STAFF REPORT C30

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		W 27157
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GENERAL LEASE - PUBLIC AGENCY USE

APPLICANT:

U.S. Fish and Wildlife Service

PROPOSED LEASE:

AREA. LAND TYPE. AND LOCATION:

Sovereign land in the Yuba River, adjacent to Assessor's Parcel Numbers 006-150-004, -007, -009, -011; 006-160-027, -041, -043; 006-100-034, -074, -075, -106, -107, -108; 018-150-006, and -007, near Marysville, Yuba County.

AUTHORIZED USE:

Placement and maintenance of gravel for the rehabilitation and restoration of Central Valley Chinook salmon and steelhead spawning and rearing habitat, including lowering elevations of existing gravel bars as needed to create side channels, grading, and riparian revegetation.

LEASE TERM:

10 years, beginning April 19, 2018.

CONSIDERATION:

Public use and benefit; with the State reserving the right at any time to set a monetary rent if the Commission finds such action to be in the State's best interests.

STAFF ANALYSIS AND RECOMMENDATION:

Authority:

Public Resources Code sections 6005, 6216, 6301, 6501.1, and 6503; California Code of Regulations, title 2, sections 2000 and 2003.

Public Trust and State's Best Interests Analysis:

The Applicant has applied for a General Lease – Public Agency Use for the proposed Hallwood Side Channel and Floodplain Restoration Project (project) in the Yuba River. A portion of the project will be located on sovereign land under the jurisdiction of the Commission. The purpose of the project is to improve habitat for Central Valley Chinook salmon and steelhead. Proposed habitat restoration activities include placement and

maintenance of gravel, riparian vegetation, creation of side channels for spawning and rearing habitat, and grading in the floodplain of the lower Yuba River. The proposed grading and gravel placement activities will increase the quality and availability of spawning areas in a network of side channels off the main channel of the lower Yuba River.

The lower Yuba River in the Yuba Goldfields Reach has been altered over the years from hydraulic mining, dredging and levees. These activities have led to the deterioration of habitat conditions on the lower Yuba River resulting in a nonfunctional floodplain habitat. Floodplains with extensive riparian vegetation provide high quality habitat. Enhancement of the floodplain habitat will lead to increased salmonid populations in the lower Yuba River and the entire Sacramento River system.

The project site is made up of a cobble field receiving overflow from the lower Yuba River during high water flows and two training walls, the Middle Training Wall and the North Training Wall. The training walls are made of mine tailings and were stacked parallel to the lower Yuba River to control the flow of the river and contain mining debris. From the evidence provided, these walls appear to be located outside the Commission's leasing jurisdiction. The entirety of the project will remove approximately 3 million cubic yards of material from the river corridor (the bulk of the Middle Training Wall), create approximately 165 acres of improved floodplain habitat including a network of side channels, riparian plantings, placement of woody debris, conversion of deep and isolated pools into shallow, well-connected side channels, and lowering of floodplain elevations. This large volume of material and extensive site work will require a phased construction approach that is anticipated to take place over several years. The construction season is from April 16 to October 31 each year, although in-water work will commence in mid-July 2018.

Phase One of the project is expected to be completed in 1 year and involves removal of more than 1 million cubic yards of material, enhancement of approximately 90 acres of floodplain habitat, and creation of nearly 2 miles of side channels. This phase will create the largest acreage of salmonid habitat with the least amount of earthwork. Phases Two, Three, and Four involve much larger quantities of earthwork and will occur over several years. Phase Two involves removal of approximately 844,000 cubic yards of material from the Middle Training Wall and enhancement of 35 acres of floodplain habitat. Phases Three and Four involves removal of approximately 825,000 and 390,000 cubic yards of material, respectively, and enhancement of an additional 18 and 23 acres of floodplain and side channel habitat. A majority of the work will be

conducted in dry conditions on the floodplain. Any excavation adjacent to the main Yuba River channel, such as connecting a side channel, or to enhance an existing wetted side channel will be conducted during an appropriate summer work window, July 15 to October 15. All phases of work will require construction of a temporary crossing. The temporary crossing will be removed prior to the end of the in-water work window. Exclusion nets or screens will be installed around in-stream construction areas and removed annually. Additional measures to avoid or minimize impacts will include using existing roads and off-highway vehicle trails for vehicle travel where possible. Limited work will occur in the main channel of the lower Yuba River.

The end result of the surface grading will be a level area with a very slight slope from upstream to downstream and with positive drainage into side channels. Native riparian trees and shrubs will be planted in select locations, particularly in locations which have been disturbed by construction activities. Additional erosion control measures (hydroseeding, fiber rolls) will be installed as needed. After floodplain grading activities have been completed, disturbed areas that contain fine sediment will be hydroseeded with native grass.

A detailed monitoring plan has been developed for the proposed project, with the primary goal of defining the current state of the system before restoration and determining whether the implemented project is improving the fish species and overall ecosystem. The monitoring program consists of four conceptual approaches to monitoring: 1) pre-project site description, 2) implementation, 3) effectiveness, and 4) validation.

Public access to the Yuba River near the project location is constrained due to private ownership of the uplands. Rafting, kayaking and fishing are possible, but are limited due to the public access constraints in the surrounding area. No developed regional or neighborhood parks or other recreational facilities exist within or directly adjacent to the project site. Public access to the Yuba River at the project site is available but limited.

Overall, the proposed action is considered beneficial because it will enhance fisheries, which is a recognized Public Trust use. Furthermore, the action will not impede or impair any other Public Trust uses in the area.

The lease includes certain provisions protecting the public's use of the proposed lease area by requiring the Applicant to obtain necessary permits. The lease also has a limited term of 10 years that allows the

Commission flexibility to determine if the Public Trust needs of the area have changed over time. Furthermore, post-project monitoring will take place after project completion to evaluate outcomes of the project, implementation of the project and project influences on habitat conditions.

Climate Change Analysis:

The project area is not tidally influenced and therefore, is not subject to sea-level rise. However, as stated in *Safeguarding California* (California Natural Resources Agency 2014), climate change is projected to increase the frequency and severity of natural disasters related to flooding, drought, and storms. In rivers, more frequent and powerful storms can result in increased flooding conditions and damage from storm-created debris. Conversely, prolonged droughts could dramatically reduce river flow and water levels, leading to loss of public access and navigability. Climate change will further influence riverine areas by changing erosion and sedimentation rates, and flooding and storm flow, as well as runoff, will likely increase scour, decreasing bank stability at a faster rate.

