PARADISE CUT CONSERVATION AND FLOOD MANAGEMENT PLAN PROJECT

Task 5: Environmental Compliance and Permitting Strategy Deliverables

A project funded in part by Sacramento-San Joaquin Delta Conservancy
Grant Agreement Number: Prop1-2015-Y1-012

Prepared for
San Joaquin County Resource Conservation District &
American Rivers

May 2019

ESA

View looking South up the San Joaquin River, with Paradise Weir and Cut in the middle of the image.
UAV-based photo by Daniel Nylen, American Rivers

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Paradise Cut Conservation and Flood Management Plan Project - Task 5: Environmental Compliance and Permitting Strategy Deliverables

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The following sections comprise ESA's contracted deliverables for *Task 5: Environmental Compliance and Permitting Strategy* of the Paradise Cut Conservation and Flood Management Plan Project. The project was funded in part by Sacramento-San Joaquin Delta Conservancy Grant Agreement Number: Prop1-2015-Y1-012, as sub-contracted to ESA by the San Joaquin County Resource Conservation District. The Task 5 deliverables are comprised of:

1) a draft project description for potential future use in the preparation of environmental review documents in compliance with the California Environmental Quality Act (CEQA) and the National Environmental Policy Act (NEPA);

2) a strategy for obtaining a 408 levee modification permit from USACE and associated Central Valley Flood Protection Board encroachment permit;

3) a work plan for NEPA/CEQA compliance; and

4) a cost estimate for NEPA/CEQA compliance.

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Draft Project Description for the Paradise Cut Bypass Expansion (as of 5/30/2019)

The following is a draft Project Description (PD) for a potential configuration of the Paradise Cut Bypass Expansion Project. The Proposed Project and the potential alternatives described below are not final; they represent characterization by ESA based on guidance from American Rivers, peer reviewers, and readily available information. The actual PD for any final configuration of the Paradise Cut Bypass Expansion Project is likely to vary, and the range of project alternatives considered in any CEQA analysis may vary from those theorized below.

Proposed Project

The goals of the Paradise Cut Bypass Expansion Project are to (1) protect lives and property from catastrophic flooding, and (2) restore large areas of floodplain and riparian habitat as part of a new bypass. The Project is positioned at the same location as the existing Paradise Cut, although new setback levees would substantially expand it (**Figure 1**). Under current conditions, water periodically spills over the Paradise Cut Weir from the San Joaquin River during high water. Water flows generally northwest through Paradise Cut for approximately 7 miles and empties into Old River.

Overall, the Project includes a new weir on the San Joaquin River, approximately 7.8 miles of new setback levee, and removal of approximately 5.1 miles of existing levee (Figure 1). The result is a substantial expansion of the area subject to flooding in Paradise Cut from approximately 875 acres to 2,970 acres. The Project includes improvements to the existing weir on the San Joaquin River, new flood and conservation easements on agricultural land, modifications to rock embankments where two railroad lines (the eastern Union Pacific Rail Road, and western Southern Pacific Rail Road, which will be referred to henceforth as “eastern railroad” and “western railroad”, respectively) and Interstate 5 (I-5) cross Paradise Cut (Figure 1), as well as a 250 ft. expansion of the eastern railroad crossing. The proposed Project would result in a vertical flood stage reduction in the San Joaquin River between Mossdale and Stockton of up to 2 feet for the authorized design flood condition.

