

# Big Chico Creek - Habitat Restoration and Fish Passage Improvement Project

## Project Information

1. **Proposal Title:**

Big Chico Creek - Habitat Restoration and Fish Passage Improvement Project

2. **Proposal applicants:**

Thomas J. Lando, City of Chico

3. **Corresponding Contact Person:**

Thomas J. Lando  
City of Chico  
P.O. Box 3420 Chico, CA 95927  
530 895-4803  
tlando@ci.chico.ca.us

4. **Project Keywords:**

**Endangered Species**  
**Fish Passage/Fish Screens**  
**Habitat Restoration, Instream**

5. **Type of project:**

Implementation\_Full

6. **Does the project involve land acquisition, either in fee or through a conservation easement?**

No

7. **Topic Area:**

Fish Passage

8. **Type of applicant:**

Local Agency

9. **Location - GIS coordinates:**

Latitude: 39.733

Longitude: -121.831

Datum:

**Describe project location using information such as water bodies, river miles, road intersections, landmarks, and size in acres.**

The project is located on Big Chico Creek within Bidwell Park in the City of Chico. It is approximately seven miles from the confluence of Big Chico Creek and the Sacramento River and approximately one-half mile downstream of the State Highway 99 crossing of Big Chico Creek.

**10. Location - Ecozone:**

3.3 Chico Landing to Colusa, 7.5 Big Chico Creek

**11. Location - County:**

Butte

**12. Location - City:**

Does your project fall within a city jurisdiction?

Yes

If yes, please list the city: Chico

**13. Location - Tribal Lands:**

Does your project fall on or adjacent to tribal lands?

No

**14. Location - Congressional District:**

California, 2nd

**15. Location:**

**California State Senate District Number: 1**

**California Assembly District Number: 3**

**16. How many years of funding are you requesting?**

2

**17. Requested Funds:**

a) Are your overhead rates different depending on whether funds are state or federal?

No

If no, list single overhead rate and total requested funds:

Single Overhead Rate: N/A. Using Consultant Services and Construction Contractor.

Total Requested Funds: 376,540

b) Do you have cost share partners already identified?

Yes

If yes, list partners and amount contributed by each:

<b>City of Chico (Committed from Safe Neighborhood Parks and Clean Water, Clean Air, and Coastal Protection Bond Act)</b>	<b>\$30,000</b>
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c) Do you have potential cost share partners?

**No**

d) Are you specifically seeking non-federal cost share funds through this solicitation?

No

If the total non-federal cost share funds requested above does not match the total state funds requested in 17a, please explain the difference:

18. **Is this proposal for next-phase funding of an ongoing project funded by CALFED?**

No

Have you previously received funding from CALFED for other projects not listed above?

**No**

19. **Is this proposal for next-phase funding of an ongoing project funded by CVPIA?**

**No**

Have you previously received funding from CVPIA for other projects not listed above?

No

20. **Is this proposal for next-phase funding of an ongoing project funded by an entity other than CALFED or CVPIA?**

Yes

If yes, identify project number(s), title(s) and funding source.

**One-Mile Dam Investigation of Alternatives    City of Chico**

**One-Mile Dam Habitat Restoration and Fish Passage Project,  
Construction Plans and Specifications**

**City of  
Chico**

**Please list suggested reviewers for your proposal. (optional)**

**Paul Ward**      **California Department of Fish and Game**      **530-895-5015**      **pward@dfg2.ca.gov**

**John Icanberry**      **U.S. Fish and Wildlife Service**      **209-946-6400, Ext. 306**      **jicanber@delta.dfg.ca.gov**

**21. Comments:**

**The proposed project targets specific actions identified in CDFG's "Restoring Central Valley Streams: A Plan for Action," 11/93 and the USFWS "Revised Draft Restoration Program, A Plan to increase Natural Production of Anadromous Fish in the Central Valley of California," 5/30/97.**

# Environmental Compliance Checklist

## Big Chico Creek - Habitat Restoration and Fish Passage Improvement Project

### 1. CEQA or NEPA Compliance

a) Will this project require compliance with CEQA?

Yes

b) Will this project require compliance with NEPA?

Yes

c) If neither CEQA or NEPA compliance is required, please explain why compliance is not required for the actions in this proposal.

### 2. If the project will require CEQA and/or NEPA compliance, identify the lead agency(ies). If not applicable, put "None".

CEQA Lead Agency: City of Chico

NEPA Lead Agency (or co-lead:) U.S. Fish & Wildlife Service

NEPA Co-Lead Agency (if applicable): N/A

### 3. Please check which type of CEQA/NEPA documentation is anticipated.

#### CEQA

-Categorical Exemption

Negative Declaration or Mitigated Negative Declaration

-EIR

-none

#### NEPA

-Categorical Exclusion

Environmental Assessment/FONSI

-EIS

-none

If you anticipate relying on either the Categorical Exemption or Categorical Exclusion for this project, please specifically identify the exemption and/or exclusion that you believe covers this project.

### 4. CEQA/NEPA Process

a) Is the CEQA/NEPA process complete?

No

If the CEQA/NEPA process is not complete, please describe the dates for completing draft and/or final CEQA/NEPA documents.

July 1, 2002

b) If the CEQA/NEPA document has been completed, please list document name(s):

5. **Environmental Permitting and Approvals** (*If a permit is not required, leave both Required? and Obtained? check boxes blank.*)

#### **LOCAL PERMITS AND APPROVALS**

Conditional use permit

Variance

Subdivision Map Act

Grading Permit

General Plan Amendment

Specific Plan Approval

Rezone

Williamson Act Contract Cancellation

Other

#### **STATE PERMITS AND APPROVALS**

Scientific Collecting Permit

CESA Compliance: 2081

CESA Compliance: NCCP

1601/03 Required

CWA 401 certification Required

Coastal Development Permit

Reclamation Board Approval

Notification of DPC or BCDC

Other

#### **FEDERAL PERMITS AND APPROVALS**

ESA Compliance Section 7 Consultation Required

ESA Compliance Section 10 Permit

Rivers and Harbors Act

CWA 404 Required

Other

#### **PERMISSION TO ACCESS PROPERTY**

Permission to access city, county or other local agency land.

Agency Name: City of Chico

Required, Obtained

Permission to access state land.

Agency Name:

Permission to access federal land.