Due to these potential changes, components of the proposed restoration project (e.g., placement of woody debris, riparian plantings) may require continued maintenance in the future to withstand higher levels of flood exposure and more frequent storm events. Other components (e.g., placement and maintenance of gravel, creation of side channels for spawning and rearing habitat, grading in the floodplain) will be adaptable to variable water levels, but may require more frequent maintenance and monitoring to ensure continued function as Salmonid habitat during and after storm seasons.

Regular maintenance, as required by the lease, will reduce the likelihood of severe degradation or disruption of Salmonid spawning habitat. Pursuant to the proposed lease, the Applicant acknowledges that the lease premises are located in an area that may be subject to effects of climate change.

Conclusion:

For all the reasons above, Commission staff believes the proposed lease is consistent with the common law Public Trust Doctrine and is in the best interests of the State.

OTHER PERTINENT INFORMATION:

- 1. This action is consistent with Strategy 1.1 of the Commission's Strategic Plan to deliver the highest levels of public health and safety in the protection, preservation and responsible economic use of the lands and resources under the Commission's jurisdiction and Key Action 1.2.4 to prioritize the use of sovereign lands where appropriate for open space, wetlands, riparian habitat and habitat preservation, restoration, and enhancement.
- 2. A Mitigated Negative Declaration, State Clearinghouse No. 2017102054, was prepared by the Yuba County Community Development and Services Agency and adopted on December 6, 2017, for this project. Staff has reviewed such document.
 - A Mitigation Monitoring Program was adopted by the Yuba County Community Development and Services Agency.
- 3. This activity involves lands identified as possessing significant environmental values pursuant to Public Resources Code section 6370 et seq., but such activity will not affect those significant lands. Based upon staff's consultation with the persons nominating such lands and through the California Environmental Quality Act (CEQA) review process, it is staff's opinion that the project, as proposed, is consistent with its use classification.

APPROVALS OBTAINED:

Central Valley Regional Water Quality Control Board U.S. Army Corps of Engineers

APPROVALS REQUIRED:

Central Valley Flood Protection Board California Department of Fish and Wildlife

EXHIBITS:

- A. Land Description
- B. Site and Location Map
- C. Mitigation Monitoring Program

RECOMMENDED ACTION:

It is recommended that the Commission:

CEQA FINDING:

Find that a Mitigated Negative Declaration, State Clearinghouse No. 2017102054, and a Mitigation Monitoring Program were prepared by the Yuba County Community Development and Services Agency and adopted on December 6, 2017, for this project and that the Commission has reviewed and considered the information contained therein; that in the Commission's independent judgement, the scope of activities to be carried out under the lease to be issued by this authorization have been adequately analyzed; that none of the events specified in Public Resources Code section 21166 or the State CEQA Guidelines section 15162 resulting in any new or substantially more severe significant impact has occurred; and, therefore no additional CEQA analysis is required.

Adopt the Mitigation Monitoring Program, as contained in Exhibit C, attached hereto.

PUBLIC TRUST AND STATE'S BEST INTERESTS:

Find that the proposed lease will not substantially impair the public rights to navigation and fishing or substantially interfere with the Public Trust needs and values at this location, at this time, and for the foreseeable term of the lease; is consistent with the common law Public Trust Doctrine; and is in the best interests of the State.

SIGNIFICANT LANDS INVENTORY FINDING:

Find that this activity is consistent with the use classification designated by the Commission for the land pursuant to Public Resources Code section 6370 et seq.

AUTHORIZATION:

Authorize issuance of a General Lease – Public Agency Use to the U.S. Fish and Wildlife Service beginning April 19, 2018, for a term of 10 years, for placement and maintenance of gravel for the rehabilitation and restoration of Central Valley Chinook salmon and steelhead spawning and rearing habitat, including lowering elevations of existing gravel bars as needed to create side channels, grading, and riparian revegetation, as described in Exhibit A and shown on Exhibit B (for reference purposes only), attached and by this reference made a part hereof; consideration being the public use and benefit, with the State reserving the right, at any time, to set a monetary rent as specified in the lease if the Commission finds such action to be in the State's best interests.

LAND DESCRIPTION

One parcel of submerged land situated in the bed of the Yuba River, lying adjacent to fractional Section 1 and fractional Section 2, Township 15 North, Range 4 East, M.D.B.&M., as shown on Official Government Township Plat approved December 31, 1860; Rancho Honcut, as shown on Official Government Rancho Plat approved May 14, 1862; Section 29, Section 30, fractional Section 31, and fractional Section 32 of Township 16 North, Range 5 East, M.D.B.&M., as shown on Official Government Township Plat approved August 6, 1867, County of Yuba, State of California, more particularly described as follows:

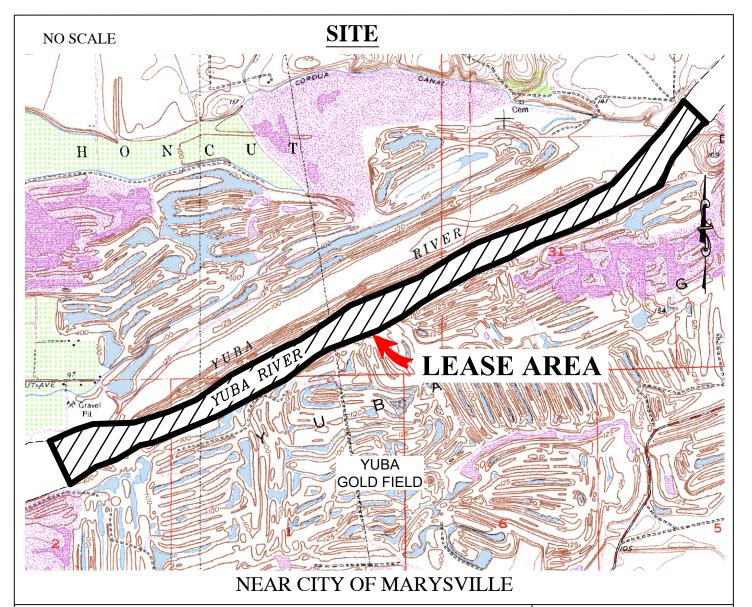
BOUNDED on the west by a line extending from station 7 to station 134 as shown on "Map of Settlement Agreement per U.S. District Court, Eastern District California, Case No. CIV 2-79-788-RAR" (Sheet 1 of 6), dated March, 1985, on file at the office of the California State Lands Commission (CB 1866); BOUNDED on the north by the right bank of the Yuba River as shown on said map; BOUNDED on the east by Daguerra Point Dam as shown on said map (Sheet 3 of 6); BOUNDED on the south by the left bank of the Yuba River as shown on said map.

