



Edmund G. Brown Jr.  
Governor

STATE OF CALIFORNIA  
Governor's Office of Planning and Research  
State Clearinghouse and Planning Unit



Ken Alex  
Director

Notice of Preparation

July 13, 2016

To: Reviewing Agencies

Re: M&T/Llano Seco Fish Screen Facility Long-Term Protection Project  
SCH# 2016072031

Attached for your review and comment is the Notice of Preparation (NOP) for the M&T/Llano Seco Fish Screen Facility Long-Term Protection Project draft Environmental Impact Report (EIR).

Responsible agencies must transmit their comments on the scope and content of the NOP, focusing on specific information related to their own statutory responsibility, within 30 days of receipt of the NOP from the Lead Agency. This is a courtesy notice provided by the State Clearinghouse with a reminder for you to comment in a timely manner. We encourage other agencies to also respond to this notice and express their concerns early in the environmental review process.

Please direct your comments to:

Mary Dunne  
California Department of Fish and Wildlife, Region 2  
Northern Central Region  
1701 Nimbus Road, Suite A  
Rancho Cordova, CA 95670

with a copy to the State Clearinghouse in the Office of Planning and Research. Please refer to the SCH number noted above in all correspondence concerning this project.

If you have any questions about the environmental document review process, please call the State Clearinghouse at (916) 445-0613.

Sincerely,

Scott Morgan  
Director, State Clearinghouse

Attachments  
cc: Lead Agency

**Document Details Report  
State Clearinghouse Data Base**

**SCH#** 2016072031  
**Project Title** M&T/Llano Seco Fish Screen Facility Long-Term Protection Project  
**Lead Agency** Fish & Wildlife #2

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**Type** NOP Notice of Preparation

**Description** Specific objectives of the proposed project designed to protect fisheries, agricultural lands, and terrestrial biological resources include: providing long-term protection and water supply reliability from the Sacramento River to the ranches and refuges for waterfowl, wildlife and ag; avoiding entrainment/mortality of juveniles salmonids from water diversion by insuring unimpeded upstream and downstream passage by insuring that encroaching sediment deposition does not render a fish screen facility on the Sac River out of compliance with NMFS and CDFW fish screen criteria for anadromous salmonids; preserving instream flows on Butte Creek for fisheries and wildlife purposes; preserving instream flows on Big Chico Creek for fisheries and wildlife purposes; avoiding or minimizing significant effects on Sac River fluvial geomorphological processes for fisheries and wildlife habitat purposes; and meeting the commitment made to fully mitigate for impacts resulting from the long term placement and maintenance of the rock-toe revetment.

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**Lead Agency Contact**

**Name** Mary Dunne  
**Agency** California Department of Fish and Wildlife, Region 2  
**Phone** 916 358-2934 **Fax**  
**email**  
**Address** Northern Central Region  
1701 Nimbus Road, Suite A  
**City** Rancho Cordova **State** CA **Zip** 95670

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**Project Location**

**County** Butte  
**City** Chico  
**Region**  
**Cross Streets** Sac River Mile 192.5, adjacent to River Road  
**Lat / Long**  
**Parcel No.** 039-530-018; others  

Township	Range	Section	Base
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**Proximity to:**

**Highways** 32  
**Airports**  
**Railways**  
**Waterways** Big Chico Creek  
**Schools**  
**Land Use** Native riparian habitat, river bank and adjacent ag land/Z: ag and open space

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**Project Issues** Aesthetic/Visual; Agricultural Land; Air Quality; Archaeologic-Historic; Biological Resources; Drainage/Absorption; Economics/Jobs; Fiscal Impacts; Flood Plain/Flooding; Geologic/Seismic; Minerals; Noise; Population/Housing Balance; Public Services; Recreation/Parks; Soil Erosion/Compaction/Grading; Toxic/Hazardous; Traffic/Circulation; Vegetation; Water Quality; Water Supply; Wetland/Riparian; Landuse; Cumulative Effects

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**Reviewing Agencies** Resources Agency; Department of Conservation; Department of Parks and Recreation; Department of Water Resources; Department of Fish and Wildlife, Region 2; Native American Heritage Commission; Caltrans, District 3 N; Regional Water Quality Control Bd., Region 5 (Redding)

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**Date Received** 07/13/2016 **Start of Review** 07/13/2016 **End of Review** 08/11/2016

## **Notice of Preparation and Notice of Public Scoping Meetings for an Environmental Impact Statement/Environmental Impact Report for the M&T/Llano Seco Fish Screen Facility Long-term Protection Project**