Agency Name:

Permission to access private land.

Landowner Name:

**6. Comments.**

# Land Use Checklist

## Big Chico Creek - Habitat Restoration and Fish Passage Improvement Project

1. Does the project involve land acquisition, either in fee or through a conservation easement?

No

2. Will the applicant require access across public or private property that the applicant does not own to accomplish the activities in the proposal?

No

3. Do the actions in the proposal involve physical changes in the land use?

Yes

If you answered yes to #3, please answer the following questions:

- a) How many acres of land will be subject to a land use change under the proposal?

An area 12'x9' (.002 acres)

- b) Describe what changes will occur on the land involved in the proposal.

Blackberry bushes will be removed and a control building with a footprint of 12'x9' will be constructed.

- c) List current and proposed land use, zoning and general plan designations of the area subject to a land use change under the proposal.

Category	Current	Proposed (if no change, specify "none")
Land Use	Park/Recreation	None
Zoning	Park/Recreation	None
General Plan Designation	Park/Recreation	None

- d) Is the land currently under a Williamson Act contract?

No

- e) Is the land mapped as Prime Farmland, Farmland of Statewide Importance, Unique Farmland or Farmland of Local Importance under the California Department of Conservation's Farmland Mapping and Monitoring Program?

No

- f) Describe what entity or organization will manage the property and provide operations and maintenance services.

## **The City of Chico Park Department**

### **4. Comments.**

# **Conflict of Interest Checklist**

## **Big Chico Creek - Habitat Restoration and Fish Passage Improvement Project**

**Please list below the full names and organizations of all individuals in the following categories:**

- **Applicants listed in the proposal who wrote the proposal, will be performing the tasks listed in the proposal or who will benefit financially if the proposal is funded.**
- **Subcontractors listed in the proposal who will perform some tasks listed in the proposal and will benefit financially if the proposal is funded.**
- **Individuals not listed in the proposal who helped with proposal development, for example by reviewing drafts, or by providing critical suggestions or ideas contained within the proposal.**

**The information provided on this form will be used to select appropriate and unbiased reviewers for your proposal.**

**Applicant(s):**

**Thomas J. Lando, City of Chico**

**Subcontractor(s):**

**Are specific subcontractors identified in this proposal? No**

**Helped with proposal development:**

**Are there persons who helped with proposal development?**

**Yes**

**If yes, please list the name(s) and organization(s):**

**F. Borcalli    Borcalli & Associates, Inc., Consulting Engineers**

**Comments:**

# Budget Summary

## Big Chico Creek - Habitat Restoration and Fish Passage Improvement Project

Please provide a detailed budget for each year of requested funds, indicating on the form whether the indirect costs are based on the Federal overhead rate, State overhead rate, or are independent of fund source.

### Independent of Fund Source

Year 1												
Task No.	Task Description	Direct Labor Hours	Salary (per year)	Benefits (per year)	Travel	Supplies & Expendables	Services or Consultants	Equipment	Other Direct Costs	Total Direct Costs	Indirect Costs	Total Cost
1	Project Management				600		6030			6630.0		6630.00
2	Environmental Compliance				3500		34840			38340.0		38340.00
3	Construction									0.0		0.00
4	Construction Management									0.0		0.00
5	O&M Manual									0.0		0.00
6	Post Construction Performance Evaluation				1500	1000	11800			14300.0		14300.00
		0	0.00	0.00	5600.00	1000.00	52670.00	0.00	0.00	59270.00	0.00	59270.00

Year 2												
Task No.	Task Description	Direct Labor Hours	Salary (per year)	Benefits (per year)	Travel	Supplies & Expendables	Services or Consultants	Equipment	Other Direct Costs	Total Direct Costs	Indirect Costs	Total Cost
1	Project Management				900		7760			8660.0		8660.00
2	Environmental Compliance				400				1100	1500.0		1500.00
3	Construction						247600			247600.0		247600.00
4	Construction Management				3000	2000	39650			44650.0	1500	46150.00
5	O&M Manual					200	5720			5920.0	200	6120.00
6	Post Construction Performance Evaluation									0.0		0.00
		0	0.00	0.00	4300.00	2200.00	300730.00	0.00	1100.00	308330.00	1700.00	310030.00

<b>Year 3</b>												
<b>Task No.</b>	<b>Task Description</b>	<b>Direct Labor Hours</b>	<b>Salary (per year)</b>	<b>Benefits (per year)</b>	<b>Travel</b>	<b>Supplies &amp; Expendables</b>	<b>Services or Consultants</b>	<b>Equipment</b>	<b>Other Direct Costs</b>	<b>Total Direct Costs</b>	<b>Indirect Costs</b>	<b>Total Cost</b>
1	Project Management				100		1120			1220.0		1220.00
2	Environmental Compliance									0.0		0.00
3	Construction									0.0		0.00
4	Construction Management									0.0		0.00
5	O&M Manual									0.0		0.00
6	Post Construction Performance Evaluation				2000	1000	33020			36020.0		36020.00
		0	0.00	0.00	2100.00	1000.00	34140.00	0.00	0.00	37240.00	0.00	37240.00

**Grand Total=406540.00**

**Comments.**

See Attachment containing Budget Justification (Tables 1, 2, and 3). Year 1 = 2002/2003 Year 2 = 2003/2004 Year 3 = 2004/2005 The City of Chico is not proposing to be compensated for its internal costs associated with managing the project funds. The City is requesting funding of \$406,540, minus the City's committed funds of \$30,000, for a total of \$376,540.

