MEMORANDUM

OFFICE OF THE DIRECTOR OF PUBLIC WORKS

DATE: August 11, 2017

TO: Memo to File

FROM: Erica Ahmann Smithies, Director of Public Works

RE: First Amendment to Professional Services Agreement with Michael Baker International for Civil Engineering Services for Upper York Creek Ecosystem Restoration Project as Part of Capital Improvement Project W-26

On April 26, 2016 the City Council approved Resolution No. 2016-51, approving a professional services agreement with Michael Baker International in the amount of $461,813 for Engineering Services for the Upper York Creek Ecosystem Restoration Project, Capital Improvement Project W-26.

On May 23, 2017 the City Council approved Resolution No, 2017-65, approving an amendment to the scope of services and an increased not-to-exceed cost of $606,370.80, however an amendment was not included with the resolution for execution at that time.

Upon the City Attorney's advice (attached), the First Amendment to the Professional Services Agreement was drafted after the fact, and is attached for retroactive execution.

Allison Mattioli

From: Erica Ahmann Smithies
Sent: Friday, August 11, 2017 10:38 AM
To: Allison Mattioli
Subject: Fwd: Michael Baker - Amendment

I would attach this email from Tom when the amendment is routed for signature.

Erica Ahmann Smithies
Public Works Director/City Engineer
City of St. Helena
(707) 968-2629 (direct line)
(707) 312-1471 (cell)

Outlook for iOS

---------- Forwarded message ----------
From: **"Brown, Thomas B."** <tbrown@bwslaw.com>
Date: Fri, Aug 11, 2017 at 10:35 AM -0700
Subject: RE: Michael Baker - Amendment
To: "Erica Ahmann Smithies" <ESmithies@cityofsthelena.org>
Cc: "Mark Prestwich" <MPrestwich@cityofsthelena.org>

Got it! My take is that the staff report clearly asked the Council to approve a change to the scope of work, which is incorporated into the agreement. You don't have to go back to them. (In the future we should have a more complete package for them.) Tom

Thomas B. Brown | Partner
1901 Harrison Street, Suite 900 | Oakland, CA 94612
d - 510.903.8840 | t - 510.273.8780 | f - 510.839.9104
tbrown@bwslaw.com | vCard | bwslaw.com
burke
BURKE, WILLIAMS & SORENSEN, LLP

From: Erica Ahmann Smithies [mailto:ESmithies@cityofsthelena.org]
Sent: Friday, August 11, 2017 10:31 AM
To: Brown, Thomas B.
Subject: Fwd: Michael Baker - Amendment

Erica Ahmann Smithies
Public Works Director/City Engineer
City of St. Helena
(707) 968-2629 (direct line)
(707) 312-1471 (cell)

Outlook for iOS

---------- Forwarded message ----------
From: "**Erica Ahmann Smithies**" <ESmithies@cityofsthelena.org>
Date: Wed, Aug 9, 2017 at 6:33 PM -0700
Subject: Michael Baker - Amendment
To: "Brown, Thomas B." <tbrown@bwslaw.com>

Hi Tom,

I spoke with Mark about an amendment that went to Council on May 23 for our Upper York Creek Dam Removal Consultant this evening and he thought I should run it by you. The resolution (pg 33 attached) approved by Council approved a monetary increase to our Consultants contract, but did not specifically approve the amendment (only a scope of work was provided) nor did it specifically authorize the City Manager to sign it. Are we still okay to move forward with the amendment and have Mark sign or should we go back to Council and rescind the previous resolution with a new one?

Thank you in advance,

Erica

From: Erica Ahmann Smithies
Sent: Wednesday, August 9, 2017 10:53 AM
To: April Mitts (AMitts@cityofsthelena.org) <AMitts@cityofsthelena.org>
Cc: Allison Mattioli <AMattioli@cityofsthelena.org>
Subject: Michael Baker - Amendment

Hi April,

Tracey went to Council with an amendment for additional scope of work and money for Michael Baker on the Upper York Creek Project. Council passed a new maximum contract amount on 5/23, but there was no authorization for the City Manager to execute an amendment and there wasn't one attached to the staff report. Do you think we need the City Attorney to weigh on this or do you see a need to go back to Council with the amendment? I've never seen a staff report like this, but maybe you have and we are just being paranoid. In addition, work has already commenced because

Tracey said all was good to go. However, when Michael Baker started requesting a copy of the Amendment we discovered it didn't exist. Allison is working on the amendment as we speak.

Thank you,

Erica

CITY OF ST. HELENA

RESOLUTION NO. 2017-65

Resolution Authorizing an Amendment to the Scope of Work and an Increased Not to Exceed Cost of $606,370.80 for Michael Baker International for the Upper York Creek Dam Removal Project, W-26

RECITALS

A. The City of St. Helena previously entered into a Professional Services Agreement with Michael Baker International in an amount not to exceed $461,813 for design and engineering services for the Upper York Creek Dam Removal Project; and

B. Following the recommendations of regulatory agencies to alter the project elements, additional work scope is needed for hydrology, hydraulics, and sediment flow among other project tasks; and

C. The City's Cultural Resources Report for the project will expire this summer, requiring an updated report for the Army Corps of Engineers; and

D. The City has committed to the removal of the Upper York Creek Dam via Resolution 2017-50; and

E. The cost of the additional work, which Michael Baker International has the necessary expertise, experience and qualifications to complete the revised tasks, is $144,557.80.

RESOLUTION

The City Council of the City of St. Helena hereby resolves as follows:

1. Approves the contract increase for Michael Baker International for the Upper York Creek Dam Removal Project, for a not to exceed amount of $606,370.80.

Approved at a Regular Meeting of the St. Helena City Council on May 23, 2017, by the following vote:

Mayor Galbraith:	Yes
Vice Mayor White:	Yes
Councilmember Dohring:	Yes
Councilmember Koberstein:	Yes
Councilmember Ellsworth:	Yes

APPROVED:

Alan Galbraith, Mayor

ATTEST:

Cindy Black, City Clerk

CITY OF ST. HELENA
Incorporated March 24, 1876
Re-incorporated May 14, 1883
STATE OF CALIFORNIA

CITY OF ST. HELENA

RESOLUTION NO. 2016-51

APPROVING A PROFESSIONAL SERVICES AGREEMENT WITH MICHAEL BAKER INTERNATIONAL IN THE AMOUNT OF $461,813 FOR ENGINEERING SERVICES FOR THE UPPER YORK CREEK ECOSYSTEM RESTORATION PROJECT, CAPITAL IMPROVEMENT PROJECT W-26

RECITALS

A. The City has been working for several years to remove the Upper York Creek Dam and restore the York Creek streambed; and

B. City Staff conducted a competitive solicitation to attract highly qualified engineering consultants; and

C. Of the two proposals reviewed, Michael Baker International was scored in the top two; and

D. During the interview process Michael Baker International demonstrated the level of experience, competence, staffing, and other qualifications necessary for exceptional performance of the services required and described in the scope of work; and

E. The project is funded under Capital Improvement Project W-26.

RESOLUTION

NOW, THEREFORE, the City Council of the City of St. Helena resolves as follows:

1. The City Manager is authorized to execute the Professional Services Agreement with Michael Baker International in the amount of $461,813 for engineering service.

Approved at a Regular Meeting of the St. Helena City Council on April 26, 2016 by the following vote:

Mayor Galbraith: yes
Vice Mayor White: yes
Councilmember Crull: Yes
Councilmember Dohring: Absent
Councilmember Pitts: yes

APPROVED:

Alan Galbraith, Mayor

ATTEST:

Cindy Black, City Clerk

STH CONTRACT: 2017-057

FIRST AMENDMENT
TO PROFESSIONAL SERVICES AGREEMENT WITH MICHAEL BAKER INTERNATIONAL FOR CIVIL ENGINEERING SERVICES FOR UPPER YORK CREEK ECOSYSTEM RESTORATION PROJECT AS PART OF CAPITAL IMPROVEMENT PROJECT W-26

This First Amendment to Agreement for Professional services is made effective on May 23, 2017 by and between the City of St. Helena, a municipal corporation ("City"), and Michael Baker International ("Consultant").

RECITALS

A. Pursuant to the terms of the written Agreement between City and Consultant, dated April 26, 2016, and approved by Resolution No. 2016-51, dated April 26, 2016, the City entered into a Professional Services Agreement with Consultant for $461,813 ("Agreement") regarding the City's Upper York Creek Ecosystem Restoration Project ("Project"). The Project is part of the City's Capital Improvement Project W-26; and

B. Additional work has been identified and required by the National Marine Fisheries Service ("NMFS"), San Francisco Bay Regional Water Quality Control Board ("SFBRWQCB"), and Stillwater Sciences; and

C. The Agreement's current Scope of Services does not include the funds or additional work that has been identified by the NMFS, SFBRWQCB, and Stillwater Sciences; and

D. City and Consultant now desire to amend the Agreement to include, as Part of Capital Improvement Project W-26, the Upper York Creek Ecosystem Restoration Project, the additional scope required by the NMFS, SFBRWQCB, and Stillwater Sciences; and

E. City and Consultant now desire to amend the Agreement to include, as Part of Capital Improvement Project W-26, the Upper York Creek Ecosystem Restoration Project, the reduction in scope as outlined by Consultant; and

F. The Consultant has represented it has the necessary expertise, experience, and qualifications to perform the additional services for the Project; and

TERMS

A. Parties agree to amend the Agreement to provide additional services, as outlined in the attachments to City of St. Helena Resolution No. 2017-65 (Exhibit A), Tasks 1, 4, 5, 7, and 18, as well as a reduction in the Scope of Services to Tasks 10, 11, 14, and 15.

B. Section 4.A of the Agreement is amended to read as follows: "Subject to any limitations set forth in this Agreement, City agrees to pay Consultant the amount specified in Exhibit B, "Compensation" attached hereto and made a part hereof. Total compensation shall not exceed $606,370.80, unless prior additional compensation is approved in writing in accordance with Section 2."

C. The Agreement, as modified by this First Amendment, constitutes the entire agreement between City and Consultant. Except as expressly set forth in this First Amendment, the Agreement has not been modified, changed, altered, or amended, and is in full force and effect.

Entered as of the day and year first above stated.

IN WITNESS WHEREOF, the parties hereto have accepted, made, and executed this Agreement upon the terms, conditions, and provisions above stated, the day and year first above written.

CONSULTANT:

Michael Baker International
2729 Prospect Park Drive, Suite 220
Rancho Cordova, CA 95670

Signatures of Authorized Persons:

By: _____

Print Name: Kevin Gustorf

Title: Vice President

CITY OF ST. HELENA
a Municipal Corporation

By: _____
Mark Prestwich, City Manager

APPROVED AS TO FORM:

_____
Tom Brown, City Attorney

ATTEST:

_____
City Clerk

Attachments:

- Exhibit A – Resolution No. 2017-65
- Exhibit B – Resolution No 2016-51

CITY OF ST. HELENA

RESOLUTION NO. 2017-65

Resolution Authorizing an Amendment to the Scope of Work and an Increased Not to Exceed Cost of $606,370.80 for Michael Baker International for the Upper York Creek Dam Removal Project, W-26

RECITALS

A. The City of St. Helena previously entered into a Professional Services Agreement with Michael Baker International in an amount not to exceed $461,813 for design and engineering services for the Upper York Creek Dam Removal Project; and

B. Following the recommendations of regulatory agencies to alter the project elements, additional work scope is needed for hydrology, hydraulics, and sediment flow among other project tasks; and

C. The City's Cultural Resources Report for the project will expire this summer, requiring an updated report for the Army Corps of Engineers; and

D. The City has committed to the removal of the Upper York Creek Dam via Resolution 2017-50; and

E. The cost of the additional work, which Michael Baker International has the necessary expertise, experience and qualifications to complete the revised tasks, is $144,557.80.

RESOLUTION

The City Council of the City of St. Helena hereby resolves as follows:

1. Approves the contract increase for Michael Baker International for the Upper York Creek Dam Removal Project, for a not to exceed amount of $606,370.80.

Approved at a Regular Meeting of the St. Helena City Council on May 23, 2017, by the following vote:

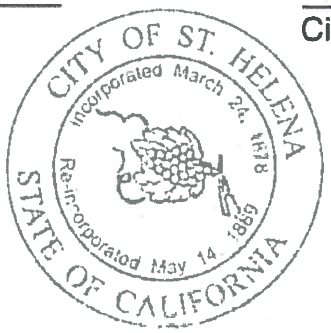
Mayor Galbraith:	Yes
Vice Mayor White:	Yes
Councilmember Dohring:	Yes
Councilmember Koberstein:	Yes
Councilmember Ellsworth:	Yes

APPROVED:

Alan Galbraith, Mayor

ATTEST:

Cindy Black, City Clerk



Michael Baker
INTERNATIONAL

We Make a Difference

April 25, 2017

JN -153371

Erica Athmann Smithies, PE
Acting Public Works Director/City Engineer
City of St. Helena
1480 Main Street
St. Helena, CA 94574

Subject: Upper York Creek Ecosystem Restoration Project Additional Scope and Fee

Dear Erica:

During a Project meeting with various regulatory agencies at the City of St. Helena on March 23, 2017, National Marine Fisheries Service (NMFS) staff suggested a change to the Upper York Creek Restoration Project to a natural dam removal concept, allowing for sediment to mobilize naturally over time rather than excavating a portion of the sediment and providing for stream restoration. Subsequent discussions with NMFS and the San Francisco Bay Regional Water Quality Control Board (SFBRWQCB) were held on April 5th and April 20th, 2017 discussing the impacts to permit applications, CEQA, and plans based on this proposed change. Per discussions via phone conversation and email on April 17th and April 20th, 2017, NMFS recommended Michael Baker contact Yantao Cui with Stillwater Sciences to develop a sediment transport model to evaluate the effects of the Project on native fish populations and to determine the data requirements to develop the model.

Based on these discussions, Michael Baker International (MBI) has developed this request describing additional scope of work and fees. A description of the additional services within each Task in the original scope of work is as follows:

Task 1 Project Management and Coordination
Per recommendation by RWQCB Staff at the conference call meeting on April 5, 2017, a monthly meeting with regulatory agencies was suggested. Michael Baker will provide a conference call number, meeting agendas, and meeting notes for each monthly meeting. It is assumed eight (8) project meetings will be required. The additional fee for these services is $17,200.

Task 4 Geotechnical Investigation and Analysis
On April 18th, 2017 MBI discussed data requirements for York Creek for the sediment transport model described under Task 5 below. Per this discussion, MBI will install gravel buckets within York Creek to determine the ambient concentration of fine sediments within York Creek, and three soil sampling locations will be required with samples taken every few feet of depth. MBI contacted the geotechnical subconsultant WRECO to provide data collection for the three sampling locations and sieve analysis for the sediment samples and gravel buckets. This proposal is attached. The additional fees for these services is $11,610.

Task 5 Hydrology, Hydraulics, and Sedimentation Analysis
Per discussion with Yantao Cui (Stillwater) on April 20th, 2017, Stillwater Sciences prepared prepare a scope of work to evaluate the potential impact to fisheries resources due to suspended sediment concentration in York Creek for a scenario that would leave the majority of the reservoir deposit in place for natural transport. This proposal is attached.

Per discussion with NMFS on April 20, 2017, additional analysis of flood hazards for the lower reaches of York Creek due to the proposed project will be required, due to the potential for increased coarse sediment in the lower reaches of York Creek. MBI will provide an existing and proposed conditions HEC-RAS analysis based on an updated survey of York Creek from the Project site to Napa River, and based on the results of the sediment transport analysis as determined By Stillwater. MBI will prepare a technical memo with results of the analysis and proposed mitigation measures. The additional fees for these services is $17,600. .

Task 7 Preliminary Design Report
MBI will provide additional services to evaluate the sediment capacity of York Creek from downstream of the Project site to Approximately 1.5 miles downstream of the Project Site. MBI will also provide additional services to design sediment traps using natural wood structures, per discussions with NMFS. The additional fees for these services is $5,080.

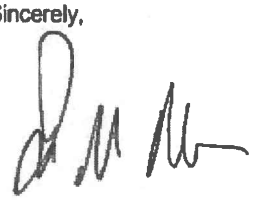
Task 18 Preparation/Processing of Regulatory Agency Applications
On February 27, 2017 MBI provided an additional scope request to prepare required documentation to facilitate processing of permit applications. After reviewing all of the previous reports, the Corps concurred with our approach to prepare a cultural resources identification report (Task 1), Finding of Adverse Effect document (Task 2) and Memorandum of Agreement (Task 3) recommending Historic American Engineering Record (HAER) heritage documentation (Optional Task 1). Tasks 1-3 need to be prepared to complete the 404/1 permit, these tasks total $41,450.

Scope Reductions/Cost to Complete
Based on discussions with NMFS and RWQCB, Michael Baker has identified several areas within our current scope of work where the scope and fee may be reduced. For Tasks 10, 11, 14, and 15, the scope may be reduced because the restoration efforts will be reduced from a full restoration to a stable, low flow channel. Table 1 presents a summary of additional costs and scope reductions for the Project.

Summary
Based on the Additional Services determined for tasks 1, 4, 5, 7, and 18; and scope and fee reductions for Tasks 10, 11, 14, and 15, the total additional fees required for the Project are $144,587 as presented in Table 1.

If you have any questions or if you need additional information, please contact me directly at (916) 231-3355, or via david.mueller@mbakerintl.com.

Sincerely,



David Mueller
Project Manager

Michael Baker
INTERNATIONAL

We Make a Difference

Table 1, Scope and Fee Impacts

Task	Name	Scope Impact	Percent Complete	Amount Budgeted	Spent	Budget Remaining	Cost to complete (current scope)	Cost to complete (additional services, see below)	Total cost to complete
1	Task 1 - Project Management and Coordination	Additional Scope	49%	$ 40,460	$ 19,868.25	$ 20,591.75	$ 20,591.75	$ 17,200.00	$ 37,791.75
2	Task 2 -Collect and Review Existing Plans and Reports	No Impact	100%	$ 2,380	$ 1,817.50	$ 562.50	$ -	$ -	$ -
3	Task 3 - Supplemental Field Topographic Survey	No Impact	100%	$ 11,600	$ 11,630.00	$ (30.00)	$ -	$ -	$ -
4	Task 4 - Geotechnical Investigation and Analysis	Additional Scope	96%	$ 31,300	$ 29,948.47	$ 1,351.53	$ 1,351.53	$ 11,610.50	$ 12,962.03
5	Task 5 - Hydrology, Hydraulics, and Sedimentation Analysis	Additional Scope	80%	$ 10,900	$ 14,465.00	$ (3,565.00)	$ -	$ 126,258.30	$ 126,258.30
6	Task 6 -Design Evaluation and Value Engineering Analysis	No Impact	100%	$ 5,440	$ 3,060.00	$ 2,380.00	$ -	$ -	$ -
7	Task 7 - Preliminary Design Report	Additional Scope	50%	$ 10,770	$ 5,015.00	$ 5,755.00	$ 5,755.00	$ 5,080.00	$ 10,835.00
8	Task 8 - Updated 65% Improvement Plans	No Impact	100%	$ 56,600	$ 57,092.50	$ (492.50)	$ -	$ -	$ -
9	Task 9 - Soil Disposal Site Evaluation and Preliminary Grading Plans	No Impact	34%	$ 20,290	$ 6,900.00	$ 13,390.00	$ 13,390.00	$ -	$ 13,390.00
10	Task 10 - 95% Channel Improvement Plans	Scope Reduced	0%	$ 36,570	$ 510.00	$ 36,060.00	$ 23,850.00	$ -	$ 23,850.00
11	Task 11 - Specifications and Cost Estimates	Scope Reduced	10%	$ 36,300	$ 3,400.00	$ 22,900.00	$ 13,150.00	$ -	$ 13,150.00
12	Task 12 - Structural Design Report	No Impact	0%	$ 12,190	$ -	$ 12,190.00	$ 12,190.00	$ -	$ 12,190.00
13	Task 13 - Final Basis of Design Report	No Impact	0%	$ 5,510	$ -	$ 5,510.00	$ 5,510.00	$ -	$ 5,510.00
14	Task 14 - Final (100%) Improvement Plans	Scope Reduced	0%	$ 10,235	$ -	$ 10,235.00	$ 7,200.00	$ -	$ 7,200.00
15	Task 15 - Construction Support	Scope Reduced	0%	$ 48,580	$ -	$ 48,580.00	$ 25,840.00	$ -	$ 25,840.00
16	Task 16 - Lower York Creek Monitoring and Management Program	No Impact	16%	$ 36,610	$ 5,780.00	$ 30,830.00	$ 30,830.00	$ -	$ 30,830.00
17	Task 17 - Delineation of Jurisdictional Waters	No Impact	90%	$ 8,382	$ 9,833.25	$ (1,451.25)	$ -	$ -	$ -
18	Task 18 - Preparation/Processing of Regulatory Agency Applications	Additional Scope	44%	$ 63,946	$ 27,977.50	$ 35,968.50	$ 28,000.00	$ 41,450.00	$ 69,450.00
19	Task 19 - Environmental Compliance and EIR Addendum	No Impact	10%	$ 16,800	$ 7,866.25	$ 8,933.75	$ 5,000.00	$ -	$ 5,000.00
					TOTAL	$249,699.28	$192,658.28	$201,598.80	$394,257.08
									Additional Budget Required
									$144,557.80

Additional Costs	Description	Sub	Sub cost	Markup	SubTotal	MBI Costs	Total Costs
Task 1	Additional Meetings (Assume 8)					$ 17,200.00	$ 17,200.00
Task 4	Sediment Sampling and Analysis	WRECO	7355	0.1	8090.5	$ 3,520.00	$ 11,610.50
Task 5	Analysis of Potential Impacts to Fisheries Resources upon York Creek Dam Breaching	Stillwater Sciences	96093	0.1	105702.3	$ 2,960.00	$ 108,662.30
	Flood Hazard Modeling and Mapping					$ 17,596.00	$ 17,596.00
Task 7	Design of Sediment Traps					$ 5,080.00	$ 5,080.00
Task 18	Cultural Resources					$ 41,450.00	$ 41,450.00

Stillwater Sciences

2855 Telegraph Ave, Suite 400, Berkeley, CA 94705
phone 510.848.8098 fax 510.848.8398

SCOPE OF WORK (draft)

Analysis of Potential Impacts to Fisheries Resources upon York Creek Dam Breaching

DATE: Saturday, May 13, 2017

TO: Michael Baker International

FROM: Stillwater Sciences

1 BACKGROUND

Michael Baker International is supporting the City of St. Helena in developing alternatives for the removal of York Creek Dam. In April 2017, Stillwater Sciences was approached by Mr. David Mueller of Michael Baker International to prepare a scope of work to evaluate the potential impact to fisheries resources due to the increased suspended sediment concentration in York Creek upon dam breaching for a scenario that would leave the majority of the reservoir deposit in place for natural transport. We provide below a brief description of our proposed approach, the tasks involved for the analysis, estimated budget, proposed deliverables, project schedule, as well as assumptions we used to reach the budget and project schedule.