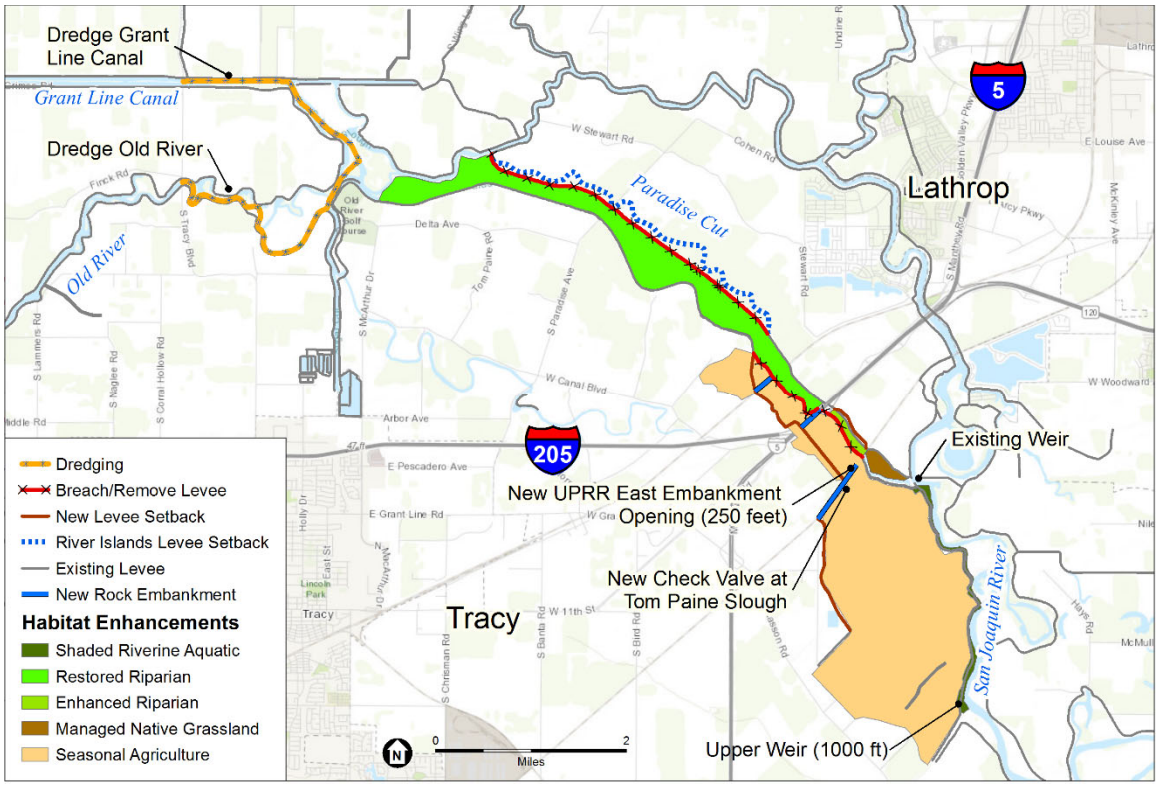

Figure 1
Proposed Paradise Cut Bypass Expansion Project

Project Elements between the San Joaquin River and the Eastern Railroad

The Project would construct a new 1,000-foot long weir along the San Joaquin River approximately 3.1 river miles upstream of the existing weir. A new setback levee would begin about 1.3 miles away from the new weir, at the southwest corner of the Deuel Vocational Facility Floodwater would not be constrained on the south side of Paradise Cut for that 1.3-mile reach, and would extend into adjacent agricultural fields up to the proposed setback levee.

The new setback levee would extend past Deuel Vocational Facility, and to the eastern railroad. To provide additional conveyance capacity at the railroad, a new 250-foot opening would be constructed under the existing railroad embankment. A rock embankment would be placed along the rest of the eastern railroad embankment, which would function as a levee. The new weir and setback levee would result in the occasional flooding (i.e., less than 10% chance in any given year) of an approximately 1,980-acre agricultural area within this reach. The area subject to new flooding would remain in agriculture.

The existing conveyance structure for water entering Tom Paine Slough is located in the embankment of the eastern railroad just west of Paradise Cut. A new check valve structure would be installed on this structure that would still allow for irrigation water drain water to enter Tom Paine Slough, but during flooding would limit flood flows to Tom Paine Slough and downstream areas.

Project Elements between the Eastern Railroad and Western Railroad

The existing left-bank levee of Paradise Cut would be removed, and a new setback levee constructed. The existing width of the area available for flooding in this reach is approximately 330-800 feet. As a result of the proposed project, the width would be approximately 2,100 feet. The agricultural fields newly subject to flooding would remain in agriculture. Rock embankments would be constructed along the sides of I-5, which is in the middle of this reach, and the western railroad.

On the right-bank of this reach a new setback levee would be constructed about 150 feet north of the existing levee between I-5 and the eastern railroad. The new setback levee would be about 0.5-mile long. The existing levee would be breached at the upstream and downstream ends of the new setback levee. The remaining portion of the old levee would become an area of high ground.

Project Elements between the Western Railroad and Old River

An approximately 0.9-mile portion of the existing left-bank levee of Paradise Cut would be removed, and a new setback levee constructed. The left-bank levee removed would be the most upstream portion in this reach.

Most of the new setback levee would be on the right-bank in this reach and would be constructed as part of the River Islands development. An approximately 3.6-mile long, irregularly shaped setback levee would be constructed along almost the entire right–bank of this reach. Although the new River Islands setback levee would be part of a new Paradise Cut proposed by this Project, the River Islands setback levee is being separately funded, permitted, and constructed by the River Islands Development. Since it is a foreseeable and relevant new feature, the proposed River Islands setback levee was included in the planning, modeling, and alternatives for the Project proposed here.

Dredging

The proposed Project includes dredging of about 2 feet along approximately 5 miles of Old River and Grant Line Canal. Hydraulic modeling indicates this dredging would reduce flood stage in those areas by about 1.5–2 inches (0.13 to 0.17ft.). Dredging that is included as an integral part of the Paradise Cut Expansion Project would help to address local concerns over sedimentation issues that affect irrigation intake pumps and navigation. The spoils from dredging could be used to reinforce the land-side toe of adjacent levees that are currently vulnerable to hydrostatic pressure and high-velocity flows.

Habitat Enhancements

The proposed Project includes several habitat enhancement components. Nearly the entire area of existing agriculture east of I-5 would remain in agriculture suitable for Swainson’s hawk foraging habitat. Small amounts in the footprint of proposed new setback levees would be lost. The area in the existing Paradise Cut footprint between I-5 and eastern railroad has existing disturbed riparian habitat that would be enhanced.

Sediment has accumulated in the channel between the existing Paradise Cut weir and the eastern railroad. The sediment would be removed and the area would be restored to native grassland.

Shaded riverine aquatic habitat would be restored along the left-bank levee of the San Joaquin River between the existing and proposed weirs, a distance of about 2.7 miles.

Alternatives

Three other potential alternatives (see **Table 1**, below) to the proposed Project can considered: (1) the Central Valley Flood Protection Plan (CVFPP) 2017 Update conceptual design (specifically San Joaquin Basin-Wide Feasibility Study Option M-Ag); (2) the modified CVFPP conceptual design; and 3) the maximum potential project. All of the alternatives are somewhat similar to the proposed Project. The discussion below focuses on the differences of each of the alternatives relative to the proposed Project.

CVFPP Conceptual Design Alternative

This alternative is from the CVFPP 2017 Update San Joaquin Basin-Wide Feasibility Study (Option M-Ag). The CVFPP considered flood protection on a much broader scope, but included a conceptual design for the increasing flood capacity in Paradise Cut. Relative to the proposed Project, the CVFPP conceptual design alternative:

- Would include an additional 1.3 miles of setback levee from the new weir to the dairy next to Deuel Vocational Center. This would result in approximately 380 acres less agricultural area subject to flooding.
- Would lengthen the eastern railroad trestle by 500 feet instead of 250 feet.
- Would include an additional 1.5 miles of setback levee past the Kisst Dairy and Bend 16.
- Would include a relatively straight River Islands setback levee instead of the irregularly shaped setback levee River Islands is proposing.
- Would not include dredging.