# **Budget Justification**

## **Big Chico Creek - Habitat Restoration and Fish Passage Improvement Project**

**Direct Labor Hours. Provide estimated hours proposed for each individual.**

N/A

**Salary. Provide estimated rate of compensation proposed for each individual.**

N/A

**Benefits. Provide the overall benefit rate applicable to each category of employee proposed in the project.**

N/A

**Travel. Provide purpose and estimate costs for all non-local travel.**

N/A

**Supplies & Expendables. Indicate separately the amounts proposed for office, laboratory, computing, and field supplies.**

**Attachment 1, Budget Summary Tables 1, 2, and 3.**

**Services or Consultants. Identify the specific tasks for which these services would be used. Estimate amount of time required and the hourly or daily rate.**

**The services of Consultants and General Contractor are planned to implement the project. A breakdown of personnel effort and costs according to task is presented on Attachment 1, Budget Summary Tables 1, 2, and 3.**

**Equipment. Identify non-expendable personal property having a useful life of more than one (1) year and an acquisition cost of more than \$5,000 per unit. If fabrication of equipment is proposed, list parts and materials required for each, and show costs separately from the other items.**

N/A

**Project Management. Describe the specific costs associated with insuring accomplishment of a specific project, such as inspection of work in progress, validation of costs, report preparation, giving presentations, response to project specific questions and necessary costs directly associated with specific project oversight.**

**Performed by Consultant. City participation funded internally.**

**Other Direct Costs. Provide any other direct costs not already covered.**

N/A

**Indirect Costs. Explain what is encompassed in the overhead rate (indirect costs). Overhead should include costs associated with general office requirements such as rent, phones, furniture, general office staff, etc., generally distributed by a predetermined percentage (or surcharge) of specific costs.**

**The City of Chico is not proposing to be compensated for its internal costs associated with managing the project funds.**

## **Executive Summary**

### **Big Chico Creek - Habitat Restoration and Fish Passage Improvement Project**

The City owns and operates "One-Mile Dam" on Big Chico Creek in Bidwell Park. Big Chico Creek, which is used by spring-, fall- and late fall-run chinook salmon and steelhead trout, enters the Sacramento River at RM 193, approximately 7 miles downstream of One-Mile Dam. One-Mile Dam is created with steel stanchions and flashboards. In late spring and summer a flashboard structure is installed to create Sycamore Pool, which is a high use swimming area in Chico. During the fall, winter and spring a different flashboard structure is installed to maintain water levels for operating the existing fish ladder. The flashboard dam allows suspended sediment to pass through the structure, however, gravel is trapped in Sycamore Pool and prevented from replenishing gravel along the downstream reach of Big Chico Creek and the Sacramento River. The material trapped in Sycamore Pool is removed and disposed of off-site, thus is removed from the "system." To facilitate downstream movement of gravel, the City proposes to replace the existing flashboard-type structure with a pneumatic structure that will operate automatically and "lay" flat during periods of high runoff. Equally important, is that the upstream migration of chinook salmon and steelhead will be enhanced. Currently, when flows exceed the capacity of the fish ladder, the flashboard dam is overtopped, creating highly turbulent hydraulic conditions that mask the entrance to the fish ladder. As a consequence, fish passage is delayed. The structure proposed by the City will facilitate upstream passage of fish through the full range of flows. The City's proposed project is consistent with measures recommended in the Anadromous Fish Restoration Program Plan to Increase Natural Production of Anadromous Fish in the Central Valley of California, 5/30/97; and CDFG's Plan for Action for Restoring Central Valley Streams, 11/93.

# **Proposal**

**City of Chico**

**Big Chico Creek - Habitat Restoration and Fish Passage Improvement Project**

**Thomas J. Lando, City of Chico**

# **CALFED BAY DELTA PROGRAM**

## **ECOSYSTEM RESTORATION PROGRAM 2002 PROPOSAL**

### **CITY OF CHICO**

#### **ONE-MILE DAM – HABITAT RESTORATION AND FISH PASSAGE IMPROVEMENT PROJECT**

##### **A. PROJECT DESCRIPTION – PROJECT GOALS AND SCOPE OF WORK**

###### **1. Problem**

The City of Chico (City) owns and operates “One-Mile Dam” on Big Chico Creek. Big Chico Creek is used by spring-, fall-, and late fall-run chinook salmon and steelhead trout. Big Chico Creek enters the Sacramento River at RM 193, approximately seven miles downstream of One-Mile Dam. One-Mile Dam, created with steel stanchions and flashboards, is installed throughout the year. One configuration is installed during the late spring and summer to create Sycamore Pool, which provides public swimming/recreational use. A different configuration is installed during the fall, winter, and spring to maintain water levels to facilitate fish passage through an existing fish ladder.

One-Mile Dam allows suspended sediments to pass over the structure during runoff events, which transport bed material; however, gravel is captured in the pool. This material is removed and disposed off site, thereby eliminating the recruitment of gravel resources to the downstream reach of Big Chico Creek.

The overall goal of the City’s proposed project, to replace the existing One-Mile Dam facilities, is to support the established goals of the California Department of Fish and Game (CDFG) and U.S. Fish and Wildlife Service (USFWS) for restoring and managing the spring-run chinook salmon and steelhead in Big Chico Creek.

CDFG, in its Action Plan for restoring Central Valley streams, identified two actions, B-1 and B-3, which focus on managing and handling gravel and sediment that accumulate in Sycamore Pool, which is created by One-Mile Dam. Similarly, the USFWS, in its Restoration Plan to Increase Natural Production of Anadromous Fish in the Central Valley (May 30, 1997), in Action 3 and Action 5 for Big Chico Creek, identify replenishing spawning gravels and cleaning Sycamore Pool as priority actions.

To address these identified problems, the City evaluated alternatives for modifying or replacing the One-Mile Dam facility while preserving public recreational uses.

## **2. Justification**

No discussion for Solicitation Paragraph 4.3.A.

## **3. Approach**

The City evaluated various alternatives for modifying or replacing the existing flashboard-type structures creating One-Mile Dam. Five types of replacement structures were identified and evaluated qualitatively, with consideration given to: fishery/habitat impacts; reliability in performance; construction; operation; operations safety; maintenance; vandalism; public safety; aesthetics; and cost. Based upon this evaluation, a pneumatically-operated spillway gate was selected. This selection was reviewed and approved for implementation by the City's Bidwell Park and Playground Commission.

The City then proceeded with preparing construction drawings and specifications and is now seeking funding for implementing the City's overall approach or scope of work for implementing its proposed project as described below. The time and duration for performing the respective tasks anticipated comprising the Scope of Work are presented in Section A.8, "Work Schedule."

### **Project Management**

The project management will be performed by City personnel. Accordingly, primary communication on the contract will be performed by City personnel.

#### **a. Award Consultant and Construction Contracts**

The City will contract with a consultant(s) to provide technical assistance related to construction management, environmental compliance, preparing an Operation and Maintenance Manual, and post-performance construction monitoring. The City, with the assistance of its construction management consultant, will bid and award a contract for constructing the project including installing all equipment.