2 PROPOSED APPROACH

Our proposed approach will entail numerical sediment transport modeling, followed by an analysis of the impact of predicted suspended sediment concentrations on key fish species by life history stage. Numerical models to simulate the potential suspended sediment concentration following the breaching of the dam will be carried out using the DREAM-2 model (Cui et al. 2006a,b) that would simulate the sediment transport dynamics for both the coarse (gravel and coarser) and fine (sand and finer) sediments. If, however, the reservoir deposit is composed primarily of fine sediment, a DREAM-1 model will also be set up for the simulation of suspended sediment concentration during and after dam removal. Details of DREAM-1 and DREAM-2 models and sensitivity tests to the models can be found in Cui et al. (2006a,b). Whether DREAM-1 model will be needed in addition to DREAM-2 model simulation will be determined following a field inspection of the project area, and upon receipt of grain size distribution data of the reservoir deposit. Following sediment transport modeling, the predicted suspended sediment concentrations during different times of the year will be used to evaluate the potential impacts to key fish species at various life history stages based on the methods described in Newcomb and Jansen (1996). We have successfully used similar approaches to evaluate the impact of dam removal on fisheries resources elsewhere (e.g., Marmot Dam removal on the Sandy River, Oregon, the proposed removal of the for upper Klamath River dams in California and Oregon), and the proposed removal of Matilija Dam in Matilija Creek, California (Appendix A).

3 TASKS

Task 1. Information Review and Data Collection

Stillwater will review existing information relevant to the study and conduct a one-day field survey to support sediment transport modeling and fisheries impact evaluation. The field survey will allow us to identify and map some of the key geomorphic features within the reach downstream of the dam that are needed for modeling, such as bedrock outcrops, and evaluate and map existing habitat conditions that are necessary for fisheries impact analyses.

Task 2. Hydrologic Analysis

Stillwater will review the discharge record collected by the Napa County Resource Conservation District (NCRCD) at Highway 29, and if necessary, will expand the record to a longer duration in reference to daily discharge records from a gaged, neighboring watershed. The goal of the hydrologic analysis is to select three typical water years: a dry year, an average year, and a wet year. The recorded or generated daily discharge record from the selected three typical years will be used as input for the sediment transport model (Task 3) and fisheries impact analysis (Task 4).

Task 3. Sediment Transport Modeling

One or both of the DREAM models (DREAM-2, and potentially DREAM-2 and DREAM-1) (Cui et al. 2006) will be used to simulate sediment transport dynamics following dam notching under three typical hydrologic years selected in Task 2. The two models have identical core components, but with different sediment transport formulae that are suitable for different types of reservoir sediment deposits. DREAM-2 simulates the transport of both coarse and fine sediment transport dynamics, but DREAM-1 provides more reliable simulation of fine sediment transport and suspended sediment concentration in case the reservoir deposit is primarily fine sediment.

A list of previous projects that applied DREAM models or their sister models (i.e., models with identical core components, except for the sediment transport equations used for calculating sediment transport capacity) can be found in Appendix A.

The extent of the reach to be modeled is assumed to include the reservoir and extend all the way down to Napa River confluence.

Task 4. Fisheries Impact Evaluation

Stillwater will evaluate and summarize potential effects to Central California Coast (CCC) steelhead and their habitats, as a result of suspended sediment released in association with the removal of York Creek Dam.

Stillwater Sciences will evaluate the effect of increases in suspended load and bedload associated with dam removal that would result in sediment being transported past York Creek Dam on all steelhead life stages. This will include effects on juvenile and adult migration; spawning substrate, redds, and alevins; and rearing substrate and habitat. The effect of increased sediment transport on the overall steelhead population will also be evaluated, to the extent possible based on available data.

The analysis will focus on the response of steelhead and their habitat to increases in sediment in Lower York Creek downstream of Upper York Creek Dam. The quality and extent of spawning and rearing habitat will also be influenced by increased sediment deposition, with effects that vary with distance from the dam, as well as reach-specific channel gradient, confinement, etc.

Based on the steelhead population data available from the National Marine Fisheries Service' steelhead recovery plan, steelhead analysis from the City of St. Helena, California Fish and Wildlife habitat and fish surveys, and other readily available sources, the effects analysis will consider the proportion of the steelhead cohort (of each life stage) predicted to be in the response reaches during suspended sediment events during and following dam removal, considering both spatial distribution (proportion of the life stage expected to be in the creek compared to the Napa River, and proximity to York Creek Dam) and life-history timing (proportion of the population expected to be present during the period of effect). In our analysis of increased sediment transport in other rivers (e.g., Sandy, Klamath, and Matilija rivers), we found that describing which life stages of steelhead will occur in the response reach during key periods of expected increases in sediment is critical to understanding, and not exaggerating potential effects.

For the proportion of each life stage anticipated to be exposed to increased sediment, the predictions of the order of magnitude changes in Total Suspended Sediment (TSS) relative to an unimpaired condition from the sediment transport analysis (Task 3), will be integrated with an evaluation of the impacts of varying TSS concentrations and durations on each steelhead life stage. As we did in the Klamath Dam Removal EIR and the Matilija Dam analysis, this evaluation will rely on the synthesis of the effects of high TSS on salmonids by Newcombe and Jensen (1996) (since York Creek-specific thresholds are not available) (Table 1). An example of the analysis for the Klmath River dam removal is provided in Figure 1. This method will be used to estimate the relative magnitude of severity of ill effects on specific life stages (juvenile and adult migration, spawning and rearing, and alevins) of steelhead within the response reach. Dam removal will be assessed based on the season of sediment release, along with the severity, frequency, and persistence of the effects.

Using this analytical approach, we will estimate the proportion of juvenile steelhead that are expected to rear within the affected reach, and thus will suffer some level of direct mortality, or sublethal effects, and the proportion in the mainstem Napa River, which we assume would avoid effects entirely. The same analysis will be conducted for each life stage, and for each scenario. The population level consequences of each scenario will then be assessed, based on the loss of the estimated proportion of redds, alevins, juveniles, and adults from each cohort anticipated to be present during each year of potential increased sediment.

In addition to assessing the potential effects of suspended sediment on steelhead, we will also assess the effects of increased sediment transport on habitat for steelhead, including juvenile rearing habitat and spawning habitat. Results of sediment transport analysis (Task 3) will be used to predict the effect of each alternative (and scenarios of each alternative) on the channel profilewithin the response reach and over time. These results will be used to assess the degree to which sediment deposition reduces pool volume, increases available spawning habitat, and increases floodplain habitat access from increased bed elevation. Predictions of bedload substrate size composition (Task 3) will also be assessed to predict how changes in substrate facies affect spawning habitat. The predicted effects on steelhead habitat will be compared with the spatial distribution of steelhead spawning and rearing in the watershed to evaluate the likely population level effects of the various alternatives.

Table 1. Severity of effects from suspended sediment, Newcombe and Jensen (1996)

Severity	Category of effect	Description
0	Nill effect	•No behavioral effects
1	Behavioral effects	•Alarm reaction
2		•Abandonment of cover
3		•Avoidance response
4	Sublethal effects	•Short-term reduction in feeding rates •Short-term reduction in feeding success
5		Minor physiological stress: •Increase in rate of coughing •Increased respiration rate
6		•Moderate physiological stress
7		•Moderate habitat degradation •Impaired homing
8		Indications of major physiological stress: •Long term reduction in feeding rate •Long term reduction in feeding success •Poor condition
9	Lethal effects	Reduced growth rate: •Delayed hatching •Reduced fish density
10		•0–20% mortality •Increased predation of effected fish
11		•>20–40% mortality
12		•>40–60% mortality
13		•>60–80% mortality
14		•>80–100% mortality

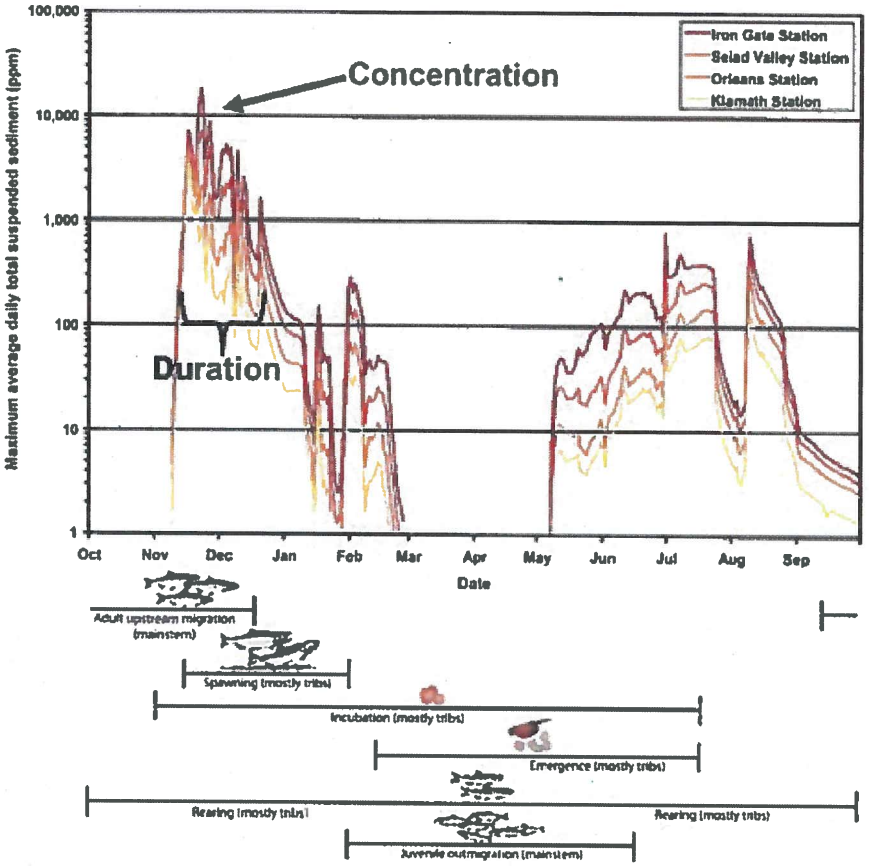


Figure 1. An example of evaluation of suspended sediment impacts in Klamath River

Task 5. Preparation of Technical Memorandum

A draft technical memorandum summarizing the existing information review, site visit, hydrologic analysis, sediment transport modelling results, and impacts to fisheries will be prepared for review by Michael Baker International. One set of track-changed comments will be addressed and a final technical memorandum will be submitted. .

Task 6. Project Management and Coordination

This task covers the coordination with Michael Baker International and other relevant parties as well as other general project management needs. Stillwater will attend up to one in-person meeting with stakeholders and coordinate as needed via phone conference under this task.

4 DELIVERABLES, SCHEDULE, AND BUDGET

4.1 Estimated Budget

Our estimated budget under the assumptions discussed below (Section 4.3) is provided in Table 2 below.

Table 2. Budget for Tasks 1-6 and expenses.

BUDGET	Task 1 2017	Task 2 2017	Task 3 2017	Task 4 2017	Task 5 2017	Task 6 2017	Total
TOTAL COST	$7,428	$4,511	$41,479	$29,787	$11,130	$2,119	$95,323
TOTAL EXPENSES:	$770						$770
PROJECT COST:	$8,198	$4,511	$41,479	$29,787	$11,130	$2,119	$96,093

4.2 Deliverables, Schedule

The deliverables include

- A draft technical memorandum for review, delivered on or before Monday, July 31, 2017;
- A finalized technical memorandum, detailing the findings of the study, delivered within two weeks upon receipt of all review comments; and

4.3 Assumptions

We have made the following assumptions in order to meet the above budget and schedule:

a. A contract or instruction to start to work is received on or before April 26, 2017;
b. Michael Baker International finishes sample collection and analysis of the reservoir deposit, and provides us with the results no later than the first week of May.
c. We have received the existing HEC-RAS model, which we will review. We have assumed that the cross-sections in the HEC-RAS model covers the reach that we intend to set up the sediment transport model.
d. Dr. Yantao Cui and Mr. Ethan Bell will attend one meeting as described in Task 6 in St. Helena or a nearby location to discuss or present the findings of the study.

5 REFERENCES CITED

Cui, Y., Parker, G., Braudrick, C., Dietrich, W.E., and Cluer, B. 2006a. Dam Removal Express Assessment Models (DREAM). Part 1: Model development and validation. Journal of Hydraulic Research, 44(3), 291-307.

Cui, Y., Braudrick, C., Dietrich, W.E., Cluer, B., and Parker, G. 2006b. Dam Removal Express Assessment Models (DREAM). Part 2: Sensitivity tests/sample runs. Journal of Hydraulic Research, 44(3), 308-323.

Newcombe, C. P., and J. O. T. Jensen. 1996. Channel suspended sediment and fisheries: a synthesis for quantitative assessment of risk and impact. North American Journal of Fisheries Management 16: 693-727.

APPENDIX A: LIST OF PREVIOUS PROJECTS WHERE SIMILAR SEDIMENT TRANSPORT MODELING AND/OR FISHERIES IMPACT ANALYSIS WERE CONDUCTED

Below we provide a list of previous application of DREAM models (including variations that used the core of the DREAM models) and associated fisheries impact analyses.

Project	Location	Sediment transport modeling	Fisheries Impact Analysis	Amount of Sediment in Question
Marmot Dam Removal	Oregon	Yes	Yes	1 million CY
Soda Springs Dam Removal	Oregon	Yes	Yes	1 million CY
OTML Mining Disposal	Papua New Guinea	Yes	No	2 billion tonnes
Matilija Dam Removal	California	Yes	Yes	7 million CY
Simkins Dam Removal	Maryland	Yes	No	< 0.1 million CY
Bloede Dam Removal	Maryland	Yes	No	~ 0.25 million CY
Saeltzer Dam Removal	California	Yes	No	Small
Harvey Diversion Structure	California	Yes	No	Small
Freeman Dam Modification	California	Yes	No	Small
Englebright Dam Modification	California	Yes	No	26 million tonnes
Daguerre Dam Removal	California	Yes	No	2.4-4.6 million CY
Dam Removal on the Klamath River	California and Oregon	Yes	Yes	> 10 million CY
Alameda Creek Fish Barrier Removal	California	Yes	No	Small
Alameda Creek Diversion Dam Modification	California	Yes	No	Small

APPENDIX B: KEY PERSONNEL AND RESUMES

Key personal for this study include Dr. Yantao Cui and Mr. Ethan Bell.

Dr. Cui specializes in hydraulic and hydrologic analyses, sediment transport modeling, and geomorphic assessment. Over the years, Yantao has worked on some of the world's largest river projects, including research on the construction of the Three Gorges Dam in China (the largest dam in the world); sediment transport modeling and sediment related assessments in Ok Tedi and Fly River system, Papua New Guinea (one of the largest human-induced sediment release to rivers); and sediment transport modeling and geomorphic assessment upon the removal of Marmot Dam, Sandy River, Oregon (the largest sediment release caused by dam removal at the time the dam was removed). Dr. Cui is the author and coauthor of approximately 30 peer-reviewed journal articles and book chapters, and is the author of several sediment transport models, including those published in peer-reviewed journals (i.e., DREAM-1, DREAM-2 and TUGS). Dr. Cui will serve as Stillwater project manager for this project.

Mr. Bell has nearly 20 years of experience conducting steelhead fisheries research and projects in California and is Stillwater's Central Coast Region Lead, based out of the Morro Bay office. He has provided technical expertise on a wide variety of interdisciplinary projects, including instream flow analysis, endangered species consultation, large-scale watershed assessments, fish passage analysis, and restoration design. Mr. Bell is also instrumental in coordinating and managing field studies, analyzing collected field data, as well as researching and writing reports and proposals. Expertise with field techniques includes electrofishing, PIT tagging, PIT tag antenna monitoring, rotary screw trap monitoring, snorkel diving, and beach seining.
Brief resumes for Dr. Cui and Mr. Bell are provided below.

WRECO

1243 Alpine Road, Suite 108
Walnut Creek, CA 94596
Phone: 925.941.0017
Fax: 925.941.0018
www.wreco.com

April 18, 2017

David Mueller
Michael Baker International
2729 Prospect Park Dr., Suite 220
Rancho Cordova, CA 95670

Project: Upper York Creek Ecosystem Restoration

Subject: Request for Additional Budget for Limited Sediment Study

Dear Mr. Mueller,

WRECO is submitting an additional budget request for the above referenced project. This request is to perform a limited sediment study of the channel bedload upstream of the existing dam.

WRECO Detailed Scope of Work
The limited sediment study will include three hand auger or hand-excavated pits to collect bulk samples of bedload materials and retrieval of up to 10 gravel sedimentation monitoring beds and laboratory testing. The three hand augers and/or hand-excavated pits will be on the order of 5 ft depth or to refusal at locations indicated by Michael Baker International. The 10 gravel sedimentation monitoring beds are understood to be placed by Michael Baker International, and WRECO will only retrieve the beds after the monitoring period. Laboratory testing will include gradation and plasticity index testing on the sediment samples, and ten limited gradations to determine by weight the amount of sediment in the gravel bed samples. Recommendations are not part of this scope of service.

The results of study will be summarized in a memo and will include the following:

- *A Project summary and description of the geotechnical work performed.*
- *A summary of the identified soil and rock conditions observed at the Project site, summary of the laboratory testing results, and Test Boring Logs.*

Attached, please find our work-hour and fee estimate (time and material and not to exceed).

Please call David Kitzmann, our Project Manager, at (916) 757-6150 or me at (925) 941-0017 extension 201 if you have any questions.

Sincerely,
WRECO

Han-Bin Liang, Ph.D., P.E.
President

WRECO
1243 Alpine Road, Suite 108
Walnut Creek, CA 94596

Upper York Creek Ecosystem Restoration Project, CIP W-26

City of St. Helena

Additional Work For Sediment Study

Work-Hour and Fee Estimate for WRECO Tasks
Prepared by WRECO

April 18, 2017

Man-Hours

Task	Task Description	Senior Geologist	Staff Geologist	Clerical/ Tech Editor
1	Field Investigation and Laboratory Testing	2	20	
2	Sediment Study Summary Memo	6	6	2
	Subtotal	8	26	2

Fee

Direct Cost

	Hours	Hourly Rate	Fee
Senior Geologist	8	$ 160.00	$ 1,280.00
Staff Geologist	26	$ 75.00	$ 1,950.00
Clerical/Tech Editor	2	$ 80.00	$ 160.00
Subtotal Direct Labor	36		$ 3,390.00

Expenses

Travel & Per Diem	$	175.00
Office Misc. & Reproductions	$	60.00
Laboratory Testing	$	3,730.00
Subtotal	$	3,965.00

Total Cost **$ 7,355.00**

Michael Baker will conduct cultural resources studies that are needed for the Applicant and the Army Corps of Engineers to address requirements of Section 106 of the National Historic Preservation Act, NEPA, and CEQA. Per email correspondence with the Army Corps in November 2016, the three tasks and one optional task presented below will complete cultural resources technical studies and mitigation measures for the project.

This scope assumes that the Tasks 1-3 will be produced concurrently and the Area of Potential Effects (APE) contains one cultural resource known as Upper York Creek Dam (aka Saint Helena Upper Reservoir, or Upper Dam) that is eligible for listing in the National Register of Historic Places.

TASK 1 – CULTURAL RESOURCES IDENTIFICATION REPORT

Michael Baker will conduct the following tasks to identify cultural resources in the project's study area. A records search at the Northwest Information Center (NWIC) and field survey have already been completed by Michael Baker staff.

Research and Field Investigation

- A review of cultural resource inventories will be completed to identify cultural resources that may be listed within or adjacent to the study area. If available, appropriate City and County listings will be reviewed.
- Background research and a literature review, consisting of a review of archaeological, ethnographic, historical, and environmental publications and maps at historical archives, will also be performed. The background research will identify previously recorded or otherwise known cultural resources in or adjacent to the APE.
- Assist the Army Corps with meeting Native American consultation requirements pursuant to Section 106 of the National Historic Preservation Act. Michael Baker will contact the Native American Heritage Commission in Sacramento for a review of the Sacred Lands File to determine if the APE contains any known sacred lands, and a list of Native American contacts who may have concerns about the project within the APE. On behalf of the Army Corps, invitations to begin Section 106 consultation letters will be sent to Native American contacts and follow-up calls will be made. If meetings or additional consultations are required, a budget augment will be prepared.
- Contact the St. Helena Historical Society for any information or concerns they may have about the project within the APE.

Documentation

- Prepare a study area map per Army Corps standards. The study area map is prepared ahead of the APE map and is utilized as an in-progress APE map.
- Prepare a Cultural Resources Identification Report.
- Prepare an APE map per Army Corps standards.

Assumptions

This scope assumes that there are no built environment or archaeological resources within the APE that require evaluation for inclusion in either the California Register of Historical Resources or National Register of Historic Places.

If the Cultural Resources Identification report is not submitted to the Army Corps before 10/10/2017, a new NWIC records search will be required.

Schedule

Task	Timeline to complete from NTP
Identification Report prepared for Army Corps review (Submitted concurrently with MOA and FOAE)	8 weeks
Army Corps Review	12 weeks
Michael Baker Response to Comments and preparation for final submittal	16 weeks

Cost

$12,700

TASK 2 – CULTURAL RESOURCES FINDING OF ADVERSE EFFECT

Michael Baker will conduct the following tasks to analyze effects to the Upper York Creek Dam within the APE.

Analysis

- Apply the criteria of adverse effect to all alternatives that were considered but rejected in the environmental document.
- Provide mitigation measures, which are expanded upon in the Memorandum of Agreement.

Documentation

- Prepare a Finding of Adverse Effect (FOAE) document per Army Corps standards.

Schedule

Task	Timeline to complete from NTP
FOAE prepared for Army Corps review (Submitted concurrently with Identification Report and MOA)	8 weeks
Army Corps Review	12 weeks
Michael Baker Response to Comments and preparation for final submittal	16 weeks

Cost

$14,350

TASK 3 – MEMORANDUM OF AGREEMENT

Michael Baker will conduct the following tasks to prepare the agreement document for the Upper York Creek Dam mitigation measures.

Agreement Document

- One signatory meeting to present the MOA.

Documentation

- Prepare an MOA document per Army Corps standards, which documents mitigation measures that are listed in the FOAE.

Schedule

Task	Timeline to complete from NTP
MOA prepared for Army Corps review (Submitted concurrently with Identification Report and FOAE)	8 weeks
Army Corps Review	12 weeks
Michael Baker Response to Comments and preparation for final submittal	16 weeks

Cost

$14,400

OPTIONAL TASK 1 – HISTORIC AMERICAN ENGINEER RECORD (HAER) HERITAGE DOCUMENTATION

Heritage Documentation Programs (HDP), part of the National Park Service (NPS), administers one of the Federal Government's oldest preservation program, the HAER (Historic American Engineering Record). Documentation produced through the program constitutes one of the nation's largest archives of historic engineering documentation. HAER documentation becomes part of the collection at the Library of Congress.