### **Introduction**

Acting as lead agencies pursuant to their authorities and consistent with the National Environmental Policy Act (NEPA) and the California Environmental Quality Act (CEQA), the U.S. Fish and Wildlife Service (Service) and the California Department of Fish and Wildlife (CDFW) will prepare a joint draft environmental impact statement, environmental impact report (EIS/EIR) to analyze the environmental impacts of implementing the proposed M&T/Llano Seco Fish Screen Facility Long-term Protection Project. The EIS/EIR will evaluate various alternatives to the proposed M&T/Llano Seco Fish Screen Facility Long-term Protection Project, referred to as the "proposed project," under CEQA and as the "proposed action," under NEPA. In accordance with NEPA, the Service is publishing a notice of intent (NOI) to prepare the EIS/EIR in the *Federal Register*. A number of agencies may act as responsible or trustee agencies during the NEPA/CEQA process, including NOAA Fisheries, the US Army Corps of Engineers, the US Coast Guard, the Central Valley Flood Protection Board, the California State Lands Commission, the Central Valley Regional Water Quality Control Board, the California Department of Water Resources, the California State Historic Preservation Office, the State Water Resources Control Board, Butte County and Glenn County.

CDFW and the Service, along with the M&T Chico Ranch and Llano Seco Rancho, propose to implement measures to protect and maintain the viability of the M&T Chico Ranch/Llano Seco Rancho fish screen and pumping facility (pumping facilities), located at approximately River Mile 192.5 on the Sacramento River, in Butte County, California (see Figure 1). Implementation of these measures is intended to comply with CDFW and National Marine Fisheries Service (NMFS) fish screen sweeping flow criteria and ensure water supply and delivery responsibilities to farmland, Federal, and State wildlife areas, and other conservation lands. These areas include the eastern portion of the Llano Seco Rancho, which is under conservation easement and is served by the M&T/Llano Seco pumping facilities. The facilities provide water from the Sacramento River to wetlands and associated habitats owned or managed by the Service, CDFW, and Llano Seco Rancho, which creates wetland habitat for waterfowl, shorebirds, and other wetland dependent and special-status species.

Sediment deposition poses a threat to the normal operation of the existing pumping facilities and the City of Chico's (City's) wastewater treatment plant (WWTP) outfall. Encroaching sediment deposition in the vicinity of intake screens could result in inundation and the inability to maintain sufficient sweeping velocities parallel to the screens, rendering them out of compliance with CDFW and NMFS fish screen criteria. Consequently, the operation of the facilities threatens potentially adverse impacts to protected fish species and the need to curtail pumping and water delivery. A rock-toe and tree revetment on the west bank of the Sacramento River, which controls river meander away from the pumping facilities, has been used as a temporary measure to prevent further river migration until further evaluations can determine whether this short-term measure should be incorporated as a long-term solution.

This notice also serves to notify the public of scoping meetings and the public comment period regarding the scope of the EIS/EIR. Additional details regarding meeting locations and times and the public comment period are provided in this notice.

## Project Background

In 1997, as part of an effort to reduce impacts to native salmonids, including special status species within the Sacramento River Basin, the M&T/ Llano Seco Pumping and Fish Screen Facility was relocated from Big Chico Creek to the east bank of the Sacramento River just downstream from the confluence of Big Chico Creek and the river. These facilities provide water supply to the M&T and Llano Seco ranches, as well as state and federal wildlife refuges. Previous operation of the five unscreened M&T diversion pumps on Big Chico Creek created streamflow reversals that caused entrainment and subsequent loss of juvenile spring-run Chinook salmon during critical downstream migration periods. Additionally, flow reversals caused difficulty for upstream adult spring-run Chinook salmon migrants in the Sacramento River returning to spawn in Big Chico Creek. As part of the relocation, the M&T Chico Ranch/Llano Seco Rancho agreed to bypass (i.e., not to divert) 40 cubic feet per second (cfs) of their water rights out of Butte Creek during October 1 through June 30, which supports Butte Creek fisheries. In exchange for this bypass, the ranches could access an equivalent amount of water from the relocated facilities on the Sacramento River. This bypass of water in Butte Creek and the relocation of the pumping plant from Big Chico Creek to the Sacramento River is documented by several signed agreements between M&T and Parrot Investment Company, CDFW, and USFWS, including: *Memorandum of Understanding for the Exchange of Water between Butte Creek and the Sacramento River* (MOU); the *Agreement for the Relocation of M&T/Parrot Pumping Plant Providing for Bypass of Flows in Butte Creek* (the "bypass agreement") and the *Agreement between the United States and M&T Chico Ranch, Incorporated and Parrot Investment Company Incorporated, for Exchange of Water From Butte Creek for Water From the Sacramento River* (the "exchange agreement"). The US Bureau of Reclamation is also a party to the exchange agreement.

Since 1997, unforeseen geomorphic changes in the vicinity of the pumping facilities on the Sacramento River have caused sediment deposition (i.e., downstream movement of a gravel bar) posing a significant risk to the continued operation of the facilities and to the operation of City's WWTP outfall downstream.