Modified CVFPP Conceptual Design Alternative

This alternative was developed to modify the above-referenced CVFPP conceptual design to address local concerns in more detail. Relative to the proposed Project, the modified CVFPP conceptual design alternative:

- Would include an additional 1.3 miles of setback levee from the new weir to the dairy next to Deuel Vocational Center. This would result in approximately 380 acres less agricultural area subject to flooding.
- Would lengthen the eastern railroad trestle by 500 feet instead of 250 feet.

Paradise Cut Bypass Expansion Project: Cost Estimate for EIR/EIS Preparation

COST ESTIMATE

Tasks	Project Director	Project Manager	Senior Fisheries Biologist	Senor Terrestrial Biologist	Senior Cultural Resources Specialist	Senior Hydrologist/ Water Quality Specialist	Senior Air Quality/Noise Specialist	Senior Environmental Planner	Fisheries Biologist	Botanist/ Wetland Specialist	Widlife Biologist	Architect-ural Historian	Archaeologist	Geologist/ Soil Scientist	Hydrologist/ Water Quality Specialist	Air Quality / Noise Specialist	Environmental Planner	Junior Environmental Specialist	GIS Specialist	Graphic Artist	Word Processor	Technical Editor	Administrative Support	**Total Hours**	**Cost**
	Senior Director I	Director III	Managing Associate II	Managing Associate II	Managing Associate III	Director II	Director III	Managing Associate III	Managing Associate II	Associate II	Senior Associate II	Senior Associate II	Managing Associate II	Senior Associate II	Senior Associate I	Senior Associate I	Senior Associate I	Associate II	Senior Associate II	Graphic Artist	Document Administrator	Senior Associate II	Associate II		
Rate/Hour	$300.00	$240.00	$190.00	$190.00	$205.00	$225.00	$240.00	$205.00	$190.00	$125.00	$160.00	$160.00	$190.00	$160.00	$150.00	$150.00	$150.00	$125.00	$160.00	$120.00	$120.00	$160.00	$100.00		
Subtask 1.1 Project Management	120	360																					96	576	$132,000.00
Subtask 1.2 Meetings and Coordination Support	40	120																						160	$40,800.00
Subtask 2.1 Prepare NOP/NOI	2	16															16	8	8					50	$9,120.00
Subtask 2.2 Conduct Scoping Meeting and Prepare Sco	8	32															80	16	24	16	24		12	212	$33,920.00
Subtask 2.3 Assembly Bill 52 Consultation		8											24					32			4			68	$10,960.00
Subtask 2.4 Prepare Project Objectives and Purpose an	16	48				6											24				4			98	$21,750.00
Subtask 2.5 Prepare Administrative Draft EIR/EIS	60	120	24	24	24	24	16	24	60	48	32	32	40	32	80	80	240	160	60	40	60	160		1,440	$242,560.00
Subtask 2.6 Prepare Screencheck and Public Draft EIR/	32	100	8	8	8	8	8	12	20	16	16	16	20	16	40	40	120	80	30	20	40	80		738	$126,540.00
Subtask 2.7 Prepare NOA and hold Public Meeting	6	24				6											24	4		8	8	4	6	90	$16,170.00
Subtask 2.8. Prepare Administrative Draft Final EIR/EIS	32	100	8	8	8	8	8	12	20	16	16	16	20	16	32	32	120	80	32	20	40	80		724	$124,460.00
Subtask 2.9. Prepare Screencheck Draft Final and Final	24	100	4	4	4	4	4	6	10	8	8	8	10	8	16	16	40	20	16	10	20	40	12	392	$72,330.00
Subtask 2.10 Support Decision Document Preparation	6	24															24					8		62	$12,440.00
Total ESA Labor Hours	346	1,052	44	44	44	56	36	54	110	88	72	72	114	72	168	168	688	400	170	114	200	372	126	4,610	
Total ESA Labor Dollars	$103,800	$252,480	$8,360	$8,360	$9,020	$12,600	$8,640	$11,070	$20,900	$11,000	$11,520	$11,520	$21,660	$11,520	$25,200	$25,200	$103,200	$50,000	$27,200	$13,680	$24,000	$59,520	$12,600		$843,050

DIRECT COSTS and SUBCONSULTANTS	
Misc. suppplies	$500
Equipment usage (GPS units, noise meter, camera rentals)	$1,000
CHRIS Cultural Resources records searches	$10,000
Misc printing and production (allowance)	$8,000
Mileage (1,200 miles @ 0.58/mile) and parking	$1,446
Shipping and postage	$1,600
Administrative fee (15% on expenses)	$3,382
Total Direct Costs and Subconsultant Costs	**$25,928**
TOTAL ESTIMATED FEE	**$868,978**

***Assumes that Technical Studies and Engineering Design for levee design and any related impacts (groundwater, surface water, geology/soils, etc) are provided to the EIR/EIS contractor**

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Potential Maximum Project Alternative

This alternative was developed to determine if it was possible to accommodate the estimated 200-yr flood with climate change with reasonable project modifications. Relative to the proposed Project, the Potential Maximum Project alternative:

- Would expand the new weir length to 2,000 feet from 1,000 feet.
- Would include an additional 1.5 miles of setback levee past the Kisst Dairy and Bend 16.
- Would include an additional 2.5 miles of setback levee on the left-bank of Paradise Cut downstream of Bend 16.
- Would include 500-foot long extensions of existing bridges across Paradise Cut on I-5 and the western railroad.
- Would lengthen the eastern railroad trestle by 500 feet instead of 250 feet.