#### **b. Prepare Quarterly Fiscal and Programmatic Reports**

Quarterly reports will be prepared and submitted to CalFed to document the status of the project work and budget. Problems or difficulties, if any, will be identified.

#### **c. Process Progress Payment**

On a monthly basis, invoices for City costs and from consultants and contractors will be reviewed and compiled into a project invoice. The City will coordinate with CalFed at the onset of the work to ensure that format, content, and backup for each invoice is properly handled.

d. Review Project Status

The City will review budget and work status reports from its consultants; however, the City will make periodic site visits during construction to observe the work and care of the Park property.

**Environmental Compliance**

The City will hire an environmental consulting firm to assist in preparing compliance documents and obtaining permits.

a. Prepare CEQA Documentation

It is anticipated that a Mitigated Negative Declaration will be appropriate for the project. The City will be the lead agency for CEQA compliance.

An Initial Study will be prepared for the project together with the appropriate environmental documentation pursuant to the California Environmental Quality Act (CEQA). Two issues need particular attention. Archaeologists or historians will need to evaluate the existing dam and pool under the State Historic Preservation Act to determine whether modifying the dam and any associated structures meets criteria for historical significance. Construction activity, specifically noise and traffic, will be issues in this very urban setting.

b. Prepare NEPA Documentation

It is anticipated that a Finding of No Significant Impact will be the appropriate level of environmental review for the project. ESA consultation is not anticipated. The City expects the USFWS will be the lead agency for NEPA compliance.

The National Environmental Policy Act (NEPA) will be triggered by the need for the U.S. Army Corps of Engineers (Corps) to issue a 404 Permit for the project. To ensure compliance with NEPA, the City of Chico will work with the Corps and will consult the State Historic Preservation Officer pursuant to Section 106 of the National Historic Preservation Act.

c. Obtain Streambed Alteration Permit

With the CEQA documentation complete, an application will be submitted to CDFG for a Streambed Alteration Permit.

d. Obtain Water Quality Certification (401 Permit)

The Central Valley Regional Water Quality Control Board (Regional Board) must certify that a project requiring a 404 Permit complies with all pertinent water quality standards. The Regional Board will be consulted during project planning and an application for 401 certification will be submitted after CEQA-compliance is completed.

e. Obtain 404 Permit

The project will require a Clean Water Act (CWA) Section 404 Permit (404 Permit) from the Sacramento District of the Corps. Construction activities that may result in discharge of fill into the creek include the placing a flow bypass pipe on the creek bed, constructing a temporary sand/gravel bag cofferdam for dewatering the construction site, diverting the stream around the construction site, and placing a newly constructed dam in Sycamore Pool.

f. ESA Consultation

The project site is within areas used by several federally listed or proposed species including the federal proposed threatened Sacramento fall-run chinook salmon and Sacramento late-fall run chinook salmon, the federal proposed endangered Sacramento spring run chinook salmon and the threatened Central Valley steelhead are two species listed pursuant to the Federal Endangered Species Act (ESA) that are known to occur within Big Chico Creek. The potential exists for these species to occur in the vicinity of the project site and could be incidentally “taken” (i.e., harmed) during the project. The project will require a 404 Permit, and be at least partially federally funded, so the project will be able to conduct consultation under Section 7 of the federal ESA between the Corps and National Marine Fisheries Services (NMFS) for these listed species. Consultation will result in issuance of a biological opinion incorporating an incidental take statement for the project.

## **Construction**

The City will contract with a contractor to purchase and install all equipment and perform the construction.

a. Mobilization and Demobilization

The Contractor will mobilize equipment for constructing the project facilities. The City will provide an area(s) for storing equipment and materials and staging the work. Upon completion of the work, the Contractor will restore the respective areas to their preconstruction condition.

b. Procure Materials and Equipment

The spillway gate with air compressor controls and appurtenances will require the longest lead time. The spillway gate is a pneumatically-operated system comprised of a steel panel, hinged at the concrete floor, and raised and lowered with an air bladder. The bladder will be protected with a steel bladder shield. Accordingly, the City anticipates entering into a construction contract to allow the Contractor to have the equipment “in-hand” prior to commencing demolition work.

c. Install and Operate Flow Bypass and Dewatering System

The City will close Sycamore Pool early in 2003, to facilitate constructing the project. It is anticipated the Contractor will require installing the bypass system to convey water through the pool area to discharge downstream of the work area. Additionally, the Contractor will require installing a dewatering system to facilitate constructing the new foundation for the gate.

The water pumped for dewatering the work site will be discharged to a settling area in Bidwell Park, as the City currently does when cleaning the pool during the summer.

d. Demolish Existing Facilities

The Contractor will remove and dispose of the existing flashboards, steel stanchions, and anchorage assembly. The concrete floor slab will be saw cut for removal and disposal at an approved disposal area.

e. Construct Spillway Gate Foundation

A new reinforced concrete foundation will be constructed to support the new gate. The anchor bolt and air piping assembly for the spillway gate will be cast in the concrete foundation. Also, approximately 10 feet of the existing floor slab will require a 10-inch concrete overlay to provide a uniform surface on which the bladder shield will slide.

f. Install Spillway Gate and Appurtenances

The spillway gate, including steel panel, inflatable bladder, and steel bladder shield, will be installed to create the new One-Mile Dam. The air compressor and controls will be installed in the control building. An ultrasonic water level transducer will be installed on the wall of the pool upstream of the gate.

The water level transducer, through a Programmable Logic Controller (PLC), will allow operating the spillway gate to maintain a constant upstream water level. Under high flow conditions, the gate will lay down completely, affording

the opportunity for bed load to move through the pool rather than being captured, as it does currently.

g. Construct Control Building

The control building will be constructed of a concrete split-face block similar to other buildings in the Park. The building will be constructed on a concrete slab foundation with a wood sheathing roof and composite roofing shingles. The control building will house the air compressor and air receiver tank, level control panel, air compressor control panel, and PLC.

h. Conduct Operator Training

The Contractor, with the supplier of the spillway gate, will conduct a training session for City personnel. The training session will utilize the draft Operation and Maintenance Manual prepared by the Construction Manager and the Contractor, with input from the equipment suppliers.

