Mitigated Negative Declaration and Initial Study/Environmental Assessment

North Drainage Canal Lift Pump Station Project

WaterSMART Small-Scale Water Efficiency Project Grant

EA-17-04-NCAO

Prepared for

Natomas Central Mutual Water Company

For Use by

U.S. Bureau of Reclamation Northern California Area Office (Shasta Lake, CA) and Reclamation District 1000

Prepared by

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Mitigated Negative Declaration and Initial Study/Environmental Assessment
North Drainage Canal Lift Pump Station Project

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MITIGATED NEGATIVE DECLARATION

Project Name. North Drainage Canal (NDC) Lift Pump Station Project.

State Clearinghouse Number. 2018072073

Project Location. Sutter County, California. The project area includes 0.98 acre, including permanent (0.12-acre) and temporary (0.86-acre) impact areas, located in the Natomas Basin near Verona, California.

Project Description. The NDC Lift Pump Station Project (Project) consists of the construction and operation of a new tailwater recovery lift pump station with 120-cubic-foot-per-second capacity. The location of the NDC Lift Pump Station, on the Sankey Canal near the NDC, would allow for reuse of agricultural tailwater accumulated in the Reclamation District (RD) 1000 drainage canal system. Estimated water savings of the Project is 4,000 acre-feet per year. The NDC Lift Pump Station Project would be constructed by the Natomas Central Mutual Water Company (NCMWC) within an existing NCMWC-owned and -maintained canal and access road. Because this property will be transferred to RD 1000 in the future, NCMWC is seeking an encroachment permit from RD 1000. RD 1000, in connection with its consideration of the encroachment permit application, is the California Environmental Quality Act lead agency. The U.S. Bureau of Reclamation (Reclamation) is providing a WaterSMART Small-Scale Water Efficiency Project grant to NCMWC for the Project. Reclamation is the National Environmental Policy Act lead agency.

Findings. It is hereby determined that, based on the information contained in the attached Initial Study/Environmental Assessment, the Project would not have a significant adverse effect on the environment. Mitigation measures necessary to avoid the potentially significant effects on the environment are included in the attached Initial Study/Environmental Assessment, which is hereby incorporated and fully made part of this Mitigated Negative Declaration. Each of the identified mitigation measures shall be adopted as part of the Mitigation Monitoring and Reporting Program.

September 14, 2018

Name, Agency

Date

Paul Devereux,
Reclamation District No. 1000

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Acronyms and Abbreviations

µg/m^3	microgram(s)/cubic meter
AB	Assembly Bill
AF	acre-feet
APE	Area of Potential Effect
CAA	(Federal) Clean Air Act
CAAQS	California Ambient Air Quality Standards
CalEEMod	California Emissions Estimator Model
CARB	California Air Resources Board
CDFW	California Department of Fish and Wildlife
CEQA	California Environmental Quality Act
CFR	Code of Federal Regulations
CNDDB	California Natural Diversity Database
CO	carbon monoxide
CO_2	carbon dioxide
CRHR	California Register of Historic Resources
CVRWQCB	Central Valley Regional Water Quality Control Board
EA	Environmental Assessment
EO	Executive Order
ESA	(Federal) Endangered Species Act
FEMA	Federal Emergency Management Agency
FRAQMD	Feather River Air Quality Management District
FONSI	Finding of No Significant Impact
GGS	giant garter snake
GHG	greenhouse gas
HAP	hazardous air pollutant
Historic District	Reclamation District 1000 Rural Historic Landscape District
IPaC	Information for Planning and Conservation
IS	Initial Study
ITA	Indian Trust Asset
lb/day	pound(s) per day
MBTA	Migratory Bird Treaty Act
MND	Mitigated Negative Declaration
MRZ	Mineral Resource Zone
NA	not applicable
NAAQS	National Ambient Air Quality Standards
NBC	Natomas Basin Conservancy
NBHCP	Natomas Basin Habitat Conservation Plan
NCMWC	Natomas Central Mutual Water Company
NDC	North Drainage Canal
NEPA	National Environmental Policy Act
NFIP	National Flood Insurance Program
NLIP	Natomas Levee Improvement Program

NO	nitric oxide
NO_2	nitrogen dioxide
NOx	oxides of nitrogen
NRHP	National Register of Historic Places
O_3	ozone
OAL	State of California, Office of Administrative Law
Pb	lead
PM_{10}	particulate matter less than 10 microns in aerodynamic diameter
$PM_{2.5}$	particulate matter less than 2.5 microns in aerodynamic diameter
ppb	part(s) per billion (by volume)
ppm	part(s) per million (by volume)
PRC	Public Resources Code
RD 1000	Reclamation District 1000
Reclamation	U.S. Bureau of Reclamation
RPS	Renewables Portfolio Standard
SAFCA	Sacramento Area Flood Control Agency
SB	Senate Bill
SIP	State Implementation Plan
SO_2	sulfur dioxide
SVAB	Sacramento Valley Air Basin
SWHA	Swainson's hawk
TAC	toxic air contaminant
TCR	Tribal cultural resource
USACE	United States Army Corps of Engineers
USEPA	United States Environmental Protection Agency
USFWS	United States Fish and Wildlife Service
USGS	United States Geological Survey
WPT	western pond turtle

SECTION 1

Introduction

This Initial Study (IS) and Environmental Assessment (EA) examines the potential direct, indirect, and cumulative impacts to the affected environment associated with (1) the North Drainage Canal (NDC) Lift Pump Station Project, which consists of the construction and operation of a new tailwater recovery lift pump station with 120-cubic-foot-per-second capacity on the Sankey Canal near the NDC (Proposed Project) and (2) the U.S. Bureau of Reclamation (Reclamation) providing a WaterSMART Small-Scale Water Efficiency Project grant to the Natomas Central Mutual Water Company (NCMWC) for the North Drainage Canal Lift Pump Station Project (Proposed Action). Because the Proposed Project and Proposed Action are being considered together in this joint IS/EA, they are referred to herein as the Proposed Project/Action. The Proposed Project/Action is located in the Natomas Basin in Sutter County, near Verona, California (Figure 1-1), on property to be transferred to Reclamation District 1000 (RD 1000) following relocation of the Vestal Drain.

The Proposed Project/Action is a discretionary action under the California Environmental Quality Act (CEQA) and would be partially funded by Federal grants. Therefore, the Proposed Project/Action is subject to the requirements of CEQA and the National Environmental Policy Act (NEPA). RD 1000, in connection with its consideration for approval of an encroachment permit application by NCMWC, is the CEQA lead agency for the preparation of the IS, and Reclamation is the NEPA lead agency for the preparation of the EA. This joint IS/EA has been prepared in accordance with both CEQA and NEPA requirements and guidance, and serves to publicly disclose the potential impacts/environmental consequences of the Proposed Project/Action with consideration for the proposed mitigation measures.

1.1 Need for Action

The state of California has experienced record-breaking drought conditions in recent years. While the El Niño storms of 2016 dramatically increased water storage levels in reservoirs, the storms did not end the drought. Droughts are expected to be more frequent and persistent in California as temperatures and precipitation become increasingly extreme and sporadic, respectively, with continued global climate change. In Northern California, warmer winter temperatures continue to reduce the volume of water held in the Sierra Nevada snowpack. After it begins to melt in spring, this snowpack starts to supply the Sacramento River with a colder, more continuous supply of water than rainstorms would, making possible the summertime irrigation of the 2.1 million acres of agricultural land in the Sacramento Valley and other beneficial uses of Sacramento River water. Drainage canals return irrigation water not consumed by agricultural processes (tailwater) to rivers. However, reduced fresh water inputs (e.g., rainfall, snowmelt, and dam releases) to rivers and tributaries increase the influence of the quality of tailwater on the overall water quality of rivers. The Proposed Project/Action would provide localized improvement of the Sacramento River water quality at the pumping station and downstream.

The state's water supply, used to determine user allocations from the Central Valley Project and State Water Project, was originally based on a wetter than normal hydrology. With increasing drought conditions, water providers need to reduce water consumption and waste to the extent feasible in order to meet the irrigation and other water demands on rivers and tributaries. NCMWC, a private company, is the entity primarily responsible for supplying water to the Natomas Basin (Figure 1-2). NCMWC has made great strides in improving water conservation and water use efficiency in the Natomas Basin, but requires funding assistance to construct and install remaining system modernizations, as well as engineering controls and devices that would maximize the water conservation potential in the NCMWC service area. The Proposed Project/Action would reduce demand on the water in the Sacramento River.

NCMWC's facilities are composed of approximately 100 miles of canals and laterals served by four pump stations along the Sacramento River (Figure 1-2). As a Sacramento River Settlement Contractor, NCMWC has water rights for 98,200 acre-feet (AF) of base supply and 22,000 AF of Central Valley Project water. Total water demand in the Natomas Basin is approximately 90,000 AF, approximately 60 percent of which is supplied as diverted river water and 40 percent of which is recovered tailwater. The Proposed Project/Action would reduce pumping lift requirements and provide associated energy savings.