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Levee Modification Permitting (Section 408 and CVFPB Encroachment Permits) Strategy for the Paradise Cut Bypass Expansion Project

The Paradise Cut Bypass Expansion Project (Project) includes improvements to the existing Paradise Cut Weir, construction of a new weir on a San Joaquin River levee, about 7.8 miles of new setback levees, and removal of about 5.1 miles of existing levees. The San Joaquin River and Paradise Cut are regulated streams under the jurisdiction of the Central Valley Flood Protection Board (CVFPB). The Project would alter the State-Federal flood control system and would need a CVFPB encroachment permit.

CVFPB Encroachment Permit

Although an encroachment permit may be applied for prior to completion of California Environmental Quality Act (CEQA) review, CEQA would need to be completed prior to issuance of the permit. The CVFPB would require an endorsement of the proposed Project by the local maintaining agencies (LMAs) at the time of application for the encroachment permit. In addition to the LMAs, the Project would need clearance from Caltrans and the Southern Pacific and Union Pacific Railroad Companies for alterations to their facilities.

USACE Section 408 Permit

Because the Project would modify federal infrastructure facilities a permit would be required under Section 14 of the Rivers and Harbors Appropriations Act of 1899 (33 USC 408), also known as a "Section 408 permit". The CVFPB initiates the Section 408 process with the US Army Corps of Engineers (USACE) after the CVFPB permit application has been made. The Project would affect federal levees on both sides of Paradise Cut, and the left bank of the San Joaquin River. National Environmental Policy Act (NEPA) compliance would be required prior to a final Section 408 decision from the USACE. Since the Project would need an Environmental Impact Statement, the Section 408 decision would be made by USACE Headquarters. Section 404 authorization (for fill of waters of the U.S.) by USACE would be processed concurrently with Section 408.

Due to the large scope of the proposed Project, a "multi-phased review" approach by the USACE may be advisable. A multi-phased review is described in the USACE's September 2018 procedural guidance for Section 408 (EC-1165-2-220). This approach allows the Project to develop increasingly detailed information that is subject to USACE Section 408 review at specified milestones. The milestones are agreed to in advance by the requestor and the USACE.

USACE staff would make a Section 408 decision based on two general criteria. First, staff would determine if the proposed Project would impair the usefulness of the USACE owned/operated project. Modeling results presented to the USACE would show that the stage reduction in the mainstem San Joaquin River and downstream river stage increase in Old River and Grant Line Canal are such that the Proposed Project would seemingly not impair the usefulness of the USACE owned/operated flood management structures.

Second, staff would determine if the proposed Project would be injurious to the public interest. The proposed Project would improve wildlife habitat but result in some limits to active agricultural land. The Project is expected to have neutral or positive impacts on water supply and quality, navigation, shore erosion/accretion, and recreation. Potential impacts to cultural resources are currently unknown. An amendment of the Operation and Maintenance Manual for the federal flood project should be prepared, and is a requirement of the Section 408 permit.

After the USACE approves the plans pursuant to Section 408, the CVFPB needs approve the Project for issuance of an encroachment permit.

Recommended Permit Application Pathway

The following outline of steps is expected to be necessary to ultimately achieve CVFPB/Section 408 compliance. The sequence of steps is suggested in order to achieve the most efficient process. This discussion assumes that the CVFPB would submit the Section 408 application.

Step 1. Conduct a Pre-Application Meeting with Agency Staff

1.1 Conduct Pre-Application Meeting

Early contact with and input from CVFPB and USACE staff is crucial to efficient completion of the entire process. A pre-application meeting would allow the Project to receive early input, based on preliminary design, from the regulatory agencies. In addition, the project should discuss the potential use of a multi-phased review for Section 408 with the USACE, and what the potential milestones may be. Ideally, regulatory agencies, including the U.S. Fish and Wildlife Service, National Marine Fisheries Service, California Department of Fish and Wildlife, Delta Stewardship Council, and the Central Valley Regional Water Quality Control Board should also participate in the pre-application meeting. Presentation of the Project to the agencies would be based on materials that have been prepared thus far for the Project.

1.2 Prepare a Work Plan

Based on comments from the regulatory agencies, input from the USACE (including EC-1165-2-220, and other guidance) and CVFPB, a work plan should be developed for preparation of the application. The work plan would include plans for modifying and advancing the design of the project, plans for conducting environmental studies, CEQA/NEPA analysis, consultation with tribes, public outreach, and preparation of environmental permit applications. Ideally, the work plan should be reviewed by the USACE, to ensure that complete technical and environmental documentation would be submitted.

Step 2. Prepare Section 408 Permission Submittal Checklist

Implementation of the work plan would start with development of a checklist that would be used to track the status of the various technical and environmental items required to support the application. The check list could be modeled after the checklist available from the Los Angeles USACE District, https://www.spl.usace.army.mil/Portals/17/408%20Permits/SubmittalChecklist_Jan2019.docx?ver=2019-05-07-115711-427, or similar material obtained from the USACE. The checklist would include the following items:

- **Statements of No Objection.** A written "Statement of No Objection" from the non-federal sponsor is required. Statements need to be obtained from Non-federal sponsors that typically have operation and maintenance responsibilities; have a cost-share investment in the USACE project; and/or hold the real property for the USACE project (i.e., Local Maintaining Agencies).

- **USACE Project and Alteration Description.** Basic requirements for a complete Section 408 submittal include the identification of the USACE project and a complete description of the proposed alteration(s), including necessary drawings, sketches, maps, and plans.