### **Construction Management**

The City will hire a Construction Manager to administer the construction contract.

a. Review Progress Payments

The Construction Manager will review and approve all Contractor requests for progress payments. The approved progress payment, complete with supporting documentation, will be forwarded to the City's Project Manager.

b. Administer Construction Contract

The Construction Manager will administer the construction contract on behalf of the City. This will include, but not be limited to, ensuring compliance with work hours, parking, site clean up and maintenance, changes in the work or site conditions, etc.

c. Observe, Witness, and Document Construction Activities

The Construction Manager will be on site to observe the work to ensure compliance with the contract documents.

d. Schedule and Order Materials Testing

The principal materials testing will be associated with concrete. The Construction Manager will prepare or order concrete cylinders for testing.

e. Prepare Budget and Status Report

The Construction Manager will prepare monthly reports on the status of the budget and work completed. The status of the work will be reported in relation to the project schedule. These reports will be transmitted to the City and can also be used to keep CalFed contract administration informed.

### **Operation and Maintenance Manual**

The Construction Manager will also prepare an Operation and Maintenance Manual for the completed project. The water level aspects of the manual will be prepared in consultation with the City and CDFG personnel. The mechanical and control aspects of the manual will incorporate manufacturer literature. Key components for spare parts will be identified with vender names, addresses, and telephone numbers.

### **Post-Construction Performance Evaluation and Monitoring**

The purpose of the project is to restore the recruitment of gravel resources downstream of One-Mile Dam and to facilitate adult fish passage during periods of high flows. Historically, the City has removed 200 to 1,000 cubic yards of material, which is disposed of off site.

The project will employ two basic approaches to assess project performance. This project is basically a construction project to improve fish passage and reestablish bed load transport past One-Mile Dam. It has both the components of a construction project and a restoration project and needs to apply Performance Measures for both types of projects.

Two Performance Measures would be evaluated for construction element of this project; one measure would evaluate the project activities and determine if they occurred according to the project timeline; a second measure would determine if the dam was built as planned and whether it operates as conceived.

Additional Performance Measures need to assess the changes that will occur in Big Chico Creek as a result of the project. The project will restore bed load transport past One-Mile Dam to downstream reaches of Big Chico Creek. The channel condition downstream of the dam would be the indicator used in the restoration performance measure. Sediment grain size will be the metric used in the reach of Big Chico Creek downstream of the dam. The target would likely be a distribution of grain sizes similar to what occurs in the bed of Big Chico Creek upstream of Sycamore Pool. The rate of this change will be determined by the kind of hydrologic events following dam construction and operation and any monitoring plan will have to be long enough to accommodate drought or wet year cycles. Although this proposal is only for a 3-year time frame, the monitoring may require more time. This determination will be made after the first season of operation (2004).

Other indicators of the restoration success would be the channel bed and bank features that occur downstream of One-Mile Dam. The target condition for these indicators may be the bed and bank features found in Big Chico Creek upstream of Sycamore Pool.

A final indicator to monitor is the improvements to fish passage conditions at One-Mile Dam. Presently, passage is a problem at high flows and the quantification of successful or unsuccessful passage events at this site is difficult even under good conditions. The new dam will eliminate the passage problem, but detecting passage events at high flows will be at least as difficult. Consequently, passage conditions will be assessed by measuring water column velocities through the dam area during high flow events. An indicator that passage is provided would be an assessment of the metrics provided in the measurement of water velocity, depth and distance over which an adult salmon or steelhead must travel to pass the dam and move into Big Chico Creek upstream of Sycamore Pool. These metrics would be compared to published criteria for velocity and depth and swimming performance for the target species.

**Objective:** Determine the change in channel condition and substrate composition resulting from the restoration of bed load transport past One-Mile Dam.

A survey of bed and bank conditions and bed forms in the reach between One-Mile Dam and the confluence with the Lindo Channel will be conducted to establish baseline conditions as a reference for post project assessments. The survey will document channel conditions from the dam downstream to the Lindo Channel. Effects of restricted bed load transport in Big Chico Creek past One-Mile Dam are anticipated to be greatly moderated by the contribution of sediment from the Lindo Channel. A similar assessment will be conducted upstream of Sycamore Pool for a sufficient distance to represent general conditions in this channel.

Several riffles and pools will be selected during this survey and cross sections established to conduct Wolman Pebble counts and to survey bed elevations. This will provide a baseline condition from which to measure change in the bed elevation as well as substrate composition. Potential spawning areas will also be delineated and mapped. The upstream sites will provide a target condition that the channel downstream will be expected to emulate over time.

- (1) Are chinook salmon and steelhead able to freely pass the modified dam and Sycamore Pool on Big Chico Creek?

**Objective:** Determine if the new dam configuration and operations are successfully passing fish past One-Mile Dam and through Sycamore Pool.

The focus of the monitoring will be to ascertain whether fish passage is improved at the modified One-Mile Dam in Big Chico Creek. Presently passage is a problem at high flows. Monitoring of fish passage may be possible with a video camera installed near the dam. However, documenting passage conditions at the dam will be

evaluated by conducting velocity and depths measurements at established transects in the channel area affected by the new dam during typical high flow conditions and comparing the measurements to established criteria for chinook salmon and steelhead.

Monitoring of channel conditions is programmed for one year in this proposal; however, it most likely will need to be continued after 2004. The need to continue monitoring will be evaluated in 2004. Monitoring of fish passage conditions will occur during selected high flow events in the winter.

Protocols for all components of the salmon and steelhead-monitoring plan will be developed in conjunction with DFG, USFWS and NMFS. Any existing data will be incorporated in the monitoring plan.

#### **4. Feasibility**

The City's proposal to replace the existing flashboard-type structure at One-Mile Dam with a pneumatically-operated gate will provide the City with the ability to pass bed load material through Sycamore Pool and improve fish passage for adult salmon and steelhead. Construction drawings and specifications for the proposed project are complete and the City is prepared to issue these for bidding once the CEQA/NEPA compliance is complete and permits have been obtained.

The technology of the pneumatic spillway gate proposed for One-Mile Dam has been applied at numerous installations throughout the United States. The nearest location in California is in connection with the Anadromous Fish Screen Project of the Princeton-Codora-Glenn Irrigation District and the Provident Irrigation District. The same gates are proposed for several structures in the Butte Sink, Mokulumne River, and Salinas River.

The technology is proven and its application in Bidwell Park is very well suited from the standpoint of aesthetics, maintenance, safety, bed load, and fish passage.