To avoid the consequences associated with the continuing sediment deposition in the vicinity of the pumping facility, short-term protection projects have been studied and implemented where appropriate. In 2001 and 2007, dredging was carried out in the vicinity of the M&T/Llano Seco pump facilities to maintain the pumping site's functionality. During this time, 200,000 tons and 100,000 tons of material were excavated from the encroaching gravel bar as short-term projects to limit sedimentation at the pumping facilities. In 2007, a temporary rock-toe and tree revetment for bank protection was installed on a 1,520-foot stretch of the west side of the river, across from the pumping and fish screen facility to prevent further river migration to the west and eventual stranding of the pumping facilities. These efforts were intended to provide temporary protection for the existing facilities, while a multidisciplinary team of experts identified alternatives for a long-term solution. At the time of placement, the rock-toe revetment was identified as a temporary impact, and mitigation (a donated conservation easement across the river) was developed to address bank swallow and river meander issues. Consistent with the final Environmental Assessment/Initial Study (California Department of Fish and Game and US Fish and Wildlife Service,

2007) that included the placement of the project rock-toe revetment, if the revetment is incorporated into the long-term solution, or the long-term solution results in permanent loss of bank swallow habitat, additional mitigation measures above those put in place for the short-term project will be identified and implemented.

Starting in 2003, an expert panel of engineers and hydrologists met with stakeholders to develop and assess alternatives for a long-term solution that would provide a reliable water supply for agriculture lands and the wildlife refuges, and protect endangered species and their habitats in the Sacramento River. The panel's assessment was presented in six different workshops between 2003 and 2011 and their work identified a number of technically viable long-term solution alternatives.

## **Project Location**

The existing facility is located in both Glenn and Butte Counties on the eastern bank of the Sacramento River, just downstream of the confluence of Big Chico Creek and the Sacramento River at River Mile 192.5 (see Figure 1). The rock toe revetment is located across from the existing facility on the west bank of the Sacramento River. It is located on the Capay Unit of the Sacramento River National Wildlife Refuge (SRNWR), and adjoining fee title property owned by Reclamation District 2140 immediately south of the Capay Unit. The Llano Seco Unit of this wildlife refuge is located approximately 7 miles south of the existing facility on the eastern side of the Sacramento River; it receives its water supply from the existing pumping facilities.

The Project Baseline, for NEPA and CEQA impact evaluation purposes, is the existing facilities as currently in place, including the existing rock-toe revetment on the west side of the Sacramento River, with no further expansion in use and no additional dredging or maintenance work.

## **Purpose and Need**

Past measures, as described in the project background, have addressed short-term, local conditions or processes that have provided only short-term solutions. The identification and long-term protection of a reliable long-term water supply from the Sacramento River to serve the ranches and habitat lands is needed. The Service and the CDFW, along with the M&T Chico Ranch and Llano Seco Rancho, propose to implement long-term measures to protect and maintain a reliable long-term water supply from the Sacramento River to M&T Chico Ranch, Llano Seco Rancho, the Service fee title and easement lands, a CDFW wildlife area, and private wetlands, while meeting current NMFS and CDFW fish screen criteria and avoiding or minimizing significant effects on Sacramento River fluvial geomorphological processes for fisheries and wildlife habitat purposes.

Sediment deposition has posed and continues to pose a threat to normal operation of the existing M&T/Llano Seco intake facility and the City's WWTP outfall. The westward migration of the river channel in combination with the growth and downstream migration of the gravel bar continues to place the pumping plant intake in an increasingly depositional zone, which threatens the viability of future pumping operations. The rate at which the sediment will continue to accumulate near the fish-screened intake is uncertain because it is highly dependent on flow conditions in the Sacramento River. As a result of gravel bar migration and continued sediment deposition in the vicinity of the intake screens, there is an ongoing threat of inundation by encroaching sediment as well as the inability to maintain sufficient sweeping velocities parallel to the screen. This would render the screens out of compliance with NMFS (1997) and CDFW (California Department of Fish and Game 2000) fish screening criteria to protect listed fish species. Operation of the facilities in this

manner could result in impacts to protected fish species, potentially resulting in the need to curtail pumping and water delivery to approximately 10,500 acres of farmland, and approximately 4,500 acres of refuge land and wildlife management areas. This modified flow across the existing fish screens could also affect other non-listed fish species found in the Sacramento River. Maintaining the functionality of the City's WWTP outfall locations could be an ancillary benefit provided by the proposed project if the eventual solution chosen by USFWS and CDFW has the effect of protecting the City's facilities, as well as the M&T/Llano Seco intake facility.