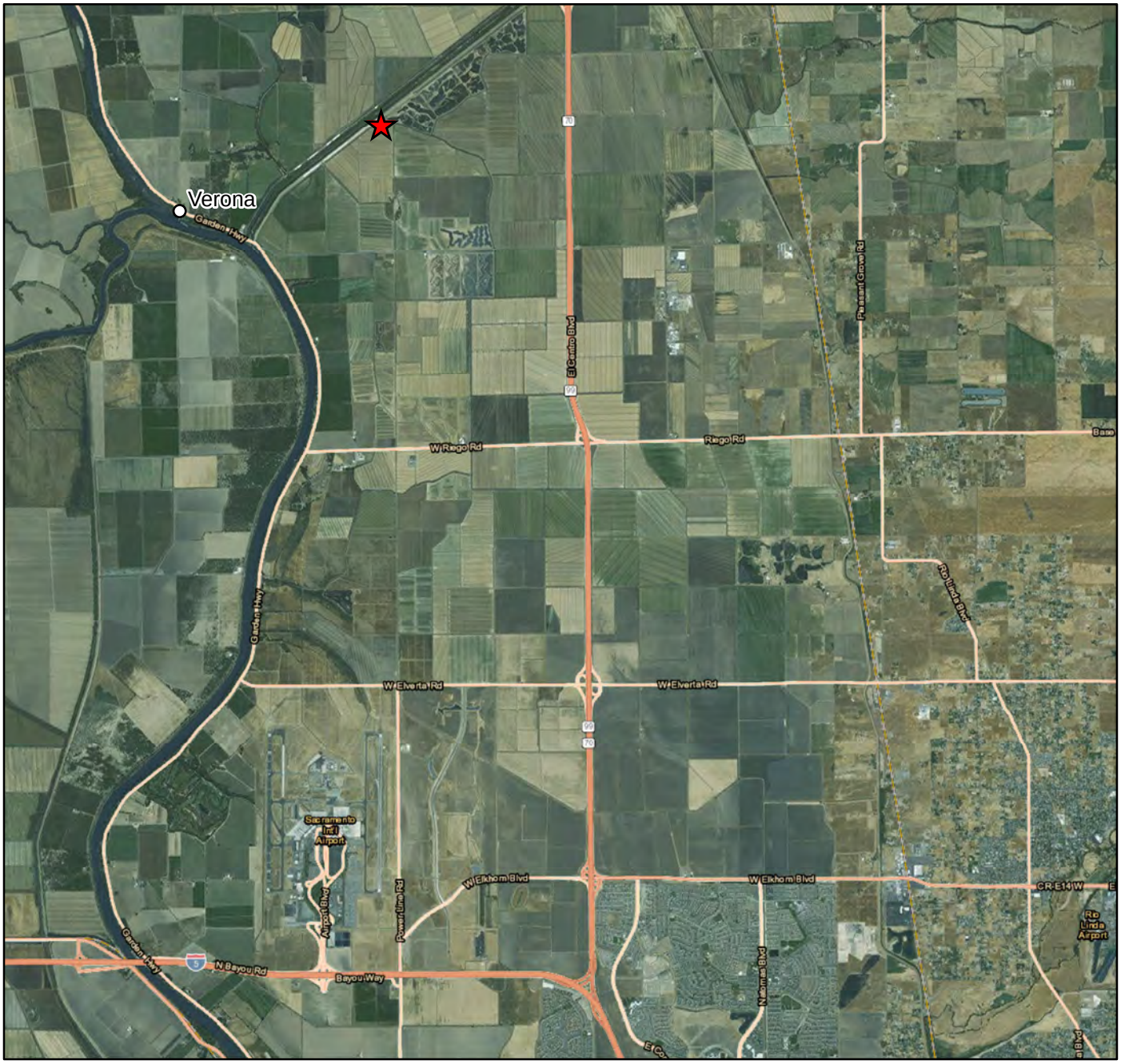
In the Natomas Basin, RD 1000 (a public entity with no affiliation to Reclamation) provides drainage and flood control through the operation of the primary drainage canals and through conveyance and pumping of stormwater runoff that flows from local drainage ditches into RD 1000's canals. RD 1000's primary system of interior drains includes the NDC, an interior canal that conveys drainage water from the Sutter County portion of the Natomas Basin northward, where it is pumped into the Natomas Cross Canal (Figure 1-2). NCMWC operates and maintains RD 1000's drainage canal system in the irrigation season (April 1 to October 30) through a joint use agreement with RD 1000. The agreement allows NCMWC to maintain the canals at higher levels than during the flood season in order to capture and recirculate tailwater from the fields.

The primary use of water in the Natomas Basin is for irrigation deliveries to farming operations, predominantly those that grow rice, alfalfa, and wheat in the 24,000 irrigated acres of the total 50,000 acres in the 200-square-mile Natomas Basin (Figure 1-2). NCMWC also provides water to mitigated marshes and other properties managed by the Natomas Basin Conservancy (NBC). NBC, a private corporation, oversees the Natomas Basin Habitat Conservation Plan (NBHCP), which mitigates the effects of continued agricultural production and encroachment of urban development (northward from Sacramento) in the Natomas Basin by protecting and restoring habitat for 15 species of fauna and seven species of flora covered by the NBHCP (NBC, 2017a). More than 4,000 acres of land have been dedicated as mitigation lands under the NBHCP (Figure 1-3). Canals and drainage features of the RD 1000 and NCMWC systems are key elements to habitat connectivity in the Natomas Basin, and they are used as migration pathways by species that use multiple habitats, such as the giant garter snake (GGS) (*Thamnophis gigas*).

1.2 Project Purpose

The purposes of the Proposed Project/Action are to:

- Reduce demand on the water in the Sacramento River.
- Provide localized improvement of the Sacramento River water quality at the pumping station and downstream.
- Reduce pumping lift requirements and provide associated energy savings.



VICINITY MAP

LEGEND

★ NDC Lift Pump Station

N

0 1 2

Miles

Service Layer Credits: Sources: Esri, DeLorme, NAVTEQ, USGS, NRCAN, METI, iPC, TomTom

FIGURE 1-1
Project Location
North Drainage Canal Lift Pump Station
Sutter County, CA

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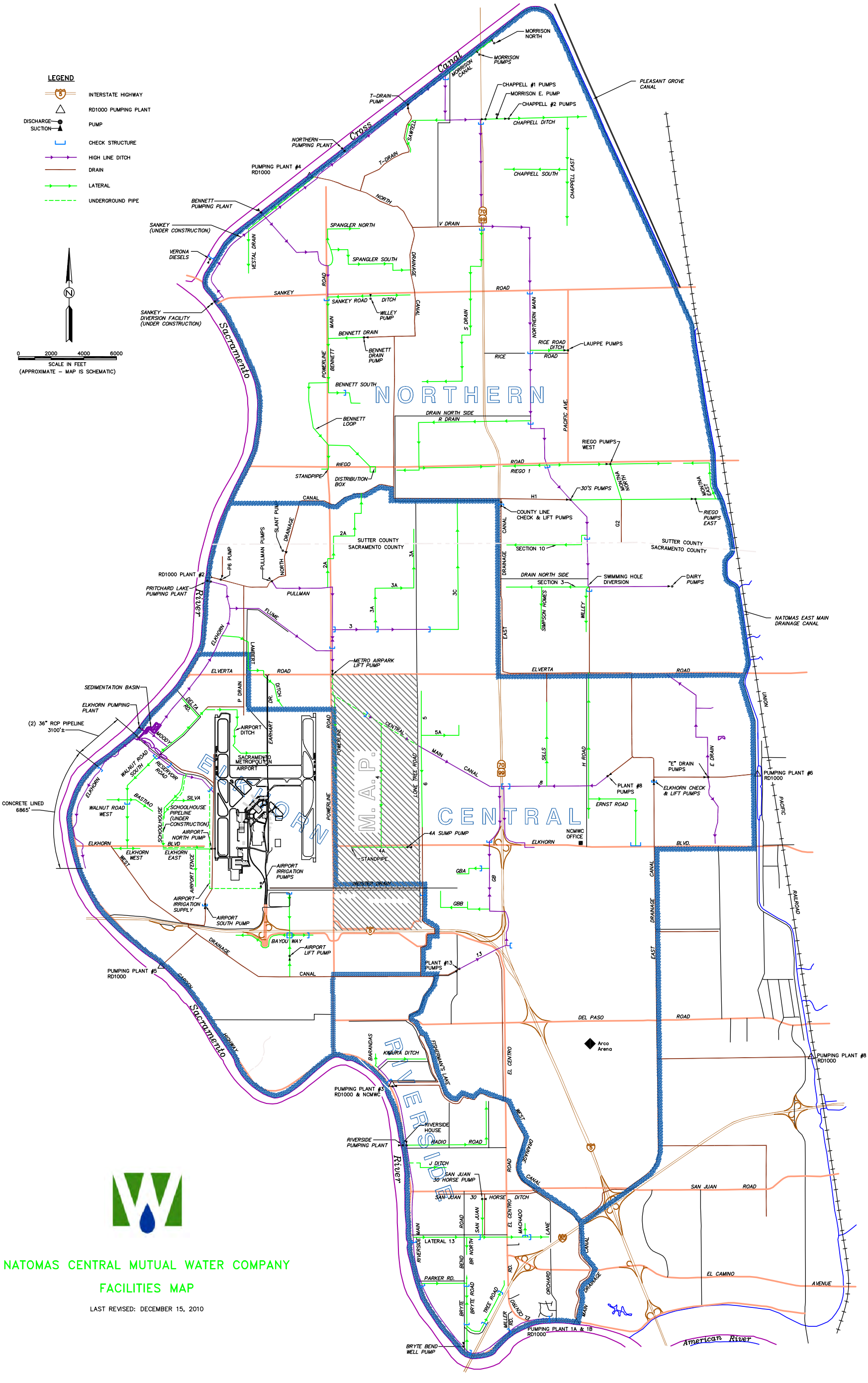

NATOMAS CENTRAL MUTUAL WATER COMPANY

FACILITIES MAP

LAST REVISED: DECEMBER 15, 2010

FIGURE 1-2
NCMWC and RD 1000 Facilities
North Drainage Canal Lift Pump Station
Sutter County, CA

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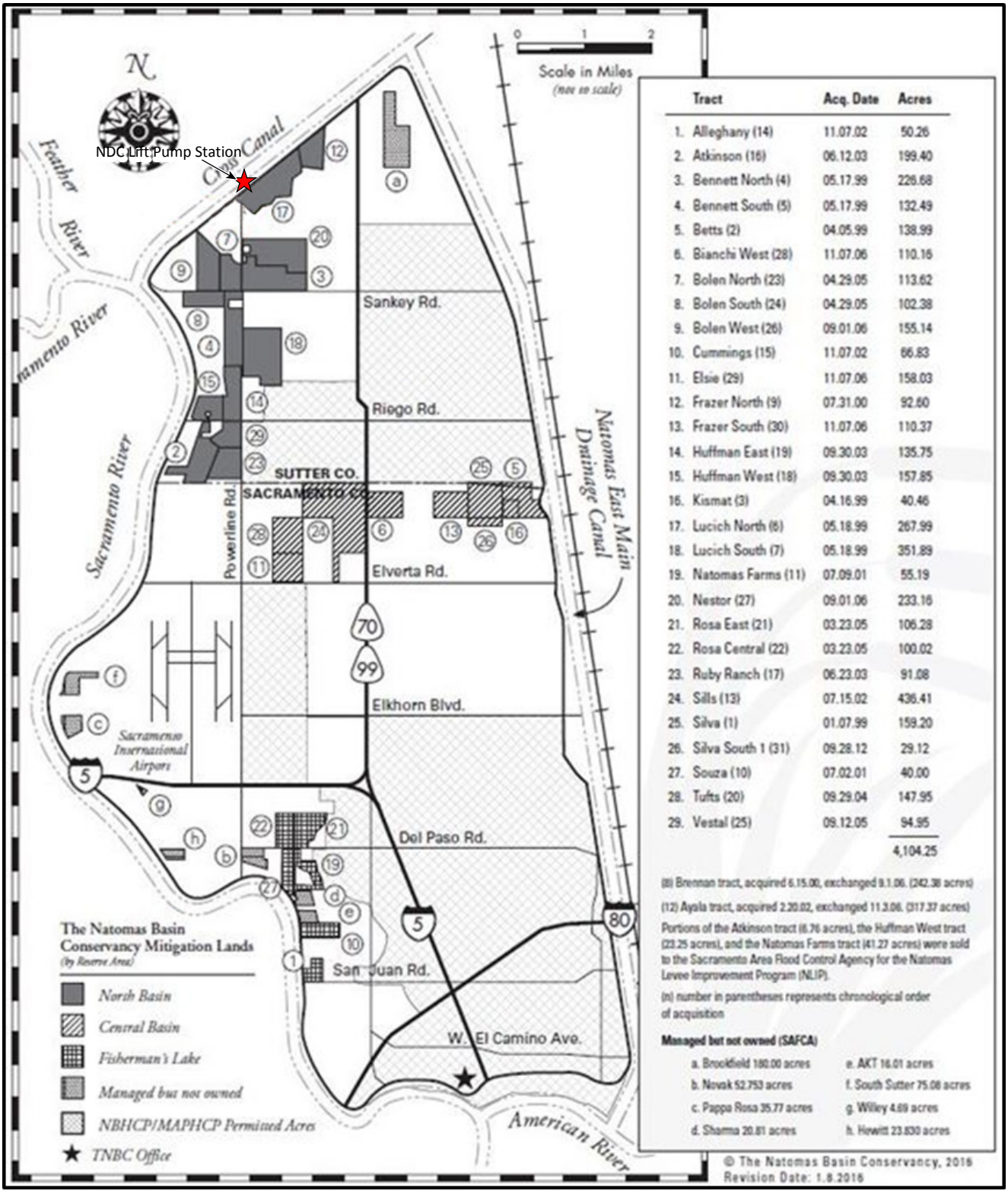