The project can be constructed within the time frame shown on the work schedule. With most of the work being performed within Sycamore Pool, the environmental impacts will be minimal and the City anticipates CEQA and NEPA compliance through Mitigated Negative Declaration and Finding of No Significant Impact, respectively.

Both a Streambed Alteration Agreement and Water Quality Certification will be required, however, no significant issues are associated with the project that make obtaining the permits problematic.

#### **5. Performance Measures**

A task outlined in the Scope of Work for the project is to prepare a post-construction performance evaluation or monitoring plan. The primary goals of the project are to:  
(1) restore instream habitat by allowing bed load material to pass through Sycamore

Pool; (2) improve adult fish passage; and (3) minimize the effort on the part of the City to remove bed load deposited in the pool and facilitate summer cleaning of the pool.

## **6. Data Handling and Storage**

Data on channel features, bed condition and fish passage conditions will be provided to the City of Chico for distribution to interested parties. All transects and habitat features identified in the field will be geo-referenced with GPS technology. Hardcopy field data will be entered into Excel Spreadsheets and Access Database for use in analyses and comparisons.

Semi-annual reports will be prepared describing the monitoring activities and reporting on their findings. Reports will be submitted to the City of Chico for their review and approval prior to release to other parties.

## **7. Expected Products/Outcomes**

The City has no plans at this time, but would be pleased to participate in fish passage workshops and seminars to share its experience with the pneumatically-operated gate and its accomplishments.

## **8. Work Schedule**

Presented on Figure 1 is the Work Schedule for the project. The tasks presented on the Work Schedule correspond to the Scope of Work described under Item 3, "Approach," and presented in the budget (Tables 1, 2, and 3 of the Justification).

# **B. APPLICABILITY TO CALFED ERP SCIENCE PROGRAM GOALS AND IMPLEMENTATION PLAN AND CVPIA PRIORITIES**

## **1. ERP Science Program and CVPIA Priorities**

The City's proposed project addresses particular restoration priorities for the Sacramento region. These are SR-2 and SR-4, both of which are discussed below:

- SR-2 – Restore Fish Habitat and Fish Passage, particularly for spring-run chinook salmon and steelhead trout and conduct fish passage studies. The proposed project is aimed directly at this restoration priority. Restoring fish habitat downstream of One-Mile Dam and improving upstream fish passage are primary goals of the project.
- SR-4 – Restore Geomorphic Processes in Stream and Riparian Corridors. Although not specifically aimed at this priority, the proposed project, by virtue of allowing bed load material to pass through Sycamore Pool, will assist in restoring the geomorphic process for the flow regime of Big Chico Creek.

**2. Relationship to Other Ecosystem Restoration Projects**

This project relates directly to relocating the M&T Pump Station from Big Chico Creek to the Sacramento River to eliminate the streamflow reversal and reduction to aid in the passage of both adult and juvenile spring-run chinook salmon.

**3. Requests for Next-Phase Funding**

The City funded evaluating alternatives for replacing the existing One-Mile Dam and funded preparing construction drawings and specifications for the preferred alternative. The City is requesting funding for construction and post-construction monitoring, however, there will be no request for “Next Phase Funding.”

**4. Previous Recipients of CalFed Program or CVPIA Funding**

The City has not received previous funding from the CalFed program or CVPIA.

**5. System-Wide Ecosystem Benefits**

As noted under Item 2 above, the proposed project complements the CVPIA funded relocation of the M&T Pump Station from Big Chico Creek to the Sacramento River. Furthermore, the proposed project at One-Mile Dam is a component of a comprehensive Action Plan identified by CDFG and USFWS to restore anadromous fish in Big Chico Creek.

**6. Additional Information for Proposals Containing Land Acquisition**

The City owns the lands involved with the project, thus no land acquisition is required.

**C. QUALIFICATION**

The City will have in-house department directors administering contracts for consultants and construction contractor. No funding is requested for City personnel participating in the project.

The City proposes to contract with qualified consulting firms to perform the work related to managing and constructing the project, as well as environmental compliance, permitting, and post-construction monitoring. A qualified contractor will be awarded the contract for constructing and installing the equipment.

## **D. COST**

### **1. Budget**

The overall budget for which funding is requested is as shown below. A task-specific breakdown is presented in Form VI.

- a. Project Task Management
- b. Environmental Compliance
- c. Construction
- d. Operation and Maintenance Manual
- e. Post-Construction Performance Evaluation and Monitoring

### **2. Cost-Sharing**

The City funded nearly \$40,000 for evaluating alternatives for One-Mile Dam and preparing construction drawings and specifications.

The total budget to implement the proposed project is \$406,540. The City has committed \$30,000 to this project from its per capita allocation from the State Neighborhood Parks and Clean Water, Clean Air, and Coastal Protection Bond Act of 2000. Accordingly, the City is requesting funding in the amount of \$376,540, through the CalFed Program to complete implementing the project.

## **E. LOCAL INVOLVEMENT**

The proposed project has been and will continue to be reviewed in a public forum throughout implementation and operation, with the Bidwell Park and Playground Commission. During the environmental review of the project, the City and its environmental consultant will invite citizens in the neighborhood to public meetings to learn about the proposed project and the construction activity planned.

## **F. COMPLIANCE WITH STANDARD TERMS AND CONDITIONS**

The City will, through its consultant and construction contracts, comply with the federal and state contract terms described in Attachment D and Attachment E of the ERP 2002 Proposal Solicitation.

## **G. LITERATURE CITED**

Listed below are the references used in preparing this proposal:

*Borcalli & Associates, Inc.*, One-Mile Dam Modification Project – Evaluation Alternatives, prepared for the City of Chico Park Department, October 2000.

*Borcalli & Associates, Inc.*, One-Mile Dam Habitat Restoration and Fish Passage Improvement Project, Volume 1 of 2, Technical Specifications, and Volume 2 of 2, Construction Drawings, prepared for the City of Chico Park Department, September 2001.