- **Technical Analysis and Design Documentation.** Extensive technical analysis and design documentation would be required, which could include, but may not be limited to, the following:
  - Documentation that the Project meets USACE design and construction standards
  - Construction plans
  - Geotechnical reports
  - Structural analysis reports
  - Hydrologic and hydraulic analysis results
  - Safety Assurance Review (if requested by USACE, the applicant should select a Safety Assurance Review Team of flood hazard assessment specialists acceptable to the USACE and conduct a Safety Assurance Review)

- **Operation and Maintenance Documentation.** An updated O&M Manual for the affected portion of the flood management system would be required. This would include all affected areas, including downstream portions.

- **Real Estate Documentation.** A list of all real property interests required to support the Project must be provided. The purpose of this checklist is to provide sufficient information to certify that the real estate documentation is adequate for the proposed modification. These items may include:
  - Deeds
  - Agreements between the United States of America and Proponent
  - Office of the Assessor Property Information Report
  - Assessor's Parcel Number (APN)

- **Environmental and Cultural Resource Compliance Documentation.** The result of environmental studies and analysis, including CEQA/NEPA compliance analysis, as described in the steps below.

Step 3. Conduct Environmental Studies

Provide environmental technical assistance to complete surveys and special studies necessary to support CEQA/NEPA and the permits. The Revised Design resulting from the agency pre-application meeting may be used to identify the study areas for the following technical studies.

3.1 Prepare a Wetland Delineation

Conduct an aquatic resources delineation (i.e., "wetland delineation") within the project footprint to document the boundaries of potential waters of the U.S. The Aquatic Resources Delineation Report should include sufficient information to support a USACE Preliminary Jurisdictional Determination (PJD).

3.2 Conduct a Biological Resources Study

Prepare a study of sensitive biological resources sufficient to support CEQA/NEPA review. Potential for presence of special-status species and habitats would be determined. The study would provide the basis for the CEQA/NEPA analysis regarding biological resources as well as the initial steps for regulatory permits/authorizations.

3.3 Conduct a Cultural Resources Study

Conduct a records search for the Area of Potential Effect (APE) to identify known cultural resources and to assist in the development of a historic context. The records search would include previous cultural resources inventories and previously recorded cultural resources through the appropriate regional Information Centers of the California Historic Resources Information System (CHRIS). Conduct a pedestrian survey to identify cultural resources within the APE. A Cultural Resources Study Report should be prepared to support compliance with Section 106 of the National Historic Preservation Act (NHPA), which would be required. The cultural resources study may be used to support the Assembly Bill 52 consultation.

3.4 Conduct Air Quality/Greenhouse Gas Impact Analysis

Air quality impacts of major infrastructure projects can in the Central Valley often be significant. It would therefore be important to conduct an early analysis of the potential air quality impacts and greenhouse gas emissions that would result of the project, such that these impacts can be reduced, if possible. Regional and local air quality, including attainment status for all criteria pollutants should be determined. Sensitive receptors located near proposed construction sites would be identified. Short-term construction-related and long-term operational emissions would be estimated using a combination of emissions modeling software, as needed. To address the California Supreme Court decision in Sierra Club v. County of Fresno (Case No. S219783), the connection between the adequacy of the air quality analysis as it relates to health impacts should be addressed.

3.5 Conduct a Geotechnical Study

An extensive geotechnical study should be conducted to support project design, including an analysis of all areas where levees would be constructed, and a detailed Geotechnical Report should be prepared.

3.6 Conduct a Phase 1 Environmental Site Assessment

A Phase 1 Environmental Site Assessment should be prepared to identify potential or existing environmental contamination liabilities, that addresses both the underlying land as well as physical improvements to the properties where construction of levees would occur.

3.7 Revise Design

The Project design may need to be revised based on the results of technical studies in order to avoid or minimize impacts to sensitive species and habitats, cultural resources, or other resource, which may facilitate environmental review and permitting.

Step 4. Conduct CEQA/NEPA Compliance

4.1 Prepare an EIR/EIS

A combined Environmental Impact Report/Environmental Impact Study (EIR/EIS) is anticipated as the necessary document to satisfy CEQA/NEPA requirements. A work plan for CEQA/NEPA compliance is provided in a separate document. Results from the technical studies would be incorporated into the EIR/EIS analysis.

4.2 Conduct Assembly Bill 52 Consultation

Conduct Assembly Bill (AB) 52 Native American consultation for the Proposed Project. This would include drafting letters and discussions with the lead agency on approach to consultation.

Step 5. Submit Application and Continue USACE Coordination

An application should be submitted for USACE review. When the USACE deems the application complete and assigns a file number, the USACE multi-phased review process requires to applicant to work with the USACE to respond to their comments and requests. These requests may require Project design modifications, or providing additional documentation. The process also includes the USACE's public involvement component that the applicant may support. Major review components by the USACE involve USACE Engineering, Environmental Planning, Real Estate, and Operations.

Step 6. Obtain Environmental Permits

The following major environmental permits would need to be obtained for the project, in addition to the Section 408 permit and the CVFPB Encroachment Permit.

- Federal Endangered Species Act (FESA) Incidental Take Permits – The USACE needs to consult with the US Fish and Wildlife Service and National Marine Fisheries Service under Section 7 of FESA to obtain Biological Opinions and Incidental Take Permits. The formal consultation would be initiated by submitting biological assessments that represent the USACE's determination of the project effects on federally listed species that may include Central Valley steelhead, spring-run Chinook salmon (experimental population), green sturgeon, delta smelt, giant garter snake, valley elderberry longhorn beetle, western yellow-billed cuckoo, San Joaquin kit fox, riparian brush rabbit, riparian woodrat, and least Bell's vireo.