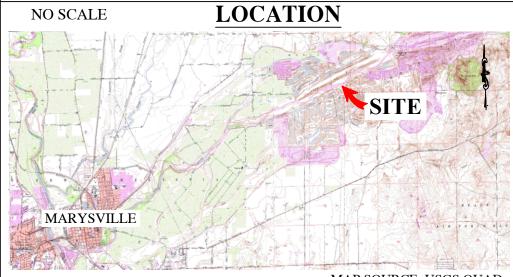
END OF DESCRIPTION

This description is based on Applicant provided design plans for a proposed salmon habitat restoration project, together with any and all appurtenances pertaining thereto, to be built at a later date within the Lease time frame. This description is to be updated once final as-built plans are submitted.

Prepared 02/27/2018 by the California State Lands Commission Boundary Unit.







MAP SOURCE: USGS QUAD

This Exhibit is solely for purposes of generally defining the lease premises, is based on unverified information provided by the Lessee or other parties and is not intended to be, nor shall it be construed as, a waiver or limitation of any State interest in the subject or any other property.

Exhibit B

W 27157
U.S. FISH & WILDLIFE
SERVICE
MULTIPLE APN'S
GENERAL LEASE PUBLIC AGENCY USE
YUBA COUNTY



EXHIBIT C CALIFORNIA STATE LANDS COMMISSION MITIGATION MONITORING PROGRAM

Hallwood Side Channel and Floodplain Restoration Project

(W27157, State Clearinghouse No. 2016122042)

The California State Lands Commission (Commission) is a responsible agency under the California Environmental Quality Act (CEQA) for the Hallwood Side Channel and Floodplain Restoration Project (Project). The CEQA lead agency for the Project is Yuba County.

In conjunction with approval of this Project, the Commission adopts this Mitigation Monitoring Program (MMP) for the implementation of mitigation measures for the portion(s) of the Project located on Commission lands. The purpose of a MMP is to impose feasible measures to avoid or substantially reduce the significant environmental impacts from a project identified in an Environmental Impact Report (EIR) or a Mitigated Negative Declaration (MND). State CEQA Guidelines section 15097, subdivision (a), states in part:

In order to ensure that the mitigation measures and project revisions identified in the EIR or negative declaration are implemented, the public agency shall adopt a program for monitoring or reporting on the revisions which it has required in the project and the measures it has imposed to mitigate or avoid significant environmental effects. A public agency may delegate reporting or monitoring responsibilities to another public agency or to a private entity which accepts the delegation; however, until mitigation measures have been completed the lead agency remains responsible for ensuring that implementation of the mitigation measures occurs in accordance with the program.

The lead agency has adopted an MND, State Clearinghouse No. 2016122042, and adopted a MMP for the whole of the Project (see Exhibit C, Attachment C-1), and remains responsible for ensuring that implementation of the mitigation measures occurs in accordance with its program. The Commission's action and authority as a responsible agency apply only to the mitigation measures listed in Table C-1 below. The full text of each mitigation measure, as set forth in the MMP prepared by the CEQA lead agency and listed in Table C-1, is incorporated by reference in this Exhibit C.

Differences between the Commission's MMP and that prepared by the CEQA lead agency are identified by underlined text.

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¹ The State CEQA Guidelines are found at California Code of Regulations, title 14, section 15000 et seq.

Table C-1. Project Impacts and Applicable Mitigation Measures

Potential Impact	Mitigation Measure (MM) *	Difference Between CSLC MMP and Lead Agency MMP			
Protect Elderberry Plants and Special Status Plants with Buffer	Protect Elderberry Plants and Special Status Plants with Buffer	None			
Transplant Unavoidable Impacts to Elderberry Plants to Suitable Locations	Transplant Unavoidable Elderberry Plants to Suitable Locations	None			
Protect and Compensate for Native Trees	Protect and Compensate for Native Trees	None			
Construction Approach to Minimize Impacts to Fish	Construction Approach to Minimize Impacts to Fish	None			
Fish Relocation to Minimize Impact to Fish from Construction Activities	Fish Relocation to Minimize Impact to Fish from Construction Activities	None			
Exclusion of Fish from Construction Areas to Prevent Impacts	Exclusion of Fish from Exclusion of Fish from Construction Areas to Prevent Construction Areas to Prevent				
Work Outside of Critical Periods for Sensitive Species	Work Outside of Critical Periods for Sensitive Species	None			
Monitor for Bats to Prevent Impacts	Monitor for Bats to Prevent Impacts	None			
Monitor for Wildlife to Prevent Impacts	Monitor for Wildlife to Prevent Impacts	None			
Use Special Transportation Routes and Work Areas	Use Special Transportation Routes and Work Areas	None			
Prevent Spread of Aquatic Invasive Species	Prevent Spread of Aquatic Invasive Species	None			
Monitor Water Quality and Prevent Impacts	Monitor Water Quality and Prevent Impacts	None			
Monitor Mercury Levels	Monitor Mercury Levels	None			
Reduce Dust Impacts	Reduce Dust Impacts	None			
Use Clean Equipment and Biodegradable Lubricants	Use Clean Equipment, Biodegradable Lubricants	None			
Reduce Impacts from Noise	Reduce Impacts from Noise	None			
Implement SHPO MOA mitigation measures for the Middle Training Wall	Implement SHPO MOA mitigation measures for the Middle Training Wall	None			
Inadvertent Discoveries of Objects of Cultural Significance	Inadvertent Discoveries of Objects of Cultural Significance	See MM below			
Pre-construction site visit by a tribal representative from UAIC	Pre-construction site visit by a tribal representative from UAIC	None			
Tribal Cultural Resource Awareness Training	Tribal Cultural Resource Awareness Training	None			

^{*} See Attachment C-1 for the full text of each MM taken from the MMP prepared by the CEQA lead agency.

Mitigation Measure: Inadvertent Discoveries of Objects of Cultural Significance: If an inadvertent discovery of archaeological resources is made during the project, the USFWS and Yuba County will require ground disturbing activities in the vicinity of the discovery to cease. Prehistoric archaeological materials might include obsidian and chert flaked-stone tools (e.g., projectile points, knives, scrapers) or toolmaking debris; culturally darkened soil ("midden") containing heat-affected rocks, artifacts, or shellfish remains; and stone milling equipment (e.g., mortars, pestles, handstones, or milling slabs); and battered stone tools, such as hammerstones and pitted stones. Historic-period materials might include refuse-filled privies or wells. After cessation of excavation the contractor shall immediately contact the USFWS and Yuba County. The contractor shall not resume work until authorization is received from the USFWS and Yuba County.