	Tract	Acq. Date	Acres
1.	Alleghany (14)	11.07.02	50.26
2.	Atkinson (16)	06.12.03	199.40
3.	Bennett North (4)	05.17.99	226.68
4.	Bennett South (5)	05.17.99	132.49
5.	Betts (2)	04.05.99	138.99
6.	Bianchi West (28)	11.07.06	110.16
7.	Bolen North (23)	04.29.05	113.62
8.	Bolen South (24)	04.29.05	102.38
9.	Bolen West (26)	09.01.06	155.14
10.	Cummings (15)	11.07.02	66.83
11.	Elsie (29)	11.07.06	158.03
12.	Frazer North (9)	07.31.00	92.60
13.	Frazer South (30)	11.07.06	110.37
14.	Huffman East (19)	09.30.03	135.75
15.	Huffman West (18)	09.30.03	157.85
16.	Kismat (3)	04.16.99	40.46
17.	Lucich North (6)	05.18.99	267.99
18.	Lucich South (7)	05.18.99	351.89
19.	Natomas Farms (11)	07.09.01	55.19
20.	Nestor (27)	09.01.06	233.16
21.	Rosa East (21)	03.23.05	106.28
22.	Rosa Central (22)	03.23.05	100.02
23.	Ruby Ranch (17)	06.23.03	91.08
24.	Sills (13)	07.15.02	436.41
25.	Silva (1)	01.07.99	159.20
26.	Silva South 1 (31)	09.28.12	29.12
27.	Souza (10)	07.02.01	40.00
28.	Tufts (20)	09.29.04	147.95
29.	Vestal (25)	09.12.05	94.95
			4,104.25

(8) Brennan tract, acquired 6.15.00, exchanged 9.1.06. (242.38 acres)

(12) Ayala tract, acquired 2.20.02, exchanged 11.3.06. (317.37 acres)

Portions of the Atkinson tract (6.76 acres), the Huffman West tract (23.25 acres), and the Natomas Farms tract (41.27 acres) were sold to the Sacramento Area Flood Control Agency for the Natomas Levee Improvement Program (NLIP).

(n) number in parentheses represents chronological order of acquisition

Managed but not owned (SAFCA)

a. Brookfield 180.00 acres	e. AKT 16.01 acres
b. Novak 52.753 acres	f. South Sutter 75.08 acres
c. Pappa Rosa 35.77 acres	g. Wilkey 4.69 acres
d. Sharma 20.81 acres	h. Hewitt 23.830 acres

FIGURE 1-3
Natomas Basin Conservancy Mitigation Lands
North Drainage Canal Lift Pump Station
Sutter County, CA

Source: http://www.natomasbasin.org/project-mitigation/

1.3 Organization of this Report

This document was prepared to meet CEQA and NEPA requirements for the analysis of the Proposed Project/Action. Section 2 describes the Proposed Project/Action and No Project/Action Alternative. Section 3 describes the environmental setting/affected environment and the environmental impacts/environmental consequences associated with implementation of the Proposed Project/Action. The resource areas included are based on Appendix G (Environmental Checklist Form) of the CEQA Guidelines, and are supplemented with other sections required by NEPA as follows:

- Aesthetics
- Agriculture and Forestry Resources
- Air Quality
- Biological Resources
- Cultural Resources
- Geology and Soils
- Greenhouse Gas Emissions
- Hazards and Hazardous Materials
- Hydrology and Water Quality
- Land Use and Planning
- Mineral Resources
- Noise
- Population and Housing
- Public Services
- Recreation
- Transportation/Traffic
- Tribal Cultural Resources and Indian Sacred Sites
- Utilities and Service Systems
- Environmental Justice
- Indian Trust Assets
- Mandatory Findings of Significance

Section 4 includes other sections required by NEPA, consultation and coordination requirements, and a summary of public involvement. Sections 5 and 6 provide a list of preparers and references, respectively.

SECTION 2

Proposed Project/Action and No Project/ Action Alternative

2.1 Proposed Project/Action

NCMWC proposes to construct a new tailwater recovery lift pump station with 120-cubic-foot-per-second capacity on the Sankey Canal near the NDC (Figure 2-1). The NDC Lift Pump Station would be constructed within an existing NCMWC-owned and -maintained canal and access road. The new structure would be placed on the southern side of the Sankey Canal, which is currently owned and operated by NCMWC. All project features (e.g., lift station intake and pumps, discharge pipes, and electrical conduit) would be located on property to be transferred to RD 1000 following the relocation of the Vestal Drain, for which NCMWC seeks an encroachment permit from RD 1000.

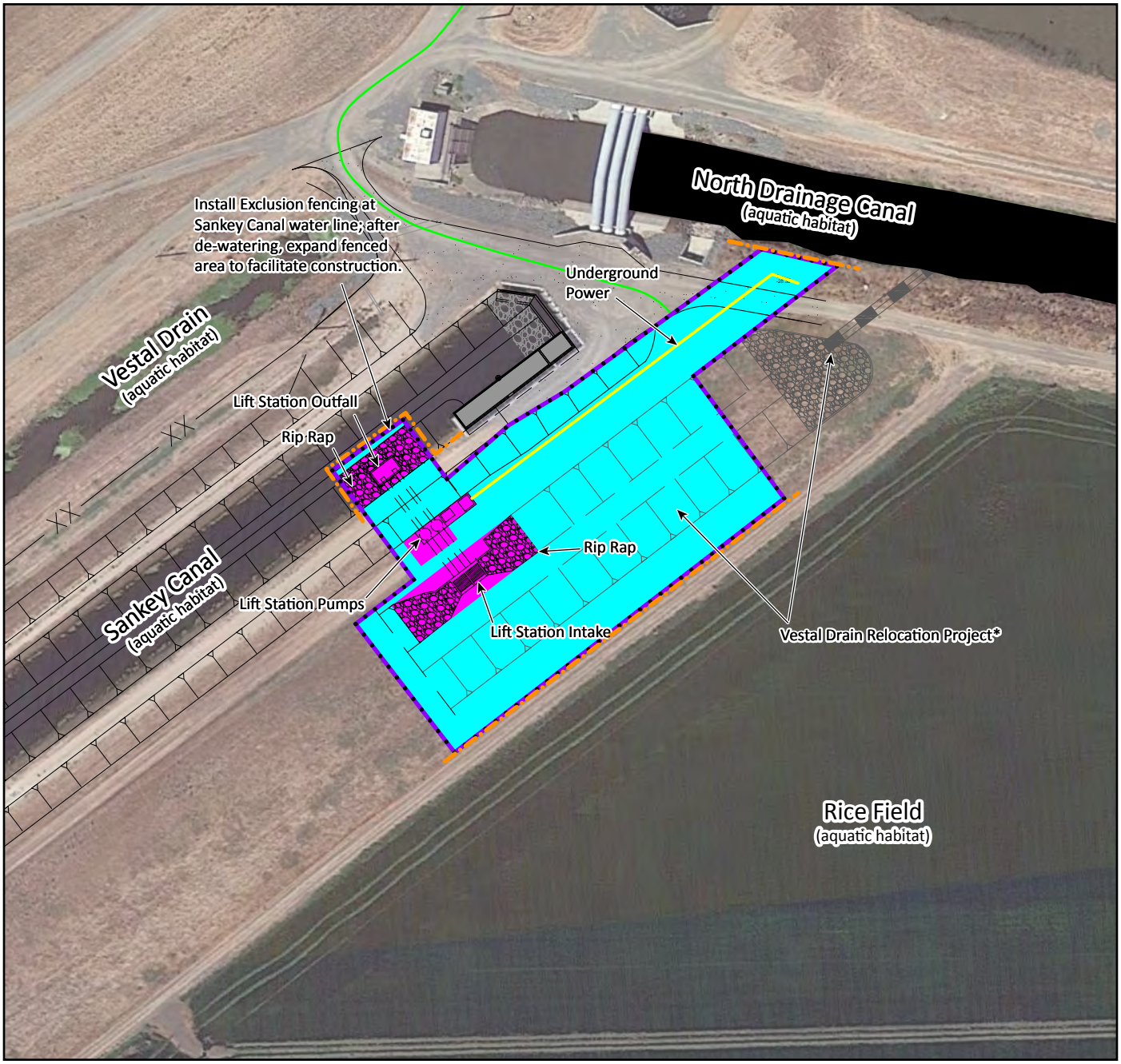
To address Natomas Cross Canal levee stability issues under a separate project (anticipated in 2018), the United States Army Corps of Engineers (USACE) will be relocating the Vestal Drain from the northern to the southern side of the Sankey Canal, which will become the conveyance channel from the NDC Lift Pump Station to the NDC.

The location of the NDC Lift Pump Station would allow for reuse of agricultural tailwater accumulated in the RD 1000 drainage canal system, which would reduce RD 1000's pumping requirement and associated operation and maintenance costs. The NDC Lift Pump Station would be used to maintain the drain levels below the maximum allowable elevation that triggers the RD 1000 pumps at Pumping Plant 4 to turn on and discharge excess drain water into the Natomas Cross Canal. By allowing for recycling of drain water, the NDC Lift Pump Station would reduce the quantity and rate of pumping from the Sacramento River at the Sankey Diversion, thereby reducing the demand for Sacramento River water by approximately 4,000 AF annually.

The project includes the following components:

- Cast-in-place (or precast) reinforced concrete wet well and pump base slab, including pumps and motors, control cabinet, and electrical transformer
- Cast-in-place reinforced concrete intake and trash rake with four intake pipes to the lift pump station wet well
- Approximately 270 linear feet of buried electrical conduit
- Discharge pipe from the pumps through the Sankey Canal bank with cast-in-place concrete discharge structure and riprap slope protection

Figure 2-1 shows the project area of the Proposed Project/Action, which covers approximately 0.98 acre, including permanent (0.12-acre) and temporary (0.86-acre) impact areas. The most significant disturbance would be for the intake, intake piping, and pump structure, which would require using an excavator to a depth of approximately 14 feet, but limited to an area of approximately 0.11 acre (approximately 90 feet long by 55 feet wide). The remaining earth-working activities, for installation of the discharge piping, would be confined to a depth of 8 feet and an area of 0.07 acre.



LEGEND

- Project Area (0.98)
- Temporary Impacts (0.86 acre)
- Permanent Impacts (0.12 acre)
- Exclusion Fencing
- High Visability Fencing
- Electrical Service Trench (5'D x 1'W x 280'L)
  (Trench Impacts = 0.006 acre)
- Access Road

* Vestal Drain Relocation is a separate project to be constructed by others.

USGS Quad: Verona
Section: 13, and 18
Township: 11N
Range: 03E & 04E

Imagery: Google™ Earth, 2017.