Michael Baker will complete the HAER documentation of the Upper York Creek Dam in compliance with the MOA and Section 106 of the NHPA. This scope and cost was developed with guidance from the 2015 NPS *Historic American Engineering Record Guideline for Historical Reports*; the 2015 NPS *Heritage Documentation Programs HABS/HAER/HALS Photography Guidelines*, as well as the 2015 NPS *Preparing HABS/HAER/HALS Documentation for Transmittal*.

To complete the HAER documentation, Michael Baker International will:

- Prepare the HAER in outline format. This format identifies the physical history, historic context, and structural/design information of the resource. This is the NPS preferred format.
- Complete ten (10), 4x5, large format, black and white photographs of the resource pursuant to NPS standards.
- Prepare HAER documentation for review by NPS and submittal to the Library of Congress
    - This requires archival quality paper, CDs, ink, printers, and photography materials.
- Consult with the Army Corps of Engineers
- Consult with National Park Service staff for review and submittal of the documentation.

Assumptions

This scope assumes:

- Three (3) copies of fifteen (15) 4x5 large format photographs and negatives. If additional negatives or photographs are required a budget augment will be required.

SCHEDULE

Task	Timeline to complete from NTP
HAER completed for NPS review	8 weeks
NPS review	12 weeks
Michael Baker Response to Comments and preparation for final submittal	16 weeks

COST

$12,270

CITY OF ST. HELENA

RESOLUTION NO. 2016-51

APPROVING A PROFESSIONAL SERVICES AGREEMENT WITH MICHAEL BAKER INTERNATIONAL IN THE AMOUNT OF $461,813 FOR ENGINEERING SERVICES FOR THE UPPER YORK CREEK ECOSYSTEM RESTORATION PROJECT, CAPITAL IMPROVEMENT PROJECT W-26

RECITALS

A. The City has been working for several years to remove the Upper York Creek Dam and restore the York Creek streambed; and

B. City Staff conducted a competitive solicitation to attract highly qualified engineering consultants; and

C. Of the two proposals reviewed, Michael Baker International was scored in the top two; and

D. During the interview process Michael Baker International demonstrated the level of experience, competence, staffing, and other qualifications necessary for exceptional performance of the services required and described in the scope of work; and

E. The project is funded under Capital Improvement Project W-26.

RESOLUTION

NOW, THEREFORE, the City Council of the City of St. Helena resolves as follows:

1. The City Manager is authorized to execute the Professional Services Agreement with Michael Baker International in the amount of $461,813 for engineering service.

Approved at a Regular Meeting of the St. Helena City Council on April 26, 2016 by the following vote:

Mayor Galbraith: yes
Vice Mayor White: yes
Councilmember Crull: Yes
Councilmember Dohring: Absent
Councilmember Pitts: yes

APPROVED:

Alan Galbraith, Mayor

ATTEST:

Cindy Black, City Clerk

AGREEMENT FOR PROFESSIONAL SERVICES

THIS AGREEMENT, made and entered into on April 26, 2016 by and between the City of St. Helena, located in the County of Napa, State of California (City), and Michael Baker International (Consultant).

RECITALS:

A. City desires to employ Consultant to furnish professional services in connection with the project described as **Civil Engineering Services for Upper York Creek Ecosystem Restoration Project.**

B. Consultant has represented that Consultant has the necessary expertise, experience, and qualifications to perform the required duties.

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

SECTION 1 – BASIC SERVICES

Consultant agrees to perform the services set forth in **Exhibit A, "Scope of Services"** and made part of this Agreement.

SECTION 2 – ADDITIONAL SERVICES

Consultant shall not be compensated for any services rendered in connection with its performance of this Agreement which are in addition to or outside of those set forth in this Agreement or **Exhibit A, "Scope of Services"**, unless such additional services and compensation are authorized in advance and in writing by the City Council or City Manager of the City.

SECTION 3 – TIME FOR COMPLETION

The time for completion of services shall be as identified in **Exhibit A, "Scope of Services"**."

SECTION 4 – COMPENSATION AND METHOD OF PAYMENT

A. Subject to any limitations set forth in this Agreement, City agrees to pay consultant the amount specified in **Exhibit B, "Compensation"**, attached hereto and made a part hereof. Total compensation shall not exceed $461,813.00, unless additional compensation is approved in accordance with Section 2.

B. Consultant shall furnish to City an original invoice for all work performed and expenses incurred during the preceding month. The invoice shall detail charges by the following categories if applicable: labor (by sub-category), travel, materials, equipment, supplies, subconsultant contracts, and miscellaneous expenses. City shall independently review each invoice submitted to determine whether the work performed and expenses incurred are in

compliance with the provisions of this Agreement. If no charges or expenses are disputed, the invoice shall be approved and City will use its best efforts to cause Consultant to be paid within 30 days of receipt of invoice. If any charges or expenses are disputed by City, the original invoice shall be returned by City to Consultant for correction and resubmission. If the City reasonably determines, in its sole judgment, that the invoiced charges and expenses exceed the value of the services performed to date and that it is probable that the Agreement will not be completed satisfactorily within the contract price, City may retain all or a portion of the invoiced charges and expenses. Within thirty (30) days of satisfactory completion of the project, City shall pay the retained amount, if any, to Consultant.

C. Payment to the Consultant for work performed pursuant to this Agreement shall not be deemed to waive any defects in work performed by Consultant.

SECTION 5 – STANDARD OF PERFORMANCE

Consultant represents and warrants that it has the qualifications, experience and facilities necessary to properly perform the services required under this Agreement in a thorough, competent and professional manner. Consultant shall at all times faithfully, competently and to the best of its ability, experience and talent, perform all services described herein. In meeting its obligations under this Agreement, Consultant shall employ, at a minimum, generally accepted standards and practices utilized by persons engaged in providing services similar to those required of Consultant under this Agreement.

SECTION 6 – INSPECTION AND FINAL ACCEPTANCE

City may inspect and accept or reject any of Consultant's work under this Agreement, either during performance or when completed. City shall reject or finally accept Consultant's work within sixty (60) days after submitted to City, unless the parties mutually agree to extend such deadline. City shall reject work by a timely written explanation, otherwise Consultant's work shall be deemed to have been accepted. City's acceptance shall be conclusive as to such work except with respect to latent defects and fraud. Acceptance of any of Consultant's work by City shall not constitute a waiver of any of the provisions of this Agreement including, but not limited to, the sections pertaining to indemnification and insurance.

SECTION 7 – INSURANCE REQUIRED

Consultant shall procure and maintain for the duration of the contract insurance against claims for injuries to persons or damages to property which may arise from or in connection with the performance of the work hereunder by the Consultant, its agents, representatives, or employees, as indicated:

A. Minimum Scope of Insurance. Coverage shall be at least as broad as:
   1. Insurance Services Office Commercial General Liability coverage (occurrence form CG 0001).
   2. Insurance Services Office form number CA 0001 (Ed. 1/87) covering Automobile Liability, code 1 (any auto).
   3. Workers' Compensation insurance as required by the State of California and Employer's Liability Insurance.

B. Minimum Limits of Insurance. Consultant shall maintain limits no less than:

1. General Liability: $2,000,000 per occurrence for bodily injury, personal injury and property damage including operations, products and completed operations, as applicable. If Commercial General Liability Insurance or other form with a General Liability Insurance or other form with a general aggregate limit is used, either the general aggregate limit shall apply separately to this project/location or the general aggregate limit shall be twice the required occurrence limit.
2. Automobile Liability: $2,000,000 per accident for bodily injury and property damage.
3. Employer's Liability: $2,000,000 per accident for bodily injury or disease.

C. Professional Liability Insurance. When Consultant under this Agreement is duly licensed under California Business and Professions Code as an architect, landscape architect, professional engineer, or land surveyor ("design professional"), Consultant shall maintain at least $2,000,000 of professional liability insurance.

D. Excess Limits. If Consultant maintains higher limits than the minimums shown above, City requires and shall be entitled to coverage for the higher limits maintained by Consultant. Any available insurance proceeds in excess of the specified minimum limits of insurance and coverage shall be available to the City.

E. Primary Coverage. For any claims related to this contract the Consultants insurance coverage shall be primary insurance as respects to City, its officers, officials, employees and volunteers. Any insurance or self-insurance maintained by the City, its officers, officials, employees, or volunteers shall be excess of Consultants insurance and shall not contribute with it.

F. Deductibles and Self-Insured Retentions. Any deductibles or self-insured retentions of $25,000 or greater must be declared to and approved by the City.

G. Other Insurance Provisions. The commercial general liability and automobile liability policies are to contain, or be endorsed to contain, the following provisions:

1. The City, its agent, officers, officials, employees, and volunteers are to be covered as additional insured as respects: liability arising out of work or operations performed by the Consultant or Consultant's subconsultants; or automobile owned, leased, hired or borrowed by the Consultant.
2. For any claims related to Consultant's conduct while performing the work of this project, the Consultant's insurance coverage shall be primary insurance as respects the City, its agents, officers, officials, employees and volunteers. Any insurance or self-insurance maintained by the City, its agents, officers, officials, employees or volunteers shall be excess of the Consultant's insurance and shall not contribute with it.
3. Each insurance policy required by this clause shall be endorsed to state that coverage shall not be cancelled by either party, except after thirty (30) days prior written notice by certified mail, return receipt requested, has been given to the City.

4. Coverage shall not extend to any indemnity coverage for the active negligence of the additional insured in any case where an agreement to indemnify the additional insured would be invalid under Subsection (b) of Section 2782 of the Civil Code.

H. Waiver of Subrogation. The workers compensation policy is to be endorsed with a waiver of subrogation. The insurance company, in its endorsement, agrees to waive all rights of subrogation against the City, its agents, officers, officials, employees and volunteers for losses paid under the terms of this policy which arises from the work performed by the named insured for the City.

I. The Acceptability of Insurers. Insurance is to be placed with insurers with a current A.M. Best's rating of no less than A: VII, unless otherwise acceptable to the City.

J. Verification of Coverage. Consultant shall furnish the City with original certificates and amendatory endorsements effecting coverage required by this clause. The endorsements should be on forms provided by the City or on forms that conform to City requirements. All certificates and endorsements are to be received and approved by the City before work commences. The City reserves the right to require complete, certified copies of all required insurance policies, including endorsements effecting the coverage required by these specifications at any time.

SECTION 8 – INDEMNIFICATION

A. Consultant shall indemnify and hold harmless City, its agents, officers, officials, employees, and volunteers from any and all claims, demands, suits, loss, damages, injury, and/or liability (including any and all costs and expenses in connection therewith), incurred by reason of any negligent or otherwise wrongful act or omission of Consultant, its officers, agents, employees and subcontractors, or any of them, under or in connection with this Agreement; and Consultant agrees at its own cost, expense and risk to defend any and all claims, actions, suits, or other legal proceedings brought or instituted against City, its agents, officers, officials, employees and volunteers, or any of them, arising out of such negligent or otherwise wrongful act or omission, and to pay and satisfy any resulting judgments.

B. When Consultant under this Agreement is duly licensed under California Business and Professions Code as an architect, landscape architect, professional engineer, or land surveyor ("design professional"), the provisions of this section regarding Consultant's duty to defend and indemnify apply only to claims that arise out of or relate to the negligence, recklessness, or willful misconduct of the design professional.

C. If any action or proceeding is brought against Indemnitees by reason of any of the matters against which Consultant has agreed to indemnify Indemnitees as provided above, Consultant, upon notice from City, shall defend Indemnitees at Consultant's expense by counsel acceptable to City, such acceptance not to be unreasonably withheld. Indemnitees need not have first paid for any of the matters to which Indemnitees are entitled to Indemnification in order to be so indemnified. The insurance required to be maintained by Consultant shall ensure Consultant's obligations under this section, but the limits of such insurance shall not limit the liability of Consultant hereunder. The provisions of this section shall survive the expiration or earlier termination of this Agreement.

D. The provisions of this section do not apply to claims to the extent occurring as a result of the City's sole negligence or willful acts or misconduct.

SECTION 9 – INDEPENDENT CONTRACTOR STATUS

A. Consultant is and shall at all times remain a wholly independent contactor and not an officer, employee or agent of City. Consultant shall have no authority to bind City in any manner, nor to incur an obligation, debt or liability of any kind on behalf of or against City, whether by contract or otherwise, unless such authority is expressly conferred under this Agreement or is otherwise expressly conferred in writing by City.

B. The personnel performing the services under this Agreement on behalf of Consultant shall at all times be under Consultant's exclusive direction and control. Neither City, nor any elected or appointed boards, officers, officials, employees or agents of City, shall have control over the conduct of Consultant or any of Consultant's officers, employees or agents, except as set forth in this Agreement. Consultant shall not at any time or in any manner represent that Consultant or any of Consultant's officers, employees or agents are in any manner officials, officers, employees or agents of City.

C. Neither Consultant, nor any of Consultant's officers, employees or agents, shall obtain any rights to retirement, health care or any other benefits which may otherwise accrue to City's employees. Consultant expressly waives any claim Consultant may have to any such rights.

SECTION 10 – CONFLICTS OF INTEREST

A. Consultant covenants that neither it, nor any officer or principal of its firm, has or shall acquire any interest, directly or indirectly, which would conflict in any manner with the interests of City or which would in any way hinder Consultant's performance of services under this Agreement. Consultant further covenants that in the performance of this Agreement, no person having any such interest shall be employed by it as an officer, employee, agent, or subcontractor without the express written consent of the City Manager. Consultant agrees to at all times avoid conflicts with the interests of City in the performance of this Agreement.

B. City understands and acknowledges that Consultant is, as of the date of execution of this Agreement, independently involved in the performance of non-related services for other governmental agencies and private parties. Consultant is aware of any stated position of City relative to such projects. Any future position of City on such projects shall not be considered a conflict of interest for purposes of this section.

SECTION 11 – OWNERSHIP OF DOCUMENTS

A. All original maps, models, designs, drawings, photographs, studies, surveys, reports, data, notes, computer files, files and other documents prepared, developed or discovered by Consultant in the course of providing any services pursuant to this Agreement shall become the sole property of City and may be used, reused or otherwise disposed of by City without the permission of the Consultant. When requested by City, but no later than three years after project

completion, Consultant shall deliver to City all such original maps, models, designs, drawings, photographs, studies, surveys, reports, data, notes, computer files, files and other documents.

B. All copyrights, patents, trade secrets, or other intellectual property rights associated with any ideas, concepts, techniques, inventions, processes, improvements, developments, works of authorship, or other products developed or created by Consultant during the course of providing services (collectively the "Work Product") shall belong exclusively to City. The Work Product shall be considered a "work made for hire" within the meaning of Title 17 of the United States Code. Without reservation, limitation, or condition, Consultant hereby assigns, at the time of creation of the Work Products, without any requirement of further consideration, exclusively and perpetually, any and all right, title, and interest Consultant may have in the Work Product throughout the world, including without limitation any copyrights, patents, trade secrets, or other intellectual property rights, all rights of reproduction, all rights to create derivative works, and the right to secure registrations, renewals, reissues, and extensions thereof.

SECTION 12 – CONFIDENTIAL INFORMATION; RELEASE OF INFORMATION

A. All information gained or work product produced by Consultant in performance of this Agreement shall be considered confidential, unless such information is in the public domain or already known to Consultant. Consultant shall not release or disclose any such information or work product to persons or entities other than City without prior written authorization from the City Manager, except as may be required by law.

B. Consultant, its officers, employees, agents or subcontractors, shall not, without prior written authorization from the City Manager or unless requested by the City Attorney of City, voluntarily provide declarations, letters of support, testimony at depositions, response to interrogatories or other information concerning the work performed under this Agreement. Response to a subpoena or court order shall not be considered "voluntary" provided consultant gives City notice of such court order or subpoena.

C. If Consultant, or any officer, employee, agent or subcontractor of Consultant, provides any information or work product in violation of this Agreement, then City shall have the right to reimbursement and indemnity from Consultant for any damages, costs and fees, including attorneys fees, caused by or incurred as a result of Consultant's conduct.

D. Consultant shall promptly notify City should Consultant, its officers, employees, agents or subcontractors be served with any summons, complaint, subpoena, notice of deposition, request for documents, interrogatories, request for admissions or other discovery request, court order or subpoena from any party regarding this Agreement and the work performed thereunder. City retains the right, but has no obligation, to represent Consultant or be present at any deposition, hearing or similar proceeding. Consultant agrees to cooperate fully with City and to provide City with the opportunity to review any response to discovery requests provided by Consultant. However, this right to review any such response does not imply or mean the right by City to control, direct, or rewrite such response.

SECTION 13 – SUSPENSION OF WORK

City may, at any time, by ten (10) days written notice suspend further performance by Consultant. All suspensions shall extend the time schedule for performance in a mutually satisfactory manner and Consultant shall be paid for services performed and reimbursable expenses incurred prior to the suspension date.

SECTION 14 – COMPLIANCE WITH LAW

Consultant shall keep itself informed of and comply with all applicable federal, state and local laws, statutes, codes, ordinances, regulations and rules in effect during the term of this Agreement. Consultant shall obtain any and all licenses, permits and authorizations necessary to perform the services set forth in this Agreement. Neither City, nor any elected or appointed boards, officers, officials, employees or agents of City, shall be liable, at law or in equity, as a result of any failure of Consultant to comply with this section.

SECTION 15 – COMPLIANCE WITH CIVIL RIGHTS

During the performance of this contract, Consultant agrees as follows:

A. Equal Employment Opportunity. In connection with the execution of this Agreement, Consultant shall not discriminate against any employee or applicant for employment because of race, religion, color, ancestry, age, sexual orientation, physical handicap, medical condition, marital status, sex, or national origin. Such actions shall include, but not be limited to, the following: employment, promotion, upgrading, demotion, or transfer; recruitment or recruitment advertising; layoff or termination; rate of pay or other forms of compensation; and selection for training including apprenticeship.

B. Nondiscrimination Civil Rights Act of 1964. Consultant will comply with all federal regulations relative to nondiscrimination to federally-assisted programs.

C. Solicitations for Subcontractors including Procurement of Materials and Equipment. In all solicitations, either by competitive bidding or negotiations, made by Consultant for work to be performed under a subcontract, including procurement of materials or leases of equipment, each potential subcontractor, supplier, or lessor shall be notified by Consultant of Consultant's obligations under this Agreement and the regulations relative to nondiscrimination.

SECTION 16 – RECORDS

A. Records of Consultant's direct labor costs, payroll costs, and reimbursable expenses pertaining to this project covered by this Agreement will be kept on a generally recognized accounting basis and made available to City if and when required for a period of up to 3 years from the date of Consultant's final invoice.

B. Consultant's records and design calculations will be available for examination and audit if and as required. The cost of any reproductions shall be paid by City.

SECTION 17 – COOPERATION BY CITY

All public information, data, reports, records, and maps as are existing and available to City as public records, and which are necessary for carrying out the work as outlined in the Exhibit A, "Scope of Services", shall be furnished to Consultant in every reasonable way to facilitate, without undue delay, the work to be performed under this Agreement.

SECTION 18 – NOTICES

All notices required or permitted to be given under this Agreement shall be in writing and shall be personally delivered, or sent by facsimile or first class mail, addressed as follows:

To City:
City Manager
1480 Main Street
St. Helena, California 94574

To Consultant:
Michael Baker International
2729 Prospect Park Drive, Suite 220
Rancho Cordova, CA 95670

Notice shall be deemed effective on the date personally delivered or transmitted by facsimile, or, if mailed, three (3) days after deposit in the custody of the U.S. Postal Service.

SECTION 19 – TERMINATION

A. City may terminate this Agreement, with or without cause, at any time by giving ten (10) days written notice of termination to Consultant. If such notice is given, Consultant shall cease immediately all work in progress.

B. If either Consultant or City fail to perform any material obligation under this Agreement, then, in addition to any other remedies, either Consultant, or City may terminate this Agreement immediately upon written notice.

C. Upon termination of this Agreement by either Consultant or City, all property belonging to City which is in Consultant's possession shall be delivered to City. Consultant shall furnish to City a final invoice for work performed and expenses incurred by Consultant, prepared as set forth in this Agreement.

SECTION 20 – ATTORNEY FEES

If litigation or other proceeding is required to enforce or interpret any provision of this Agreement, the prevailing party in such litigation or other proceeding shall be entitled to an award of reasonable attorneys' fees, costs and expenses, in addition to any other relief to which it may be entitled. In addition, any legal fees, costs and expenses incurred to enforce the provisions of this Agreement shall be reimbursed to the prevailing party.

SECTION 21 – ENTIRE AGREEMENT

This Agreement, including the attached Exhibits, is the entire, complete, final and exclusive expression of the parties with respect to the matters addressed therein and supersedes all other agreements or understandings, whether oral or written, or entered into between Consultant and City prior to the execution of this Agreement. No statements, representations or other agreements, whether oral or written, made by any party which are not embodied herein shall be valid and binding unless in writing duly executed by the parties or their authorized representatives.

SECTION 22 – SUCCESSORS AND ASSIGNS

This Agreement shall be binding on the heirs, executors, administrators, successors and assigns of the parties. However, this Agreement shall not be assigned by Consultant without written consent of the City.

SECTION 23 – CONTINUITY OF PERSONNEL

Consultant shall make every reasonable effort to maintain the stability and continuity of Consultant's staff assigned to perform the services required under this Agreement. Consultant shall notify City of any changes in Consultant's staff assigned to perform the services required under this Agreement, prior to any such performance.

SECTION 24 – DEFAULT

In the event that Consultant is in default under the terms of this Agreement, the City shall not have any obligation or duty to continue compensating Consultant for any work performed after the date of default and may terminate this Agreement immediately by written notice to Consultant.

SECTION 25 – WAIVER

Waiver by any party to this Agreement of any term, condition, or covenant of this Agreement shall not constitute a waiver of any other term, condition, or covenant. Waiver by any party of any breach of the provisions of this Agreement shall not constitute a waiver of any other provision, nor a waiver of any subsequent breach or violation of any provision of this Agreement. Acceptance by City of any work or services by Consultant shall not constitute a wavier of any of the provisions of this Agreement.

SECTION 26 – LAW TO GOVERN; VENUE

This Agreement shall be interpreted, construed and governed according to the laws of the State of California. In the event of litigation between the parties, venue in state trial courts shall lie exclusively in the County of Napa. In the event of litigation in a U.S. District Court, venue shall lie exclusively in the Northern District of California, in San Francisco.

SECTION 27 – SEVERABILITY

If any term, condition or covenant of this Agreement is declared or determined by any court of competent jurisdiction to be invalid, void or unenforceable, the remaining provisions of

this Agreement shall not be affected thereby and the Agreement shall be read and construed without the invalid, void or unenforceable provision(s).

SECTION 28 – SPECIAL PROVISIONS

This Agreement is subject to the following special provisions: none.

IN WITNESS WHEREOF, the parties hereto have accepted, made, and executed this Agreement upon the terms, conditions, and provisions above stated, the day and year first above written.