## Objectives

Specific objectives of the proposed project designed to protect fisheries, agricultural lands, and terrestrial biological resources include the following:

- Providing long-term protection and water supply reliability from the Sacramento River to the ranches and refuges for waterfowl, wildlife and agriculture.
- Avoiding entrainment/mortality of juvenile salmonids from water diversion by insuring unimpeded upstream and downstream passage by insuring that encroaching sediment deposition does not render a fish screen facility on the Sacramento River out of compliance with NMFS and CDFW fish screen criteria for anadromous salmonids.
- Preserving instream flows on Butte Creek for fisheries and wildlife purposes.
- Preserving instream flows on Big Chico Creek for fisheries and wildlife purposes.
- Avoiding or minimizing significant effects on Sacramento River fluvial geomorphological processes for fisheries and wildlife habitat purposes.
- Meeting the commitment made to fully mitigate for impacts resulting from the long-term placement and maintenance of the rock-toe revetment.

## Alternatives

### NEPA/CEQA Proposed Project

The NEPA/CEQA Proposed Project is the protection of a reliable long-term water supply from the Sacramento River to M&T Chico Ranch, Llano Seco Rancho, the Service fee title and easement lands, and a CDFW wildlife area. For the purposes of initiating CEQA, the Proposed Project is considered to be the development of a long-term dredge strategy, beyond the scope of the short-term dredging project, that would also include retaining the existing 'tee' screened intakes at the existing pumping facilities and ongoing utilization and maintenance of the rock toe revetment along with all required permitting. It is assumed that the long-term dredge strategy would involve periodic removal of sediment and gravel migrating downstream, immediately upstream of the existing pumping facilities. The material would be removed and used in a beneficial manner, consistent with the long-term strategy.

### Possible Alternatives

Much work in developing long-term solutions for protection of the M&T pumping facilities has already been completed by an expert panel of engineers and hydrologists, working closely with an agency and landowner stakeholder group. Recommendations and alternatives developed by the panel will be taken into consideration in the NEPA/CEQA process. Alternatives developed in that

process are listed and described below. Their locations are mapped on Figure 1. Comments received on these alternatives during the public scoping process may help the lead agencies refine the alternatives ultimately evaluated in the EIS/EIR. Alternatives 1-6 would provide mitigation for the long-term placement of the rock toe revetment on the west side of the Sacramento River that exists under baseline conditions.

**Alternative 1: Spur dikes (9-dike configuration):** Alternative 1 involves the installation of rock revetment along the west bank of the Sacramento River to protect the bank from erosive forces, and construction of 9 spur dikes extending out into the river from the revetment to redirect the largest velocities of water into the central area of the channel, and prevent downstream migration of the gravel bar that threatens to inundate the M&T pumping facility intakes. The 9 dikes would be spaced approximately 250 to 350 feet apart and each dike would be approximately 150 to 250 feet long. The tops of the dike would be 5 feet wide and flat along the center line. The dikes would slope downward longitudinally into the river at a 5-percent grade. The height at the nose of the dikes would be approximately 10 feet above the river bed. The revetment and dikes would be constructed of large rock material.

**Alternative 2: Development of strategic plan for long-term dredging, retain existing rock-toe revetment and modify existing diversion structure to cone fish screens:** Alternative 2 would involve the retention of the rock-toe revetment on the west bank of the Sacramento River, which has been suggested to have some beneficial effect on helical flows in the river that transport sediments at bank full flows, thereby reducing dredging requirements upstream of the M&T pumping facilities. Dredging would take place in the active channel of the Sacramento River, with dredged material placed on the M&T Ranch. The frequency of dredging is indeterminate and would be dependent on the occurrence of hydrologic events. This alternative would involve replacing existing M&T Ranch pumping facilities intake tee fish screens with cone screens.

**Alternative 3: Relocate pumping plant/fish screen facility 2,200 feet downstream, retain existing rock-toe revetment:** Alternative 3 would involve the construction of a new water intake structure along the eastern bank of the Sacramento River with vertical flat plate screens at 2,200 feet downstream of the existing M&T Ranch pump intakes. A flat plate screen intake structure is required because the river is not deep enough at this location for the use of cylindrical tee screens. Selection of this site was based on the proposed location of the City of Chico's new wastewater outfall, the minimal distance required for wastewater mixing and dilution that would permit the use of water on ranches and refuges, and the need to remain a reasonable distance upstream of the downstream end of the eastern bank revetment that is currently eroding. The existing eastern bank rock revetment would surround the proposed intake location and project slightly into the river. Alternative 3 would additionally involve the construction of new pumps on the inland side of the levee and a discharge pipeline connecting new pumps to the existing pumps.