N

0 50 100
Feet

VICINITY MAP

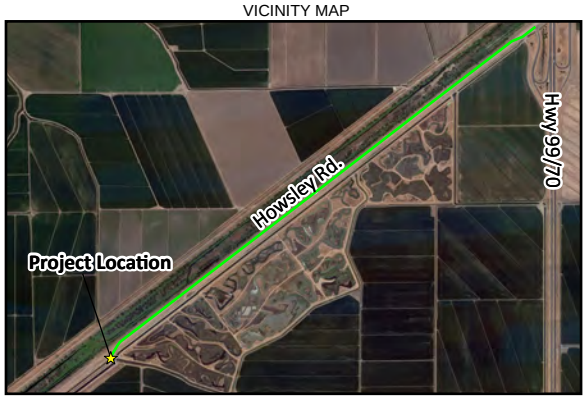


FIGURE 2-1
Project Area
North Drainage Canal Lift Pump Station
Sutter County, CA

ch2m

The Proposed Project/Action would not require on-site borrow. Riprap is the only fill proposed and would be obtained from Nordic Industries' Parks Bar Quarry in Yuba County, a permitted commercial quarry. Parks Bar Quarry is located at 7561 Highway 20 and Parks Bar Road in Smartsville, California. There would be no on-site stockpile or disposal of excavated material because unused materials would be removed throughout construction of the Proposed Project/Action and would be stockpiled off-site for use by USACE and the Sacramento Area Flood Control Agency (SAFCA) as part of the American River Watershed Common Features Project/Natomas Post-authorization Change Report/Natomas Levee Improvement Program, Phase 4b Landside Improvements Project (NLIP Phase 4b project) (USACE and SAFCA, 2010; USACE, 2017). Off-site stockpiling of excavated material for the NLIP Phase 4b project would occur at either the Brookfield borrow site[1] located east of Highway 99 and South of Howsley Road (Appendix A), or at NCMWC's construction yard located at 2601 West Elkhorn Boulevard in Rio Linda.

2.1.1 Project Location

The NDC Lift Pump Station is located west of Powerline Road and north of Sankey Road, approximately 2.2 miles east of Verona, in Sutter County, California (Figure 1-1). The project area is found in Section 18 of Township 11 North, Range 4 East (Mount Diablo Meridian and Baseline) and in the Verona 7.5-minute quadrangle, United States Geological Survey (USGS) at latitude 38° 47' 53.09" N, longitude 121° 34' 45.99" W.

2.1.2 Equipment Required

Equipment to be used for each component is as follows:

- **Wet well and pump base slab:** crane, excavator, backhoe, compactor, and dewatering pumps
- **Concrete intake, trash rake, and intake pipe:** crane, excavator, backhoe, compactor, and dewatering pumps
- **Buried electrical conduit:** backhoe and skid steer
- **Discharge pipe:** crane, excavator, backhoe, skid steer, and compactor

2.1.3 Operation and Maintenance

NCMWC currently operates and maintains facilities similar to those of the Proposed Project/Action. Operation of the electric submersible pumps at the new tailwater recovery lift pump station would be on an as-needed basis depending on irrigation demand and available drain water in the NDC. Maintenance of the new facilities associated with the Proposed Project/Action would consist of existing NCMWC staff making inspections on a daily basis as part of field staff's normal irrigation facilities checks, and also on a monthly, quarterly, and yearly basis, as recommended by the equipment manufacturers.

[1] The use of the Brookfield borrow site as a source for borrow material and soil stockpile location was analyzed in the Final Environmental Impact Statement/Final Environmental Impact Report on the American River Watershed Common Features Project/Natomas Post-authorization Change Report/Natomas Levee Improvement Program, Phase 4b Landside Improvements Project (USACE and SAFCA, 2010) and in the Draft Supplemental Environmental Assessment for the American River Watershed Common Features Natomas Basin Project, Reach D (USACE, 2017). Off-site stockpiles at the Brookfield borrow site would become part of the NLIP Phase 4b project, and therefore are covered under the existing NLIP Phase 4b project environmental approvals; meeting these environmental commitments is the responsibility of the NLIP Phase 4b project permit holders (i.e., USACE and SAFCA). The Brookfield borrow site has already been purchased by SAFCA, and is currently not actively cultivated. Once the use of the Brookfield borrow site is complete, the disturbed area would be regraded to support rice cultivation (USACE, 2017).

2.1.4 Schedule

Construction will start as soon as all necessary permits and approvals are obtained, which is anticipated to be in August 2018. Construction will be completed over the course of approximately 4 months.

2.2 No Project/Action Alternative

Under the No Project/Action Alternative, Reclamation would not provide a WaterSMART Small-Scale Water Efficiency Project grant for the NDC Lift Pump Station Project. If NCMWC could not secure alternative funding, then the new tailwater recovery lift pump station and associated improvements, as described for the Proposed Project/Action, would not be constructed in the foreseeable future, if at all. As a result, the benefits of the Proposed Project/Action described herein would be delayed or would not occur.

SECTION 3

Evaluation of Environmental Impacts

3.1 Introduction

This section identifies the potential environmental impacts of the Proposed Project/Action using as a framework the CEQA Environmental Checklist Form as presented in Appendix G of the CEQA Guidelines, as modified to include the additional resources required for NEPA analysis. Each environmental issue analyzed in this document provides brief background information and discussion of the environmental setting/affected environment to help the reader understand the conditions present prior to the implementation of the Proposed Project/Action. The potential effects of the Proposed Project/Action are defined as changes to the environmental setting/affected environment attributable to individual components or operations.

CEQA and NEPA require that a distinction be made between mitigation measures that are included in the Proposed Project/Action and other measures proposed by the lead, responsible, or trustee agencies, or by other persons that are not included, but that the lead agency determines could reasonably be expected to reduce adverse impacts if required as conditions of approval. The Mitigation measures proposed by the lead agencies and presented in this joint IS/EA would be implemented to reduce potential impacts to less-than-significant levels. Compliance would occur through implementation of a Mitigation Monitoring and Reporting Program.

1. Project Title: North Drainage Canal Lift Pump Station Project

2. Lead Agency Name: Reclamation District 1000

3. Contact Person and Phone Number:
Paul Devereux
Reclamation District 1000
1633 Garden Highway
Sacramento, CA 95833-9706
(916) 922-1449

4. Project Location: Located on the Sankey Canal in Section 18 of Township 11 North, Range 4 East (Mount Diablo Meridian and Baseline) and in the Verona 7.5-minute quadrangle, USGS at latitude 38° 47' 53.09" N, longitude 121° 34' 45.99" W.

5. Project Sponsor's Name and Address: Reclamation District 1000

6. General Plan Designation: AG-80

7. Zoning: AG

8. Description of Project: The NDC Lift Pump Station Project includes the construction of a new tailwater recovery lift pump station with 120-cubic-foot-per-second capacity along the Sankey Canal.

9. Surrounding Land Uses and Setting: The project area is in a rural, sparsely populated area where the majority of the vegetation is agricultural, predominately rice and row crop communities, and annual grassland.

10. Other public agencies whose approval may be required (e.g., permits, financing approval, or participation agreement.)

- California Department of Fish and Wildlife (CDFW): California Endangered Species Act Section 2080.1 Consistency Determination
- United States Fish and Wildlife Service (USFWS): Federal Endangered Species Act (ESA) Section 7 Consultation
- State Historic Preservation Officer: National Historic Preservation Act Section 106
- Feather River Air Quality Management District (FRAQMD): General Permit to Construct
- Sutter County: Floodplain Development Permit

11. Have California Native American tribes traditionally and culturally affiliated with the project area requested consultation pursuant to Public Resources Code (PRC) section 21080.3.1? If so, has consultation begun?

Pursuant to AB 52, RD 1000 initiated Native American outreach with the Mechoopda Indian Tribe, Mooretown Rancheria of Maidu Indians, United Auburn Indian Community of the Auburn Rancheria, Strawberry Valley Rancheria, Estom Yumeka Maidu Tribe of the Enterprise Rancheria, and Shingle Springs Band of Miwok Indians. Letters describing the Proposed Project/Action and offering consultation on Tribal cultural resources (TCRs) that could be affected by the Proposed Project/Action were sent to each tribe on April 17, 2018.

3.2 Environmental Factors Potentially Affected

This joint IS/EA has determined that in the absence of mitigation, the Proposed Project/Action could have the potential to result in significant impacts associated with the environmental factors checked below. However, mitigation measures are identified in this IS/EA that would reduce all potentially significant impacts to a less-than-significant level.

No	Aesthetics	No	Agriculture and Forest Resources	No	Air Quality
Yes	Biological Resources	Yes	Cultural Resources	No	Geology and Soils
No	Greenhouse Gas Emissions	No	Hazards and Hazardous Materials	No	Hydrology and Water Quality
No	Land Use and Planning	No	Mineral Resources	No	Noise
No	Population and Housing	No	Public Services	No	Recreation
No	Transportation/Traffic	No	Tribal Cultural Resources	No	Utilities and Service Systems
No	Environmental Justice	No	Indian Trust Assets	No	Mandatory Findings of Significance

3.2.1 Determination

(To be completed by the CEQA Lead Agency)

On the basis of this initial evaluation:

No I find that the proposed project COULD NOT have a significant effect on the environment, and a NEGATIVE DECLARATION will be prepared.

Yes I find that although the proposed project could have a significant effect on the environment, there will not be a significant effect in this case because project-specific mitigation measures have been agreed to by the project proponent. A MITIGATED NEGATIVE DECLARATION will be prepared.

No I find that the proposed project MAY have a significant effect on the environment, and an ENVIRONMENTAL IMPACT REPORT is required.

No I find that the proposed project MAY have a "potentially significant impact" or "potentially significant unless mitigated" impact on the environment, but at least one effect (1) has been adequately analyzed in an earlier document pursuant to applicable legal standards, and (2) has been addressed by mitigation measures based on the earlier analysis as described on attached sheets. An ENVIRONMENTAL IMPACT REPORT is required, but it must analyze only the effects that remain to be addressed.

No I find that although the proposed project could have a significant effect on the environment, because all potentially significant effects (a) have been analyzed adequately in an earlier ENVIRONMENTAL IMPACT REPORT or NEGATIVE DECLARATION pursuant to applicable standards, and (b) have been avoided or mitigated pursuant to that earlier ENVIRONMENTAL IMPACT REPORT or NEGATIVE DECLARATION, including revisions or mitigation measures that are imposed upon the proposed project, nothing further is required.

Signature	**Date**
Title	**Agency**

3.3 Aesthetics

Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporation	Less Than Significant Impact	No Impact
a. Have a substantial adverse effect on a scenic vista?	No	No	No	Yes
b. Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?	No	No	No	Yes
c. Substantially degrade the existing visual character or quality of the site and its surroundings?	No	No	No	Yes
d. Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?	No	No	No	Yes

3.3.1 Environmental Setting/Affected Environment

Sutter County is characterized by relatively flat terrain with generally expansive viewsheds and valley elevations ranging from 35 to 80 feet above measured sea level (Sutter County, 2011a). The Sutter Buttes, a remnant volcano, is the one prominent topographic feature within the county, with a peak elevation of 2,000 feet above the surrounding valley floor. Compared to the vast open farmland, the Sutter Buttes is a dramatic feature visible throughout the county. Other scenic resources within the county include the valley's orchards and agricultural landscape, as well as the viewsheds of the Feather, Sacramento, and Bear rivers. There are no officially-recognized scenic roadways in the county; however, many of the rural country roads offer unobstructed views of surrounding mountain ranges, expansive agricultural land, and miles of orchards.