- Clean Water Act Section 404 Individual Permit/Rivers and Harbors Act Section 10 Permit – A permit needs to be obtained for discharging dredge or fill materials in Waters of the United States, this would require preparing a wetland delineation and obtaining USACE verification of the delineation; conducting an alternatives analysis according to Section 404(b)(1) guidelines, and obtaining National Historic Preservation Act (NHPA) Section 106

authorization, requiring consultation with the State Historic Preservation Officer (SHPO) on cultural resources impacts.

- Clean Water Act Section 401 Water Quality Certification – A Water Quality Certification needs to be obtained from the Central Valley Regional Water Quality Control Board (CVRWQCB) that certifies that the activity complies with all applicable water quality standards, limitations, and restrictions. The USACE may not issue a Section 404 permit until this certification has been granted. New State wetland regulations enforced by the CVRWQCB are likely to be issued in 2019 that would expand the requirements under Section 404.

- California Endangered Species Act (CESA) Incidental Take Permit – An Incidental Take Permit application should be prepared to receive permission to take State listed species from the California Department of Fish and Wildlife (CDFW). State-listed species could include spring-run Chinook salmon (experimental population), giant garter snake, tricolored blackbird, Delta button-celery, and Mason's lilaeopsis. Impacts to State-listed species would need to be fully mitigated.

- Lake and Streambed Alteration Agreement under Section 1602 of the California Fish and Game Code – Activities that (1) divert or obstruct the natural flow of any river, stream, or lake, (2) change the bed, channel, or bank of any river, stream, or lake, (3) use material from any river, stream, or lake, or (3) deposit or dispose of material into any river, stream, or lake, require notification to CDFW, who would require that the Project proponent would enter into a Lake and Streambed Alteration Agreement, which would include mitigation measures for any impacts of the activity to fish and wildlife resources.

- Early consultation with the Delta Stewardship Council (DSC) regarding consistency of the project with the Delta Reform Act, and relevant provisions of the Delta Plan is encouraged by the DSC. The lead agency would determine via the DSC web-site's self-certification process after CEQA and permitting is completed, whether the project is consistent with the Delta Reform Act and relevant provisions of the Delta Plan. Step 7.

Section 408 Decision

After the USACE issues its 408 permission to the CVFPB, the CVFPB would issue its encroachment permit to the applicant.

Estimated Schedule

Substantial uncertainty exists regarding the duration of the different phases of the Section 408 application process. **Table 2** presents an approximate estimated schedule.

TABLE 2
ESTIMATED SCHEDULE

Step	Description	Estimated Duration (months)	Cumulative Estimated Duration* (months)
1	Conduct a Pre-Application Meeting with Agency Staff	1	1
2	Prepare Section 408 Permission Submittal Checklist	1	2
3	Conduct Environmental Studies	9	10
4	Conduct CEQA/NEPA Compliance	12	20
5	Submit Application and Continue USACE Coordination	6	24
6	Obtain Environmental Permits	12	36
7	Section 408 Decision	1	37

NOTE:
* Cumulative duration reflects overlap between steps.

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Draft Work Plan for CEQA and NEPA Documentation of the Paradise Cut Bypass Expansion Project

This work plan describes the tasks that a Contractor would conduct for a Client to complete California Environmental Quality Act/National Environmental Policy Act (CEQA/NEPA) documentation for the Paradise Cut Bypass Expansion Project (Proposed Project). This draft work plan assumes that the Client could either be the CEQA (or NEPA) lead agency (which is assumed in the work plan below but in actuality is still to be determined for the Proposed Project), or another entity that is funding the Contractor on behalf of the lead agency. All coordination with the lead agencies is outlined in this work plan; for clarity, the work plan does not differentiate the Client from the lead agency and in many instances both are called out when in actuality they could be one in the same.

Task 1. Project Management, Meetings and Coordination Support

Subtask 1.1: Project Management

Provide project management required to successfully conduct this project. Specific tasks include ensuring safe work practices are being followed by field staff; maintaining regular communication (telephone, email, and in-person meetings) with the Client Project Manager and technical staff; providing monthly progress reports for undertaken work delivered at the time of billing; updating Client on the proposed project development status; maintain project files, records of communication, and other project documents; and other project management procedures to ensure high-quality work products are delivered on schedule, within budget, and according to contract-specified requirements.

Subtask 1.1 Deliverables:

- *Monthly progress reports, and*
- *Records of communication.*

Subtask 1.2: Conduct Meetings and Coordination Support

Support project management by developing and coordinating resource, communication, and other plans, obtaining and organizing data, and developing and aligning schedules. Support project management by participating in coordination and meetings with Client managers and staff. Conduct meetings with Client staff to review work in progress, develop priorities for project implementation, plan activities, develop strategies, determine funding needed for implementation of project activities, and review and refine project schedule. Coordinate Client and Contractor team members and communications, coordinate resources and strategies, identify work plan issues and conflicts. Identified issues related to project coordination will be documented in memorandums and shared with Client managers with recommended solutions for such issues.

The Contractor will work with Client to review activities and schedules to identify the needs of the project.

Subtask 1.2 Deliverables:

- *Meeting notes,*
- *Draft resource plans,*
- *Draft communication and other plans,*
- *Draft schedules,*
- *Draft and final scope of work documents, and*
- *Draft and Final memoranda.*

Task 2. CEQA/NEPA Documentation

Prepare the CEQA/NEPA documentation for the Proposed Project. This scope assumes preparation of a joint CEQA/NEPA Environmental Impact Report (EIR)/Environmental Impact Statement (EIS). The NEPA documentation is intended to support the 408 permit process. Client will coordinate with U.S. Army Corps of Engineers (USACE) to confirm the format of the NEPA document. The USACE is assumed to be the NEPA lead agency and the Central Valley Flood Protection Board (CVFPB) is assumed to be the CEQA lead agency.