In the event of unanticipated discovery of archaeological materials during project implementation, the USFWS and Yuba County shall retain the services of a Secretary of the Interior-qualified archaeologist (and a Native American representative if the site is prehistoric) to evaluate the significance of the find prior to resuming any activities that could impact the site.

In the case of an unanticipated archaeological discovery, if it is determined that the find is potentially eligible for listing in the National Register, and the site cannot be avoided, the USFWS and Yuba County shall provide a research design and treatment plan, prepared by a qualified archaeologist, outlining data recovery to be performed on the resource, analysis, and reporting of the find. The research design and treatment plan shall be submitted to and approved by the USFWS and Yuba County, the State Historic Preservation Officer, and appropriate Native American organizations prior to construction being resumed.

The title to all abandoned archaeological sites, and historic or cultural resources on or in the tide and submerged lands of California is vested in the State and under the jurisdiction of the California State Lands Commission (Commission) (Pub. Resources Code, § 6313). The USFWS and Yuba County shall consult with Commission staff should any archaeological or historical resources on State lands be discovered during construction of the proposed Project. In addition, the final disposition of archaeological or historical resources recovered on State lands under the jurisdiction of the Commission must be approved by the Commission.

ATTACHMENT C-1 Mitigation Monitoring Program Adopted by

Yuba County

MITIGATION MONITORING AND REPORT PROGRAM: HALLWOOD SIDE CHANNEL AND FLOODPLAIN RESTORATION PROJECT ON THE LOWER YUBA RIVER MITIGATED NEGATIVE DECLARATION

This Mitigation Monitoring and Reporting Program (MMRP) was prepared in accordance with Section 15097 of the California Environmental Quality Act (CEQA) Guidelines. Section 15097 requires that a lead agency establish a program to report on or monitor measures adopted as part of the environmental review process to mitigate or avoid significant effects on the environment. The MMRP for the Hallwood Side Channel and Floodplain Restoration Project is presented here as Table 1. As the Lead Agency, the U.S. Fish and Wildlife Service is responsible for enforcement of the adopted mitigation measures.

This MMRP is designed to ensure that the mitigation measures necessary to reduce significant impacts identified in the Hallwood Side Channel and Floodplain Restoration Project Initial Study and Proposed Mitigated Negative Declaration (IS/MND) are implemented. The components of the MMRP Table 1 are listed below:

Mitigation Measures: The mitigation measures are taken verbatim from the Hallwood Side Channel and Floodplain Restoration Project IS/MND.

Timing/Milestone: Identifies a schedule for conducting each mitigation action.

Responsible Entity: Identifies the entity responsible for implementing specific mitigation measures.

Mitigation Action: Identifies the specific action or actions that must be completed to implement the mitigation measure.

Monitoring and Enforcement Responsibility: Identifies the department/agency, consultant, or other entity responsible for overseeing that mitigation occurs.

Check off Date/Initials: To be filled out when individual mitigation is complete.

MITIGATION MONITORING AND REPORTING PROGRAM: HALLWOOD SIDE CHANNEL AND FLOODPLAIN RESTORATION PROJECT								
Mitigation Measure(s)	Timing/ Milestone	Responsible Entity	Mitigation Action	Monitoring and Enforcement Responsibility	Check off Date/Initials			
Biological Resources								
Protect Elderberry Plants and Special Status Plants with Buffer	Prior to initiation of	Project Applicant/	Implement specified	Project Applicant/				
Each year, before beginning construction activities, a pre-project special status plant survey will be conducted of the Proposed Project site. If elderberry shrubs (or other special status plants) are identified in subsequent surveys they will be avoided. Complete avoidance of elderberry plants may be assumed when there is at least a 100-ft (30.5 m) buffer around the plant. However, 20 ft buffers will be established and maintained for all elderberry plants with stems measuring 1 in or greater in diameter at ground level which will be retained in situ (83 plants). All buffer zones will be flagged and Proposed Project activities will be adjusted to ensure no activities occur in the buffer area, thereby minimizing any negative effects on valley elderberry longhorn beetle. No insecticides, herbicides, fertilizers, or other chemicals that might harm valley elderberry longhorn beetle or its host plant will be used for the Proposed Project (USFWS 1999).	restoration activities	Contractor	mitigation measures	Contractor				
Transplant Unavoidable Elderberry Plants to Suitable Locations	Prior to initiation of	Project Applicant/	Implement specified	Project Applicant/				
During the pre-project survey, a number of elderberry shrubs with ground-level stem diameter greater than 1 in	restoration activities	Contractor	mitigation measures	Contractor				

Protect and Compensate for Native Trees Native trees, such as Fremont cottonwood (<i>Populus fremontii</i>), willows (<i>Salix</i> spp.), and Alder (<i>Alnus rhombifolia</i>) with a diameter-at-breast-height (DBH) of 6	Prior to initiation of restoration activities	Project Applicant/ Contractor	Implement specified mitigation measures	Project Applicant/ Contractor	
buffers. These unavoidable elderberry shrubs will be transplanted to a restoration area following the USFWS transplanting guidelines, with the exception of the prescribed time period (USFWS 1999). The USFWS transplanting guidelines prescribe that elderberry plants should be transplanted when dormant between November and the first two weeks of February (USFWS 1999). Heavy equipment to be used for transplanting may not be able to access the site to perform the transplanting during this time period due to potential high flows in the Yuba River. Therefore, we propose to transplant the elderberry plants within the site when they no longer have green leaves, which can be as early as September (CFS unpublished data). These dormant elderberry plants will be transplanted into appropriately sized pre-dug holes in the restoration area using a 5 yard front-end loader. All transplanted elderberry bushes will be transplanted in groupings and will be transplanted to areas designed to be between the 1.75 and 10 year return interval flow events and within 2 to 12 ft relative elevation of 2,000 cfs (Figures 5 and 6), which are the areas within the site which currently support elderberry plants. Transplanted elderberries will be monitored in years 1, 2, 3, and 10, with a target minimum survival rate of at least 60%. If necessary, replacement plants will be added to the restoration area to maintain survival above 60%. Protect and Compensate for Native Trees	Prior to	Project	Implement	Project	
were identified within the affected area that cannot be avoided by the Proposed Project through use of 20 ft					