3.3.2 Impacts/Environmental Consequences

a. Would the project have a substantial adverse effect on a scenic vista?

No Impact. The Proposed Project/Action would be consistent with the scenic views of the surrounding agricultural landscape, which includes canals and drains and ancillary facilities, such as pumping stations. Scenic views of the Sacramento River would not be affected. Therefore, no impact would occur.

b. Would the project substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?

No Impact. There are no designated state scenic highways in the project area. Therefore, no impact would occur.

c. Would the project substantially degrade the existing visual character or quality of the site and its surroundings?

No Impact. The Proposed Project/Action would be consistent with the existing visual resources in the project area, which primarily is characterized visually by substantial agricultural production, including canals and drains and ancillary facilities, such as pumping stations. Therefore, no impact would occur.

d. Would the project create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?

No Impact. The Proposed Project/Action does not include the installation of any lighting; therefore, no impacts related to increased light and glare would occur.

3.4 Agriculture and Forest Resources

Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporation	Less Than Significant Impact	No Impact
a. Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?	No	No	No	Yes
b. Conflict with existing zoning for agricultural use, or a Williamson Act contract?	No	No	No	Yes
c. Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code Section 12220(g)) or timberland (as defined in Public Resources Code Section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g))?	No	No	No	Yes
d. Result in the loss of forest land or conversion of forest land to non-forest use?	No	No	No	Yes
e. Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use?	No	No	No	Yes

3.4.1 Environmental Setting/Affected Environment

Sutter County is an important agricultural region in California, and most of the land in the county is designated for agricultural use (Sutter County, 2011b). Sutter County includes land that is classified as Prime Farmland, Farmland of Statewide Importance, and Unique Farmland by the California Department of Conservation (California Department of Conservation, 2016). However, the project area is not classified as Prime Farmland, Farmland of Statewide Importance, and Unique Farmland, nor is it under a Williamson Act contract (California Department of Conservation, 2016). There is no forest land in the project area.

3.4.2 Impacts/Environmental Consequences

a. Would the project convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance, as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?

No Impact. The Proposed Project/Action is consistent with and would support existing agricultural uses and would not result in conversion of farmland. Therefore, no impact would occur.

b. Would the project conflict with existing zoning for agricultural use, or a Williamson Act contract?

No Impact. The Proposed Project/Action is consistent with and would support existing agricultural uses and would not conflict with zoning or Williamson Act contracts. Therefore, no impact would occur.

c. Would the project conflict with existing zoning for, or cause rezoning of, forest land (as defined in PRC section 1220(g)) or timberland (as defined in PRC section 4526)?

No Impact. No forest or timberland is present in the project area.

d. Would the project result in the loss of forest land or conversion of forest land to non-forest use?

No Impact. No forest land is present in the project area.

e. Would the project involve other changes in the existing environment which, due to their location or nature, could result in the conversion of Farmland, to non-agricultural use?

No Impact. Implementation of the Proposed Project/Action would increase tailwater recovery by up to 4,000 AF per irrigation season. In critically dry years when NCMWC may receive less than 100 percent of its allocation of Sacramento River water, the increased availability of tailwater would allow for irrigation of up to 1,200 acres of existing farmland that would otherwise be fallowed attributable to limited water supply. The Proposed Project/Action is consistent with and would support existing agricultural uses, and it would not result in the conversion of farmland to non-agricultural use. Therefore, no impact would occur.

3.5 Air Quality

Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporation	Less Than Significant Impact	No Impact
a. Conflict with or obstruct implementation of the applicable air quality plan?	No	No	Yes	No
b. Violate any air quality standard or contribute substantially to an existing or projected air quality violation?	No	No	Yes	No
c. Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable Federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone (O_3) precursors)?	No	No	Yes	No
d. Expose sensitive receptors to substantial pollutant concentrations?	No	No	Yes	No
e. Create objectionable odors affecting a substantial number of people?	No	No	No	Yes

3.5.1 Environmental Setting/Affected Environment

The Proposed Project/Action is in Sutter County, which lies within the Sacramento Valley Air Basin (SVAB). Air basins share a common "air shed," the boundaries of which are defined by surrounding topography and regional air quality and meteorological conditions. Although mixing between adjacent air basins inevitably occurs, air quality conditions are assumed to be relatively uniform within a given air basin for planning purposes. Air quality in the project area is overseen locally by FRAQMD.

Meteorological conditions in the study area include high temperatures and low humidity in the summer, with prevailing winds from the south. In the winter, rainstorms are intermittent, primarily from October to May, resulting in an average annual rainfall of about 17 inches. Stagnant or foggy conditions also occur. North winds are more frequent in the winter, but winds are predominantly from the south. Temperature inversions affect air quality during both summer and winter.

3.5.1.1 Federal and State Regulations

National air quality policies are regulated through the Federal Clean Air Act (CAA) of 1970 and its 1977 and 1990 amendments. Basic elements of the CAA are overseen by the United States Environmental Protection Agency (USEPA), and include national ambient air quality standards (NAAQS) for criteria air pollutants, hazardous air pollutant (HAP) standards, state attainment plans, motor vehicle and engine emissions standards, stationary source emissions standards and permits, acid rain control measures, stratospheric ozone (O_3) protection, and enforcement provisions.

Pursuant to the CAA, USEPA established the NAAQS for six criteria pollutants. The Federal criteria pollutants are O_3, carbon monoxide (CO), particulate matter (which includes both particulate matter with an aerodynamic diameter less than 10 and 2.5 microns [PM_{10}] and [$PM_{2.5}$], respectively), nitrogen dioxide (NO_2), sulfur dioxide (SO_2), and lead (Pb). These pollutants are referred to as criteria pollutants because numerical health-based criteria have been established that define acceptable levels of exposure for each pollutant.

California has established its own air quality standards, called California Ambient Air Quality Standards (CAAQS), which are at least as protective as national standards (as required by Federal law) and often more stringent. The standards are overseen by the California Air Resources Board (CARB), and are designed to protect those segments of the public most susceptible to respiratory distress (known as sensitive receptors), including asthmatics, the very young, the elderly, people weak from other illness or disease, or persons engaged in strenuous work or exercise. Table 3-1 shows the national primary and secondary standards, as well as the California standards for the criteria pollutants.

O_3 is a colorless gas with a pungent, irritating odor. It is formed in a series of complex photochemical reactions in the atmosphere. These reactions involve volatile organic compounds, which CARB also refers to as reactive organic gases), and oxides of nitrogen (NO_X) in the presence of sunlight. As a photochemical pollutant, O_3 is formed only during daylight hours under appropriate conditions, but is destroyed throughout the day and night. O_3 concentrations vary with time of day and location, and are typically highest on hot, sunny, calm days. CO is a colorless, odorless gas formed by incomplete combustion of fuels. Emitted by a wide variety of combustion sources, motor vehicles are the main source of CO emissions.

Particulate matter (e.g., PM_{10}) is emitted from road dust, diesel soot, combustion, tire and brake abrasion, construction activities, and fires. $PM_{2.5}$ consists mostly of products from the reaction of NO_X and SO_2 with ammonia, secondary organics, combustion products, and finer dust particles. NO_X (a mixture of nitric oxide [NO] and NO_2) is a byproduct of combustion sources such as motor vehicle exhaust or stationary combustion sources. SO_2 is a colorless, pungent gas formed primarily by the combustion of sulfur-containing fossil fuels.

Table 3-1. National and California Ambient Air Quality Standards

Pollutant	Averaging Time	California Standards[a]	National Standards[b]	
			Primary[c]	Secondary[d]
Ozone (O_3)[e]	8 hour	0.07 ppm	0.07 ppm	0.07 ppm
	1 hour	0.09 ppm	—	—
Respirable particulate matter (PM_{10})[f]	Annual Arithmetic Mean	20 µg/m^3	—	—
	24 hour	50 µg/m^3	150 µg/m^3	150 µg/m^3
Fine particulate matter ($PM_{2.5}$)[f]	Annual Arithmetic Mean	12 µg/m^3	12 µg/m^3	15 µg/m^3
	24 hour	—	35 µg/m^3	35 µg/m^3
Carbon monoxide (CO)	8 hour	9 ppm	9 ppm	—
	1 hour	20 ppm	35 ppm	—
Nitrogen dioxide[g] (NO_2)	Annual Arithmetic Mean	0.030 ppm	0.053 ppm	0.053 ppm
	1 hour	0.18 ppm	100 ppb	—
Sulfur dioxide (SO_2)[h]	Annual Arithmetic Mean	—	0.030 ppm[f]	—
	24 hour	0.04 ppm	0.14 ppm[f]	—
	3 hour	—	—	0.5 ppm
	1 hour	0.25 ppm	75 ppb	—
Lead[i,j]	Calendar Quarter	—	1.5 µg/m^3	1.5 µg/m^3
	30-Day Average	1.5 µg/m^3	—	—
	Rolling 3-month Average	—	0.15 µg/m^3	0.15 µg/m^3
Visibility-reducing particles	8 hour	See Note [k]	—	—
Sulfates	24 hour	25 µg/m^3	—	—
Hydrogen sulfide	1 hour	0.03 ppm	—	—
Vinyl chloride[g]	24 hour	0.01 ppm	—	—

Source: CARB, 2016.

[a]California standards for O_3, CO (except 8-hour Lake Tahoe), SO_2 (1 hour and 24 hour), NO_2, and suspended particulate matter (PM_{10}, $PM_{2.5}$, and visibility-reducing particles) are values that are not to be exceeded. All others are not to be equaled or exceeded. CAAQS are listed in the Table of Standards in Section 70200 of Title 17 of the California Code of Regulations.

[b]National standards (other than O_3, particulate matter, and those based on annual arithmetic mean) are not to be exceeded more than once per year. The O_3 standard is attained when the fourth highest 8-hour concentration measured at each site in 1 year, averaged over 3 years, is equal to or less than the standard. For PM_{10}, the 24-hour standard is attained when the expected number of days per calendar year with a 24-hour average concentration above 150 µg/m^3 is equal to or less than 1. For $PM_{2.5}$, the 24-hour standard is attained when 98 percent of the daily concentrations, averaged over 3 years, is equal to or less than the standard.

[c]National Primary Standards: The levels of air quality necessary, with an adequate margin of safety, to protect the public health.

[d]National Secondary Standards: The levels of air quality necessary to protect the public welfare from any known or anticipated adverse effects of a pollutant.

[e]On October 1, 2015, the national 8-hour O_3 primary and secondary standards were lowered from 0.075 to 0.070 ppm.

[f]On December 14, 2012, the national annual $PM_{2.5}$ primary standard was lowered from 15.0 to 12.0 µg/m^3. The existing national 24-hour $PM_{2.5}$ standards (primary and secondary) were retained at 35 µg/m^3, as was the annual secondary standard of 15 µg/m^3. The existing 24-hour PM_{10} standards (primary and secondary) of 150 µg/m^3 also were retained. The form of the annual primary and secondary standards is the annual mean, averaged over 3 years.