*California Department of Fish and Game, Restoring Central Valley Streams: A Plan for Action, November 1993.*

*U.S. Fish and Wildlife Service, Revised Draft, Restoration Plan for the Anadromous Fish Restoration Program, A Plan to Increase Natural Production of Anadromous Fish in the Central Valley of California, May 30, 1997.*

# **ATTACHMENTS**

**Work Schedule**

**Cost Tables**

**FIGURE 1**  
**CALFED ECOSYSTEM RESTORATION PROGRAM**  
**CITY OF CHICO**  
**ONE-MILE DAM - HABITAT RESTORATION AND FISH PASSAGE IMPROVEMENT PROJECT**  
**WORK SCHEDULE**

Activity	2002				2003												2004																	
	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun
<b>PROJECT MANAGEMENT</b>																																		
a. Award Consultant and Construction Contracts																																		
b. Prepare Quarterly Fiscal and Programmatic Reports																																		
c. Process Progress Payments																																		
d. Review Project Status																																		
<b>ENVIRONMENTAL COMPLIANCE</b>																																		
a. Perform CEQA Documentation																																		
b. Perform NEPA Documentation																																		
c. Obtain Streambed Alteration Permit																																		
d. Obtain Water Quality Certification (401 Permit)																																		
e. Obtain 404 Permit																																		
f. Perform ESA Consultation																																		
<b>CONSTRUCTION</b>																																		
a. Mobilization/Demobilization																																		
b. Procure Materials and Equipment																																		
c. Install, Operate, and Maintain Flow Bypass and Dewatering																																		
d. Demolish Existing Facilities																																		
e. Construct Spillway Gate Foundation																																		
f. Install Spillway Gate and Appurtenances																																		
g. Construct Control Building																																		
h. Conduct Operator Training																																		
<b>CONSTRUCTION MANAGEMENT</b>																																		
a. Review Progress Payments																																		
b. Administer Construction Contract																																		
c. Observe, Witness, and Document Construction Activities																																		
d. Schedule and Order Materials/Testing																																		
e. Prepare Budget and Work Status Reports																																		
<b>OPERATIONS AND MAINTENANCE MANUAL</b>																																		
<b>POST CONSTRUCTION PERFORMANCE EVALUATION</b>																																		

**TABLE 1**  
**CALFED ECOSYSTEM RESTORATION PROGRAM**  
**CITY OF CHICO**  
**ONE-MILE DAM - HABITAT RESTORATION AND FISH PASSAGE IMPROVEMENT PROJECT**  
**BUDGET SUMMARY - YEAR 1 (2002)**

Activity	Engr. Consultant				Environmental Consultant				Constr. Contractor	Travel	Supplies	Permits	Total
	Prog. Mgr.	Sr. Engr.	Engr.	W/P	Sr. Consul.	Proj. Sci.	Sr. Stf. Sci.	Stf. Sci.	\$	\$	\$	\$	\$
<b>PROJECT MANAGEMENT</b>													
a. Award Consultant and Construction Contracts	20			8						600			3760
b. Prepare Quarterly Fiscal and Programmatic Reports	6			6									1110
c. Process Progress Payments	10			8									1760
d. Review Project Status													0
<b>Subtotal</b>	<b>36</b>	<b>0</b>	<b>0</b>	<b>22</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>600</b>	<b>0</b>	<b>0</b>	<b>6630</b>
<b>ENVIRONMENTAL COMPLIANCE</b>													
a. Perform CEQA Documentation					10	10	20	20		1000			8200
b. Perform NEPA Documentation					10	10	10	20		1000			7100
c. Obtain Streambed Alteration Permit					2	8	10						2560
d. Obtain Water Quality Certification (401 Permit)					2	8	5						2010
e. Obtain 404 Permit					4	16	5						3470
f. Perform ESA Consultation					40	40	10			1500			15000
<b>Subtotal</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>68</b>	<b>92</b>	<b>60</b>	<b>40</b>	<b>0</b>	<b>3500</b>	<b>0</b>	<b>0</b>	<b>38340</b>
<b>CONSTRUCTION</b>													
a. Mobilization/Demobilization													0
b. Procure Materials and Equipment													0
c. Install, Operate, and Maintain Flow Bypass and Dewatering													0
d. Demolish Existing Facilities													0
e. Construct Spillway Gate Foundation													0
f. Install Spillway Gate and Appurtenances													0
g. Construct Control Building													0
h. Conduct Operator Training													0
<b>Subtotal</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
<b>CONSTRUCTION MANAGEMENT</b>													
a. Review Progress Payments													0
b. Administer Construction Contract													0
c. Observe, Witness, and Document Construction Activities													0
d. Schedule and Order Materials/Testing													0
e. Prepare Budget and Work Status Reports													0
<b>Subtotal</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
<b>OPERATIONS &amp; MAINTENANCE MANUAL</b>													
<b>Subtotal</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
<b>POST CONSTRUCTION PERFORMANCE EVALUATION AND MONITORING</b>													
<b>Subtotal</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>8</b>	<b>16</b>	<b>40</b>	<b>40</b>	<b>0</b>	<b>1500</b>	<b>1000</b>	<b>0</b>	<b>14300</b>
<b>HOURLY RATE</b>	<b>140</b>	<b>110</b>	<b>95</b>	<b>45</b>	<b>170</b>	<b>140</b>	<b>110</b>	<b>95</b>					
<b>TOTAL HOURS</b>	<b>36</b>	<b>0</b>	<b>0</b>	<b>22</b>	<b>76</b>	<b>108</b>	<b>100</b>	<b>80</b>					
<b>SUBTOTAL LABOR</b>	<b>5040</b>	<b>0</b>	<b>0</b>	<b>990</b>	<b>12920</b>	<b>15120</b>	<b>11000</b>	<b>7600</b>					
<b>TOTAL</b>	<b>5040</b>	<b>0</b>	<b>0</b>	<b>990</b>	<b>12920</b>	<b>15120</b>	<b>11000</b>	<b>7600</b>	<b>0</b>	<b>5600</b>	<b>1000</b>	<b>0</b>	<b>59270</b>

**TABLE 2**  
**CALFED ECOSYSTEM RESTORATION PROGRAM**  
**CITY OF CHICO**  
**ONE-MILE DAM - HABITAT RESTORATION AND FISH PASSAGE IMPROVEMENT PROJECT**  
**BUDGET SUMMARY - YEAR 2 (2003)**