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in (15.2 cm) or greater will be protected with 30-ft (9.1-			
m), 10-ft (3-m), and 10-ft (3-m) buffers, respectively.			
Native trees will be marked with flagging if close to the			
work area to prevent disturbance. To compensate for the			
removal of riparian shrubs and trees during Proposed			
Project implementation, the plans will identify tree and			
shrub species that will be planted, how, where, and when			
they will be planted, and measures to be taken to ensure			
a minimum performance criteria of 60% survival of			
planted trees for a period of three consecutive years.			
Irrigation will not be used, but the return of inundation to			
the floodplain is expected to promote growth of native			
riparian species. The tree plantings will be based on native tree species compensated for in the following			
manner:			
• Oaks having a DBH of 3 – 5 in (7.6 – 12.7 cm)			
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will be replaced in-kind, at a ratio of 3:1, and			
planted during the winter dormancy period in the			
nearest suitable location to the area where they			
were removed. Oaks with a DBH of greater than			
5 in will be replaced in-kind at a ratio of 5:1.			
•			
Riparian trees (i.e., willow, cottonwood, poplar,			
alder, ash, etc.) and shrubs will be replaced in-			
kind and on site, at a ratio of 3:1, and planted in			
the nearest suitable location to the area where			
they were removed.			
they were removed.			
Tree species planted within the existing PG&E easement			
would follow guidelines to maintain required clearance			
from the transmission lines.			

Construction Approach to Minimize Impacts to Fish	Ongoing	Project	Implement	Project	
Construction Approach to Minimize Impacts to Fish The construction approach will allow fish to move progressively downstream and away from the impact area as construction moves from upstream to downstream through the perennial channels, pond, and backwater. The majority of the in-water work will involve the filling in and creation of a side channel through the ponds and backwater. Before in-water work starts in a section of the channel a qualified fisheries biologist will survey the area and determine whether there is a suitable egress route for fish to move downstream and away from the construction area. If a suitable downstream egress route is not present, most likely because an area is deemed too shallow, then the problem area will be altered such that it becomes suitable. An excavator would likely be used to deepen the problem area and would work from downstream to upstream to discourage fish from migrating downstream until the egress route is completed. Once suitable downstream egress has been established, in-stream construction will begin at the most upstream section of the channel and work progressively downstream and across the channel. The listed fish species most likely to be present are juvenile CCV Steelhead from 7 to 30 cm (3 – 12 in) fork length and possibly juvenile CV springrun Chinook Salmon that are demonstrating the yearling life history strategy from 7 to 12 cm (3 – 5 in) fork length. Juvenile CCV steelhead and Chinook Salmon are highly mobile and would be expected to easily move	Ongoing during restoration activities	Project Applicant/ Contractor	Implement specified mitigation measures	Project Applicant/ Contractor	
downstream and away from the impact area with a suitable egress route. Juvenile CCV steelhead and Chinook Salmon are not likely to be present in the ponds or the majority of the backwater, since they are not					

juvenile salmonid habitat. During pre-project surveys juvenile salmonids have not been observed in the ponds or the majority of the backwater (CFS unpublished data). Juvenile <i>O. mykiss</i> were only observed in the perennial channels and at the inflow of the backwater whereas juvenile Chinook Salmon were only observed in the inflow and exit of the backwater (CFS unpublished data). Once work proceeds past an area, fish will be able to return to use the newly created habitat through upstream migration. Temporary stream crossings will follow NMFS and CDFW guidelines for installation and removal. To avoid impacting CCV steelhead redds and incubating eggs or alevins, prior to beginning temporary crossing installation the anticipated crossing location will be visually surveyed by a qualified fish biologist to determine if any CCV steelhead redds are in the footprint (with 20 ft buffer on either side) of the crossing location. If any CCV steelhead redds are observed within the crossing footprint or buffer, the crossing location will be moved such that the observed redd is at least 20 ft away from the footprint of the crossing. If a qualified fisheries biologist, with input from the contractor, determines that in-stream work in an area cannot be performed using the construction approach					
cannot be performed using the construction approach then fish relocation will be performed to avoid fish injury and mortality and minimize disturbance.					
Fish Relocation to Minimize Impact to Fish from Construction Activities	Ongoing during restoration	Project Applicant/ Contractor	Implement specified mitigation	Project Applicant/ Contractor	
If fish relocation needs to be performed then a qualified fisheries biologist will determine which fish relocation method is most appropriate for the area. Fish relocation will most likely initially be attempted by trying to herd	activities		measures		

the fish out of the work area as this would minimize			
impacts to fish as they would not be handled and			
transported. The following guidelines will apply to fish			
relocation through herding. • Before fish relocation through herding begins, a			
qualified fisheries biologist will identify the			
most appropriate method and approach. Prior to			
beginning the fisheries biologist will ensure that			
the location to which fish are herded contains			
suitable habitat.			
The fish relocation through herding will be			
conducted under the supervision of a qualified			
fisheries biologist. The method that will most			
likely be used will be to install an exclusion			
screen or block-net above the upstream most			
work area. An appropriately sized seine that			
covers the width of the channel, operated by			
qualified personnel, will be pulled in the			
downstream direction until it is below the			
bottom of the work area. The net will then be			
fastened in place, blocking the entire channel			
until a temporary block net can be installed. The			
temporary block-net will be installed			
immediately upstream of the seine net such that			
fish have been herded downstream and cannot			
return upstream. A minimum of three seine hauls			
will be performed. For each haul, when the seine			

	approaches the block-net, the block-net will be			
	removed until the seine has passed downstream			
	of its location and will then be re-installed			
	immediately upstream of the seine. After the			
	final pass, as determined by the fisheries			
	biologist, the block-net will be left in place or			
	replaced with an exclusion screen to prevent fish			
	from moving upstream.			
•	After the area has been adequately seined, based			
	on the judgement of a qualified fish biologist,			
	the area will once again be surveyed for fish.			
	The fisheries biologist will determine the most			
	appropriate method to survey the area for			
	remaining fish.			
•	If the survey results in an estimate of greater			
	than 95% of individuals that were present prior			
	to relocation efforts being absent after relocation			
	efforts and no listed species are observed, the			
	fish relocation effort will be considered			
	successful and construction activities can			
	commence. If initial relocation efforts are			
	deemed unsuccessful, the fisheries biologist will			
	determine whether further herding with a seine			
	should be conducted until the success criteria is			
	met or relocation using a capture method will be			
	employed.			