[g]To attain the 1-hour national standard, the 3-year average of the annual 98th percentile of the 1-hour daily maximum concentrations at each site must not exceed 100 ppb. Note that the national 1-hour standard is in units of ppb. California standards are in units of ppm. To directly compare the national 1-hour standard to the California standards, the units can be converted from ppb to ppm. In this case, the national standard of 100 ppb is identical to 0.100 ppm.

[h]On June 2, 2010, a new 1-hour SO_2 standard was established, and the existing 24-hour and annual primary standards were revoked. To attain the 1-hour national standard, the 3-year average of the annual 99th percentile of the 1-hour daily maximum concentrations at each site must not exceed 75 ppb. The 1971 SO_2 national standards (24-hour and annual) remain in effect until 1 year after an area is designated for the 2010 standard, except that in areas designated nonattainment for the 1971 standards, the 1971 standards remain in effect until implementation plans to attain or maintain the 2010 standards are approved.

Note that the 1-hour national standard is in units of ppb. California standards are in units of ppm. To directly compare the 1-hour national standard to the California standard, the units can be converted to ppm. In this case, the national standard of 75 ppb is identical to 0.075 ppm.

[i]CARB has identified Pb and vinyl chloride as TACs with no threshold level of exposure for adverse health effects determined. These actions allow for the implementation of control measures at levels below the ambient concentrations specified for these pollutants.

[j]The national standard for Pb was revised on October 15, 2008, to a rolling 3-month average. The 1978 lead standard (1.5 µg/m^3 as a quarterly average) remains in effect until 1 year after an area is designated for the 2008 standard, except that in areas designated nonattainment for the 1978 standard, the 1978 standard remains in effect until implementation plans to attain or maintain the 2008 standard are approved.

[k]In 1989, CARB converted both the general statewide 10-mile visibility standard and the Lake Tahoe 30-mile visibility standard to instrumental equivalents, which are "extinction of 0.23 per kilometer" and "extinction of 0.07 per kilometer" for the statewide and Lake Tahoe Air Basin standards, respectively.

Notes:
µg/m^3 = microgram(s)/cubic meter
ppm = part(s) per million (by volume)
ppb = part(s) per billion (by volume)
TAC = toxic air contaminant

USEPA and CARB use data on measured ambient air concentrations collected at permanent monitoring stations to classify regions as "attainment" or "nonattainment" depending on whether the regions meet the NAAQS or CAAQS. Areas that lack monitoring data are designated as unclassified areas, and are considered as attainment areas for regulatory purposes. Table 3-2 shows Federal and California air quality attainment status designations in Sutter County and FRAQMD.

Regionally, some portions of the SVAB have fewer air quality problems than others. In Sutter County, only the southern portion of the county is designated by USEPA as nonattainment for the ozone NAAQS (USEPA, 2017a). The entire SVAB, including all of Sutter County, is designated as nonattainment for the CAAQS for ozone and PM_{10} (CARB, 2014; State of California, Office of Administrative Law [OAL], 2017). Even though the area does not achieve some of the standards, air quality has improved over time. Pollutant levels have decreased dramatically since the 1980s, even with substantial region-wide population growth. The sources that are most associated with emitting ozone precursors and particulate matter in Sutter County include fuel combustion, petroleum production, farming operations, and motor vehicles.

Table 3-2. Federal and California Air Quality Attainment Status Designations in Sutter County and FRAQMD

County	Area	Pollutant[a]	Federal Status	California Status
Sutter	South Sutter County	Ozone (O_3) (1-hour)	Not Applicable. 1979 1-hour Federal standard revoked in 2005.	Nonattainment – Transitional[b]
	All other areas in FRAQMD	O_3 (1 hour)	Not Applicable. 1979 1-hour Federal standard revoked in 2005.	Nonattainment – Transitional[b]
	South Sutter County	O_3 (8-hour)	Severe 15 Nonattainment	Nonattainment – Transitional[b]
	All other areas in FRAQMD	O_3 (8-hour)	Unclassified/attainment	Nonattainment – Transitional[b]
Yuba/Sutter	All areas in FRAQMD	PM_{10}	Attainment	Nonattainment
	Yuba City-Marysville	$PM_{2.5}$	Maintenance	Attainment
	All other areas in FRAQMD	$PM_{2.5}$	Attainment	Attainment
	All areas in FRAQMD	NO_2	Unclassified/attainment	Attainment
	All areas in FRAQMD	SO_2	Unclassified/attainment	Attainment
	All areas in FRAQMD	CO	Unclassified/attainment	Attainment

Sources: USEPA, 2017a; CARB, 2014; OAL, 2017; CARB, 2015a; CARB, 2015b

[a]Pb is not included in this table because USEPA's regulatory efforts to remove Pb from on-road motor vehicle gasoline have dramatically decreased levels of Pb in the air. Today, the major sources of Pb emissions are ore and metals processing, as well as piston-engine aircraft operating on leaded aviation gasoline. Vehicle Pb emissions are no longer a concern; thus, Pb is not included.

[b]Nonattainment-Transitional status indicates that pollutant concentrations violate the State standard, but air quality is nearing attainment.

As indicated in Table 3-1, USEPA lowered the NAAQS for 8-hour ozone to 0.070 ppm in October 2015. CARB then recommended that Sutter Buttes and South Sutter County be designated as nonattainment areas for the 2015 ozone NAAQS, and adopted the state recommendations for area designations in September 2016. Final designations are expected from USEPA in 2018 (USEPA, 2017b).

FRAQMD is the agency responsible for regulating air quality in Sutter County by implementing applicable regional, state, and Federal rules and regulations for sources of criteria air pollutants and toxic air contaminants (TACs). The CAA requires states with nonattainment areas to achieve the NAAQS by developing a State Implementation Plan (SIP). USEPA must approve the SIP and, once approved, the SIP sets forth the state's Federally-enforceable commitment to actions and a schedule to attain or maintain the NAAQS. The state delegates the authority for preparing SIPs to local air pollution control districts. FRAQMD has prepared several air quality plans to document the required control measures, permits, and regulations to support attainment and maintenance of the applicable NAAQS and CAAQS. These include the following:

- Effective July 20, 2012, South Sutter County was designated as a severe nonattainment area for the 2008 8-hour ozone NAAQS. On behalf of California nonattainment districts, an emission inventory was submitted by CARB to USEPA; and in August 2014, FRAQMD submitted a Reasonably Available Control Technology analysis for the 2008 ozone standard to USEPA (FRAQMD, 2014) for the south Sutter County portion of the Sacramento Metro Nonattainment Area. The remaining elements of the Attainment Plan and other CAA requirements are still under development.

- As part of the Sacramento Federal nonattainment area, South Sutter County was designated as nonattainment for the 1997 8-hour Ozone NAAQS. On January 19, 2015, USEPA approved the 2013 SIP Revisions to the Sacramento Regional 8-hour Ozone Attainment and Reasonable Further Progress Plan (2013 SIP Revisions) (FRAQMD, 2013). The plan showed attainment of the standard by 2018 as required and included FRAQMD commitments to adopt control measures to attain the standard of 0.084 ppm ozone as expeditiously as possible.
- To address ongoing efforts to comply with the state ozone standards, the Sacramento Valley Air Quality Engineering and Enforcement Professionals prepared the Northern Sacramento Valley Planning Area 2015 Triennial Air Quality Attainment Plan. The 2015 triennial update of the Northern Sacramento Valley Planning Area Air Quality Attainment Plan assesses the progress made in implementing the previous triennial update and proposes modifications to the strategies needed to meet the ozone CAAQS by the earliest practicable date (Sacramento Valley Air Quality Engineering and Enforcement Professionals, 2015).
- To address nonattainment for the PM_{10} CAAQS, FRAQMD adopted a plan to implement measures to reduce particulate emissions (PM_{10} and $PM_{2.5}$) in accordance with Senate Bill (SB) 656 (FRAQMD, 2005). SB 656 required CARB and the local air districts to develop a list of the most available, feasible, and cost-effective measures to reduce PM emissions from mobile, stationary, and area sources.

3.5.1.2 FRAQMD CEQA Guidelines

FRAQMD has published guidelines for CEQA compliance and has recommended threshold criteria for determining the significance of impacts on air quality from construction and operational activities (FRAQMD, 2010). Criteria established by FRAQMD are summarized in Table 3-3. If emissions meet the construction or operational thresholds, then the impact would be considered less than significant. However, if emissions exceed any of the applicable thresholds, the impact would be considered significant.

Table 3-3. FRAQMD-Published CEQA Significance Criteria for Construction and Operational Emissions

Pollutant	Construction Thresholds (lb/day)	Operational Thresholds (lb/day)
ROG	25 lb/day, multiplied by the project length, not to exceed 4.5 ton/yr	25
NO_x	25 lb/day, multiplied by the project length, not to exceed 4.5 ton/yr	25
CO	NA	NA
PM_{10}	80	80
$PM_{2.5}$	Not Yet Established	Not Yet Established
Sulfur Oxide	NA	NA
Greenhouse Gases (CO_2, methane)	Not Yet Established	Not Yet Established

Source: FRAQMD, 2010

Notes:
For comparison to the thresholds, it was assumed that the pollutants reactive organic gases and volatile organic compounds are the same.

CO_2 = carbon dioxide
lb/day = pound(s) per day
NA = not applicable

3.5.1.3 General Conformity

Section 176(c) of the CAA (42 United States Code 7506(c)) requires that any entity of the Federal government that engages in, supports, or in any way provided financial support for, licenses or permits, or approves any activity must demonstrate that the action conforms to the applicable SIP before the action is otherwise approved. The general conformity regulations developed by USEPA apply only to Federal actions that result in emissions of "nonattainment or maintenance pollutants" or their precursors in Federally-designated nonattainment or maintenance areas.[2] The general conformity regulations establish a process to demonstrate that Federal actions would be consistent with applicable SIPs and would not cause or contribute to new violations of the NAAQS, increase the frequency or severity of existing violations of the NAAQS, or delay the timely attainment of the NAAQS. The emission thresholds that trigger requirements of the general conformity regulation for Federal actions emitting nonattainment or maintenance pollutants, or their precursors, are called de minimis levels. Federal actions that would result in total emissions less than the applicable de minimis thresholds are assumed to conform, and no further analysis is required.

3.5.1.4 Toxic Air Contaminants

In addition to the criteria pollutants (e.g., O_3, particulate matter, and CO), concern about noncriteria pollutants, termed HAPs or TACs, has increased in recent years. HAPs are air contaminants identified in CAA, Section 112(b), and TACs are air contaminants identified by CARB under Sections 93000 and 93001 of Title 13 of the California Code of Regulations. HAPs and TACs (e.g., chlorine, chloroform, and asbestos) include airborne inorganic and organic compounds that can have both short-term (acute) and long-term effects on human health. Exposure to these pollutants may cause or contribute to cancer, birth defects, genetic damage, and other adverse acute or chronic health effects. Health impacts from human exposure to TACs from construction are dependent on the magnitude of the concentrations that sensitive receptors may be exposed to, the duration of exposure, and the relative toxicities of the individual pollutants.