Consultant:

By: _____
Name: Kevin Gustorf
Title: Vice President

City:

By: _____
Name: Jennifer Phillips
Title: City Manager

Approved as to Form:

By: _____
Name: Thomas B. Brown
Title: City Attorney

Work Plan / Scope of Work

Michael Baker has carefully reviewed the RFP and evaluated the available reports/studies on this project to provide the following scope of services for the final design and permitting of the Upper York Creek Ecosystem Restoration Project. The Michael Baker team has developed this recommended scope of work to address the key issues and challenges and implement a comprehensive technical work plan to complete the PS&E and obtain the necessary approvals for project construction.

Task 1: Technical Studies and Project Refinement

Michael Baker will hold a kickoff meeting to commence the project with the City and project stakeholders. Michael Baker will prepare the meeting agenda and meeting minutes. The meeting will be used to initiate the project and discuss schedules, communications, expectations, critical issues, and design criteria.

Deliverables: *Meeting agenda and meeting minutes*

Michael Baker will obtain and review existing available technical studies from the City, County, USACE, FEMA, and other known sources related to the project improvements. The information collected will include hydrology and hydraulics studies and computer models environmental documents, geotechnical studies, available geology and hydrogeology information, and future proposed development projects, as well as as-built plans and the City's GIS database for existing facilities along the project reach.

Deliverables: *Summary of existing data pertaining to the project improvements*

Michael Baker will compile supplemental topographic mapping by conventional field methods for final design purposes. Topography shall include locations and elevations of features not accurately defined by the existing project topographic mapping. The supplemental mapping shall include spot elevations, trees, top/toe of slopes, surface utilities, existing structures, and areas of proposed construction join points. This task is based on 40 hours of field survey.

Deliverables: *Supplemental field topographic mapping*

Michael Baker International has teamed with WRECO to perform the Geotechnical Investigation and Analysis for the Proposed Project.

Field Investigation and Laboratory Testing

WRECO proposes to perform a field investigation to better characterize the subsurface information at the Project site. The field investigation will consist of one soil boring using hollow-stem auger drilling techniques to a completion depth of up to 40 feet below existing grade for the purpose of obtaining disturbed representative soil samples to better characterize the subsurface conditions. Representative soil samples at 2.5 foot intervals will be visually classified using the Unified Soil Classification System and retained for later laboratory testing. Borings will be presented on a boring location plan, and the soil descriptions and summary of the laboratory testing results will be presented on Logs of Borings.

Geotechnical Engineering Study Report

WRECO will prepare a Geotechnical Engineering Study Report for the proposed slope repair. This engineering study will contain the following information and recommendations:

- A Project summary and description of the scope of work performed for the Project. A discussion of the regional and local geology as it pertains to the Project.
- A summary of the identified site soils, summary of the laboratory testing results, and Logs of Borings with the observed soils, groundwater, and laboratory soil testing results.
- A discussion of where the groundwater source may be and methods for further evaluation and mitigation measures.
- A discussion of the regional seismology and seismic design parameters for the proposed Project site in accordance with the latest California Building Code and ASCE-7.
- Contract language for the bidding phase of the Project regarding the slope repair wall construction

Deliverables: *Boring Location Plan and Logs of Borings, Draft and Final Geotechnical Engineering Study Report*

Michael Baker will provide engineering services to perform the updated hydrology, hydraulic, and scour analyses for the development and analysis of the final design recommendations. The design hydrology will use the flow rates developed in the previous studies from the USACE and Prunuske Chatham, Inc. (PCI). Updated channel hydraulic models will be prepared to reflect the proposed grading for the entire project length to develop the optimal configuration and evaluate any potential modifications to the current 65% plans. Channel geometric characteristics, such as conveyance cross-sections, roughness coefficients, confluences, and encroachments, will be analyzed based

on site conditions, physical constraints and the proposed plans. A geomorphic assessment and scour analysis will be prepared to determine the final design requirements for the stream profile and structures.

***Deliverables**: Hydrology, hydraulics, and sedimentation calculations*

Michael Baker shall prepare a design evaluation and value engineering analysis to determine the most viable project improvements that are acceptable to the City and the stakeholder agencies. The recommended improvements in PCI's 65% plans will be evaluated, taking into consideration a risk assessment, additional technical studies and base data, environmental constraints, and a value-engineering analysis to determine if any potential modifications can improve the proposed project. The analysis will include the evaluation of the current geometric design plan and consider hydraulic effectiveness, preliminary construction costs, sedimentation and scour, environmental impacts and mitigation requirements, traffic control, constructability, geotechnical issues, and other intangible impacts. Michael Baker shall review each project element for value engineering, constructability, and likelihood of success in restoring and maintaining fish passage. A preliminary consultation with NOAA fisheries will be initiated to ensure agency approval on any potential design changes.

***Deliverables**: Value engineering recommendations and project modifications*

Michael Baker will prepare a preliminary design report which will present and document the results of the technical studies and value engineering analysis. The report will include text, graphics, preliminary plan layouts, value engineering analysis discussion, and recommendations for the final project design. Technical analysis will be summarized with detailed analysis provided as an appendix.

***Deliverables**: Draft and final preliminary design reports*

Michael Baker will develop updated 65% design plans for the project from the previous plans prepared by PCI, incorporating the results of the design evaluation and value engineering analysis. The plans shall be updated from the CAD files from the current PCI plans. It is assumed that the PCI CAD file will be provided to Michael Baker. The plans will include facility sizes, cross sections, construction details, preliminary structural requirements, hydraulic profiles, and landscape plans. The updated 65% plans shall clearly delineate and define the project improvements to evaluate conformance with the environmental documents and to prepare regulatory permits. A design review meeting with the

City will be held with the submittal of the plans. The review meeting shall include a discussion of the following information:

- Updated technical studies
- Results of design evaluation and value engineering study
- Project elements and modifications recommended for final design
- Project schedule and estimated construction cost

Deliverables: *Updated 65% improvement plans; design review meeting*

Based on the updated improvement plans, Michael Baker will determine the required amount of excess material to be disposed of off-site. The team will evaluate the three sites identified in the EIR to determine their suitability in receiving the excess material. The Spring Mountain Vineyard site is a private entity and a determination will be made in consultation with the City if this site should be pursued. Assuming that Spring Mountain is not a viable site, an evaluation of the Lower York Creek Reservoir (LYCR) site will be performed. Consultation with the Clover Flat Landfill will also be performed to determine if the landfill can accept additional material. Modifications to the stream restoration grading will also be considered to identify changes that would reduce the amount of excess material to a quantity that could be handled by the LYCR and Clover Flat Landfill sites. Potential alternatives will be developed considering the cost and environmental impacts. The alternatives analysis will be discussed with the City to identify a preferred solution.

Michael Baker will prepare a preliminary grading plan for the recommended soil disposal site. For the purposes of this scope and fee it is assumed that the remaining excess material will be disposed of at the LYCR site. The plans shall be updated from the CAD files from the current PCI plans. The preliminary grading plans will include plan sheets at 1"=40' scale utilizing the compiled base mapping. The plans will also include typical cross sections, utility locations/conflicts, and ROW information.

Deliverables: *Soil site analysis, preliminary grading plans*

Phase 2: Final Design and Construction Documents (65% to 100% Plans)

Michael Baker will continue to prepare restoration improvement plans to the 95% completion level. The plans will be adjusted to reflect comments on the 65% design and feedback from the design review meeting. The plans shall be updated to include all features, hydraulic data and HGLs, and structural details. The plan set shall include all plan sheets anticipated for the final drawings including title and note sheets, plan and profiles, landscape plans, structural details, and miscellaneous detail sheets. The plans shall include the detailed information as requested in the RFP and in accordance with City standards.

Deliverables: *95% channel improvement plans*

Michael Baker will prepare the technical provisions section of the construction documents in accordance with the format requested by City. A schedule of bid items will be developed with associated quantities and cost estimate.

Deliverables: *Technical provisions; bid schedule and quantities; cost estimate*

Michael Baker will prepare structural sections, details, and calculations associated with the existing concrete structure modifications and tie-back system required for the project design. Anticipated structural drawings include typical details and general notes, spillway and slope structural sections, and miscellaneous details. Calculations will utilize geotechnical design values provided by the project geotechnical engineer as well as in-house computer programs for analysis. Calculations will utilize City-approved methods for analysis and be in a format to be checked by City staff.

Deliverables: *Structural design report*

Michael Baker will prepare a final basis of design report to support the design of the recommended improvements. This engineering analysis will provide verification of the hydraulic operation for the proposed facilities and become the technical engineering basis of the final design. The channel hydraulics will be updated from the preliminary design report to reflect any modifications to the channel configuration.

Deliverables: *Final basis of design report*

Michael Baker will prepare a final field check of the plans, and complete final plans, specifications, and estimates to incorporate any changes in site conditions and address comments on the 95% submittal.

Deliverables: *Final improvement plans (mylar); bid schedule and quantities; technical provisions*

Michael Baker will provide personnel at the City's request to provide support during construction. Our restoration practitioners will be made available to assist in project implementation. It is assumed 8 hours per week will be required to assist the contractor in the field during construction. It is assumed for the purposes of this proposal the duration of construction will occur between April and November, 2017. Therefore 270 hours of field time have been allocated for this task.

The Project's Final EIR included as a required mitigation measure development of a "causative factors analysis and an implementation program to monitor, maintain, and/or improve channel capacity and promote sediment transport". Therefore Michael Baker will develop a Monitoring and Management Program (MMP) to meet these requirements.

Michael Baker will provide an initial survey for use in establishing a baseline condition when evaluating sediment deposition. Michael Baker will provide surveyed cross sections at each bridge or culvert from the existing spillway to the confluence of York Creek with the Napa River. Four cross sections will be taken at each bridge – at the upstream face, downstream face, and at the approximate expansion and contraction limits for each bridge so that the cross sections may be used in the future for hydraulic modeling. We will survey soffit elevations, abutment locations, and roadway elevations. Between each structure, cross sections will be taken at approximately 500 foot intervals. Figure 1 shows approximate locations of survey points to be taken with the initial survey.

Directly following completion of the restoration, Michael Baker will produce an as-built survey. This survey will be used to confirm that the project was built to design standards and will serve as baseline data for future monitoring. Michael Baker will compare this data to the design criteria and produce a brief report summarizing any implementation adjustments or discrepancies.

Within the MMP, Michael Baker will develop monitoring requirements consistent with the goals outlined in the EIR. We will recommend inspection of the channel at a defined interval, likely once per year for five years. More frequent inspections may be necessary if stability concerns have previously been noted, or there have been frequent/intense storm events. An inspection may be necessary immediately following a significant storm event (bankfull or higher) if the event occurs soon after completion of the project and, before bank vegetation has been established in accordance with the plans and specifications.

The MMP will require site inspections to monitor:

- **Vertical Instability** Any indication of incision or headcutting should be noted and immediate corrective action recommended As-built plans will provide the design and construction bankfull depth at riffles. This depth will be verified upon inspection and should not deviate from the post-construction depth by a factor greater than 1.3 or other approved metric. A subsequent longitudinal profile survey may not be required during routine stability monitoring, unless negative changes have been identified.

- **Lateral Instability** - Any observation of changes in meander geometry such as channel widening, channel migration, or lateral erosion should be noted with recommended corrective action. For most projects, it is preferred that the channel develops some degree of narrowing and adjustment through depositional processes during the first few years as vegetation becomes established.

- **Structural Integrity** - In-stream structures are specifically designed to reduce bank shear stresses, maintain a stable plan and profile, and provide habitat. Any indication of structure failure such as undermining of structures, erosion between structures and the bank, piping, etc. should be noted along with an immediate corrective action. It should also be noted if structure instability is considered insignificant and is not likely to result in further instability. Such areas should be monitored closely in subsequent monitoring years.

- **Vegetation Viability** – For many natural channel design projects, native buffer vegetation along the channel bank and riparian corridor is critical to the stability of the stream. Any indication that vegetation planting is not establishing in accordance with the approved plans and specifications should be noted and recommendations made for corrective action This includes an overabundance of vegetation within the bankfull channel such as on riffles that may cause bank instability.

- **Sediment Deposition** – Based on review of the site, monitoring locations will be determined at and downstream of the proposed Project site in order to evaluate sediment deposition at hydraulic structures such as bridges or other areas of constricted flow. The MMP will determine the extent of acceptable aggradation before additional analyses or restoration efforts are necessary.

Any observed changes should be evaluated to determine if they represent a movement toward a more unstable condition (e.g., down-cutting or erosion, increased bank height ratio) or a movement toward increased stability (e.g., settling, vegetative changes, deposition along the banks, decrease in width/depth ratio). The types, severity, and causes of changes will be documented Corrective actions will be defined and recommended with each inspection. The MMP will define actionable deficiencies and determine when mitigation measures are necessary Potential mitigation measures include onsite corrective actions, or additional analyses such as hydraulic modeling or sediment transport modeling

Figure 1, Survey Location Map

Recommended Corrective Action

Bed/Sediment	Bank	Structure	Vegetation
1 No Action	1 No Action	1 No Action	1 No Action.
2. Modify design	2 Repair matting and or reinstall live stakes.	2. Stabilize the structure with protective materials.	2. Replant bank and floodplain vegetation.
3. Remove debris or blockage	3. Grade banks to appropriate slope and reinstall matting and live stakes.	3. Reconstruct the unstable portion of structure.	3. Replant surrounding riparian buffer with trees/shrubs.
4. Protect the bed to prevent further degradation	4. Stabilize banks with bioengineering.	4. Move the structure to proper placement.	4. Place protective barrier around the vegetation.
5 Stabilize local sediment source.	5. Adjust design	5. Rebuild the structure.	5. Other
6. Other	6 Other	6. Other	

Figure 1. Potential Corrective Actions

Stream Restoration Monitoring Report

Site_____ Monitoring Year _____

Field Inspector: _____ Date _____

Problem Area Number_____ As-built Sheet Number _____

Station Number_____ Photo Number _____

Please choose from the guidance sheet on the reverse side for the following information.

Type of Failure: _____
_____

Severity: _____
_____

Cause of the Failure: _____
_____

Recommended Corrective Action: _____
_____

Additional comments about this problem area

Figure 2. Sample Stream Restoration Monitoring Report

Permitting and Environmental Compliance

Michael Baker will review previous jurisdictional delineations of waters of the United States (including wetlands) and waters of the State located within the boundaries of the project site. Findings of the review will be summarized in a report (for Agency approval) along with graphics that identify the boundaries of water within the project site that are:

1. Waters of the U.S;
2. Waters of the State; and/or
3 California Department of Fish and Wildlife (CDFW) jurisdiction under California Fish and Game Code 1600 et al.

Michael Baker will prepare a Joint Aquatic Resources Permit Application (JARPA) package for USACE, Regional Water Quality Control Board, and CDFW approval. This task includes one round of internal revisions. The deliverable for this task includes a draft (one copy of each application) and final (one copy of each application) to the City for file. One copy of each application will also be formally submitted in a three ring binder to the regulatory agencies.

In addition, Michael Baker will prepare two Biological Assessments. One Biological Assessment will evaluate effects of the project on California red-legged frog and will be used to facilitate the ESA Section 7 consultation with the USFWS. The other Biological Assessment will evaluate effects of the project on steelhead central California coastal ESU and will be used to facilitate the ESA Section 7 consultation with the NOAA Fisheries. Other species may be added to the Biological Assessments at the USACE's recommendation.

Michael Baker shall provide regulatory services for the processing of the regulatory applications through the USACE, Regional Board, CDFW, USFWS, and NOAA Fisheries. The processing shall include required correspondence or telephone calls with the reviewing staff related to the permit or points of clarification and coordination, if necessary. This task excludes Endangered Species Act Section 7 consultation with the USFWS.

As appropriate, Michael Baker will prepare applications for a County grading permit and National Pollution Discharge Elimination System construction permit.

As design is refined, Michael Baker will continually validate that design standards are within the analyses of the EIR for the Upper York Creek Ecosystem Restoration Project (State Clearinghouse No. 2006092096). Michael Baker will inform the City's engineer of any instance where variation may result in consequent CEQA actions. Michael Baker will prepare an EIR Addendum at final design if necessary, to provide environmental clearance necessary for design changes.

Project Management and Coordination

Michael Baker will manage project duties for the full project in order to ensure a cost-efficient, quality process. As the prime contractor, our staff will provide a suite of disciplines to effectively coordinate and communicate leading to design approval. This task includes overall project management, project schedule and maintenance, liaison with affected agencies, meeting leadership, progress monitoring, and maintenance of project files. Michael Baker will supervise, coordinate, monitor, and review design for conformance with agency standards, policies, and procedures.

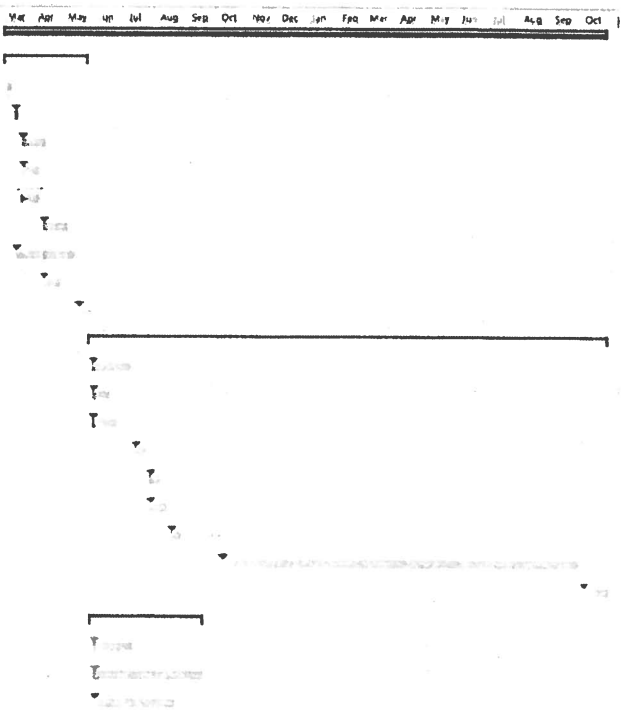
As a part of this task, Michael Baker shall coordinate and attend project meetings with the City, other agency stakeholders, and the landowners as necessary for the successful completion and approval of the project. For the purposes of this scope and fee, four meetings with the City and stakeholder are budgeted.

Deliverables: *Meeting attendance, agendas, and minutes; project schedules*

Project Schedule

The project schedule can be found on the following page

ID	Task Name	Duration	Start	Finish
1	**Project Management and Coordination**	431 days	Tue 3/1/16	Tue 10/24/17
2	**PHASE 1: TECHNICAL STUDIES AND PROJECT REFINEMENT**	60 days	Tue 3/1/16	Mon 5/23/16
3	Collect and Review Existing Plans and Reports	5 days	Tue 3/1/16	Mon 3/7/16
4	Supplemental Field Topographic Survey	5 days	Tue 3/8/16	Mon 3/14/16
5	Geotechnical Investigation and Analysis	20 days	Tue 3/15/16	Mon 4/11/16
6	Hydrology, Hydraulics, and Sedimentation Analysis	15 days	Tue 3/15/16	Mon 4/4/16
7	Design Evaluation and Value Engineering Analysis	10 days	Tue 3/22/16	Mon 4/4/16
8	Preliminary Design Report	21 days	Tue 4/5/16	Tue 5/3/16
9	Updated 65% Improvement Plans	45 days	Tue 3/8/16	Mon 5/9/16
10	Soil Disposal Site Evaluation and Preliminary Grading Plans	15 days	Tue 4/5/16	Mon 4/25/16
11	Agency review of 65% Design, PDR	10 days	Tue 5/10/16	Mon 5/23/16
12	**PHASE 2: FINAL DESIGN AND CONSTRUCTION DOCUMENTS (95% TO 100% PLANS)**	371 days	Tue 5/24/16	Tue 10/24/17
13	95% Channel Improvement Plans	30 days	Tue 5/24/16	Mon 7/4/16
14	Specifications and Cost Estimates	15 days	Tue 5/24/16	Mon 6/13/16
15	Structural Design Report	20 days	Tue 5/24/16	Mon 6/20/16
16	Agency Review of 95% submittal, Structural Design Report	10 days	Tue 7/5/16	Mon 7/18/16
17	Final Basis of Design Report	10 days	Tue 7/19/16	Mon 8/1/16
18	Final (100%) Improvement Plans	15 days	Tue 7/19/16	Mon 8/8/16
19	Agency Review	10 days	Tue 8/9/16	Mon 8/22/16
20	Construction Support	258 days	Tue 10/4/16	Tue 9/26/17
21	Lower York Creek Monitoring and Management Program	20 days	Wed 9/27/17	Tue 10/24/17
22	**PERMITTING AND ENVIRONMENTAL COMPLIANCE**	89 days	Tue 5/24/16	Mon 9/12/16
23	Delineation of Jurisdictional Waters	30 days	Tue 5/24/16	Mon 7/4/16
24	Preparation/Processing of Regulatory Agency Applications	80 days	Tue 5/24/16	Mon 9/12/16
25	Environmental Compliance and EIR Addendum	60 days	Tue 5/24/16	Mon 8/15/16



Project: schedule
Date: Thu 2/11/16

Task | Split | Milestone | Summary | Project Summary | Inactive Task | Inactive Milestone | Inactive Summary | Manual Task | Duration only | Manual Summary Rollup | Manual Summary | Start only | Finish only | External Tasks | External Milestone | Deadline | Progress | Manual Progress

EXHIBIT B, 'COMPENSATION'

Professional Fees Estimation

Client: City of St. Marys	
Project Name: Upper York Creek Ecosystem Restoration Project	
Job Number: 191002	
Estimate Date: 4/14/2019	
Estimate Start Number	

Team Member	Rate
Project Director	230
Project Engineer	180
Technical Specialist #3-ARC	210
Project Manager	175
Principal	250
Landscape Architect	140
GIS Analyst	120
Design Engineer	160
Design Technician	100
Clerical & Intern	70
Environmental Analyst/Design Tech	90
Design Tech	100
Survey Crew	180
3-Man Survey Crew	220
Environmental Tech	110