If fish relocation using herding is not successful or the			
fisheries biologist decides it is not worth attempting, then			
fish capture and relocation will be used. The following			
guidelines will apply to fish capture and relocation.			
Before fish relocation begins, a qualified			
fisheries biologist will identify the most			
appropriate release location(s). Release locations			
will have water temperatures within 2°C of the			
capture location, offer suitable habitat for			
released fish, and will be selected to minimize			
the likelihood that fish will re-enter the work			
area or become impinged on the exclusion net or			
screen.			
The method used to capture fish will depend on			
the nature of the work site, and will be selected			
by a qualified fisheries biologist who is			
experienced with fish capture and handling.			
Areas of complex habitat may require the use of			
electrofishing equipment, whereas in other areas			
fish may be captured through seining or dip			
netting. Electrofishing will only be performed by			
properly trained personnel following NMFS			
guidelines (2000). Electrofishing will only be			
performed if seining and/or dip netting is not			
feasible.			
Handling of salmonids will be minimized. When			
it is necessary, personnel will only handle fish			

with wet hands or nets.			
Fish will be held temporarily in cool, shaded			
water. Overcrowding in buckets will be avoided			
by using at least two buckets and no more than			
25 fish will be kept in a five gallon bucket.			
Aeration will be provided with a battery			
powered external bubbler. Fish will be protected			
from jostling and noise and will not be removed			
from the bucket until the time of release. The			
water temperature in each bucket will be			
monitored and partial water changes or the			
addition of ice will be conducted as necessary to			
maintain a stable water temperature (within 2°C			
of initial water temperature). Fish will not be			
held for more than 30 minutes. If water			
temperature reaches or exceeds NMFS limits,			
fish will be released and relocation operations			
will cease.			
If fish are abundant, capture will cease			
periodically to allow release and minimize the			
time fish are held in containers.			
Fish will not be anesthetized or measured.			
However, they will be visually identified to			
species level, and year classes will be estimated			
and recorded.			
• When feasible, initial fish relocation efforts will			
occur several days prior to the scheduled start of			

construction. The fisheries biologist will perform					
a final survey on the day before or the day of					
construction.					
Reports on fish relocation activities will be					
submitted to CDFW and NMFS within 6 months					
of the relocation effort.					
If mortality during relocation exceeds 2%, relocation will cease and CDFW and NMFS will be contacted as soon as possible.					
Exclusion of Fish from Construction Areas to Prevent	Ongoing	Project	Implement	Project	
Impacts	during .	Applicant/	specified	Applicant/	
Fish exclusion screens or nets will be used in strategic locations at various times to prevent fish from being impacted by construction activities. Exclusion will prevent fish from accessing areas from which they were relocated. Adult salmonids will be prevented from accessing the site through installment of a net or screen where the backwater connects with the main channel. A net or screen exclosure will be installed downstream of the work area before the newly created Secondary Channel is connected with the existing perennial channel to prevent fish from migrating upstream into the area where they could be impacted. Fish will be excluded from the work area while the temporary stream crossing is constructed and removed yearly during Phase 2. Fish will be excluded with a net or screen exclosure and using either the herding approach or capture and relocate methods described below. Once fish have been excluded using herding or relocation with exclosure nets in place	restoration activities	Contractor	mitigation measures	Contractor	

crossing will commence.					
Work Outside of Critical Periods for Sensitive Species	Prior to initiation of	Project Applicant/	Implement specified	Project Applicant/	
Table 14 in IS/MND lists the critical periods when disturbance could result in significant impacts to individuals or populations of special status species. To avoid these impacts, all Proposed Project instream activities will be conducted during the period 15 July through 15 October, which is outside the listed critical periods for the majority of the species, with the exception of installation of the culvert crossing, which may occur as early as 16 April (Table 14). Surveys will be performed for species which have critical periods overlapping with the in-water work window which may be impacted by the Proposed Project activities. If special status or sensitive species are identified within the area which may be impacted by Proposed Project activities, then buffers will be established and/or CDFW and USFWS will be consulted. Nesting birds and raptors are protected under the MBTA and California Fish and Game Code, and trees and shrubs within the Proposed Project area likely provide nesting habitat for songbirds and raptors. If tree removal is unavoidable, it will occur during the non-breeding season (mid-September). If other construction activities must occur during the potential breeding season (1 February- 31 August) surveys for active nests and/or roosts will be conducted by a qualified biologist no more than 10 days prior to the start of construction. A minimum no disturbance buffer will be delineated around active nests (note, size of buffer depends on species encountered) until the	initiation of restoration activities	Applicant/ Contractor	specified mitigation measures	Applicant/ Contractor	
breeding season has ended or until a qualified biologist has determined that the birds have fledged and are no					

longer reliant upon the nest or parental care for survival.					
Monitor for Bats to Prevent Impacts For bat species, before any ground disturbing activities, a qualified biologist will survey for the presence of associated habitat types for the bat species of concern. If bats are present, suitable avoidance and conservation measures will be implemented, including a minimum 300 ft (91.4 m) buffer of roosting bats, maternity roosts or winter hibernacula until all young bats have fledged.	Prior to restoration activities	Project Applicant/ Contractor	Hire qualified biologist to perform surveys; if necessary, implement specified mitigation measures	Project Applicant/ Contractor	
Pre-construction surveys will be conducted by qualified wildlife biologists, who will determine the use of the Proposed Project site by American badgers; surveys will focus on identification of potential badger dens within the construction footprint and a minimum 250 ft (76.2 m) buffer around the construction footprint. If badger dens are located within the construction or buffer area, prior to initiation of construction CDFW will be consulted for further instructions on methods to avoid direct impacts to this species. Protocol-level surveys will also be implemented for other state and federally-listed species such as Foothill Yellow-legged Frog, Swainson's Hawk, White-tailed Kite, Bald Eagle, Chinook Salmon, CCV steelhead, and Western Pond Turtle, which may be impacted by restoration activities (Swainson's Hawk Technical Advisory Committee 2000). This includes preconstruction surveys conducted no more than 15 days before Proposed Project-related activities by qualified wildlife and fisheries biologists. Surveys for active nests will be performed using qualified biologists no more than 10 days prior to the start of disturbance activities. A	Prior to restoration activities	Project Applicant/ Contractor	Hire qualified biologist to perform surveys; if necessary, implement specified mitigation measures	Project Applicant/ Contractor	