CARB is responsible for developing statewide programs and strategies to reduce the emission of smog-forming pollutants and TACs by mobile sources. To attain the CAAQS, the California Clean Air Act mandates that CARB achieve the maximum degree of emission reductions from all on- and off-road mobile sources. On-road sources include passenger cars, motorcycles, trucks, and buses; off-road sources include heavy-duty construction equipment, recreational vehicles, marine vessels, lawn and garden equipment, and small utility engines. On-road vehicle emission control programs overseen by CARB include vehicle inspections, idling restrictions, requirements for clean vehicle fleets, voluntary vehicle retirement programs, and engine emissions standards. Additionally, exhaust emission standards have been adopted by CARB and USEPA for off-road engines. CARB has extensive statewide programs underway to reduce particulate emissions from diesel-fueled engines, also known as diesel PM.

FRAQMD recommends that CEQA documents analyze potential impacts resulting from exposure to project-related TACs, typically diesel PM and asbestos. FRAQMD has not published significance criteria for non-permitted projects that emit TAC emissions or the associated health effects. Projects that would involve demolition of asbestos-containing materials are subject to National Emissions Standards for Asbestos (40 Code of Federal Regulations [CFR] 61, Subpart M). For projects that would emit diesel PM, mitigation measures to reduce emissions are recommended (FRAQMD, 2010).

[2] The Federal general conformity regulation does not apply to Federal actions in areas designated as nonattainment for only the California ambient air quality standards.

3.5.1.5 Odors

FRAQMD has prepared a screening table for evaluation of the potential for odor impacts. If a project is one of the listed types and the nearest receptor to the project would be within the distances in the screening table, consultation with FRAQMD is recommended.

3.5.2 Impacts/Environmental Consequences

The Proposed Project/Action involves construction of a new tailwater recovery lift pump station along the existing Sankey Canal, near the NDC. This air quality analysis assumes that ongoing operation and maintenance activities associated with the new facility are consistent with operation and maintenance of existing facilities and, therefore, is within the range of normal activities currently being conducted. As a result, emissions from these ongoing activities are not included in the impact analysis.

This air quality analysis focuses on the construction activities associated with the Proposed Project/Action, which would result in short-term exhaust emissions from construction equipment and vehicles as well as fugitive dust emissions over the proposed 4-month construction schedule. Air quality impacts from the Proposed Project/Action would be local or regional in nature.

Construction emissions were estimated for the following sources: exhaust emissions from construction equipment, exhaust emissions from vehicles, fugitive dust emissions from earth-moving activities, and fugitive dust emissions associated with truck and vehicle travel on unpaved roads. Exhaust emissions occur from the operation of mobile construction equipment at each work site, such as excavators and backhoes. Emissions are proportional to the amount of work performed by each piece of equipment, and are specific to the horsepower rating of the equipment; therefore, emissions were calculated by multiplying size-appropriate emission factors by the number of hours of operation, as well as average operating load for each piece of equipment. This air quality impact analysis also includes exhaust and dust emissions for employees commuting to and from the construction site.

Sources of fugitive dust include site preparation, grading, excavation, concrete work, and equipment and vehicle travel on paved and unpaved roads. Fugitive dust is airborne particulate matter, including PM_{10} and $PM_{2.5}$. Earth-moving equipment, trucks, and other mobile sources fueled by diesel or gasoline emit criteria pollutants and small amounts of air toxic emissions.

Table 3-4 provides a summary of the estimated uncontrolled construction emissions for reactive organic gases[3] and NO_x as precursors for ozone, as well as PM_{10} emitted as fugitive dust and exhaust. Only pollutants or precursors to pollutants with applicable Federal and FRAQMD significance thresholds are included in the table. Emissions from the Proposed Project/Action were estimated using the 2016 California Emissions Estimator Model (CalEEMod) (version 2016.3.1) (California Air Pollution Control Officers Association, 2016). Construction assumptions used in the air quality emissions estimate are included in Appendix B. Table 3-4 also compares the estimated construction emissions to applicable Federal and local emission thresholds. None of the thresholds are exceeded because the estimated uncontrolled construction emissions are far below the thresholds.

[3] The term “reactive organic gases” is synonymous with “volatile organic compounds” for the purposes of this document since both terms refer to hydrocarbon compounds that contribute to ozone formation.

Table 3-4. Estimated Construction Emissions for the Proposed Project/Action with Comparison to Applicable Federal and Local (FRAQMD) Emissions Thresholds

Pollutant	State Attainment Status for FRAQMD[a]	Federal Attainment Status for FRAQMD[b]	Thresholds for Federal Conformity Determinations[c]	Local (FRAQMD) Significance Thresholds[d]	Estimated Project Emissions[e] (lb/day)	Estimated Project Emissions[e] (tons/year)
ROG (as an ozone precursor)	Nonattainment – transitional (ozone)	Severe O_3 Nonattainment (South Sutter area)	25 tons/year	25 lb/day, or 4.5 tons/year	1.5	0.02
NO_x (as an ozone precursor)	Nonattainment – transitional (ozone)	Severe O_3 Nonattainment (South Sutter area)	25 tons/year	25 lb/day, or 4.5 tons/year	15.5	0.20
PM_{10}	Nonattainment	Attainment	Not Applicable	80 lb/day or 14.6 tons/year	0.9	0.01

[a]Sources: CARB, 2014; State of California, OAL, 2017

[b]Sources: FRAQMD, 2010; USEPA, 2017a

[c]Source: 40 CFR 93.153. General Conformity de minimis thresholds are only applicable to the pollutants of concern in Federally-designated nonattainment and maintenance areas.

[d]Source: FRAQMD, 2010

[e]Construction emissions estimated with CalEEMod Windows Version 2016.3.1

Note:
Only pollutants or precursors to pollutants with nonattainment or maintenance status are included in the table.

a. Would the project conflict with or obstruct implementation of the applicable air quality plan?

Impact AQ-1. Construction of the Proposed Project/Action would result in exhaust emissions from construction equipment and vehicles, and fugitive dust emissions. Less than significant.

The Proposed Project/Action would not conflict with or obstruct implementation of any applicable air quality plan. However, construction of the Proposed Project/Action would result in new, short-term exhaust emissions from construction equipment and vehicles, as well as fugitive dust emissions. As shown in Table 3-4, construction-related emissions would be less than the applicable Federal and FRAQMD thresholds, indicating that impacts would be less than significant. However, FRAQMD's Standard Mitigation Measures for construction projects with less-than-significant emissions, which are described under Mitigation Measure AQ-1, would be implemented.

Emissions from operation and maintenance activities would not result in a net increase in emissions when compared to existing conditions because these are ongoing activities currently conducted by RD 1000 and NCMWC. Because total direct and indirect project-related emissions are well below the General Conformity de minimis thresholds, the General Conformity Rule does not apply, and no conformity determination is required.

Mitigation Measure AQ-1. FRAQMD recommends the following construction-phase Standard Mitigation Measures (FRAQMD, 2010), which would be implemented to reduce emissions from construction of the Proposed Project/Action:

- Develop and implement a Fugitive Dust Control Plan to control dust emissions. Potential control measures include frequent water applications, suspending construction during high-wind periods, reducing speed limits, covering on-site stockpiles, and/or installing wheel-washers, a gravel bed, or a rumble strip where project vehicles and equipment exit from unpaved roads.

- Emissions from construction equipment shall not exceed 40 percent opacity or Ringelmann 2.0, per limits in FRAQMD Regulation III, Rule 3.0, Visible Emissions.
- The contractor shall properly tune and maintain all construction equipment and vehicles before and during the construction project.
- Idling of diesel-fueled equipment and vehicles will be limited to 5 minutes to save fuel and reduce emissions.
- Use existing power sources where available, rather than temporary power generation equipment, and/or temporary clean fuel generators.
- If necessary, develop and implement a traffic plan to minimize disruptions due to construction equipment, and use a flag person to guide traffic and ensure safety at the construction site.
- If required by applicable laws and regulations, portable engines and portable equipment must be registered under the CARB Portable Equipment Registration Program (PERP) or permitted by FRAQMD prior to on-site operation.

b. Would the project violate any air quality standard or contribute substantially to an existing or projected air quality violation?

Same as Impact AQ-1 and Mitigation Measure AQ-1 described above. As described under Impact AQ-1, construction of the Proposed Project/Action would result in new, short-term exhaust emissions from construction equipment and vehicles, as well as fugitive dust emissions. As shown in Table 3-4, construction emissions of nonattainment pollutants and their precursors (ROG, NOx, and PM_{10}), would not exceed the CEQA thresholds of significance set by FRAQMD. Because the project emissions would be less than the CEQA thresholds, air quality impacts would be less than significant, and the Proposed Project/Action would not violate any air quality standard or contribute substantially to an existing or projected air quality violation.

c. Would the project result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable Federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone (O_3) precursors)?

Impact AQ-2. Construction of the Proposed Project/Action would result in project-level emissions within a non-attainment region. Less than significant.

The FRAQMD CEQA thresholds of significance in the Indirect Source Review Guidelines (FRAQMD, 2010) are relevant in evaluating whether a project's individual emissions would result in a cumulatively considerable adverse contribution to the SVAB's existing air quality conditions. If a project's emissions would be less than the thresholds, the project impacts would be less than significant and would not be expected to result in a cumulatively considerable contribution to a significant cumulative air quality impact. As shown in Table 3-4, the construction emissions of nonattainment pollutants and their precursors (ROG, NOx, and PM_{10}) would not exceed the CEQA thresholds of significance set by FRAQMD. According to the FRAQMD guidelines, because the emissions would be less than the CEQA thresholds, the impacts would be less than significant, and the Proposed Project/Action would not result in a cumulatively considerable net increase of any criteria pollutant for which the region is nonattainment.

d. Would the project expose sensitive receptors to substantial pollutant concentrations?

Impact AQ-3. Construction and maintenance of the Proposed Project/Action could expose sensitive receptors to pollutants. Less than significant.

Emissions of TACs could be generated by the combustion of fuels in construction equipment include diesel particulate matter, benzene, formaldehyde, acrolein, and other products of incomplete combustion. Health impacts from human exposure to TACs from construction are dependent on the magnitude of the concentrations that sensitive receptors may be exposed to, the duration of exposure, and the relative toxicities of the individual pollutants. Under the Proposed Project/Action, construction and maintenance activities primarily would occur in sparsely populated areas dominated by existing agricultural use, typically more than 1,000 feet from sensitive receptors. Construction activities would only last 4 months, and would be limited to a relatively small area where only a few pieces of construction equipment would be operating at any time. Any human exposures to the TAC emissions from project-related construction activities would be short term.

Emissions from operation and maintenance activities would not result in a net increase in emissions when compared to existing conditions because these are ongoing activities currently conducted by RD 1000 and NCMWC. As described under Impact AQ-1, FRAQMD's Standard Mitigation Measures such as minimizing idling times, maintaining equipment in good condition, and implementing feasible measures to control fugitive dust would be implemented as Mitigation Measure AQ-1. These measures would reduce TAC emissions and minimize the exposure of nearby receptors to the construction- and maintenance-related pollutants. Therefore, the Proposed Project/Action would not expose sensitive receptors to substantial pollutant concentrations during construction and maintenance, and impacts would be less than significant.

e. Would the project create objectionable odors affecting a substantial number of people?