Work Item Description	Professional Manhours													Fee Subtotals	Fee Hours	Task Fee	Task Hours
	Principal	PE/Senior Engineer	Technical Specialist	Project Manager	Designer	Landscape Architect	GIS Analyst	Design Engineer	Assistant Eng.	Clerical & Intern	Environmental Analyst / Design Tech	Design Technician	3-Man Survey Crew	Environmental Tech				
	$250/hour	$180/hour	$210/hour	$175/hour	$160/hour	$140/hour	$120/hour	$160/hour	$100/hour	$70/hour	$110/hour	$100/hour	$220/hour	$110/hour				
UPPER YORK CREEK ECOSYSTEM RESTORATION PROJECT																		
Task 1 - Project Management and Coordination																	$48,475	270
Kick-off Meeting	1	4	2	4						4				$2,705	15			
Meetings (4)	1	3	4	14				16		4				$4,855	26			
Project Management	4			20										$10,300	24			
PHASE 1: TECHNICAL STUDIES AND PROJECT REFINEMENT																		
Task 2 - Collect and Review Existing Plans and Reports																	$7,825	45
Correspondence				1				4	4					$1,175	9			
Coordination				1				4						$1,125	5			
Task 3 - Supplemental Field Topographic Survey																	$51,625	65
Field Work														$18,625	45			
Survey Topography Drawing								8					40	$31,000	8			
Task 4 - Geotechnical Investigation and Analysis																	$29,350	8
Coordination				2										$27,350	2			
Task 5 - Hydrology, Hydraulics, and Sedimentation Analysis																	$104,000	600
Update Hydrology Study		2		4				24						$4,130	30			
Hydraulic and Sediment Analysis		4		8				8						$4,100	32			
Design Alternative Analysis				2				4						$1,140	8			
Task 6 - Riparian Restoration and Value Engineering Analysis																	$5,625	35
Riparian Restoration and Value Engineering Analysis	2	4	10	2	4			4						$5,150	32			
Coordination with St. Marys		4		2										$1,150	5			
Task 7 - Preliminary Design Refinement																	$54,375	85
Design	2	4	8	16				32						$10,770	54			
Task 8 - Updated OPC Implementation Plans																	$56,625	451
GIS Analysis								1				2		$1,110	3			
Update Map and Cut-to-Fill Areas				1				4				4		$1,170	7			
Permit Letter and Application								4				8		$1,170	12			
Narrative Plan		2						8				8		$3,170	18			
Grading Plans								8				8		$3,170	16			
Trail and Roads	1	2	2	6				16				4		$4,170	31			
Trail Profiles	1	2		4				12				16		$4,150	35			
Structure Plans				4				12				16		$4,150	32			
Planting Plans				4				8				16		$3,150	28			
Task 9 - Soil Disposal Site Evaluation and Preliminary Grading Plans																	$56,250	562
Site Selection		1	10	8	2							8		$4,150	40			
Grading Plans (4)		2		4				40				48		$11,100	92			
PHASE 2: FINAL DESIGN AND CONSTRUCTION DOCUMENTS (50% TO 100% PLANS)																		
Task 10 - 95% Channel Improvement Plans																	$54,625	395
Site Area (1)																		
Access Map and Construction Notes (1)								1				1		$320	2			
Permit Letter and Application (1)								1				1		$160	1			
Narrative Plan (1)								1				4		$170	1			
Grading Plans (1)								2				4		$470	3			
Trail and Roads (4)	1	1		2				8				8		$1,170	8			
Cross Sections (4)	1	1		2				8				24		$3,170	16			
Structure Plans (4)	1	1		2				8				8		$1,170	8			
Grade Breaks and Safety (2)			4	2				24				4		$1,170	12			
Planting Plans (4)			2	2				24				4		$1,170	12			
Erosion Control Plans (2)				2		1					16			$3,170	19			
Task 11 - Specifications and Cost Estimate								16				16		$4,160	32			
Specifications	2	2	6	12				40	16		8			$10,520	100		$24,150	200
Cost Estimate								8			4			$1,130	12			
Task 12 - Interim Design Report																	$24,150	80
Report	1	2	2	4				24				16		$7,150	48			
Task 13 - Final Design Report																	$8,810	50
Report	1	2	2	4				16						$3,810	25			
Task 14 - Final (100%) Improvement Plans																	$20,525	70
100% Plans			1	1				16				32		$6,525	50			
Task 15 - Construction Support																	$24,000	200
Specification Revisions		40	10	114										$24,000	164			
Task 16 - Lower York Creek Restoration and Recreational Plans as																	$24,000	200
Site Visits								4				8	40	$11,000	52			
Project Design Project Team and Subconsultant		8						8					16	$7,120	32			
Management and Management Protocol	4	4	12	8	4	4		8				8		$5,400	52			
PERMITTING AND ENVIRONMENTAL COMPLIANCE																		
Task 17 - Preparation of Jurisdictional Permits																	$9,350	57
Permit Application	1		4	8		4								$1,420	17			
Task 18 - Preparation/Processing of Regulatory Permits/Approvals																	$20,000	170
ACOE			40	2		24						48		$11,000	114			
DEP			30	2	8									$7,000	40			
NEPA				4	2	4						8		$2,000	16			
Task 19 - Environmental Compliance and Bid Advertising				4	2	2						4		$1,000	12			
Review			20									48		$5,400	68		$5,400	68
Advertising			20									48		$5,400	68			
Funding Grant Progress and Development Costs																	$2,250	20
Project Closeout												20		$2,250	20			
TOTAL	70	60	204	473	123	43	73	533	102	0	330	556	60	$59,140		$371	$409,215	3771

FIRST AMENDMENT
TO PROFESSIONAL SERVICES AGREEMENT WITH MICHAEL BAKER INTERNATIONAL FOR CIVIL ENGINEERING SERVICES FOR UPPER YORK CREEK ECOSYSTEM RESTORATION PROJECT AS PART OF CAPITAL IMPROVEMENT PROJECT W-26

This First Amendment to Agreement for Professional services is made effective on May 23, 2017 by and between the City of St. Helena, a municipal corporation ("City"), and Michael Baker International ("Consultant").

RECITALS

A. Pursuant to the terms of the written Agreement between City and Consultant, dated April 26, 2016, and approved by Resolution No. 2016-51, dated April 26, 2016, the City entered into a Professional Services Agreement with Consultant for $461,813 ("Agreement") regarding the City's Upper York Creek Ecosystem Restoration Project ("Project"). The Project is part of the City's Capital Improvement Project W-26; and

B. Additional work has been identified and required by the National Marine Fisheries Service ("NMFS"), San Francisco Bay Regional Water Quality Control Board ("SFBRWQCB"), and Stillwater Sciences; and

C. The Agreement's current Scope of Services does not include the funds or additional work that has been identified by the NMFS, SFBRWQCB, and Stillwater Sciences; and

D. City and Consultant now desire to amend the Agreement to include, as Part of Capital Improvement Project W-26, the Upper York Creek Ecosystem Restoration Project, the additional scope required by the NMFS, SFBRWQCB, and Stillwater Sciences; and

E. City and Consultant now desire to amend the Agreement to include, as Part of Capital Improvement Project W-26, the Upper York Creek Ecosystem Restoration Project, the reduction in scope as outlined by Consultant; and

F. The Consultant has represented it has the necessary expertise, experience, and qualifications to perform the additional services for the Project; and

TERMS

A. Parties agree to amend the Agreement to provide additional services, as outlined in the attachments to City of St. Helena Resolution No. 2017-65 (Exhibit A), Tasks 1, 4, 5, 7, and 18, as well as a reduction in the Scope of Services to Tasks 10, 11, 14, and 15.

B. Section 4.A of the Agreement is amended to read as follows: "Subject to any limitations set forth in this Agreement, City agrees to pay Consultant the amount specified in Exhibit B, "Compensation" attached hereto and made a part hereof. Total compensation shall not exceed $606,370.80, unless prior additional compensation is approved in writing in accordance with Section 2."

C. The Agreement, as modified by this First Amendment, constitutes the entire agreement between City and Consultant. Except as expressly set forth in this First Amendment, the Agreement has not been modified, changed, altered, or amended, and is in full force and effect.

Entered as of the day and year first above stated.

IN WITNESS WHEREOF, the parties hereto have accepted, made, and executed this Agreement upon the terms, conditions, and provisions above stated, the day and year first above written.

CONSULTANT:

Michael Baker International
2729 Prospect Park Drive, Suite 220
Rancho Cordova, CA 95670

Signatures of Authorized Persons:

By: _____

Print Name: Kevin Gustorf

Title: Vice President

CITY OF ST. HELENA
a Municipal Corporation

By: _____
Mark Prestwich, City Manager

APPROVED AS TO FORM:

_____
Tom Brown, City Attorney

ATTEST:

Kamille Garcia
City Clerk
Kamille Garcia Deputy City Clerk for Cindy Black

Attachments:

- Exhibit A – Resolution No. 2017-65
- Exhibit B – Resolution No 2016-51

CITY OF ST. HELENA

RESOLUTION NO. 2017-65

Resolution Authorizing an Amendment to the Scope of Work and an Increased Not to Exceed Cost of $606,370.80 for Michael Baker International for the Upper York Creek Dam Removal Project, W-26

RECITALS

A. The City of St. Helena previously entered into a Professional Services Agreement with Michael Baker International in an amount not to exceed $461,813 for design and engineering services for the Upper York Creek Dam Removal Project; and

B. Following the recommendations of regulatory agencies to alter the project elements, additional work scope is needed for hydrology, hydraulics, and sediment flow among other project tasks; and

C. The City's Cultural Resources Report for the project will expire this summer, requiring an updated report for the Army Corps of Engineers; and

D. The City has committed to the removal of the Upper York Creek Dam via Resolution 2017-50; and

E. The cost of the additional work, which Michael Baker International has the necessary expertise, experience and qualifications to complete the revised tasks, is $144,557.80.

RESOLUTION

The City Council of the City of St. Helena hereby resolves as follows:

1. Approves the contract increase for Michael Baker International for the Upper York Creek Dam Removal Project, for a not to exceed amount of $606,370.80.

Approved at a Regular Meeting of the St. Helena City Council on May 23, 2017, by the following vote:

Mayor Galbraith:	Yes
Vice Mayor White:	Yes
Councilmember Dohring:	Yes
Councilmember Koberstein:	Yes
Councilmember Ellsworth:	Yes

APPROVED:

Alan Galbraith, Mayor

ATTEST:

Cindy Black, City Clerk

CITY OF ST. HELENA
Incorporated March 24, 1878
Re-incorporated May 14, 1883
STATE OF CALIFORNIA

Michael Baker
INTERNATIONAL

We Make a Difference

April 25, 2017 JN 153371

Erica Athmann Smithies, PE
Acting Public Works Director/City Engineer
City of St. Helena
1480 Main Street
St. Helena, CA 94574

Subject: Upper York Creek Ecosystem Restoration Project Additional Scope and Fee

Dear Erica:

During a Project meeting with various regulatory agencies at the City of St. Helena on March 23, 2017, National Marine Fisheries Service (NMFS) staff suggested a change to the Upper York Creek Restoration Project to a natural dam removal concept, allowing for sediment to mobilize naturally over time rather than excavating a portion of the sediment and providing for stream restoration. Subsequent discussions with NMFS and the San Francisco Bay Regional Water Quality Control Board (SFBRWQCB) were held on April 5th and April 20th, 2017 discussing the impacts to permit applications, CEQA, and plans based on this proposed change. Per discussions via phone conversation and email on April 17th and April 20th, 2017, NMFS recommended Michael Baker contact Yantao Cui with Stillwater Sciences to develop a sediment transport model to evaluate the effects of the Project on native fish populations and to determine the data requirements to develop the model.

Based on these discussions, Michael Baker International (MBI) has developed this request describing additional scope of work and fees. A description of the additional services within each Task in the original scope of work is as follows:

Task 1 Project Management and Coordination
Per recommendation by RWQCB Staff at the conference call meeting on April 5, 2017, a monthly meeting with regulatory agencies was suggested. Michael Baker will provide a conference call number, meeting agendas, and meeting notes for each monthly meeting. It is assumed eight (8) project meetings will be required. The additional fee for these services is $17,200.

Task 4 Geotechnical Investigation and Analysis
On April 18th, 2017 MBI discussed data requirements for York Creek for the sediment transport model described under Task 5 below. Per this discussion, MBI will install gravel buckets within York Creek to determine the ambient concentration of fine sediments within York Creek, and three soil sampling locations will be required with samples taken every few feet of depth. MBI contacted the geotechnical subconsultant WRECO to provide data collection for the three sampling locations and sieve analysis for the sediment samples and gravel buckets. This proposal is attached. The additional fees for these services is $11,610.

Task 5 Hydrology, Hydraulics, and Sedimentation Analysis
Per discussion with Yantao Cui (Stillwater) on April 20th, 2017, Stillwater Sciences prepared prepare a scope of work to evaluate the potential impact to fisheries resources due to suspended sediment concentration in York Creek for a scenario that would leave the majority of the reservoir deposit in place for natural transport. This proposal is attached.

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Office: 916.928.1113 | Fax: 916.361.1574

Per discussion with NMFS on April 20, 2017, additional analysis of flood hazards for the lower reaches of York Creek due to the proposed project will be required, due to the potential for increased coarse sediment in the lower reaches of York Creek. MBI will provide an existing and proposed conditions HEC-RAS analysis based on an updated survey of York Creek from the Project site to Napa River, and based on the results of the sediment transport analysis as determined By Stillwater. MBI will prepare a technical memo with results of the analysis and proposed mitigation measures. The additional fees for these services is $17,600. .

Task 7 Preliminary Design Report
MBI will provide additional services to evaluate the sediment capacity of York Creek from downstream of the Project site to Approximately 1.5 miles downstream of the Project Site. MBI will also provide additional services to design sediment traps using natural wood structures, per discussions with NMFS. The additional fees for these services is $5,080.

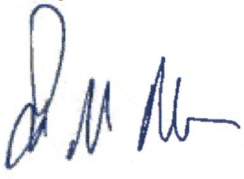
Task 18 Preparation/Processing of Regulatory Agency Applications
On February 27, 2017 MBI provided an additional scope request to prepare required documentation to facilitate processing of permit applications. After reviewing all of the previous reports, the Corps concurred with our approach to prepare a cultural resources identification report (Task 1), Finding of Adverse Effect document (Task 2) and Memorandum of Agreement (Task 3) recommending Historic American Engineering Record (HAER) heritage documentation (Optional Task 1). Tasks 1-3 need to be prepared to complete the 404/1 permit, these tasks total $41,450.

Scope Reductions/Cost to Complete
Based on discussions with NMFS and RWQCB, Michael Baker has identified several areas within our current scope of work where the scope and fee may be reduced. For Tasks 10, 11, 14, and 15, the scope may be reduced because the restoration efforts will be reduced from a full restoration to a stable, low flow channel. Table 1 presents a summary of additional costs and scope reductions for the Project.

Summary
Based on the Additional Services determined for tasks 1, 4, 5, 7, and 18; and scope and fee reductions for Tasks 10, 11, 14, and 15, the total additional fees required for the Project are $144,587 as presented in Table 1.

If you have any questions or if you need additional information, please contact me directly at (916) 231-3355, or via david.mueller@mbakerintl.com.

Sincerely,



David Mueller
Project Manager

Michael Baker
INTERNATIONAL

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Table 1, Scope and Fee Impacts

Task	Name	Scope Impact	Percent Complete	Amount Budgeted	Spent	Budget Remaining	Cost to complete (current scope)	Cost to complete (additional services, see below)	Total cost to complete
1	Task 1 - Project Management and Coordination	Additional Scope	49%	$ 40,460	$ 19,868.25	$ 20,591.75	$ 20,591.75	$ 17,200.00	$ 37,791.75
2	Task 2 -Collect and Review Existing Plans and Reports	No Impact	100%	$ 2,390	$ 1,817.50	$ 562.50	$ -	$ -	$ -
3	Task 3 - Supplemental Field Topographic Survey	No Impact	100%	$ 11,600	$ 11,630.00	$ (30.00)	$ -	$ -	$ -
4	Task 4 - Geotechnical Investigation and Analysis	Additional Scope	96%	$ 31,300	$ 29,948.47	$ 1,351.53	$ 1,351.53	$ 11,610.50	$ 12,962.03
5	Task 5 - Hydrology, Hydraulics, and Sedimentation Analysis	Additional Scope	80%	$ 10,900	$ 14,465.00	$ (3,565.00)	$ -	$ 126,258.30	$ 126,258.30
6	Task 6 - Design Evaluation and Value Engineering Analysis	No Impact	100%	$ 5,440	$ 3,060.00	$ 2,380.00	$ -	$ -	$ -
7	Task 7 - Preliminary Design Report	Additional Scope	50%	$ 10,770	$ 5,015.00	$ 5,755.00	$ 5,755.00	$ 5,080.00	$ 10,835.00
8	Task 8 - Updated 65% Improvement Plans	No Impact	100%	$ 56,600	$ 57,092.50	$ (492.50)	$ -	$ -	$ -
9	Task 9 - Soil Disposal Site Evaluation and Preliminary Grading Plans	No Impact	34%	$ 20,290	$ 6,900.00	$ 13,390.00	$ 13,390.00	$ -	$ 13,390.00
10	Task 10 - 95% Channel Improvement Plans	Scope Reduced	0%	$ 36,570	$ 510.00	$ 36,060.00	$ 23,850.00	$ -	$ 23,850.00
11	Task 11 - Specifications and Cost Estimates	Scope Reduced	10%	$ 26,300	$ 3,400.00	$ 22,900.00	$ 13,150.00	$ -	$ 13,150.00
12	Task 12 - Structural Design Report	No Impact	0%	$ 12,190	$ -	$ 12,190.00	$ 12,190.00	$ -	$ 12,190.00
13	Task 13 - Final Basis of Design Report	No Impact	0%	$ 5,510	$ -	$ 5,510.00	$ 5,510.00	$ -	$ 5,510.00
14	Task 14 - Final (100%) Improvement Plans	Scope Reduced	0%	$ 10,235	$ -	$ 10,235.00	$ 7,200.00	$ -	$ 7,200.00
15	Task 15 - Construction Support	Scope Reduced	0%	$ 48,580	$ -	$ 48,580.00	$ 25,840.00	$ -	$ 25,840.00
16	Task 16 - Lower York Creek Monitoring and Management Program	No Impact	16%	$ 36,610	$ 5,780.00	$ 30,830.00	$ 30,830.00	$ -	$ 30,830.00
17	Task 17 - Delineation of Jurisdictional Waters	No Impact	90%	$ 8,382	$ 9,833.25	$ (1,451.25)	$ -	$ -	$ -
18	Task 18 - Preparation/Processing of Regulatory Agency Applications	Additional Scope	44%	$ 63,946	$ 27,977.50	$ 35,968.50	$ 28,000.00	$ 41,450.00	$ 69,450.00
19	Task 19 - Environmental Compliance and EIR Addendum	No Impact	10%	$ 16,800	$ 7,866.25	$ 8,933.75	$ 5,000.00	$ -	$ 5,000.00
					TOTAL	$249,699.28	$192,658.28	$201,598.80	$394,257.08
									Additional Budget Required
									$144,557.80

Additional Costs	Description	Sub	Sub cost	Markup	SubTotal	MBI Costs	Total Costs
Task 1	Additional Meetings (Assume 8)					$ 17,200.00	$ 17,200.00
Task 4	Sediment Sampling and Analysis	WRECO	7355	0.1	8090.5	$ 3,520.00	$ 11,610.50
Task 5	Analysis of Potential Impacts to Fisheries Resources upon York Creek Dam Breaching	Stillwater Sciences	96093	0.1	105702.3	$ 2,960.00	$ 108,662.30
	Flood Hazard Modeling and Mapping					$ 17,596.00	$ 17,596.00
Task 7	Design of Sediment Traps					$ 5,080.00	$ 5,080.00
Task 18	Cultural Resources					$ 41,450.00	$ 41,450.00

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Office: 916.928.1113 | Fax: 916.361.1574

Stillwater Sciences

2855 Telegraph Ave, Suite 400, Berkeley, CA 94705
phone 510.848.8098 fax 510.848.8398

SCOPE OF WORK (draft)

Analysis of Potential Impacts to Fisheries Resources upon York Creek Dam Breaching

DATE: Saturday, May 13, 2017

TO: Michael Baker International

FROM: Stillwater Sciences

1 BACKGROUND

Michael Baker International is supporting the City of St. Helena in developing alternatives for the removal of York Creek Dam. In April 2017, Stillwater Sciences was approached by Mr. David Mueller of Michael Baker International to prepare a scope of work to evaluate the potential impact to fisheries resources due to the increased suspended sediment concentration in York Creek upon dam breaching for a scenario that would leave the majority of the reservoir deposit in place for natural transport. We provide below a brief description of our proposed approach, the tasks involved for the analysis, estimated budget, proposed deliverables, project schedule, as well as assumptions we used to reach the budget and project schedule.

2 PROPOSED APPROACH

Our proposed approach will entail numerical sediment transport modeling, followed by an analysis of the impact of predicted suspended sediment concentrations on key fish species by life history stage. Numerical models to simulate the potential suspended sediment concentration following the breaching of the dam will be carried out using the DREAM-2 model (Cui et al. 2006a,b) that would simulate the sediment transport dynamics for both the coarse (gravel and coarser) and fine (sand and finer) sediments. If, however, the reservoir deposit is composed primarily of fine sediment, a DREAM-1 model will also be set up for the simulation of suspended sediment concentration during and after dam removal. Details of DREAM-1 and DREAM-2 models and sensitivity tests to the models can be found in Cui et al. (2006a,b). Whether DREAM-1 model will be needed in addition to DREAM-2 model simulation will be determined following a field inspection of the project area, and upon receipt of grain size distribution data of the reservoir deposit. Following sediment transport modeling, the predicted suspended sediment concentrations during different times of the year will be used to evaluate the potential impacts to key fish species at various life history stages based on the methods described in Newcomb and Jansen (1996). We have successfully used similar approaches to evaluate the impact of dam removal on fisheries resources elsewhere (e.g., Marmot Dam removal on the Sandy River, Oregon, the proposed removal of the for upper Klamath River dams in California and Oregon), and the proposed removal of Matilija Dam in Matilija Creek, California (Appendix A).

3 TASKS

Task 1. Information Review and Data Collection

Stillwater will review existing information relevant to the study and conduct a one-day field survey to support sediment transport modeling and fisheries impact evaluation. The field survey will allow us to identify and map some of the key geomorphic features within the reach downstream of the dam that are needed for modeling, such as bedrock outcrops, and evaluate and map existing habitat conditions that are necessary for fisheries impact analyses.

Task 2. Hydrologic Analysis

Stillwater will review the discharge record collected by the Napa County Resource Conservation District (NCRCD) at Highway 29, and if necessary, will expand the record to a longer duration in reference to daily discharge records from a gaged, neighboring watershed. The goal of the hydrologic analysis is to select three typical water years: a dry year, an average year, and a wet year. The recorded or generated daily discharge record from the selected three typical years will be used as input for the sediment transport model (Task 3) and fisheries impact analysis (Task 4).

Task 3. Sediment Transport Modeling

One or both of the DREAM models (DREAM-2, and potentially DREAM-2 and DREAM-1) (Cui et al. 2006) will be used to simulate sediment transport dynamics following dam notching under three typical hydrologic years selected in Task 2. The two models have identical core components, but with different sediment transport formulae that are suitable for different types of reservoir sediment deposits. DREAM-2 simulates the transport of both coarse and fine sediment transport dynamics, but DREAM-1 provides more reliable simulation of fine sediment transport and suspended sediment concentration in case the reservoir deposit is primarily fine sediment.