Activity	Engr. Consultant				Environmental Consultant				Constr. Contractor	Travel	Supplies	Permits	Total
	Prog. Mgr.	Sr. Engr.	Engr.	W/P	Sr. Consul.	Proj. Sci.	Sr. Stf. Sci.	Stf. Sci.	\$	\$	\$	\$	\$
<b>PROJECT MANAGEMENT</b>													
a. Award Consultant and Construction Contracts	24									600			3960
b. Prepare Quarterly Fiscal and Programmatic Reports		8											880
c. Process Progress Payments		16											1760
d. Review Project Status		16								300			2060
<b>Subtotal</b>	<b>24</b>	<b>40</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>900</b>	<b>0</b>	<b>0</b>	<b>8660</b>
<b>ENVIRONMENTAL COMPLIANCE</b>													
a. Perform CEQA Documentation										100			100
b. Perform NEPA Documentation										100			100
c. Obtain Streambed Alteration Permit										100	1100		1200
d. Obtain Water Quality Certification (401 Permit)													0
e. Obtain 404 Permit													0
f. Perform ESA Consultation										100			100
<b>Subtotal</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>400</b>	<b>0</b>	<b>1100</b>	<b>1500</b>
<b>CONSTRUCTION</b>													
a. Mobilization/Demobilization									4000				4000
b. Procure Materials and Equipment									123000				123000
c. Install, Operate, and Maintain Flow Bypass and Dewatering									22000				22000
d. Demolish Existing Facilities									6500				6500
e. Construct Spillway Gate Foundation									10800				10800
f. Install Spillway Gate and Appurtenances									44800				44800
g. Construct Control Building									31500				31500
h. Conduct Operator Training									5000				5000
<b>Subtotal</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>247600</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>247600</b>
<b>CONSTRUCTION MANAGEMENT</b>													
a. Review Progress Payments	8	28											4200
b. Administer Construction Contract	8	21											3430
c. Observe, Witness, and Document Construction Activities			280							3000			29600
d. Schedule and Order Materials/Testing											2000		2000
e. Prepare Budget and Work Status Reports		32	20										5420
<b>Subtotal</b>	<b>16</b>	<b>81</b>	<b>300</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>3000</b>	<b>2000</b>	<b>0</b>	<b>44650</b>
<b>OPERATIONS &amp; MAINTENANCE MANUAL</b>													
	4	40	8								200		5920
<b>Subtotal</b>	<b>4</b>	<b>40</b>	<b>8</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>200</b>	<b>0</b>	<b>5920</b>
<b>POST CONSTRUCTION PERFORMANCE EVALUATION AND MONITORING</b>													
<b>Subtotal</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
<b>HOURLY RATE</b>	<b>140</b>	<b>110</b>	<b>95</b>	<b>45</b>	<b>170</b>	<b>140</b>	<b>110</b>	<b>95</b>					
<b>TOTAL HOURS</b>	<b>44</b>	<b>161</b>	<b>308</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>					
<b>SUBTOTAL LABOR</b>	<b>6160</b>	<b>17710</b>	<b>29260</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>					
<b>TOTAL</b>	<b>6160</b>	<b>17710</b>	<b>29260</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>247600</b>	<b>4300</b>	<b>2200</b>	<b>1100</b>	<b>308330</b>

**TABLE 3**  
**CALFED ECOSYSTEM RESTORATION PROGRAM**  
**CITY OF CHICO**  
**ONE-MILE DAM - HABITAT RESTORATION AND FISH PASSAGE IMPROVEMENT PROJECT**  
**BUDGET SUMMARY - YEAR 3 (2004)**

Activity	Engr. Consultant				Environmental Consultant				Constr. Contractor	Travel	Supplies	Permits	Total
	Prog. Mgr.	Sr. Engr.	Engr.	W/P	Sr. Consul.	Proj. Sci.	Sr. Stf. Sci.	Stf. Sci.	\$	\$	\$	\$	\$
<b>PROJECT MANAGEMENT</b>													
a. Award Consultant and Construction Contracts													0
b. Prepare Quarterly Fiscal and Programmatic Reports	6												840
c. Process Progress Payments	2									100			380
d. Review Project Status													0
<b>Subtotal</b>	<b>8</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>100</b>	<b>0</b>	<b>0</b>	<b>1220</b>
<b>ENVIRONMENTAL COMPLIANCE</b>													
a. Perform CEQA Documentation													0
b. Perform NEPA Documentation													0
c. Obtain Streambed Alteration Permit													0
d. Obtain Water Quality Certification (401 Permit)													0
e. Obtain 404 Permit													0
f. Perform ESA Consultation													0
<b>Subtotal</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
<b>CONSTRUCTION</b>													
a. Mobilization/Demobilization													0
b. Procure Materials and Equipment													0
c. Install, Operate, and Maintain Flow Bypass and Dewatering													0
d. Demolish Existing Facilities													0
e. Construct Spillway Gate Foundation													0
f. Install Spillway Gate and Appurtenances													0
g. Construct Control Building													0
h. Conduct Operator Training													0
<b>Subtotal</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
<b>CONSTRUCTION MANAGEMENT</b>													
a. Review Progress Payments													0
b. Administer Construction Contract													0
c. Observe, Witness, and Document Construction Activities													0
d. Schedule and Order Materials/Testing													0
e. Prepare Budget and Work Status Reports													0
<b>Subtotal</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
<b>OPERATIONS &amp; MAINTENANCE MANUAL</b>													
<b>Subtotal</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>
<b>POST CONSTRUCTION PERFORMANCE EVALUATION AND MONITORING</b>													
<b>Subtotal</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>56</b>	<b>48</b>	<b>80</b>	<b>84</b>	<b>0</b>	<b>2000</b>	<b>1000</b>	<b>0</b>	<b>36020</b>
<b>HOURLY RATE</b>	<b>140</b>	<b>110</b>	<b>95</b>	<b>45</b>	<b>170</b>	<b>140</b>	<b>110</b>	<b>95</b>					
<b>TOTAL HOURS</b>	<b>8</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>56</b>	<b>48</b>	<b>80</b>	<b>84</b>					
<b>SUBTOTAL LABOR</b>	<b>1120</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>9520</b>	<b>6720</b>	<b>8800</b>	<b>7980</b>					
<b>TOTAL</b>	<b>1120</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>9520</b>	<b>6720</b>	<b>8800</b>	<b>7980</b>	<b>0</b>	<b>2100</b>	<b>1000</b>	<b>0</b>	<b>37240</b>