**Alternative 4: Relocate pumping plant/fish screen facility 3,600 feet downstream, retain existing rock-toe revetment:** Similar to Alternative 3, Alternative 4 would involve the construction of a new intake structure with vertical flat plate screens, new pumps, and a discharge pipeline connecting new pumps to existing pumps. The existing rock revetment on the east side of the Sacramento River would surround the proposed intake location and project slightly into the river. To prevent erosion of the bank upstream of the new intake location, the existing east bank rock revetment would be removed, realigned, and extended. The new

revetment would cover the sloping face of the bank and run approximately 1,600 feet along the river to the new intake location.

**Alternative 5: Relocate M&T pump intake to the west bank of the Sacramento River:**

Alternative 5 would involve the construction of a vertical flat plate screened intake structure and new pumping plant approximately 1,500 feet west of the existing M&T Ranch intake location. The intake structure would be relocated to the west bank of the river within the existing rock-toe revetment, necessitating the construction of extended pipelines along and under the Sacramento River. Approximately 1,450 feet of 72-inch concrete pipe would be installed under the river using a micro-bore technique. A new pumping facility would be constructed approximately 50 feet to the west of the new intake on the west bank. The interim rock toe protection revetment would be formalized into a permanent structure to eliminate westward migration of the river.

**Alternative 6: Short-term Dredging with Retention of Rock Toe Revetment:** Alternative 6 would involve completion of the short-term project, which includes two additional short-term dredging operations upstream of the pumping facilities that have received approval from state and federal regulatory agencies. The rock toe revetment on the west bank of the river would remain in place with this alternative. As with Alternatives 1-5, with the rock toe revetment left in place, it would be necessary to develop additional mitigation for long-term loss of the river bank habitat in this area.

**Alternative 7: No Project Alternative:** Alternative 7 would be similar to Alternative 6, with implementation of the two short-term dredging operations upstream of the existing pumping facilities. However, the existing rock toe revetment on the west bank of the Sacramento River would be removed and the area would be restored to a natural condition.

### **Required Permits**

Which local, state, and federal agencies will be involved in the permitting process is dependent on the alternative action pursued. The following Table 1, *M&T/Llano Seco Fish Screen Facility Long Term Protection Project Permitting and Approval Requirements for Alternatives*, indicates the regulatory agencies that the NEPA/CEQA lead agencies believe would be involved with the various alternatives.

The public scoping meetings and public comment period are intended to allow agencies and the public to identify the full range of environmental issues related to the proposed project and to identify any additional permits or agency approvals required as a result.



**Table 1 - M&T/Llano Seco Fish Screen Facility Long Term Protection Project Permitting and Approval Requirements for Alternatives**

	CDFW		USFWS			NOAA	USACOE			CVFPB	CSLC			CVRWQCB		CDWR	CSHPO	SWRCB	USCG	Butte Cty		Glenn Cty		RD 2140	TNC		
Potential Alternative/Action	CESA incidental take authorization	Streambed alternation agreement	ESA consultation	Easement to construct pump	Special use permit for access	ESA consultation	CWA Section 404 permit	CWA Section 408 permit	Rivers & Harbors Act Section 10 permit	Floodway encroachment permit	Lease for revetment removal on public land	Lease for dredging activity on public land	Lease for placement of facilities on public land	CWA Section 401 water quality certification	Natl. Pollution Discharge Elimination System permit	Consistency with flood protection planning (informal consultation)	Section 106 of Natl. Historic Preservation Act compliance <sup>6</sup>	Change in point of diversion approval	Navigation Hazard Permit	Grading permit	Building permit	Grading permit	Building permit	License Agreement	Access agreement	Condemnation by 3 <sup>rd</sup> party	
Proposed Project. Long-Term Dredging (w/Existing "Tee" Fish Screen)	X	X	X		X <sup>1</sup>	X	X		X	X		X <sup>2</sup>		X	X	X	X		X								
Alternative 1: 9 Spur Dikes	X	X	X	X	X <sup>1</sup>	X	X		X	X			X	X		X	X		X			X	X	X		X	
Alternative 2. Long-Term Dredging (w/ New Cone Fish Screens)	X	X	X		X <sup>1</sup>	X	X		X	X		X <sup>2</sup>		X	X	X	X		X								
Alternative 3. Relocation of the Pumping Facilities (Plant & Fish Screen) 2,200 ft. downstream	X	X	X		X <sup>1</sup>	X	X		X	X			X	X		X	X	X	X	X	X						
Alternative 4. Relocation of the Pumping Facilities(Plant & Fish Screen) 3,600 ft. downstream	X	X	X		X <sup>1</sup>	X	X		X	X			X	X		X	X	X	X	X	X						
Alternative 5. Relocation of the Pumping Facilities (Plant and Fish Screen) to West Bank of River	X	X	X	X	X <sup>1</sup>	X	X		X	X			X <sup>3</sup>	X		X	X	X	X	X	X	X	X				
Alternative 6. Short-term Dredging with Retention of Rock toe Revetment					X <sup>1</sup>																						
Alternative 7. No Project <sup>5</sup>	X	X	X			X	X			X	X			X		X <sup>4</sup>			X					X	X		
Removal of Existing Rock toe Revetment <sup>5</sup>	X	X	X		X	X	X	X	X	X	X			X		X <sup>4</sup>	X		X	X	X	X	X	X			
<sup>1</sup> Needed for long-term maintenance of rock toe revetment on west bank of river										CDFW: California Fish and Wildlife Service										CDWR: California Department of Water Resources							
<sup>2</sup> Lease would likely include a tonnage limitation on aggregate removal										USFWS: U.S. Fish and Wildlife Service										CSHPO: California State Historic Preservation Office							
<sup>3</sup> Lease application and EIR/EIS would require detailed description of tunneling technique and safety features										NOAA: NOAA Fisheries										SWRCB: State Water Resources Control Board							
<sup>4</sup> Consultation with CDWR would require detailed discussion of maintenance requirements for rock removal area										USACOE: U.S. Army Corps of Engineers										USCG: U.S. Coast Guard							
<sup>5</sup> Some permitting or authorization may be needed to move rock to an offsite storage/disposal/reuse area										CVFPB: Central Valley Flood Protection Board										Butte Cty: Butte County							
<sup>6</sup> State Lands Commission database of underwater cultural resources should be reviewed in the NEPA/CEQA process										CSLC: California State Lands Commission										Glenn Cty: Glenn County							
										CVRWQCB: Central Valley Regional WQ Control Board										TNC: The Nature Conservancy							