Subtask 2.1: Prepare NOP/NOI

Contractor will prepare a draft Notice of Preparation (NOP) for an EIR, Notice or Intent (NOI) to prepare an EIS, and news release to be issued by CVFPB in the local newspaper. Based on Client and lead agency comments a final NOP, NOI, and news release will be prepared. The NOP/NOI will be provided to the State Clearinghouse and will be sent to each responsible agency and every federal agency that is involved in approving or funding the project. The NOP/NOI will also be provided to each trustee agency responsible for natural resources affected by the project (i.e., the California Department of Fish and Wildlife and State Lands Commission, in this case). In addition, the Contractor will send the NOP to the San Joaquin County clerk's office for posting.

The NOP/NOI will provide the responsible agencies with sufficient information describing the project and the potential environmental effects to allow the responsible agencies to make a meaningful response. At a minimum, the information will include:

- Brief description of the project.
- Location of the project indicated on an attached map.
- Probable environmental effects of the project.

The NOI will be submitted by the USACE for publication in the Federal Register.

Subtask 2.1 Deliverables:

- *Draft NOP, NOI, and news release*
- *Final NOP, NOI, and news release*

Subtask 2.2: Conduct Scoping Meeting and Prepare Scoping Report

Contractor will assist Client and lead agencies to organize a public scoping meeting in Lathrop. Contractor will assist the Client and lead agencies with providing notice of the scoping meeting to the local counties and cities, any responsible agency, any public agency that has jurisdiction by law with respect to the project, and any organization or individual who has filed a written request for the notice, and the Office of Planning and Research (OPR). The OPR will ensure that the state responsible and trustee agencies reply to the lead agency within 30 days of receipt of the notice of preparation by the state responsible and trustee agencies.

Contractor will prepare a draft and final PowerPoint presentation about the project for the scoping meeting. Contractor will also hire a Court Recorder to record public comments at the meeting and cards will be provided to the public for provide written comments, and lead agency contacts will be provided to the public for submittal of comments.

Agency and public scoping comments will be collected in a draft scoping report prepared by the Contractor and comments will be sorted by topic and summarized in the report. Based on Client and lead agency review a final scoping report will be prepared.

Subtask 2.2 deliverables:

- *Draft and Final PowerPoint presentation*
- *Draft Scoping Report*
- *Final scoping report*

Subtask 2.3: Support Assembly Bill 52 Consultation

Consultant will assist the Client with Assembly Bill (AB) 52 Native American consultation for the Proposed Project. This will include discussions with Client on approach to consultation. Contractor will draft letters for use to contact the Tribes that requested notification. Based on the list of Tribes provided by Client, and, if the Client requests it, Tribes identified by the Native American Heritage Commission (NAHC), Contractor will create a mailing list. Based on one round of comments provided by Client, Contractor will finalize the consultation letters, and mail the letters via certified mail to the identified Tribes.

Subtask 2.3 deliverables:

- *Draft tribal consultation letters*
- *Final tribal consultation letters*

Subtask 2.4: Prepare Project Objectives and Purpose and Need Document

Contractor will coordinate with Client to prepare a draft focused project objectives and purpose and need statement that fulfills the requirements of NEPA and CEQA. The Project Objectives/ Purpose and Need statement will clearly articulate the goals, purpose, and objectives of the Project. The Project Objectives/Purpose and Need will be sufficient to guide the evaluation and

consideration of possible project alternatives and limit the range of feasible alternatives suitable for consideration in the EIS/EIR.

The draft Project Objectives/Purpose and Need document will be reviewed by Client and lead agencies, and based on their comments, Contractor will prepare a final Project Objectives/Purpose and Need Statement.

Subtask 2.4 deliverables:

- *Draft Project Objectives/Purpose and Need Statement*
- *Final Project Objectives/Purpose and Need Statement*

Subtask 2.5: Prepare Administrative Draft EIR/EIS

Contractor will prepare an Administrative Draft EIR/EIS that will have the following chapters:

Chapter 1. Introduction

The Introduction will provide a clear summary of how to find information in the EIS/EIR. The Introduction will include a brief overview of the Project, explain the roles of the NEPA and CEQA lead agency, responsible and cooperating agencies and the legal authorities of each. The Introduction will explain the relationship between the Draft EIS/EIR and the Final EIS/EIR, and explain how the EIS/EIR provides an independent review, analysis, and conclusions regarding the effects of the proposed project and its alternatives. The Project Objectives/Purpose and Need will also be presented.

Chapter 2. Proposed Action and Alternatives

A project description will be included that describes the proposed project in sufficient detail to allow an analysis of environmental impacts of sufficient detail for purposes of CEQA/NEPA compliance. Contractor will also prepare descriptions of a no-project alternative and two action alternatives that would relate to the Project Objectives/Purpose and Need. The EIS/EIR will also provide a description of alternatives that were considered but eliminated from further analysis and the justification for not considering those alternatives further, considering factors such as feasibility and the ability of the alternative to meet the project objectives developed for the EIS/EIR. The alternatives will be evaluated at an equal level of detail consistent with NEPA requirements.

The U.S. Environmental Protection Agency's (EPA) Clean Water Act (CWA) Section 404(b)(1) Guidelines (40 CFR 230) are the substantive environmental criteria used in evaluating individual permit applications to USACE, which by law must select the least environmentally damaging practicable alternative (LEDPA) that will achieve the basic project purpose.

