26	31		15	5	100	\$4,067	\$11,713	\$1,171.27	\$12,884.003		\$0
2	TASK 2: CEQA Documentation											0	\$0	\$0	\$0.00	\$0.000		\$0
2.1	Prepare Draft IS/MND	8		40	10	15	30	16	44	35	17	215	\$8,931	\$25,721	\$2,572.09	\$28,292.996		\$0
2.2	Prepare Final IS/MND	4		18	10	15	28		21	15	10	121	\$5,122	\$14,752	\$1,475.18	\$16,226.971		\$0
3	TASK 3: Project Management, Meetings, and Agency Consultation											0	\$0	\$0	\$0.00	\$0.000		\$0
3.1	Project Management and Meetings	2	3	18					6		9	38	\$1,791	\$5,158	\$515.76	\$5,673.381		\$0
3.2	Agency Consultation	1	6	18						10		35	\$1,924	\$5,540	\$553.99	\$6,093.933		\$0
													\$0					\$0
	Subtotal- Hours	22	22	130	40	40	160	78	140	106	52	790	\$32,613.50	\$93,926.88	\$9,392.69	\$103,319.57		0
	Estimated Salary Increases for Multi-Year Project												\$97.50	\$280.80	\$28.08	\$308.88		
	Other Direct Costs															\$1,108.56		0
	Total Cost	\$1,851	\$1,692	\$6,562	\$2,500	\$2,019	\$5,000	\$2,438	\$3,702	\$4,975	\$1,875	\$32,614	\$32,711	\$94,208	\$9,421	\$104,737	\$0	\$0

EXHIBIT 10-H1 COST PROPOSAL

Page 1 of 3

ACTUAL COST-PLUS-FIXED-FEE OR LUMP SUM (FIRM FIXED PRICE) CONTRACTS

(DESIGN, ENGINEERING AND ENVIRONMENTAL STUDIES)

Note: Mark-ups are Not Allowed

☐ Prime Consultant ☒ Subconsultant ☐ 2nd Tier SubconsultantConsultant: WRECO Contract No.: _____ Date: 9/14/2018

DIRECT LABOR

Classification/Title	Name	Hours	Actual Hourly Rate	Total
Principal Engineer	TBD	5	\$ 95.38	\$ 476.90
Supervising Engineer II	TBD	12	\$ 78.86	\$ 946.32
Senior Engineer	TBD	33	\$ 66.17	\$ 2,183.61
Associate Engineer	TBD	42	\$ 43.75	\$ 1,837.50
Staff Engineer	TBD	58	\$ 33.75	\$ 1,957.50
Senior Technician	TBD	12	\$ 30.30	\$ 363.60
Clerical/Tech Editor	TBD	4	\$ 26.07	\$ 104.28

LABOR COSTS

a) Subtotal Direct Labor Costs	\$ 7,869.71
b) Anticipated Salary Increases (see page 2)	\$ -
c) TOTAL DIRECT LABOR COSTS	\$ 7,869.71

INDIRECT COSTS

d) Fringe Benefits Rate:	70.15%	e) Total Fringe Benefits	\$ 5,520.60
f) Overhead Rate:	57.63%	g) Overhead	\$ 4,535.31
h) General and Administrative Rate:	0.00%	i) Gen & Admin	\$ -
		j) TOTAL INDIRECT COSTS	\$ 10,055.92

FIXED FEE

Rate:	10.00%	k) TOTAL FIXED FEE	\$ 1,792.57
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I) CONSULTANT'S OTHER DIRECT COSTS (ODC) – ITEMIZE

Description	Quantity	Unit(s)	Unit Cost	Total
Travel/Mileage/Vehicle (supported by consultant actual costs)	183	Miles	\$ 0.545	\$ 100.00
Reproductions	4	EA	\$ 50.00	\$ 200.00
Overnight Delivery/Shipment		EA	\$ 25.00	\$ -
Laboratory Testing - Non-DBE		LS	\$ -	\$ -
Drilling and Field Sampling - Non-DBE		LS	\$ -	\$ -
Traffic Control Non-DBE		LS	\$ -	\$ -
Potholing & Roadway Patching		LS	\$ -	\$ -

I) TOTAL OTHER DIRECT COSTS \$ 300.00

m) SUBCONSULTANTS' COSTS

Subconsultant 1:	\$ -
m) TOTAL SUBCONSULTANTS' COSTS	\$ -

n) TOTAL OTHER DIRECT COSTS INCLUDING SUBCONSULTANTS \$ 300.00

TOTAL COST \$ 20,018.19

NOTES:

1. Key personnel must be marked with an asterisk (*) and employees that are subject to prevailing wage requirements must be marked with two asterisks (**). All costs must comply with the Federal cost principles. Subconsultants will provide their own cost proposals.
2. The cost proposal format shall not be amended. Indirect cost rates shall be updated on an annual basis in accordance with the consultant's annual accounting period and established by a cognizant agency or accepted by Caltrans.
3. Anticipated salary increases calculation (page 2) must accompany.