## Environmental Resources

The Service and CDFW will prepare a joint document in compliance with CEQA and NEPA. The Service will be responsible for the scope and content of the document for NEPA purposes, and CDFW will be responsible for the scope and content of the document for CEQA purposes. The EIS/EIR will consider the proposed project and a reasonable range of alternatives. The EIS/EIR is anticipated to address potentially significant direct, indirect, and cumulative impacts and beneficial effects on the following environmental issues: agricultural resources, air quality, biological resources, climate change/greenhouse gas emissions, cultural resources, geology/soils/mineral resources, hazards/hazardous materials, water resources/hydrology/water quality, land use/planning, noise, population/housing, public services, recreation/open space, socioeconomics, environmental justice, traffic/transportation, utilities/service systems, and visual resources.

The list of potential environmental issues (see below) is based on Appendix G of the State CEQA Guidelines, NEPA guidelines, the Service NEPA guidance document, the M&T/Llano Seco Rancho short-term project environmental analysis, consultant knowledge of the potential alternatives, and M&T Ranch/Llano Seco stakeholder input in March of 2015. For potentially significant impacts, the EIS/EIR will identify mitigation measures where feasible to reduce those impacts to a level below significance.

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### **CEQA/NEPA Environmental Issues/Impacts**

#### **Aesthetic/Visual Resources**

Degradation of existing visual features or quality of the site and its surroundings.

Conflict with policies or goals related to visual resources.

Creation of a new source of substantial light or glare which would affect day or nighttime views in the project area.

#### **Agriculture/Forest Resources**

Changes in the existing environment that could result in conversion of farmland to non-agricultural use.

Conflict with existing zoning.

#### **Air Quality/Climate Change**

Conflict with or obstruct implementation of the applicable air quality plan.

Violate any air quality standard or contribute substantially to an existing or projected air quality violation.

Increase of any criteria pollutant for which the project region is a nonattainment area under an applicable federal or state ambient air quality standard (including releasing emissions that exceed quantitative thresholds for ozone precursors).

Expose sensitive receptors to substantial pollutant concentrations.

Create objectionable odors affecting a substantial number of people.

Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment.

Conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases.

#### **Cultural Resources**

Damage to or destruction of known cultural resources as a result of ground-disturbing activities.

Inadvertent damage to or destruction of as-yet-unidentified cultural resources as a result of ground-disturbing activities, including submerged cultural resources.

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**CEQA/NEPA Environmental Issues/Impacts**

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Cause severe or irreparable damage to any Native American sanctified cemetery, place of worship, religious or ceremonial site, or sacred shrine.

Disturb any human remains, including those interred outside of formal cemeteries.

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**Cumulative Effects**

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Possible environmental effects that are individually limited but cumulatively considerable.

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**Fish**

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Construction-related temporary impairment of common and special-status fish survival, growth, and reproduction through turbidity, alteration of river substrate, removal of riparian vegetation, and alteration of flows.

Disturbance, injury, or mortality of individual common and special-status fish resulting from construction within and adjacent to bodies of water, including fish rescue operations and noise associated with pile driving.

Entrainment of special-status fish at water intake facilities.

Substantially reduce the number or restrict the range of an endangered, rare or threatened fish species.