A list of previous projects that applied DREAM models or their sister models (i.e., models with identical core components, except for the sediment transport equations used for calculating sediment transport capacity) can be found in Appendix A.

The extent of the reach to be modeled is assumed to include the reservoir and extend all the way down to Napa River confluence.

Task 4. Fisheries Impact Evaluation

Stillwater will evaluate and summarize potential effects to Central California Coast (CCC) steelhead and their habitats, as a result of suspended sediment released in association with the removal of York Creek Dam.

Stillwater Sciences will evaluate the effect of increases in suspended load and bedload associated with dam removal that would result in sediment being transported past York Creek Dam on all steelhead life stages. This will include effects on juvenile and adult migration; spawning substrate, redds, and alevins; and rearing substrate and habitat. The effect of increased sediment transport on the overall steelhead population will also be evaluated, to the extent possible based on available data.

The analysis will focus on the response of steelhead and their habitat to increases in sediment in Lower York Creek downstream of Upper York Creek Dam. The quality and extent of spawning and rearing habitat will also be influenced by increased sediment deposition, with effects that vary with distance from the dam, as well as reach-specific channel gradient, confinement, etc.

Based on the steelhead population data available from the National Marine Fisheries Service' steelhead recovery plan, steelhead analysis from the City of St. Helena, California Fish and Wildlife habitat and fish surveys, and other readily available sources, the effects analysis will consider the proportion of the steelhead cohort (of each life stage) predicted to be in the response reaches during suspended sediment events during and following dam removal, considering both spatial distribution (proportion of the life stage expected to be in the creek compared to the Napa River, and proximity to York Creek Dam) and life-history timing (proportion of the population expected to be present during the period of effect). In our analysis of increased sediment transport in other rivers (e.g., Sandy, Klamath, and Matilija rivers), we found that describing which life stages of steelhead will occur in the response reach during key periods of expected increases in sediment is critical to understanding, and not exaggerating potential effects.

For the proportion of each life stage anticipated to be exposed to increased sediment, the predictions of the order of magnitude changes in Total Suspended Sediment (TSS) relative to an unimpaired condition from the sediment transport analysis (Task 3), will be integrated with an evaluation of the impacts of varying TSS concentrations and durations on each steelhead life stage. As we did in the Klamath Dam Removal EIR and the Matilija Dam analysis, this evaluation will rely on the synthesis of the effects of high TSS on salmonids by Newcombe and Jensen (1996) (since York Creek-specific thresholds are not available) (Table 1). An example of the analysis for the Klmath River dam removal is provided in Figure 1. This method will be used to estimate the relative magnitude of severity of ill effects on specific life stages (juvenile and adult migration, spawning and rearing, and alevins) of steelhead within the response reach. Dam removal will be assessed based on the season of sediment release, along with the severity, frequency, and persistence of the effects.

Using this analytical approach, we will estimate the proportion of juvenile steelhead that are expected to rear within the affected reach, and thus will suffer some level of direct mortality, or sublethal effects, and the proportion in the mainstem Napa River, which we assume would avoid effects entirely. The same analysis will be conducted for each life stage, and for each scenario. The population level consequences of each scenario will then be assessed, based on the loss of the estimated proportion of redds, alevins, juveniles, and adults from each cohort anticipated to be present during each year of potential increased sediment.

In addition to assessing the potential effects of suspended sediment on steelhead, we will also assess the effects of increased sediment transport on habitat for steelhead, including juvenile rearing habitat and spawning habitat. Results of sediment transport analysis (Task 3) will be used to predict the effect of each alternative (and scenarios of each alternative) on the channel profilewithin the response reach and over time. These results will be used to assess the degree to which sediment deposition reduces pool volume, increases available spawning habitat, and increases floodplain habitat access from increased bed elevation. Predictions of bedload substrate size composition (Task 3) will also be assessed to predict how changes in substrate facies affect spawning habitat. The predicted effects on steelhead habitat will be compared with the spatial distribution of steelhead spawning and rearing in the watershed to evaluate the likely population level effects of the various alternatives.

Table 1. Severity of effects from suspended sediment, Newcombe and Jensen (1996)

Severity	Category of effect	Description
0	Nill effect	•No behavioral effects
1	Behavioral effects	•Alarm reaction
2		•Abandonment of cover
3		•Avoidance response
4	Sublethal effects	•Short-term reduction in feeding rates •Short-term reduction in feeding success
5		Minor physiological stress: •Increase in rate of coughing •Increased respiration rate
6		•Moderate physiological stress
7		•Moderate habitat degradation •Impaired homing
8		Indications of major physiological stress: •Long term reduction in feeding rate •Long term reduction in feeding success •Poor condition
9	Lethal effects	Reduced growth rate: •Delayed hatching •Reduced fish density
10		•0–20% mortality •Increased predation of effected fish
11		•>20–40% mortality
12		•>40–60% mortality
13		•>60–80% mortality
14		•>80–100% mortality

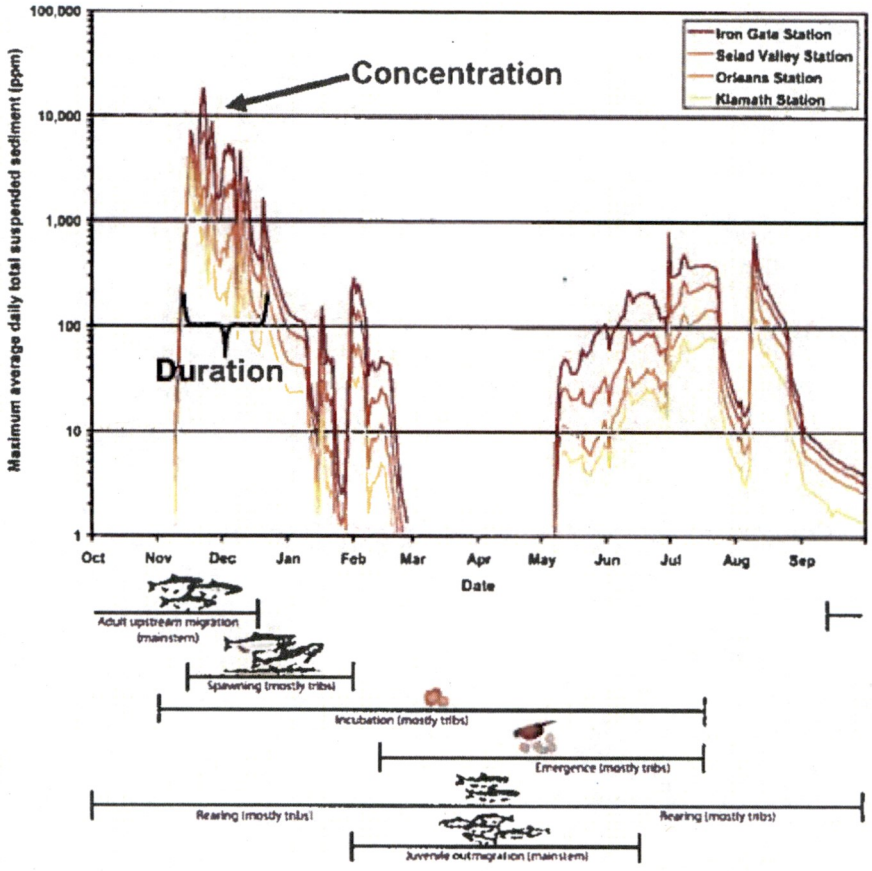


Figure 1. An example of evaluation of suspended sediment impacts in Klamath River

Task 5. Preparation of Technical Memorandum

A draft technical memorandum summarizing the existing information review, site visit, hydrologic analysis, sediment transport modelling results, and impacts to fisheries will be prepared for review by Michael Baker International. One set of track-changed comments will be addressed and a final technical memorandum will be submitted. .

Task 6. Project Management and Coordination

This task covers the coordination with Michael Baker International and other relevant parties as well as other general project management needs. Stillwater will attend up to one in-person meeting with stakeholders and coordinate as needed via phone conference under this task.

4 DELIVERABLES, SCHEDULE, AND BUDGET

4.1 Estimated Budget

Our estimated budget under the assumptions discussed below (Section 4.3) is provided in Table 2 below.

Table 2. Budget for Tasks 1-6 and expenses.

BUDGET	Task 1 2017	Task 2 2017	Task 3 2017	Task 4 2017	Task 5 2017	Task 6 2017	Total
TOTAL COST	$7,428	$4,511	$41,479	$29,787	$11,130	$2,119	$95,323
TOTAL EXPENSES:	$770						$770
PROJECT COST:	$8,198	$4,511	$41,479	$29,787	$11,130	$2,119	$96,093

4.2 Deliverables, Schedule

The deliverables include

- A draft technical memorandum for review, delivered on or before Monday, July 31, 2017;
- A finalized technical memorandum, detailing the findings of the study, delivered within two weeks upon receipt of all review comments; and

4.3 Assumptions

We have made the following assumptions in order to meet the above budget and schedule:

a. A contract or instruction to start to work is received on or before April 26, 2017;
b. Michael Baker International finishes sample collection and analysis of the reservoir deposit, and provides us with the results no later than the first week of May.
c. We have received the existing HEC-RAS model, which we will review. We have assumed that the cross-sections in the HEC-RAS model covers the reach that we intend to set up the sediment transport model.
d. Dr. Yantao Cui and Mr. Ethan Bell will attend one meeting as described in Task 6 in St. Helena or a nearby location to discuss or present the findings of the study.

5 REFERENCES CITED

Cui, Y., Parker, G., Braudrick, C., Dietrich, W.E., and Cluer, B. 2006a. Dam Removal Express Assessment Models (DREAM). Part 1: Model development and validation. Journal of Hydraulic Research, 44(3), 291-307.

Cui, Y., Braudrick, C., Dietrich, W.E., Cluer, B., and Parker, G. 2006b. Dam Removal Express Assessment Models (DREAM). Part 2: Sensitivity tests/sample runs. Journal of Hydraulic Research, 44(3), 308-323.

Newcombe, C. P., and J. O. T. Jensen. 1996. Channel suspended sediment and fisheries: a synthesis for quantitative assessment of risk and impact. North American Journal of Fisheries Management 16: 693-727.

APPENDIX A: LIST OF PREVIOUS PROJECTS WHERE SIMILAR SEDIMENT TRANSPORT MODELING AND/OR FISHERIES IMPACT ANALYSIS WERE CONDUCTED

Below we provide a list of previous application of DREAM models (including variations that used the core of the DREAM models) and associated fisheries impact analyses.

Project	Location	Sediment transport modeling	Fisheries Impact Analysis	Amount of Sediment in Question
Marmot Dam Removal	Oregon	Yes	Yes	1 million CY
Soda Springs Dam Removal	Oregon	Yes	Yes	1 million CY
OTML Mining Disposal	Papua New Guinea	Yes	No	2 billion tonnes
Matilija Dam Removal	California	Yes	Yes	7 million CY
Simkins Dam Removal	Maryland	Yes	No	< 0.1 million CY
Bloede Dam Removal	Maryland	Yes	No	~ 0.25 million CY
Saeltzer Dam Removal	California	Yes	No	Small
Harvey Diversion Structure	California	Yes	No	Small
Freeman Dam Modification	California	Yes	No	Small
Englebright Dam Modification	California	Yes	No	26 million tonnes
Daguerre Dam Removal	California	Yes	No	2.4-4.6 million CY
Dam Removal on the Klamath River	California and Oregon	Yes	Yes	> 10 million CY
Alameda Creek Fish Barrier Removal	California	Yes	No	Small
Alameda Creek Diversion Dam Modification	California	Yes	No	Small

APPENDIX B: KEY PERSONNEL AND RESUMES

Key personal for this study include Dr. Yantao Cui and Mr. Ethan Bell.

Dr. Cui specializes in hydraulic and hydrologic analyses, sediment transport modeling, and geomorphic assessment. Over the years, Yantao has worked on some of the world's largest river projects, including research on the construction of the Three Gorges Dam in China (the largest dam in the world); sediment transport modeling and sediment related assessments in Ok Tedi and Fly River system, Papua New Guinea (one of the largest human-induced sediment release to rivers); and sediment transport modeling and geomorphic assessment upon the removal of Marmot Dam, Sandy River, Oregon (the largest sediment release caused by dam removal at the time the dam was removed). Dr. Cui is the author and coauthor of approximately 30 peer-reviewed journal articles and book chapters, and is the author of several sediment transport models, including those published in peer-reviewed journals (i.e., DREAM-1, DREAM-2 and TUGS). Dr. Cui will serve as Stillwater project manager for this project.

Mr. Bell has nearly 20 years of experience conducting steelhead fisheries research and projects in California and is Stillwater's Central Coast Region Lead, based out of the Morro Bay office. He has provided technical expertise on a wide variety of interdisciplinary projects, including instream flow analysis, endangered species consultation, large-scale watershed assessments, fish passage analysis, and restoration design. Mr. Bell is also instrumental in coordinating and managing field studies, analyzing collected field data, as well as researching and writing reports and proposals. Expertise with field techniques includes electrofishing, PIT tagging, PIT tag antenna monitoring, rotary screw trap monitoring, snorkel diving, and beach seining.
Brief resumes for Dr. Cui and Mr. Bell are provided below.

WRECO

1243 Alpine Road, Suite 108
Walnut Creek, CA 94596
Phone: 925.941.0017
Fax: 925.941.0018
www.wreco.com

April 18, 2017

David Mueller
Michael Baker International
2729 Prospect Park Dr., Suite 220
Rancho Cordova, CA 95670

Project: Upper York Creek Ecosystem Restoration

Subject: Request for Additional Budget for Limited Sediment Study

Dear Mr. Mueller,

WRECO is submitting an additional budget request for the above referenced project. This request is to perform a limited sediment study of the channel bedload upstream of the existing dam.

WRECO Detailed Scope of Work
The limited sediment study will include three hand auger or hand-excavated pits to collect bulk samples of bedload materials and retrieval of up to 10 gravel sedimentation monitoring beds and laboratory testing. The three hand augers and/or hand-excavated pits will be on the order of 5 ft depth or to refusal at locations indicated by Michael Baker International. The 10 gravel sedimentation monitoring beds are understood to be placed by Michael Baker International, and WRECO will only retrieve the beds after the monitoring period. Laboratory testing will include gradation and plasticity index testing on the sediment samples, and ten limited gradations to determine by weight the amount of sediment in the gravel bed samples. Recommendations are not part of this scope of service.

The results of study will be summarized in a memo and will include the following:

- *A Project summary and description of the geotechnical work performed.*
- *A summary of the identified soil and rock conditions observed at the Project site, summary of the laboratory testing results, and Test Boring Logs.*

Attached, please find our work-hour and fee estimate (time and material and not to exceed).

Please call David Kitzmann, our Project Manager, at (916) 757-6150 or me at (925) 941-0017 extension 201 if you have any questions.

Sincerely,
WRECO

Han-Bin Liang, Ph.D., P.E.
President

WRECO
1243 Alpine Road, Suite 108
Walnut Creek, CA 94596

Upper York Creek Ecosystem Restoration Project, CIP W-26

City of St. Helena

Additional Work For Sediment Study

Work-Hour and Fee Estimate for WRECO Tasks
Prepared by WRECO

April 18, 2017

Man-Hours

Task	Task Description	Senior Geologist	Staff Geologist	Clerical/ Tech Editor
1	Field Investigation and Laboratory Testing	2	20	
2	Sediment Study Summary Memo	6	6	2
	Subtotal	8	26	2

Fee

Direct Cost

	Hours	Hourly Rate	Fee
Senior Geologist	8	$ 160.00	$ 1,280.00
Staff Geologist	26	$ 75.00	$ 1,950.00
Clerical/Tech Editor	2	$ 80.00	$ 160.00
Subtotal Direct Labor	36		$ 3,390.00

Expenses

Travel & Per Diem	$	175.00
Office Misc. & Reproductions	$	60.00
Laboratory Testing	$	3,730.00
Subtotal	$	3,965.00

Total Cost **$ 7,355.00**

Michael Baker will conduct cultural resources studies that are needed for the Applicant and the Army Corps of Engineers to address requirements of Section 106 of the National Historic Preservation Act, NEPA, and CEQA. Per email correspondence with the Army Corps in November 2016, the three tasks and one optional task presented below will complete cultural resources technical studies and mitigation measures for the project.

This scope assumes that the Tasks 1-3 will be produced concurrently and the Area of Potential Effects (APE) contains one cultural resource known as Upper York Creek Dam (aka Saint Helena Upper Reservoir, or Upper Dam) that is eligible for listing in the National Register of Historic Places.

TASK 1 – CULTURAL RESOURCES IDENTIFICATION REPORT

Michael Baker will conduct the following tasks to identify cultural resources in the project's study area. A records search at the Northwest Information Center (NWIC) and field survey have already been completed by Michael Baker staff.

Research and Field Investigation

- A review of cultural resource inventories will be completed to identify cultural resources that may be listed within or adjacent to the study area. If available, appropriate City and County listings will be reviewed.
- Background research and a literature review, consisting of a review of archaeological, ethnographic, historical, and environmental publications and maps at historical archives, will also be performed. The background research will identify previously recorded or otherwise known cultural resources in or adjacent to the APE.
- Assist the Army Corps with meeting Native American consultation requirements pursuant to Section 106 of the National Historic Preservation Act. Michael Baker will contact the Native American Heritage Commission in Sacramento for a review of the Sacred Lands File to determine if the APE contains any known sacred lands, and a list of Native American contacts who may have concerns about the project within the APE. On behalf of the Army Corps, invitations to begin Section 106 consultation letters will be sent to Native American contacts and follow-up calls will be made. If meetings or additional consultations are required, a budget augment will be prepared.
- Contact the St. Helena Historical Society for any information or concerns they may have about the project within the APE.

Documentation

- Prepare a study area map per Army Corps standards. The study area map is prepared ahead of the APE map and is utilized as an in-progress APE map.
- Prepare a Cultural Resources Identification Report.
- Prepare an APE map per Army Corps standards.

Assumptions

This scope assumes that there are no built environment or archaeological resources within the APE that require evaluation for inclusion in either the California Register of Historical Resources or National Register of Historic Places.

If the Cultural Resources Identification report is not submitted to the Army Corps before 10/10/2017, a new NWIC records search will be required.

Schedule

Task	Timeline to complete from NTP
Identification Report prepared for Army Corps review (Submitted concurrently with MOA and FOAE)	8 weeks
Army Corps Review	12 weeks
Michael Baker Response to Comments and preparation for final submittal	16 weeks

Cost

$12,700

TASK 2 – CULTURAL RESOURCES FINDING OF ADVERSE EFFECT

Michael Baker will conduct the following tasks to analyze effects to the Upper York Creek Dam within the APE.

Analysis

- Apply the criteria of adverse effect to all alternatives that were considered but rejected in the environmental document.
- Provide mitigation measures, which are expanded upon in the Memorandum of Agreement.

Documentation

- Prepare a Finding of Adverse Effect (FOAE) document per Army Corps standards.

Schedule

Task	Timeline to complete from NTP
FOAE prepared for Army Corps review (Submitted concurrently with Identification Report and MOA)	8 weeks
Army Corps Review	12 weeks
Michael Baker Response to Comments and preparation for final submittal	16 weeks

Cost

$14,350

TASK 3 – MEMORANDUM OF AGREEMENT

Michael Baker will conduct the following tasks to prepare the agreement document for the Upper York Creek Dam mitigation measures.

Agreement Document

- One signatory meeting to present the MOA.

Documentation

- Prepare an MOA document per Army Corps standards, which documents mitigation measures that are listed in the FOAE.

Schedule

Task	Timeline to complete from NTP
MOA prepared for Army Corps review (Submitted concurrently with Identification Report and FOAE)	8 weeks
Army Corps Review	12 weeks
Michael Baker Response to Comments and preparation for final submittal	16 weeks

Cost

$14,400

OPTIONAL TASK 1 – HISTORIC AMERICAN ENGINEER RECORD (HAER) HERITAGE DOCUMENTATION

Heritage Documentation Programs (HDP), part of the National Park Service (NPS), administers one of the Federal Government's oldest preservation program, the HAER (Historic American Engineering Record). Documentation produced through the program constitutes one of the nation's largest archives of historic engineering documentation. HAER documentation becomes part of the collection at the Library of Congress.

Michael Baker will complete the HAER documentation of the Upper York Creek Dam in compliance with the MOA and Section 106 of the NHPA. This scope and cost was developed with guidance from the 2015 NPS *Historic American Engineering Record Guideline for Historical Reports*; the 2015 NPS *Heritage Documentation Programs HABS/HAER/HALS Photography Guidelines*, as well as the 2015 NPS *Preparing HABS/HAER/HALS Documentation for Transmittal*.

To complete the HAER documentation, Michael Baker International will:

- Prepare the HAER in outline format. This format identifies the physical history, historic context, and structural/design information of the resource. This is the NPS preferred format.
- Complete ten (10), 4x5, large format, black and white photographs of the resource pursuant to NPS standards.
- Prepare HAER documentation for review by NPS and submittal to the Library of Congress
    - This requires archival quality paper, CDs, ink, printers, and photography materials.
- Consult with the Army Corps of Engineers
- Consult with National Park Service staff for review and submittal of the documentation.

Assumptions

This scope assumes:

- Three (3) copies of fifteen (15) 4x5 large format photographs and negatives. If additional negatives or photographs are required a budget augment will be required.

SCHEDULE

Task	Timeline to complete from NTP
HAER completed for NPS review	8 weeks
NPS review	12 weeks
Michael Baker Response to Comments and preparation for final submittal	16 weeks

COST

$12,270

CITY OF ST. HELENA

RESOLUTION NO. 2016-51

APPROVING A PROFESSIONAL SERVICES AGREEMENT WITH MICHAEL BAKER INTERNATIONAL IN THE AMOUNT OF $461,813 FOR ENGINEERING SERVICES FOR THE UPPER YORK CREEK ECOSYSTEM RESTORATION PROJECT, CAPITAL IMPROVEMENT PROJECT W-26

RECITALS

A. The City has been working for several years to remove the Upper York Creek Dam and restore the York Creek streambed; and

B. City Staff conducted a competitive solicitation to attract highly qualified engineering consultants; and

C. Of the two proposals reviewed, Michael Baker International was scored in the top two; and

D. During the interview process Michael Baker International demonstrated the level of experience, competence, staffing, and other qualifications necessary for exceptional performance of the services required and described in the scope of work; and

E. The project is funded under Capital Improvement Project W-26.

RESOLUTION

NOW, THEREFORE, the City Council of the City of St. Helena resolves as follows:

1. The City Manager is authorized to execute the Professional Services Agreement with Michael Baker International in the amount of $461,813 for engineering service.

Approved at a Regular Meeting of the St. Helena City Council on April 26, 2016 by the following vote:

Mayor Galbraith: yes
Vice Mayor White: yes
Councilmember Crull: Yes
Councilmember Dohring: Absent
Councilmember Pitts: yes

APPROVED:

Alan Galbraith, Mayor

ATTEST:

Cindy Black, City Clerk

AGREEMENT FOR PROFESSIONAL SERVICES

THIS AGREEMENT, made and entered into on April 26, 2016 by and between the City of St. Helena, located in the County of Napa, State of California (City), and Michael Baker International (Consultant).