minimum no-disturbance buffer of 250 ft around active nests of non-listed bird species; a 500-ft no-disturbance buffer around migratory bird species; and a half mile buffer for nest of listed species and fully protected species (including White-tailed Kite and Bald Eagle) will be established until breeding season is over or young have fledged. If such a buffer cannot be accomplished, CDFW will be consulted. If Foothill Yellow Legged Frog or Western Pond Turtle are present in Proposed Project areas that will be disturbed then CDFW will be consulted for further instructions on methods to avoid direct impacts to these species.					
Use Special Transportation Routes and Work Areas Special transportation routes and work areas will be designated to avoid damaging trees and shrubs in riparian habitats, especially those sensitive species described above. Potential impacts to the riparian vegetation could occur during the transport of gravel from construction staging area to the river. These impacts will be minimized to the greatest extent practicable by selecting routes that avoid or minimize damage. Heritage size trees (i.e., greater than 16 in [40.6 cm] in diameter) near the work area will be identified, flagged and fenced prior to construction to prevent unintended damage. If damage cannot be avoided, these trees will be replaced at a ratio prescribed in Mitigation Measure - Protect and Compensate for Native Trees.	Ongoing during restoration activities	Project Applicant/ Contractor	Implement specified mitigation measures	Project Applicant/ Contractor	
Prevent Spread of Aquatic Invasive Species To minimize the chance that aquatic invasive plants and invertebrates will be transported and spread to other sections of the Yuba River or other water bodies on equipment, construction specifications will require that	Prior to restoration activities	Project Applicant/ Contractor	Implement mitigation measures specified in ISRAP	Project Applicant/ Contractor	

equipment be steam cleaned immediately after the work is completed and before being used in other water bodies. An Invasive Species Risk Assessment and Planning (ISRAP) protocol will be developed, and all appropriate staff will be trained as to its purpose and implementation before construction begins. The plan will be used to prevent the spread of invasive species during construction. Additional measures may be taken at the recommendation of CDFW.					
Water Quality					
Monitor Water Quality and Prevent Impacts During in river work, turbidity and total suspended solids will be monitored with intermittent grab samples from the river, and construction curtailed if turbidity exceeds criteria established by the Regional Water Quality Control Board in its Clean Water Act §401 Water Quality Certification. Only cobbles which have been screened and cleaned will be added to the Secondary Channel using front-end loaders. As appropriate, silt curtains will be used along the river corridor to capture floating materials or sediments mobilized during construction activities, and prevent water quality impacts. Stream bank impacts will be isolated and minimized to reduce bank sloughing. Banks will be stabilized with revegetation following Proposed Project activities, as appropriate. A Spill Prevention and Response Plan will also be developed as part of the Hallwood Best Management Practices Plan (BMP Plan), as well as a Stormwater Pollution Prevention Plan (SWPPP). All pertinent staff will be trained on and familiarized with these plans. Copies of the plans and appropriate spill prevention	Ongoing prior to, during and after restoration activities	Project Applicant/ Contractor	Use qualified QSP and implement measures	Project Applicant/ Contractor	

equipment referenced in them will be made available at the site and staff will be trained in its use. Spill prevention kits will be in close proximity to construction areas, and workers will be trained in their proper use.				
Monitor Mercury Levels Following methods in the Stillwater Sciences (2004) Mercury Assessment, total mercury from sediments will be evaluated to ensure samples are below or within the range of background levels, as defined by Goldfield sediments analyzed for the Western Aggregate Reclamation Plan (0.03 mg/kg to 0.59 mg/kg) (SMGB, 2014). Aqueous raw total mercury will also be tested to ensure that it is below the California Toxics Rule for a drinking water source of 50 ng/L. It is unlikely that excavation and regrading activities may uncover mercury hot spots and or mobilize mercury in the aquatic food web; however, if samples are found with mercury levels above established standards, work will be halted to assess contamination potential. As a further precaution, mercury levels will be measured before, during, and after restoration activities in the Proposed Project area.	Ongoing prior to, during and after restoration activities	Project Applicant/ Contractor	Use qualified QSP and implement measures	Project Applicant/ Contractor
Air Quality		•		
Reduce Dust Impacts The following dust reduction measures will be implemented during movement of materials from the construction area to the processing plant to reduce construction-related emissions: • wet materials to limit visible dust emissions using water; • provide at least 6 in (15.2 cm) of freeboard space	Ongoing during restoration activities	Project Applicant/ Contractor	Implement specified mitigation measures	Project Applicant/ Contractor

from the top of the container; or,					
• cover the container.					
 Implement the following dust reduction measure during cobble placement to reduce construction-related emissions: limit or promptly remove any of mud or dirt on construction equipment and vehicles at the end of each workday, or once every 24 hours. Water trucks would be used to wet down construction access roads, staging areas, and restoration activity zones to minimize dust production. 					
Best Management Practices			1	<u> </u>	L
Use Clean Equipment and Biodegradable Lubricants All equipment will be clean and use biodegradable lubricants and hydraulic fluids. All equipment working within the stream channel will be inspected daily for fuel, lubrication, and coolant leaks; and, for leak potentials (e.g. cracked hoses, loose filling caps, stripped drain plugs). Vehicles are to be fueled and lubricated in a designated staging area located outside the stream channel and banks. Front-end loaders will be wheeled (rubber tire) to minimize impacts. Construction specifications will require that any equipment used in or near the river is properly cleaned to prevent any hazardous materials from entering the river, and containment material will be on site in case of an accident. Contracted construction personal will regularly monitor contractors to insure environmental compliance. Spill prevention kits will be located close to construction	Ongoing during restoration activities	Project Applicant/ Contractor	Implement specified mitigation measures	Project Applicant/ Contractor	

areas, with workers trained in its use.				
Reduce Impacts from Noise To mitigate noise related impacts, the Proposed Project will require all contractors to comply with the following operational parameters: • restrict construction activities to time periods under which the processing plant is allowed to operate; Install and maintain sound-reducing equipment and muffled exhaust on all construction equipment.	Ongoing during restoration activities	Project Applicant/ Contractor	Implement specified mitigation measures	Project Applicant/ Contractor
Cultural resources				
Implement SHPO MOA mitigation measures for the Middle Training Wall The cultural resources report for the Proposed Project (Horizon 2016) determined the MTW was potentially eligible for inclusion on the National Register of Historic Places. The SHPO concurred with the determination of eligibility and a finding of effect and an MOA with SHPO were prepared. The Proposed Project will follow the terms and conditions of the MOA, executed on 29 November 2017, to minimize the Proposed Projects effect on the cultural resource that is the MTW. These terms are as follows: Additional Recordation of the Middle Training Wall The USFWS shall insure that a supplement to the existing California Department of Parks and Recreation site record form 523 (DPR form 523) be prepared for the MTW prior to the start of any work that will adversely affect any of the characteristics that qualify the MTW as a historic property. The DPR form 523 shall thoroughly	Prior to and ongoing during restoration activities	Project Applicant/ Contractor	Implement specified mitigation measures	Project Applicant/ Contractor