Cause a fish population to drop below self-sustaining levels.

Permanent reduction of special-status fish habitat quantity or quality.

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**Flood Control and Levee Stability**

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Changes in flood stage/flow capacity.

Exposure of people or structures to a loss, injury or death involving flooding.

Reduction or increase in potential of catastrophic flooding.

Reduction in structural integrity of flood control features.

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**Geology/Soils**

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Increased soil erosion or the loss of topsoil.

Potential for damage to structures as a result of surface fault rupture, ground shaking and/or seismically induced ground failure (liquefaction).

Potential for damage to structures as a result of landslides, including seismically induced landslides.

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**Hazards/Hazardous Materials**

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Exposure to or release of hazardous materials during construction, routine transport, or accident, including release to water bodies.

Increased human and environmental exposure to hazardous materials, substances or waste from project operations.

Expose people or structures to significant risk of loss, injury or death involving wildland fires.

Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school.

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**Hydrology/Water Quality**

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Reduction in water availability for riparian water diversions to agriculture and managed wetlands upstream or downstream.

Depletion of groundwater supplies or interference with groundwater recharge.

Interfere with or alter existing surface water drainage patterns.

Temporary changes in surface and groundwater quality during construction activities, including tunneling under the river (address methyl mercury increases from disturbance of sediments).

Periodic changes in surface water quality during dredging activities.

Permanent changes in surface and groundwater quality from project operations.

Increase surface water runoff.

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**CEQA/NEPA Environmental Issues/Impacts**

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Modification of river hydrology.

Modification of sediment scour and deposition pattern within the river.

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**Land Use/Planning**

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Alteration of existing land use patterns.

Conflict with existing land use plans, policies, and regulations.

Conflict with any applicable habitat conservation plan, natural community conservation plan, or conservation easement.

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**Mineral Resources**

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Result in loss of availability of a known mineral resource that would be of value to the region and the residents of the state.

Result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan.

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**Noise**

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Temporary increases in ambient noise during construction activities.

Temporary exposure of sensitive land uses to ground borne vibration or noise from construction.

Permanent increases in ambient noise.

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**Population and Housing**

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Induce substantial population growth in an area, either directly or indirectly.

Displace substantial numbers of existing housing or people.

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**Recreation**

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Temporary or permanent loss of public recreation opportunities from construction or operation of project facilities.

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**Transportation /Traffic**

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Temporary addition of vehicles to roadway system and alteration of patterns of vehicular circulation during construction.

Permanent increase in vehicle traffic from project operations and maintenance.

Temporary increases in road hazards during construction activities.

Temporary reduction in navigable areas within the river corridor during construction activities.

Temporary reduction in boat access during periodic dredging activities for maintenance of alternatives.

Creation of long term river navigation hazards.

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**Utilities and Public Services**

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Damage to or disruption of water, wastewater, electrical or gas pipelines during construction.

Increase in emergency service response times.

Increase in demand for police or fire services in the project area during construction or operation, such that new facilities would need to be built resulting in significant environmental impacts.

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**Vegetation and Wetlands**

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Temporary loss or degradation of special-status plants or sensitive natural plant communities (including wetlands as defined by CDFW in F&G Code Section 1600) from construction activities.

Permanent reduction in special-status plant populations or sensitive natural plant communities from project operations or maintenance.

Spread of invasive plant species during project construction or from land-clearing activities.

Loss or disturbance of wetlands or other Waters of the United States from construction or operation.

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**Wildlife**

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**CEQA/NEPA Environmental Issues/Impacts**

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Temporary loss of habitat for special-status wildlife species during project construction.

Permanent loss of habitat for special-status wildlife species from project operations.

Temporary disturbance to sensitive wildlife species during project construction.

Direct mortality of individual wildlife species, including fully protected species, from construction or operation of project facilities.

Substantially reduce the number or restrict the range of an endangered, rare or threatened wildlife species.

Cause a wildlife population to drop below self-sustaining levels.

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**NEPA Environmental Issue****Environmental Justice and Socioeconomics.**

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Change in the economic activity within the region as a result of changes in employment associated with construction or operation.

Disproportionately affect minority or low-income populations.

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## Public Involvement

### Public Scoping Meetings

Two public scoping meetings have been scheduled to provide an overview of the proposed project and alternatives, to obtain written and/or verbal comments on the scope and content of the EIS/EIR, and to identify likely permitting and regulatory requirements for implementation of the proposed project and alternatives. Meeting dates, times, and locations are as follows:

City of Chico, California

Date: July 27, 2016

Time: 2:00-4:00 PM and 6:00-8:00 PM

Location: Chico Masonic Family Center, 1110 W East Avenue, Chico CA

Persons needing reasonable accommodations in order to attend and participate in one of the public meetings should contact Shay Humphrey of ICF Jones & Stokes at 916-737-3000 as soon as possible. In order to allow sufficient time to process requests, please call no later than 1 week before the public meetings.