RECITALS:

A. City desires to employ Consultant to furnish professional services in connection with the project described as **Civil Engineering Services for Upper York Creek Ecosystem Restoration Project.**

B. Consultant has represented that Consultant has the necessary expertise, experience, and qualifications to perform the required duties.

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

SECTION 1 – BASIC SERVICES

Consultant agrees to perform the services set forth in **Exhibit A, "Scope of Services"** and made part of this Agreement.

SECTION 2 – ADDITIONAL SERVICES

Consultant shall not be compensated for any services rendered in connection with its performance of this Agreement which are in addition to or outside of those set forth in this Agreement or **Exhibit A, "Scope of Services"**, unless such additional services and compensation are authorized in advance and in writing by the City Council or City Manager of the City.

SECTION 3 – TIME FOR COMPLETION

The time for completion of services shall be as identified in **Exhibit A, "Scope of Services"**."

SECTION 4 – COMPENSATION AND METHOD OF PAYMENT

A. Subject to any limitations set forth in this Agreement, City agrees to pay consultant the amount specified in **Exhibit B, "Compensation"**, attached hereto and made a part hereof. Total compensation shall not exceed $461,813.00, unless additional compensation is approved in accordance with Section 2.

B. Consultant shall furnish to City an original invoice for all work performed and expenses incurred during the preceding month. The invoice shall detail charges by the following categories if applicable: labor (by sub-category), travel, materials, equipment, supplies, subconsultant contracts, and miscellaneous expenses. City shall independently review each invoice submitted to determine whether the work performed and expenses incurred are in

compliance with the provisions of this Agreement. If no charges or expenses are disputed, the invoice shall be approved and City will use its best efforts to cause Consultant to be paid within 30 days of receipt of invoice. If any charges or expenses are disputed by City, the original invoice shall be returned by City to Consultant for correction and resubmission. If the City reasonably determines, in its sole judgment, that the invoiced charges and expenses exceed the value of the services performed to date and that it is probable that the Agreement will not be completed satisfactorily within the contract price, City may retain all or a portion of the invoiced charges and expenses. Within thirty (30) days of satisfactory completion of the project, City shall pay the retained amount, if any, to Consultant.

C. Payment to the Consultant for work performed pursuant to this Agreement shall not be deemed to waive any defects in work performed by Consultant.

SECTION 5 – STANDARD OF PERFORMANCE

Consultant represents and warrants that it has the qualifications, experience and facilities necessary to properly perform the services required under this Agreement in a thorough, competent and professional manner. Consultant shall at all times faithfully, competently and to the best of its ability, experience and talent, perform all services described herein. In meeting its obligations under this Agreement, Consultant shall employ, at a minimum, generally accepted standards and practices utilized by persons engaged in providing services similar to those required of Consultant under this Agreement.

SECTION 6 – INSPECTION AND FINAL ACCEPTANCE

City may inspect and accept or reject any of Consultant's work under this Agreement, either during performance or when completed. City shall reject or finally accept Consultant's work within sixty (60) days after submitted to City, unless the parties mutually agree to extend such deadline. City shall reject work by a timely written explanation, otherwise Consultant's work shall be deemed to have been accepted. City's acceptance shall be conclusive as to such work except with respect to latent defects and fraud. Acceptance of any of Consultant's work by City shall not constitute a waiver of any of the provisions of this Agreement including, but not limited to, the sections pertaining to indemnification and insurance.

SECTION 7 – INSURANCE REQUIRED

Consultant shall procure and maintain for the duration of the contract insurance against claims for injuries to persons or damages to property which may arise from or in connection with the performance of the work hereunder by the Consultant, its agents, representatives, or employees, as indicated:

A. Minimum Scope of Insurance. Coverage shall be at least as broad as:
   1. Insurance Services Office Commercial General Liability coverage (occurrence form CG 0001).
   2. Insurance Services Office form number CA 0001 (Ed. 1/87) covering Automobile Liability, code 1 (any auto).
   3. Workers' Compensation insurance as required by the State of California and Employer's Liability Insurance.

B. Minimum Limits of Insurance. Consultant shall maintain limits no less than:

1. General Liability: $2,000,000 per occurrence for bodily injury, personal injury and property damage including operations, products and completed operations, as applicable. If Commercial General Liability Insurance or other form with a General Liability Insurance or other form with a general aggregate limit is used, either the general aggregate limit shall apply separately to this project/location or the general aggregate limit shall be twice the required occurrence limit.
2. Automobile Liability: $2,000,000 per accident for bodily injury and property damage.
3. Employer's Liability: $2,000,000 per accident for bodily injury or disease.

C. Professional Liability Insurance. When Consultant under this Agreement is duly licensed under California Business and Professions Code as an architect, landscape architect, professional engineer, or land surveyor ("design professional"), Consultant shall maintain at least $2,000,000 of professional liability insurance.

D. Excess Limits. If Consultant maintains higher limits than the minimums shown above, City requires and shall be entitled to coverage for the higher limits maintained by Consultant. Any available insurance proceeds in excess of the specified minimum limits of insurance and coverage shall be available to the City.

E. Primary Coverage. For any claims related to this contract the Consultants insurance coverage shall be primary insurance as respects to City, its officers, officials, employees and volunteers. Any insurance or self-insurance maintained by the City, its officers, officials, employees, or volunteers shall be excess of Consultants insurance and shall not contribute with it.

F. Deductibles and Self-Insured Retentions. Any deductibles or self-insured retentions of $25,000 or greater must be declared to and approved by the City.

G. Other Insurance Provisions. The commercial general liability and automobile liability policies are to contain, or be endorsed to contain, the following provisions:

1. The City, its agent, officers, officials, employees, and volunteers are to be covered as additional insured as respects: liability arising out of work or operations performed by the Consultant or Consultant's subconsultants; or automobile owned, leased, hired or borrowed by the Consultant.
2. For any claims related to Consultant's conduct while performing the work of this project, the Consultant's insurance coverage shall be primary insurance as respects the City, its agents, officers, officials, employees and volunteers. Any insurance or self-insurance maintained by the City, its agents, officers, officials, employees or volunteers shall be excess of the Consultant's insurance and shall not contribute with it.
3. Each insurance policy required by this clause shall be endorsed to state that coverage shall not be cancelled by either party, except after thirty (30) days prior written notice by certified mail, return receipt requested, has been given to the City.

4. Coverage shall not extend to any indemnity coverage for the active negligence of the additional insured in any case where an agreement to indemnify the additional insured would be invalid under Subsection (b) of Section 2782 of the Civil Code.

H. Waiver of Subrogation. The workers compensation policy is to be endorsed with a waiver of subrogation. The insurance company, in its endorsement, agrees to waive all rights of subrogation against the City, its agents, officers, officials, employees and volunteers for losses paid under the terms of this policy which arises from the work performed by the named insured for the City.

I. The Acceptability of Insurers. Insurance is to be placed with insurers with a current A.M. Best's rating of no less than A: VII, unless otherwise acceptable to the City.

J. Verification of Coverage. Consultant shall furnish the City with original certificates and amendatory endorsements effecting coverage required by this clause. The endorsements should be on forms provided by the City or on forms that conform to City requirements. All certificates and endorsements are to be received and approved by the City before work commences. The City reserves the right to require complete, certified copies of all required insurance policies, including endorsements effecting the coverage required by these specifications at any time.

SECTION 8 – INDEMNIFICATION

A. Consultant shall indemnify and hold harmless City, its agents, officers, officials, employees, and volunteers from any and all claims, demands, suits, loss, damages, injury, and/or liability (including any and all costs and expenses in connection therewith), incurred by reason of any negligent or otherwise wrongful act or omission of Consultant, its officers, agents, employees and subcontractors, or any of them, under or in connection with this Agreement; and Consultant agrees at its own cost, expense and risk to defend any and all claims, actions, suits, or other legal proceedings brought or instituted against City, its agents, officers, officials, employees and volunteers, or any of them, arising out of such negligent or otherwise wrongful act or omission, and to pay and satisfy any resulting judgments.

B. When Consultant under this Agreement is duly licensed under California Business and Professions Code as an architect, landscape architect, professional engineer, or land surveyor ("design professional"), the provisions of this section regarding Consultant's duty to defend and indemnify apply only to claims that arise out of or relate to the negligence, recklessness, or willful misconduct of the design professional.

C. If any action or proceeding is brought against Indemnitees by reason of any of the matters against which Consultant has agreed to indemnify Indemnitees as provided above, Consultant, upon notice from City, shall defend Indemnitees at Consultant's expense by counsel acceptable to City, such acceptance not to be unreasonably withheld. Indemnitees need not have first paid for any of the matters to which Indemnitees are entitled to Indemnification in order to be so indemnified. The insurance required to be maintained by Consultant shall ensure Consultant's obligations under this section, but the limits of such insurance shall not limit the liability of Consultant hereunder. The provisions of this section shall survive the expiration or earlier termination of this Agreement.

D. The provisions of this section do not apply to claims to the extent occurring as a result of the City's sole negligence or willful acts or misconduct.

SECTION 9 – INDEPENDENT CONTRACTOR STATUS

A. Consultant is and shall at all times remain a wholly independent contactor and not an officer, employee or agent of City. Consultant shall have no authority to bind City in any manner, nor to incur an obligation, debt or liability of any kind on behalf of or against City, whether by contract or otherwise, unless such authority is expressly conferred under this Agreement or is otherwise expressly conferred in writing by City.

B. The personnel performing the services under this Agreement on behalf of Consultant shall at all times be under Consultant's exclusive direction and control. Neither City, nor any elected or appointed boards, officers, officials, employees or agents of City, shall have control over the conduct of Consultant or any of Consultant's officers, employees or agents, except as set forth in this Agreement. Consultant shall not at any time or in any manner represent that Consultant or any of Consultant's officers, employees or agents are in any manner officials, officers, employees or agents of City.

C. Neither Consultant, nor any of Consultant's officers, employees or agents, shall obtain any rights to retirement, health care or any other benefits which may otherwise accrue to City's employees. Consultant expressly waives any claim Consultant may have to any such rights.

SECTION 10 – CONFLICTS OF INTEREST

A. Consultant covenants that neither it, nor any officer or principal of its firm, has or shall acquire any interest, directly or indirectly, which would conflict in any manner with the interests of City or which would in any way hinder Consultant's performance of services under this Agreement. Consultant further covenants that in the performance of this Agreement, no person having any such interest shall be employed by it as an officer, employee, agent, or subcontractor without the express written consent of the City Manager. Consultant agrees to at all times avoid conflicts with the interests of City in the performance of this Agreement.

B. City understands and acknowledges that Consultant is, as of the date of execution of this Agreement, independently involved in the performance of non-related services for other governmental agencies and private parties. Consultant is aware of any stated position of City relative to such projects. Any future position of City on such projects shall not be considered a conflict of interest for purposes of this section.

SECTION 11 – OWNERSHIP OF DOCUMENTS

A. All original maps, models, designs, drawings, photographs, studies, surveys, reports, data, notes, computer files, files and other documents prepared, developed or discovered by Consultant in the course of providing any services pursuant to this Agreement shall become the sole property of City and may be used, reused or otherwise disposed of by City without the permission of the Consultant. When requested by City, but no later than three years after project

completion, Consultant shall deliver to City all such original maps, models, designs, drawings, photographs, studies, surveys, reports, data, notes, computer files, files and other documents.

B. All copyrights, patents, trade secrets, or other intellectual property rights associated with any ideas, concepts, techniques, inventions, processes, improvements, developments, works of authorship, or other products developed or created by Consultant during the course of providing services (collectively the "Work Product") shall belong exclusively to City. The Work Product shall be considered a "work made for hire" within the meaning of Title 17 of the United States Code. Without reservation, limitation, or condition, Consultant hereby assigns, at the time of creation of the Work Products, without any requirement of further consideration, exclusively and perpetually, any and all right, title, and interest Consultant may have in the Work Product throughout the world, including without limitation any copyrights, patents, trade secrets, or other intellectual property rights, all rights of reproduction, all rights to create derivative works, and the right to secure registrations, renewals, reissues, and extensions thereof.

SECTION 12 – CONFIDENTIAL INFORMATION; RELEASE OF INFORMATION

A. All information gained or work product produced by Consultant in performance of this Agreement shall be considered confidential, unless such information is in the public domain or already known to Consultant. Consultant shall not release or disclose any such information or work product to persons or entities other than City without prior written authorization from the City Manager, except as may be required by law.

B. Consultant, its officers, employees, agents or subcontractors, shall not, without prior written authorization from the City Manager or unless requested by the City Attorney of City, voluntarily provide declarations, letters of support, testimony at depositions, response to interrogatories or other information concerning the work performed under this Agreement. Response to a subpoena or court order shall not be considered "voluntary" provided consultant gives City notice of such court order or subpoena.

C. If Consultant, or any officer, employee, agent or subcontractor of Consultant, provides any information or work product in violation of this Agreement, then City shall have the right to reimbursement and indemnity from Consultant for any damages, costs and fees, including attorneys fees, caused by or incurred as a result of Consultant's conduct.

D. Consultant shall promptly notify City should Consultant, its officers, employees, agents or subcontractors be served with any summons, complaint, subpoena, notice of deposition, request for documents, interrogatories, request for admissions or other discovery request, court order or subpoena from any party regarding this Agreement and the work performed thereunder. City retains the right, but has no obligation, to represent Consultant or be present at any deposition, hearing or similar proceeding. Consultant agrees to cooperate fully with City and to provide City with the opportunity to review any response to discovery requests provided by Consultant. However, this right to review any such response does not imply or mean the right by City to control, direct, or rewrite such response.

SECTION 13 – SUSPENSION OF WORK

City may, at any time, by ten (10) days written notice suspend further performance by Consultant. All suspensions shall extend the time schedule for performance in a mutually satisfactory manner and Consultant shall be paid for services performed and reimbursable expenses incurred prior to the suspension date.

SECTION 14 – COMPLIANCE WITH LAW

Consultant shall keep itself informed of and comply with all applicable federal, state and local laws, statutes, codes, ordinances, regulations and rules in effect during the term of this Agreement. Consultant shall obtain any and all licenses, permits and authorizations necessary to perform the services set forth in this Agreement. Neither City, nor any elected or appointed boards, officers, officials, employees or agents of City, shall be liable, at law or in equity, as a result of any failure of Consultant to comply with this section.

SECTION 15 – COMPLIANCE WITH CIVIL RIGHTS

During the performance of this contract, Consultant agrees as follows:

A. Equal Employment Opportunity. In connection with the execution of this Agreement, Consultant shall not discriminate against any employee or applicant for employment because of race, religion, color, ancestry, age, sexual orientation, physical handicap, medical condition, marital status, sex, or national origin. Such actions shall include, but not be limited to, the following: employment, promotion, upgrading, demotion, or transfer; recruitment or recruitment advertising; layoff or termination; rate of pay or other forms of compensation; and selection for training including apprenticeship.

B. Nondiscrimination Civil Rights Act of 1964. Consultant will comply with all federal regulations relative to nondiscrimination to federally-assisted programs.

C. Solicitations for Subcontractors including Procurement of Materials and Equipment. In all solicitations, either by competitive bidding or negotiations, made by Consultant for work to be performed under a subcontract, including procurement of materials or leases of equipment, each potential subcontractor, supplier, or lessor shall be notified by Consultant of Consultant's obligations under this Agreement and the regulations relative to nondiscrimination.

SECTION 16 – RECORDS

A. Records of Consultant's direct labor costs, payroll costs, and reimbursable expenses pertaining to this project covered by this Agreement will be kept on a generally recognized accounting basis and made available to City if and when required for a period of up to 3 years from the date of Consultant's final invoice.

B. Consultant's records and design calculations will be available for examination and audit if and as required. The cost of any reproductions shall be paid by City.

SECTION 17 – COOPERATION BY CITY

All public information, data, reports, records, and maps as are existing and available to City as public records, and which are necessary for carrying out the work as outlined in the Exhibit A, "Scope of Services", shall be furnished to Consultant in every reasonable way to facilitate, without undue delay, the work to be performed under this Agreement.

SECTION 18 – NOTICES

All notices required or permitted to be given under this Agreement shall be in writing and shall be personally delivered, or sent by facsimile or first class mail, addressed as follows:

To City:
City Manager
1480 Main Street
St. Helena, California 94574

To Consultant:
Michael Baker International
2729 Prospect Park Drive, Suite 220
Rancho Cordova, CA 95670

Notice shall be deemed effective on the date personally delivered or transmitted by facsimile, or, if mailed, three (3) days after deposit in the custody of the U.S. Postal Service.

SECTION 19 – TERMINATION

A. City may terminate this Agreement, with or without cause, at any time by giving ten (10) days written notice of termination to Consultant. If such notice is given, Consultant shall cease immediately all work in progress.

B. If either Consultant or City fail to perform any material obligation under this Agreement, then, in addition to any other remedies, either Consultant, or City may terminate this Agreement immediately upon written notice.

C. Upon termination of this Agreement by either Consultant or City, all property belonging to City which is in Consultant's possession shall be delivered to City. Consultant shall furnish to City a final invoice for work performed and expenses incurred by Consultant, prepared as set forth in this Agreement.

SECTION 20 – ATTORNEY FEES

If litigation or other proceeding is required to enforce or interpret any provision of this Agreement, the prevailing party in such litigation or other proceeding shall be entitled to an award of reasonable attorneys' fees, costs and expenses, in addition to any other relief to which it may be entitled. In addition, any legal fees, costs and expenses incurred to enforce the provisions of this Agreement shall be reimbursed to the prevailing party.

SECTION 21 – ENTIRE AGREEMENT

This Agreement, including the attached Exhibits, is the entire, complete, final and exclusive expression of the parties with respect to the matters addressed therein and supersedes all other agreements or understandings, whether oral or written, or entered into between Consultant and City prior to the execution of this Agreement. No statements, representations or other agreements, whether oral or written, made by any party which are not embodied herein shall be valid and binding unless in writing duly executed by the parties or their authorized representatives.

SECTION 22 – SUCCESSORS AND ASSIGNS

This Agreement shall be binding on the heirs, executors, administrators, successors and assigns of the parties. However, this Agreement shall not be assigned by Consultant without written consent of the City.

SECTION 23 – CONTINUITY OF PERSONNEL

Consultant shall make every reasonable effort to maintain the stability and continuity of Consultant's staff assigned to perform the services required under this Agreement. Consultant shall notify City of any changes in Consultant's staff assigned to perform the services required under this Agreement, prior to any such performance.

SECTION 24 – DEFAULT

In the event that Consultant is in default under the terms of this Agreement, the City shall not have any obligation or duty to continue compensating Consultant for any work performed after the date of default and may terminate this Agreement immediately by written notice to Consultant.

SECTION 25 – WAIVER

Waiver by any party to this Agreement of any term, condition, or covenant of this Agreement shall not constitute a waiver of any other term, condition, or covenant. Waiver by any party of any breach of the provisions of this Agreement shall not constitute a waiver of any other provision, nor a waiver of any subsequent breach or violation of any provision of this Agreement. Acceptance by City of any work or services by Consultant shall not constitute a wavier of any of the provisions of this Agreement.

SECTION 26 – LAW TO GOVERN; VENUE

This Agreement shall be interpreted, construed and governed according to the laws of the State of California. In the event of litigation between the parties, venue in state trial courts shall lie exclusively in the County of Napa. In the event of litigation in a U.S. District Court, venue shall lie exclusively in the Northern District of California, in San Francisco.

SECTION 27 – SEVERABILITY

If any term, condition or covenant of this Agreement is declared or determined by any court of competent jurisdiction to be invalid, void or unenforceable, the remaining provisions of

this Agreement shall not be affected thereby and the Agreement shall be read and construed without the invalid, void or unenforceable provision(s).

SECTION 28 – SPECIAL PROVISIONS

This Agreement is subject to the following special provisions: none.

IN WITNESS WHEREOF, the parties hereto have accepted, made, and executed this Agreement upon the terms, conditions, and provisions above stated, the day and year first above written.

Consultant:

By: _____
Name: Kevin Gustorf
Title: Vice President

City:

By: _____
Name: Jennifer Phillips
Title: City Manager

Approved as to Form:

By: _____
Name: Thomas B. Brown
Title: City Attorney

Work Plan / Scope of Work

Michael Baker has carefully reviewed the RFP and evaluated the available reports/studies on this project to provide the following scope of services for the final design and permitting of the Upper York Creek Ecosystem Restoration Project. The Michael Baker team has developed this recommended scope of work to address the key issues and challenges and implement a comprehensive technical work plan to complete the PS&E and obtain the necessary approvals for project construction.

Task 1: Technical Studies and Project Refinement

Michael Baker will hold a kickoff meeting to commence the project with the City and project stakeholders. Michael Baker will prepare the meeting agenda and meeting minutes. The meeting will be used to initiate the project and discuss schedules, communications, expectations, critical issues, and design criteria.

Deliverables: *Meeting agenda and meeting minutes*

Michael Baker will obtain and review existing available technical studies from the City, County, USACE, FEMA, and other known sources related to the project improvements. The information collected will include hydrology and hydraulics studies and computer models, environmental documents, geotechnical studies, available geology and hydrogeology information, and future proposed development projects, as well as as-built plans and the City's GIS database for existing facilities along the project reach.

Deliverables: *Summary of existing data pertaining to the project improvements*

Michael Baker will compile supplemental topographic mapping by conventional field methods for final design purposes. Topography shall include locations and elevations of features not accurately defined by the existing project topographic mapping. The supplemental mapping shall include spot elevations, trees, top/toe of slopes, surface utilities, existing structures, and areas of proposed construction spot points. This task is based on 40 hours of field survey.

Deliverables: *Supplemental field topographic mapping*

Michael Baker International has teamed with WRECO to perform the Geotechnical Investigation and Analysis for the Proposed Project.

Field Investigation and Laboratory Testing

WRECO proposes to perform a field investigation to better characterize the subsurface information at the Project site. The field investigation will consist of one soil boring using hollow-stem auger drilling techniques to a completion depth of up to 40 feet below existing grade for the purpose of obtaining disturbed representative soil samples to better characterize the subsurface conditions. Representative soil samples at 2 5 foot intervals will be visually classified using the Unified Soil Classification System and retained for later laboratory testing. Borings will be presented on a boring location plan, and the soil descriptions and summary of the laboratory testing results will be presented on Logs of Borings.