describe the state of the MTW at the time of the			
recording and detail the changes that have occurred since			
the initial 2016 recordation, along with the reason for the			
changes. The DPR form 523 shall include photographs			
to depict the MTW at the time of additional recordation			
and to demonstrate how the wall has changed over time.			
The additional recordation shall be conducted by a			
person or persons who meet at a minimum the U.S.			
Secretary of Interior's Professional qualifications			
standards (48 FR 44738-44739; Appendix A to 36 CFR			
61) in historic archaeology or history. The completed			
supplemental DPR form 523 for the Training Walls will			
be submitted to the North Central Information Center of			
the California Historical Resources Information System			
at California State University, Sacramento.			
Develop and Post Historical Information about the			
Training Walls on the Project Web Site			
The USFWS and other Project partners sponsor a web			
site (http://www.hallwoodproject.org/) that presents			
information about and tracks the progress of the			
proposed Project. The USFWS shall develop and post			
historical information about the Yuba Goldfields			
Training Walls on the web site. Information on the Yuba			
Goldfields Training Walls will be presented within the			
context of the history of gold mining in the Sierra			
Nevada and development of the Yuba Goldfields			
Historic District.			
Install an Information Panel at Hammon Grove Park			
The proposed Project is located in an area surrounded by			
private property and is not available to the public. As a			
result, USFWS shall fund and install a professionally			
designed and developed information panel about the			
Yuba Goldfields Training Walls, the Yuba Goldfields			
and gold mining in the Sierra Nevada. The panel will be			

placed at Hammon Grove Park, which is owned and operated by Yuba County. Hammon Grove Park is located on the north bank of the Yuba River about three (3) miles upstream from the Project. Hammon Grove Park was dedicated in 1928 by the E. Clampus Vitus organization to commemorate the Yuba Goldfields. Inclusion of the information panel would enhance the park user's knowledge of dredge mining in the Yuba Goldfields, including use of the training walls to divert the river. As the owners of Hammon Grove Park, Yuba County will allow installation of the information panel and identify the location of the information panel within the park. However, the USFWS will be responsible for maintenance of the panel once it has been installed, for a cost up to \$5000 for 10 years, regardless of the status of this Agreement over that time period. Inadvertent Discoveries of Objects of Cultural Significance Develop a standard operating procedure, points of contact, timeline and schedule for the project so all possible damages can be avoided or alternatives and cumulative impacts properly accessed. If potential archaeological resources, cultural resources, articulated, or disarticulated human remains are discovered by Native American Representatives or Monitors from interested Native American Tribes, qualified cultural resources specialists, or other Project personnel during construction activities, work will cease in the immediate vicinity of the find (based on the apparent distribution of cultural resources), whether or not a Native American Monitor from an interested Native American Tribe is present. A qualified cultural resources specialist and	Ongoing during restoration activities	Project Applicant/ Contractor	Implement specified mitigation measures	Project Applicant/ Contractor	
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Native American Representatives and Monitors from culturally affiliated Native American Tribes will assess the significance of the find and make recommendations for further evaluation and treatment as necessary. These recommendations will be documented in the Project record. For any recommendations made by interested Native American Tribes which are not implemented, a justification for why the recommendation was not followed will be provided in the Project record. If adverse impacts to tribal cultural resources, unique archeology, or other cultural resources occur, then consultation with Tribal Representatives regarding mitigation should occur, in order to coordinate for compensation for the impact by replacing or providing substitute resources or environment. The final disposition of archaeological, historical, and paleontological resources recovered on State lands under the jurisdiction of the State Lands Commission must be approved by the Commission.					
Pre-construction site visit by a tribal representative from UAIC A minimum of seven days prior to beginning earthwork or other soil disturbance activities, the applicant shall notify the lead agency representative of the proposed earthwork start-date, in order to provide the lead agency representative with time to contact the United Auburn Indian Community (UAIC). A UAIC tribal representative shall be invited to inspect the Project site, including any soil piles, trenches, or other disturbed areas, within the first five days of ground breaking activity. During this inspection, a site meeting of construction personnel shall also be held in order to afford the tribal representative the opportunity to provide	Prior to and ongoing during restoration activities	Project Applicant/ Contractor	Implement mitigation measure specified	Project Applicant/ Contractor	

Tribal Cultural Resource Awareness Training A consultant and construction worker cultural resources	Prior to restoration activities	Project Applicant/ Contractor	Implement mitigation measure	Project Applicant/ Contractor	
bone or shell, artifacts, human remains, or architectural remains are encountered during this initial inspection or during any subsequent construction activities, work shall be suspended within 100 ft of the find, and the project applicant shall immediately notify the lead agency representative. The project applicant shall coordinate any necessary investigation of the site with a UAIC tribal representative, a qualified archaeologist approved by the City, and as part of the site investigation and resource assessment the archeologist shall consult with the UAIC and provide proper management recommendations should potential impacts to the resources be found by the lead agency representative to be significant. A written report detailing the site assessment, coordination activities, and management recommendations shall be provided to the lead agency representative by the qualified archaeologist. Possible management recommendations for historical or unique archaeological resources could include resource avoidance or, where avoidance is infeasible in light of project design or layout or is unnecessary to avoid significant effects, preservation in place or other measures. The contractor shall implement any measures deemed by the lead agency representative staff to be necessary and feasible to avoid or minimize significant effects to the cultural resources, including the use of a Native American Monitor whenever work is occurring within 100 ft of the find.		•		· ·	
cultural resources awareness information. If any cultural resources, such as structural features, unusual amounts of					

awareness brochure and training program for all		specified	
personnel involved in project implementation will be		•	
developed in coordination with interested Native			
American Tribes. Brochures provided by a Native			
American Tribal Representative, will be distributed and			
the training will be conducted in coordination with			
qualified cultural resources specialists and Native			
American Representatives and Monitors from culturally			
affiliated Native American Tribes before any stages of			
project implementation and construction activities begin			
on the project site. The program will include relevant			
information regarding sensitive tribal cultural resources,			
including applicable regulations, protocols for			
avoidance, and consequences of violating Federal and/or			
State laws and regulations. The worker cultural resources			
awareness program will also describe appropriate			
avoidance and minimization measures for resources that			
have the potential to be located on the project site and			
will outline what to do and whom to contact if any			
potential archaeological resources or artifacts are			
encountered. The program will also underscore the			
requirement for confidentiality and culturally-appropriate			
treatment of any resource of significance to Native			
Americans and behaviors, consistent with Native			
American Tribal values.			