### Submitting Comments

Please send written comments, questions or relevant information regarding this project on or before August 12, 2016. Written comments regarding the scope of the EIS/EIR are invited from interested parties to ensure that the full range of environmental issues related to the proposed project and alternatives is identified and evaluated. All comments received, including names and addresses of commenters, will become part of the official administrative record and will be made available to the public. Written comments should be directed to:

Mary Dunne

California Department of Fish and Wildlife

North Central Region

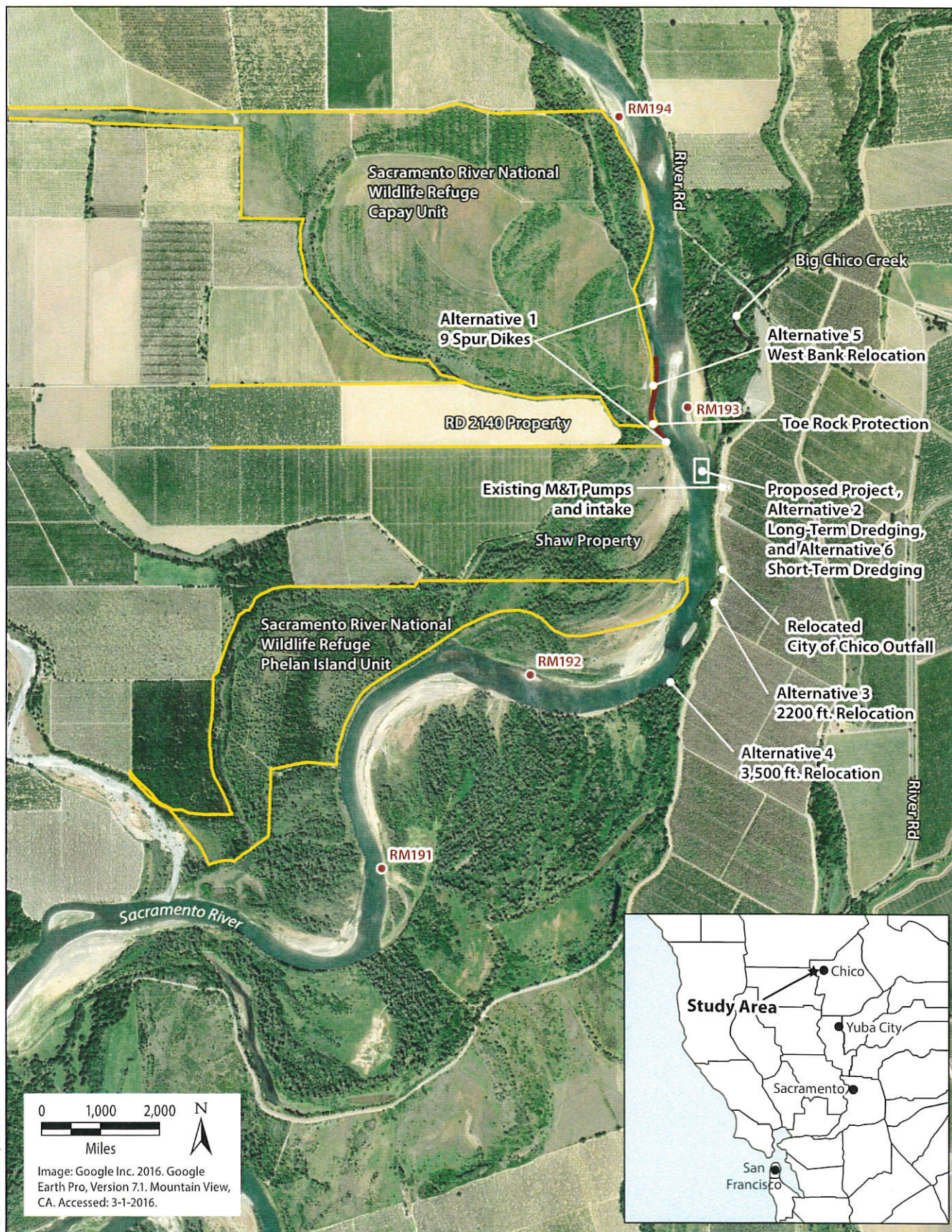
1701 Nimbus Road

Rancho Cordova, CA 95670  
(916) 358-2934  
Mary.Dunne@wildlife.ca.gov

**Additional Information**

For additional information regarding the M&T/Llano Seco Fish Screen Facility Long-Term Protection Project, please visit the following website: <http://www.ducks.org/california/california-projects/m-t-llano-seco-fish-screen-project>





**Figure 1**  
**Project and Alternatives Locations**