Geotechnical Engineering Study Report

WRECO will prepare a Geotechnical Engineering Study Report for the proposed slope repair. This engineering study will contain the following information and recommendations:

- A Project summary and description of the scope of work performed for the Project. A discussion of the regional and local geology as it pertains to the Project.
- A summary of the identified site soils, summary of the laboratory testing results, and Logs of Borings with the observed soils, groundwater, and laboratory soil testing results.
- A discussion of where the groundwater source may be and methods for further evaluation and mitigation measures.
- A discussion of the regional seismology and seismic design parameters for the proposed Project site in accordance with the latest California Building Code and ASCE-7.
- Contract language for the bidding phase of the Project regarding the slope repair wall construction

Deliverables: *Boring Location Plan and Logs of Borings, Draft and Final Geotechnical Engineering Study Report*

Michael Baker will provide engineering services to perform the updated hydrology, hydraulic, and scour analyses for the development and analysis of the final design recommendations. The design hydrology will use the flow rates developed in the previous studies from the USACE and Prunuske Chatham, Inc. (PCI). Updated channel hydraulic models will be prepared to reflect the proposed grading for the entire project length to develop the optimal configuration and evaluate any potential modifications to the current (65%) plans. Channel geometric characteristics, such as conveyance cross-sections, roughness coefficients, confluences, and encroachments, will be analyzed based

on site conditions, physical constraints and the proposed plans. A geomorphic assessment and scour analysis will be prepared to determine the final design requirements for the stream profile and structures.

***Deliverables**: Hydrology, hydraulics, and sedimentation calculations*

Michael Baker shall prepare a design evaluation and value engineering analysis to determine the most viable project improvements that are acceptable to the City and the stakeholder agencies. The recommended improvements in PCI's 65% plans will be evaluated, taking into consideration a risk assessment, additional technical studies and base data, environmental constraints, and a value-engineering analysis to determine if any potential modifications can improve the proposed project. The analysis will include the evaluation of the current geometric design plan and consider hydraulic effectiveness, preliminary construction costs, sedimentation and scour, environmental impacts and mitigation requirements, traffic control, constructability, geotechnical issues, and other intangible impacts. Michael Baker shall review each project element for value engineering, constructability, and likelihood of success in restoring and maintaining fish passage. A preliminary consultation with NOAA fisheries will be initiated to ensure agency approval on any potential design changes.

***Deliverables:** Value engineering recommendations and project modifications*

Michael Baker will prepare a preliminary design report which will present and document the results of the technical studies and value engineering analysis. The report will include text, graphics, preliminary plan layouts, value engineering analysis discussion, and recommendations for the final project design. Technical analysis will be summarized with detailed analysis provided as an appendix.

***Deliverables:** Draft and final preliminary design reports*

Michael Baker will develop updated 65% design plans for the project from the previous plans prepared by PCI, incorporating the results of the design evaluation and value engineering analysis. The plans shall be updated from the CAD files from the current PCI plans. It is assumed that the PCI CAD file will be provided to Michael Baker. The plans will include facility sizes, cross sections, construction details, preliminary structural requirements, hydraulic profiles, and landscape plans. The updated 65% plans shall clearly delineate and define the project improvements to evaluate conformance with the environmental documents and to prepare regulatory permits. A design review meeting with the

City will be held with the submittal of the plans. The review meeting shall include a discussion of the following information:

- Updated technical studies
- Results of design evaluation and value engineering study
- Project elements and modifications recommended for final design
- Project schedule and estimated construction cost

Deliverables: *Updated 65% improvement plans; design review meeting*

Based on the updated improvement plans, Michael Baker will determine the required amount of excess material to be disposed of off-site. The team will evaluate the three sites identified in the EIR to determine their suitability in receiving the excess material. The Spring Mountain Vineyard site is a private entity and a determination will be made in consultation with the City if this site should be pursued. Assuming that Spring Mountain is not a viable site, an evaluation of the Lower York Creek Reservoir (LYCR) site will be performed. Consultation with the Clover Flat Landfill will also be performed to determine if the landfill can accept additional material. Modifications to the stream restoration grading will also be considered to identify changes that would reduce the amount of excess material to a quantity that could be handled by the LYCR and Clover Flat Landfill sites. Potential alternatives will be developed considering the cost and environmental impacts. The alternatives analysis will be discussed with the City to identify a preferred solution.

Michael Baker will prepare a preliminary grading plan for the recommended soil disposal site. For the purposes of this scope and fee it is assumed that the remaining excess material will be disposed of at the LYCR site. The plans shall be updated from the CAD files from the current PCI plans. The preliminary grading plans will include plan sheets at 1"=40' scale utilizing the compiled base mapping. The plans will also include typical cross sections, utility locations/conflicts, and ROW information.

Deliverables: *Soil site analysis, preliminary grading plans*

Phase 2: Final Design and Construction Documents (65% – To 100% Plans)

Michael Baker will continue to prepare restoration improvement plans to the 95% completion level. The plans will be adjusted to reflect comments on the 65% design and feedback from the design review meeting. The plans shall be updated to include all features, hydraulic data and HGLs, and structural details. The plan set shall include all plan sheets anticipated for the final drawings including title and note sheets, plan and profiles, landscape plans, structural details, and miscellaneous detail sheets. The plans shall include the detailed information as requested in the RFP and in accordance with City standards.

Deliverables: *95% channel improvement plans*

Michael Baker will prepare the technical provisions section of the construction documents in accordance with the format requested by City. A schedule of bid items will be developed with associated quantities and cost estimate.

Deliverables: *Technical provisions; bid schedule and quantities; cost estimate*

Michael Baker will prepare structural sections, details, and calculations associated with the existing concrete structure modifications and tie-back system required for the project design. Anticipated structural drawings include typical details and general notes, spillway and slope structural sections, and miscellaneous details. Calculations will utilize geotechnical design values provided by the project geotechnical engineer as well as in-house computer programs for analysis. Calculations will utilize City-approved methods for analysis and be in a format to be checked by City staff.

Deliverables: *Structural design report*

Michael Baker will prepare a final basis of design report to support the design of the recommended improvements. This engineering analysis will provide verification of the hydraulic operation for the proposed facilities and become the technical engineering basis of the final design. The channel hydraulics will be updated from the preliminary design report to reflect any modifications to the channel configuration.

Deliverables: *Final basis of design report*

Michael Baker will prepare a final field check of the plans, and complete final plans, specifications, and estimates to incorporate any changes in site conditions and address comments on the 95% submittal.

Deliverables: *Final improvement plans (mylar); bid schedule and quantities; technical provisions*

Michael Baker will provide personnel at the City's request to provide support during construction. Our restoration practitioners will be made available to assist in project implementation. It is assumed 8 hours per week will be required to assist the contractor in the field during construction. It is assumed for the purposes of this proposal the duration of construction will occur between April and November, 2017. Therefore 270 hours of field time have been allocated for this task.

The Project's Final EIR included as a required mitigation measure development of a "causative factors analysis and an implementation program to monitor, maintain, and/or improve channel capacity and promote sediment transport". Therefore Michael Baker will develop a Monitoring and Management Program (MMP) to meet these requirements.

Michael Baker will provide an initial survey for use in establishing a baseline condition when evaluating sediment deposition. Michael Baker will provide surveyed cross sections at each bridge or culvert from the existing spillway to the confluence of York Creek with the Napa River. Four cross sections will be taken at each bridge – at the upstream face, downstream face, and at the approximate expansion and contraction limits for each bridge so that the cross sections may be used in the future for hydraulic modeling. We will survey soffit elevations, abutment locations, and roadway elevations. Between each structure, cross sections will be taken at approximately 500 foot intervals. Figure 1 shows approximate locations of survey points to be taken with the initial survey.

Directly following completion of the restoration, Michael Baker will produce an as-built survey. This survey will be used to confirm that the project was built to design standards and will serve as baseline data for future monitoring. Michael Baker will compare this data to the design criteria and produce a brief report summarizing any implementation adjustments or discrepancies.

Within the MMP, Michael Baker will develop monitoring requirements consistent with the goals outlined in the EIR. We will recommend inspection of the channel at a defined interval, likely once per year for five years. More frequent inspections may be necessary if stability concerns have previously been noted, or there have been frequent/intense storm events. An inspection may be necessary immediately following a significant storm event (bankfull or higher) if the event occurs soon after completion of the project and, before bank vegetation has been established in accordance with the plans and specifications.

The MMP will require site inspections to monitor:

- **Vertical Instability** Any indication of incision or headcutting should be noted and immediate corrective action recommended As-built plans will provide the design and construction bankfull depth at riffles. This depth will be verified upon inspection and should not deviate from the post-construction depth by a factor greater than 1.3 or other approved metric. A subsequent longitudinal profile survey may not be required during routine stability monitoring, unless negative changes have been identified.

- **Lateral Instability** - Any observation of changes in meander geometry such as channel widening, channel migration, or lateral erosion should be noted with recommended corrective action. For most projects, it is preferred that the channel develops some degree of narrowing and adjustment through depositional processes during the first few years as vegetation becomes established.

- **Structural Integrity** - In-stream structures are specifically designed to reduce bank shear stresses, maintain a stable plan and profile, and provide habitat. Any indication of structure failure such as undermining of structures, erosion between structures and the bank, piping, etc. should be noted along with an immediate corrective action. It should also be noted if structure instability is considered insignificant and is not likely to result in further instability. Such areas should be monitored closely in subsequent monitoring years.

- **Vegetation Viability** - For many natural channel design projects, native buffer vegetation along the channel bank and riparian corridor is critical to the stability of the stream. Any indication that vegetation planting is not establishing in accordance with the approved plans and specifications should be noted and recommendations made for corrective action This includes an overabundance of vegetation within the bankfull channel such as on riffles that may cause bank instability.

- **Sediment Deposition** - Based on review of the site, monitoring locations will be determined at and downstream of the proposed Project site in order to evaluate sediment deposition at hydraulic structures such as bridges or other areas of constricted flow. The MMP will determine the extent of acceptable aggradation before additional analyses or restoration efforts are necessary.

Any observed changes should be evaluated to determine if they represent a movement toward a more unstable condition (e.g., down-cutting or erosion, increased bank height ratio) or a movement toward increased stability (e.g., settling, vegetative changes, deposition along the banks, decrease in width/depth ratio). The types, severity, and causes of changes will be documented Corrective actions will be defined and recommended with each inspection. The MMP will define actionable deficiencies and determine when mitigation measures are necessary Potential mitigation measures include onsite corrective actions, or additional analyses such as hydraulic modeling or sediment transport modeling

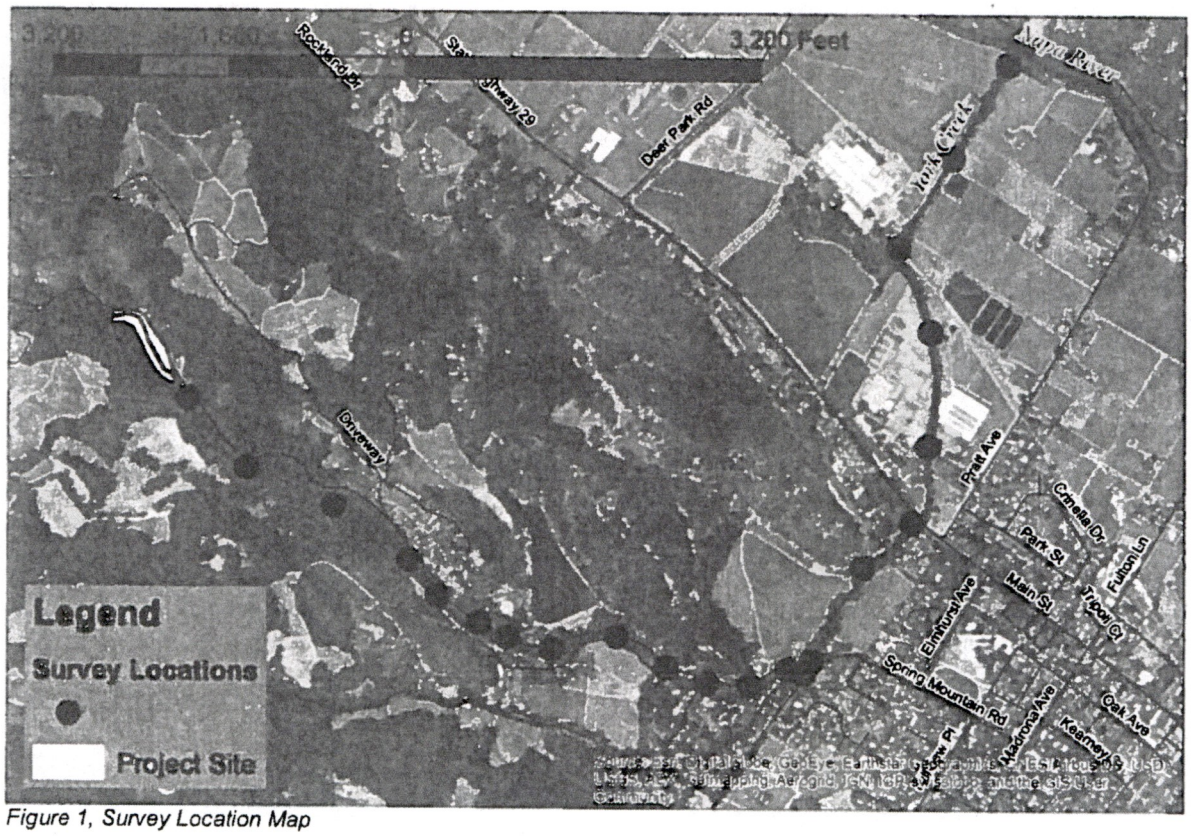


Figure 1, Survey Location Map

Recommended Corrective Action

Bed/Sediment	Bank	Structure	Vegetation
1. No Action	1. No Action	1. No Action	1. No Action.
2. Modify design	2. Repair matting and or reinstall live stakes.	2. Stabilize the structure with protective materials.	2. Replant bank and floodplain vegetation.
3. Remove debris or blockage	3. Grade banks to appropriate slope and reinstall matting and live stakes.	3. Reconstruct the unstable portion of structure.	3. Replant surrounding riparian buffer with trees/shrubs.
4. Protect the bed to prevent further degradation	4. Stabilize banks with bioengineering.	4. Move the structure to proper placement.	4. Place protective barrier around the vegetation.
5. Stabilize local sediment source.	5. Adjust design	5. Rebuild the structure.	5. Other
6. Other	6. Other	6. Other	

Figure 1. Potential Corrective Actions

Stream Restoration Monitoring Report

Site_____ Monitoring Year _____

Field Inspector: _____ Date _____

Problem Area Number_____ As-built Sheet Number _____

Station Number_____ Photo Number _____

Please choose from the guidance sheet on the reverse side for the following information.

Type of Failure: _____
_____

Severity: _____
_____

Cause of the Failure: _____
_____

Recommended Corrective Action: _____
_____

Additional comments about this problem area

Figure 2. Sample Stream Restoration Monitoring Report

Permitting and Environmental Compliance

Michael Baker will review previous jurisdictional delineations of waters of the United States (including wetlands) and waters of the State located within the boundaries of the project site. Findings of the review will be summarized in a report (for Agency approval) along with graphics that identify the boundaries of water within the project site that are:

1. Waters of the U.S;
2. Waters of the State; and/or
3 California Department of Fish and Wildlife (CDFW) jurisdiction under California Fish and Game Code 1600 et al.

Michael Baker will prepare a Joint Aquatic Resources Permit Application (JARPA) package for USACE, Regional Water Quality Control Board, and CDFW approval. This task includes one round of internal revisions. The deliverable for this task includes a draft (one copy of each application) and final (one copy of each application) to the City for file. One copy of each application will also be formally submitted in a three ring binder to the regulatory agencies.

In addition, Michael Baker will prepare two Biological Assessments. One Biological Assessment will evaluate effects of the project on California red-legged frog and will be used to facilitate the FSA Section 7 consultation with the USFWS. The other Biological Assessment will evaluate effects of the project on steelhead central California coastal ESU and will be used to facilitate the FSA Section 7 consultation with the NOAA Fisheries. Other species may be added to the Biological Assessments at the USACE's recommendation.

Michael Baker shall provide regulatory services for the processing of the regulatory applications through the USACE, Regional Board, CDFW, USFWS, and NOAA Fisheries. The processing shall include required correspondence or telephone calls with the reviewing staff related to the permit or points of clarification and coordination, if necessary. This task excludes Endangered Species Act Section 7 consultation with the USFWS.

As appropriate, Michael Baker will prepare applications for a County grading permit and National Pollution Discharge Elimination System construction permit.

As design is refined, Michael Baker will continually validate that design standards are within the analyses of the EIR for the Upper York Creek Ecosystem Restoration Project (State Clearinghouse No. 2006092096). Michael Baker will inform the City's engineer of any instance where variation may result in consequent CEQA actions. Michael Baker will prepare an EIR Addendum at final design if necessary, to provide environmental clearance necessary for design changes.

Project Management and Coordination

Michael Baker will manage project duties for the full project in order to ensure a cost-efficient, quality process. As the prime contractor, our staff will provide a suite of disciplines to effectively coordinate and communicate leading to design approval. This task includes overall project management, project schedule and maintenance, liaison with affected agencies, meeting leadership, progress monitoring, and maintenance of project files. Michael Baker will supervise, coordinate, monitor, and review design for conformance with agency standards, policies, and procedures.

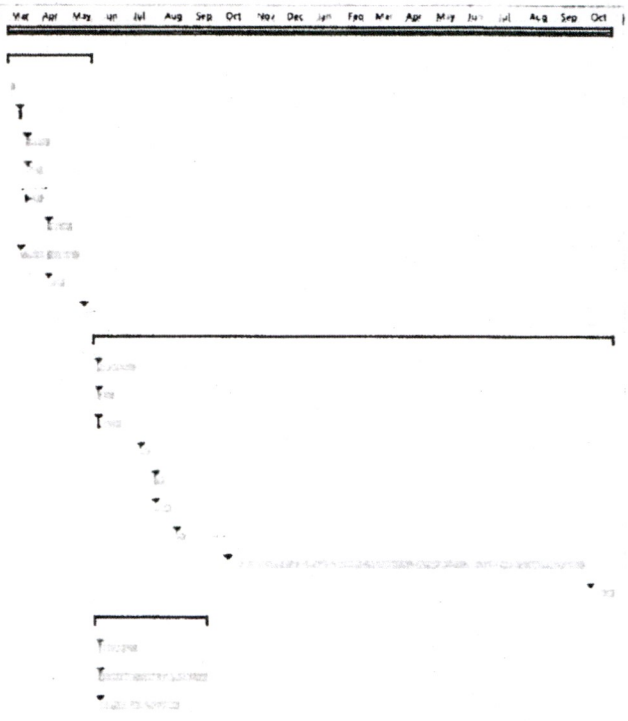
As a part of this task, Michael Baker shall coordinate and attend project meetings with the City, other agency stakeholders, and the landowners as necessary for the successful completion and approval of the project. For the purposes of this scope and fee, four meetings with the City and stakeholder are budgeted.

Deliverables: *Meeting attendance, agendas, and minutes; project schedules*

Project Schedule

The project schedule can be found on the following page

ID	Task Name	Duration	Start	Finish
1	**Project Management and Coordination**	**431 days**	**Tue 3/1/16**	**Tue 10/24/17**
2	**PHASE 1: TECHNICAL STUDIES AND PROJECT REFINEMENT**	**60 days**	**Tue 3/1/16**	**Mon 5/23/16**
3	Collect and Review Existing Plans and Reports	5 days	Tue 3/1/16	Mon 3/7/16
4	Supplemental Field Topographic Survey	5 days	Tue 3/8/16	Mon 3/14/16
5	Geotechnical Investigation and Analysis	20 days	Tue 3/15/16	Mon 4/11/16
6	Hydrology, Hydraulics, and Sedimentation Analysis	15 days	Tue 3/15/16	Mon 4/4/16
7	Design Evaluation and Value Engineering Analysis	10 days	Tue 3/22/16	Mon 4/4/16
8	Preliminary Design Report	21 days	Tue 4/5/16	Tue 5/3/16
9	Updated 65% Improvement Plans	45 days	Tue 3/8/16	Mon 5/9/16
10	Soil Disposal Site Evaluation and Preliminary Grading Plans	15 days	Tue 4/5/16	Mon 4/25/16
11	Agency review of 65% Design, PDR	10 days	Tue 5/10/16	Mon 5/23/16
12	**PHASE 2: FINAL DESIGN AND CONSTRUCTION DOCUMENTS (95% TO 100% PLANS)**	**371 days**	**Tue 5/24/16**	**Tue 10/24/17**
13	95% Channel Improvement Plans	30 days	Tue 5/24/16	Mon 7/4/16
14	Specifications and Cost Estimates	15 days	Tue 5/24/16	Mon 6/13/16
15	Structural Design Report	20 days	Tue 5/24/16	Mon 6/20/16
16	Agency Review of 95% submittal, Structural Design Report	10 days	Tue 7/5/16	Mon 7/18/16
17	Final Basis of Design Report	10 days	Tue 7/19/16	Mon 8/1/16
18	Final (100%) Improvement Plans	15 days	Tue 7/19/16	Mon 8/8/16
19	Agency Review	10 days	Tue 8/9/16	Mon 8/22/16
20	Construction Support	258 days	Tue 10/4/16	Tue 9/26/17
21	Lower York Creek Monitoring and Management Program	20 days	Wed 9/27/17	Tue 10/24/17
22	**PERMITTING AND ENVIRONMENTAL COMPLIANCE**	**80 days**	**Tue 5/24/16**	**Mon 9/12/16**
23	Delineation of Jurisdictional Waters	30 days	Tue 5/24/16	Mon 7/4/16
24	Preparation/Processing of Regulatory Agency Applications	80 days	Tue 5/24/16	Mon 9/12/16
25	Environmental Compliance and EIR Addendum	60 days	Tue 5/24/16	Mon 8/15/16



Project: schedule
Date: Thu 2/11/16

Task | Split | Milestone | Summary
Project Summary | Inactive Task | Inactive Milestone | Inactive Summary
Manual Task | Duration only | Manual Summary Rollup | Manual Summary
Start only | Finish only | External Tasks | External Milestone
Deadline | Progress | Manual Progress

EXHIBIT B, "COMPENSATION"

Professional Fees Estimation

[illegible]

Work Item Description	Principal	Professional Engineer	Technical Specialist	Project Manager	Biologist	Landscape Architect	GIS Analyst	Design Engineer	Assistant Eng.	Clerical & Intern	Environmental Analyst	Design Technician	3-Man Survey Crew	Subconsultant Fee	Fee Subtotals	Fee Hours	Task Fee	Task Hours
UPPER YORK CREEK ECOSYSTEM RESTORATION PROJECT																		
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
PHASE 1: TECHNICAL STUDIES AND PROJECT REFINEMENT																		
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PHASE 2: FINAL DESIGN AND CONSTRUCTION DOCUMENTS (50% TO 100% PLANS)																		
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
PERMITTING AND ENVIRONMENTAL COMPLIANCE																		
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TOTAL	79	[illegible]	[illegible]	473	[illegible]	[illegible]	73	[illegible]	[illegible]	6	[illegible]	[illegible]	[illegible]	[illegible]		2771	[illegible]	[illegible]