The alternatives analysis for actions subject to NEPA and the Section 404(b)(1) Guidelines can be integrated simultaneously to ensure alternatives carried forward for analysis are practicable and that the LEDPA has not been eliminated from further consideration. The comparison of alternatives should "allow a complete and objective evaluation of the public interest and a fully informed decision regarding the permit application" (33 CFR 325 Appendix B 9 [b][5]).

Therefore, in order to streamline the NEPA and CWA Section 404 permitting processes, NEPA and Section 404(b)(1) Guidelines requirements will be integrated into the EIS.

Chapter 3. Approach to the Analysis

This will include NEPA and CEQA terminology and requirements, describe the basic structure of each resource chapter, and generally describe the basis for determining effects of the proposed project and alternatives. This chapter will also describe the methodology for assessing cumulative effects and list the plans and past and reasonably foreseeable future projects used in the cumulative impact analysis included in each resource chapter.

Chapters 4 – 20. Resource Chapters

The Environmental Setting/Affected Environment, Assessment Methods (including Significance Thresholds), and Environmental Impacts/Environmental Consequences (including Mitigation Measures), and Cumulative Impacts will be described for each of the following resource chapters. This work plan assumes that reconnaissance field surveys will be conducted for several resource areas, including biological resources, cultural resources, and visual resources, for example, and that detailed field studies would be conducted under a separate permitting work plan. Such detailed studies would include special-status plant and wildlife surveys, wetland delineations, and cultural resources surveys.

- Chapter 4. Biological Resources
- Chapter 5. Cultural Resources and Tribal Cultural Resources
- Chapter 6. Land Use
- Chapter 7. Agricultural Resources
- Chapter 8. Geology and Soils
- Chapter 9. Public Services and Utilities
- Chapter 10. Recreation and Open Space
- Chapter 11. Hydrology and Water Quality
- Chapter 12. Population and Housing
- Chapter 13. Socioeconomics and Environmental Justice
- Chapter 14. Transportation
- Chapter 15. Noise
- Chapter 16. Air Quality and Greenhouse Gas Emissions
- Chapter 17. Visual Resources
- Chapter 18. Hazardous Materials
- Chapter 19. Mineral Resources
- Chapter 20. Wildfire

Chapter 21. Other NEPA and CEQA Analyses

The EIS/EIR will include NEPA and CEQA-required and other sections as follows: Effects Found Not to be Significant, Growth-inducing Effects, Irreversible Commitment of Resources, Relationship between Short-term Uses of the Environment and the Maintenance and Enhancement of Long-term Productivity, and Proposed Project Consistency with Adopted Plans.

Other Chapters will include the following: Document Preparers (Chapter 22), References (Chapter 23), and Appendices. The EIS/EIR will also include an index per the requirements of NEPA.

Subtask 2.5 deliverable:

- *Administrative Draft EIR/EIS*

Subtask 2.6: Prepare Screencheck and Public Draft EIR/EIS

Based on comments from the Client and lead agencies a Screencheck Draft EIR/EIS will be prepared. The Screencheck Draft will be reviewed by Client and lead agencies and based on their comments a Public Draft EIR/EIS will be prepared.

Subtask 2.6 deliverables:

- *Screencheck Draft EIR/EIS*
- *Public Draft EIR/EIS*

Subtask 2.7: Prepare NOA and Hold Public Meeting

Contractor will draft a Notice of Availability (NOA) for the EIR/EIS. Based on Client feedback the NOA will be finalized and distributed.

One public meeting will be held to allow the public an opportunity to provide comments. Contractor will prepare a draft and final PowerPoint presentation about the project for the meeting. Contractor will also hire a Court Recorder to record public comments at the meeting and cards will be provided to the public to provide written comments, and lead agency contacts will be provided to the public for submittal of comments.

Subtask 2.7 deliverables:

- *Draft/Final NOA*
- *Draft/Final PowerPoint presentation*

Subtask 2.8: Prepare Administrative Draft Final EIR/EIS

Following the close of the public comment period on the Draft EIR/EIS, Contractor will identify, sort and number all comments received on the Draft EIR/EIS. Contractor will prepare draft responses to the comments. Responses to comments will be provided to the Client and lead agencies for review.

Consistent with the requirements of NEPA, the entirety of the Draft EIR/EIS will be included in the Final EIR/EIS, as well as the responses to comments and any text modifications to the body of the document provided in track changes, and all comments received on the Draft EIR/EIS.

A draft Mitigation and Monitoring Program (MMRP) will be prepared in tabular form. The Administrative Draft Final EIR/EIS will be provided to Client and lead agencies for comment.

Subtask 2.8 deliverables:

- *Draft responses to comments*
- *Administrative Draft Final EIR/EIS*
- *Draft MMRP*

Subtask 2.9: Prepare Screencheck Draft Final and Final EIR/EIS

Client and lead agencies' comments will be incorporated in a Screencheck Draft Final EIR/EIS and MMRP. Based on comments from Client and lead agencies on the Screencheck draft, a Final EIR/EIS and MMRP will be prepared.

Subtask 2.9 deliverables

- *Screencheck Final EIR/EIS*
- *Final EIR/EIS*
- *Screencheck Draft MMRP*
- *Final MMRP*

Subtask 2.10: Support Decision Document Preparation

Contractor will support lead agency preparation of decision documents, this may include drafting of a Record of Decision language for the NEPA lead agency and Findings and Statement of Overriding Considerations for the CEQA lead agency.

Subtask 2.10 deliverables

- *Draft text for NEPA Record of Decision*
- *Draft text for CEQA Findings/Statement of Overriding Considerations*

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