No impact. The use of diesel construction equipment during construction of the Proposed Project/Action may generate minor odors near the equipment. These emissions would be temporary and would not be expected to create objectionable odors affecting a substantial number of people. The Proposed Project/Action is not one of the listed types in the FRAQMD table of Recommended Odor Screening Distances (FRAQMD, 2010), and is not expected to result in odors under FRAQMD policies. Therefore, no impact would occur.

3.6 Biological Resources

Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporation	Less Than Significant Impact	No Impact
a. Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?	No	Yes	No	No
b. Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?	No	Yes	No	No
c. Have a substantial adverse effect on Federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?	No	No	No	Yes
d. Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?	No	No	No	Yes
e. Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	No	No	No	Yes
f. Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local or regional habitat conservation plan?	No	No	No	Yes

3.6.1 Environmental Setting/Affected Environment

The Proposed Project/Action is located in the Sacramento Valley portion of the Great Central Valley. Regionally, the Proposed Project/Action is located in the Natomas Basin, which is characterized by agricultural lands, California annual grassland, created wetlands, riparian habitat, and the Sacramento River. The project area is in an agricultural area on the eastern side of the Natomas Cross Canal levee, adjacent to the Sankey Canal and Vestal Drain. NCMWC and RD 1000 manage the canals and drains in the project area. Canals and drains in the area are routinely cleared of vegetation; thus, the Sankey Canal is devoid of vegetation, and the Vestal Drain has minimal emergent vegetation. Access roads and rice field margins include ruderal vegetation species that are routinely mowed or sprayed and are devoid of vegetation.

Most of the project area is disturbed and graveled or dirt. Habitat types found in the project area include developed areas (e.g., roads, levees, pumping stations, and urban landscape structures within disturbed farming areas) and agricultural areas (e.g., rice, fallow agricultural land, and canals). Vegetation is minimal and low growing, and consists of ruderal upland species such as rattail fescue (*Vulpia myuros*), wild lettuce (*Lactuca sp.*), milkthistle (*Silybum marianum*), sow-thistle (*Sonchus sp.*), and mustard (*Brassica sp.*). No trees or shrubs occur adjacent to the project area, but large nesting trees

occur along the Natomas Cross Canal to the northwest. Created wetlands that are managed by NBC occur to the northeast, and rice fields occur to the south. Small mammal burrows have been observed in the project area.

3.6.1.1 Special Status Species

A list of special status species with the potential to be affected by the Proposed Project/Action was created based on queries of the CDFW California Natural Diversity Database (CNDDB) and the USFWS Information for Planning and Conservation (IPaC). Figure 3.5-1 shows the results of the CNDDB query. Appendix C includes the USFWS IPaC query results. No designated or proposed critical habitat was identified for the project area (USFWS, 2017). A habitat assessment and reconnaissance survey to evaluate potential habitat for special status species was conducted in the project area on November 4, 2016.

There are two CNDDB records for special status plant species within a 5-mile radius of the project area: Dwarf downinigia *(Downingia pusilla*), which is a California Native Plant Society 2B.2 plant, and Woolly rose-mallow (*Hibiscus lasiocarpus var. occidentalis*), which is a California Native Plant Society 1B.2 plant (CDFW, 2017). Dwarf downingia is a vernal pool associate and there are no vernal pools in the project area. Wooly rose-mallow is generally associated with freshwater wetlands in the north Sacramento Valley area and has not been documented in the vicinity of the project area because there are no freshwater wetlands in the project area (Calflora, 2017). Neither species was observed during the habitat assessment and reconnaissance survey.

There are 13 CNDDB records for special status wildlife species and four records for non-listed species within a 5-mile radius of the project area (CDFW, 2017). The USFWS IPaC review identified nine threatened or endangered species in the vicinity of the project area. There were 15 special status wildlife species identified in the CNDDB and IPaC queries; however, based on the habitat assessment and reconnaissance survey, occurrence data, and habitat requirements, only three species have the potential to occur in the project area. These three special status species include GGS, western pond turtle (WPT) (*Actinemys marmorata*), and Swainson's hawk (SWHA) (*Buteo swainsoni*). In addition to these special status species, there are other bird species protected under the Migratory Bird Treaty Act (MBTA) that could potentially occur within the project area. Therefore, the special status species considered in this IS/EA are limited to GGS, WPT, SWHA, and other birds protected under the MBTA.

Giant Garter Snake

GGS was listed as threatened in California in 1971 and Federally in 1993 (USFWS, 1993). The current known distribution of GGS has changed little since the 1993 listing, and it extends from near Chico in Butte County, south to Mendota Wildlife Area in Fresno County (USFWS, 2012). Suitable habitat for GGS in the vicinity of the project area exists in the North Drainage Canal, Vestal Drain, and the NBC wetlands. A search identified that there are numerous CNDDB occurrence records for GGS within 5 miles of the project area (CDFW, 2017). The nearest records (CNDDB Occurrence Records 189 and 209) are located less than 0.25 mile outside of the project area. Occurrence Record 189 is located along NDC, east of Powerline Road, and GGS was last found there in 2014. Occurrence Record 209 is located west of NDC, on the northern side of Sankey Road, and GGS was last found there in in 2011. A multi-year trapping effort from 2002 to 2007 in the area immediately north of the Natomas Cross Canal found a relatively large occurrence (e.g., 100 snakes were trapped during two consecutive years using 300 traps) (USFWS, 2012).

Habitats occupied by GGS contain permanent or seasonal water, mud bottoms, and vegetated dirt banks (Fitch, 1940; Hansen and Brode, 1980). GGS are associated with aquatic habitats characterized by the following features: sufficient water during the snake's active season (early spring through mid-fall) to supply cover and food such as small fish and amphibians; emergent, herbaceous wetland vegetation such as cattails (*Typha* spp.) and bulrushes (*Scirpus* spp.), accompanied by vegetated banks to provide

basking and foraging habitat and escape cover during the active season; upland habitat (e.g., bankside burrows, holes, and crevices) to provide short-term refuge areas during the active season; and high ground or upland habitat above the annual high-water mark to provide cover and refuge from floodwaters during the dormant winter period (Hansen and Brode, 1980; Hansen, 1998). During the inactive season (November to mid-March), GGS take refuge in muskrat, crayfish, or ground squirrel burrows (Halstead et al., 2015)

GGS feed primarily on aquatic prey. Historically, GGS likely preyed on native fish such as the Sacramento blackfish (*Orthodon microlepidotus*) and the thicktail chub (*Gila crassicauda*; Cunningham, 1959; Hansen and Brode, 1980), as well as amphibians. The GGS' contemporary diet consists largely of introduced species, including common carp (*Cyprinus carpio*), western mosquitofish (*Gambusia affinis*), and all life stages of American bullfrogs (Halstead et al., 2015).

GGS typically emerge from winter retreats from late March to early April after spending the cool winter months in dormancy or periods of reduced activity. They remain active through October, with the timing of annual activity subject to varying seasonal weather conditions. Daily activity consists of emergence from burrows after sunrise, basking to warm bodies to active temperatures, and foraging or courting for the remainder of the day (Hansen and Brode, 1993). Activity generally peaks during spring emergence and courtship from April into June, when observations of GGS diminish significantly until a second peak is observed after females give birth during late July into August (Hansen and Brode, 1993; Wylie et al., 1997; USFWS, 1999; Fitch, 2004). GGS give birth to between 10 and 46 live young once a year. Age at sexual maturity has been reported to be 3 years for males and 5 years for females. The maximum lifespan of GGS is unknown, but is thought to be greater than 10 years (Halstead et al., 2015). GGS then remain active foraging and occasionally courting until the onset of cooler fall temperatures.

In the project area, suitable habitat for GGS exists in the Sankey Canal, the earthen banks of the Sankey Canal, the Vestal Drain, and the NDC. The Sankey Canal, Vestal Drain, and NDC were full of water at the time of the habitat assessment and reconnaissance survey. During the habitat assessment and reconnaissance survey, a few small burrows were noted in the flat areas south of the Sankey Canal and along the slopes of the NDC. The slope of the Sankey Canal had minimal vegetation, and no apparent burrows were noted. Suitable habitat also exists along the entire limit of the access road from Highway 99 to the east to the project area, which parallels the NBC wetlands. The drainage canals and the NBC wetlands provide year-round sources of water, and the banks are generally sunny and provide suitable basking sites with some terrestrial vegetation that would provide cover for GGS. RD 1000 and NCMWC routinely maintain the drains, canals, and roads in the area, keeping foraging habitat within the canals to a minimum. However, during the growing season, the canals provide corridors for GGS moving to and from adjacent rice fields, and provide ample foraging and dispersal opportunities.

Western Pond Turtle

WPT, a state species of special concern, is an aquatic turtle that ranges throughout much of the state. It occurs in ponds, slow-moving streams and rivers, irrigation ditches, and reservoirs that have abundant emergent and/or riparian vegetation. The WPT is fairly common along the Sacramento and Feather rivers and the Sutter Bypass, and in many of the aquatic habitats in the Natomas Basin, particularly in the larger irrigation and drainage canals (NBC, 2017b). Suitable habitat for WPT, including aquatic habitats and basking sites, exists in the NDC and Vestal Drain in the project area and vicinity. However, RD 1000 and NCMWC routinely maintain the drains, canals, and roads in the area, which keeps basking sites along the canals to a minimum.

The home range size of the male WPT averages approximately 1 hectare (2.5 acres), while female and juvenile home ranges are much smaller (NBC, 2017b). Females move overland in the spring to find nest sites. Nests are usually located along stream or pond margins. However, nests may be located over 100 meters (328 feet) from the water on hillsides (Lovich, 1998; CDFW, 2014; NBC, 2017b). During the

breeding season, canals may provide corridors for WPT moving to and from adjacent upland nesting habitat. However, upland breeding habitat is limited in the project area and vicinity.

Swainson's Hawk

SWHA is a state-listed threatened species that occurs in open country, foraging in grasslands and agricultural fields, especially after disking or harvest. They use tall riparian trees (typically oaks or cottonwoods) for nesting, but will occasionally nest in large eucalyptus or other large ornamental trees if there is suitable foraging habitat nearby. Numerous nesting records for SWHA occur along the Sacramento, Feather, and Bear rivers, and along the Sutter Bypass (CDFW, 2017).

Suitable trees that could provide nest sites for SWHA occur within the CDFW-recommended 0.5-mile buffer for protection of this species (California Department of Fish and Game, 1994). In addition, there are known SWHA nest sites occurring within 0.5 mile of the project area. One historical site is within the Natomas Cross Canal to the northwest of the project area. This nest location has good visual buffers from the nest site to the project area because the Natomas Cross Canal levee is generally at a higher elevation than the nest location.

Birds Protected Under the Migratory Bird Treaty Act

In addition to SWHA, several bird species protected under the MBTA could potentially occur in the area surrounding the Proposed Project/Action, including bald eagle, burrowing owl, fox sparrow, least bittern, Lewis's woodpecker, loggerhead shrike, long-billed curlew, mountain plover, Nuttall's woodpecker, oak titmouse, peregrine falcon, short-eared owl, tricolored blackbird, Western grebe, Williamson's sapsucker, and yellow-billed magpie.

3.6.2 Impacts/Environmental Consequences

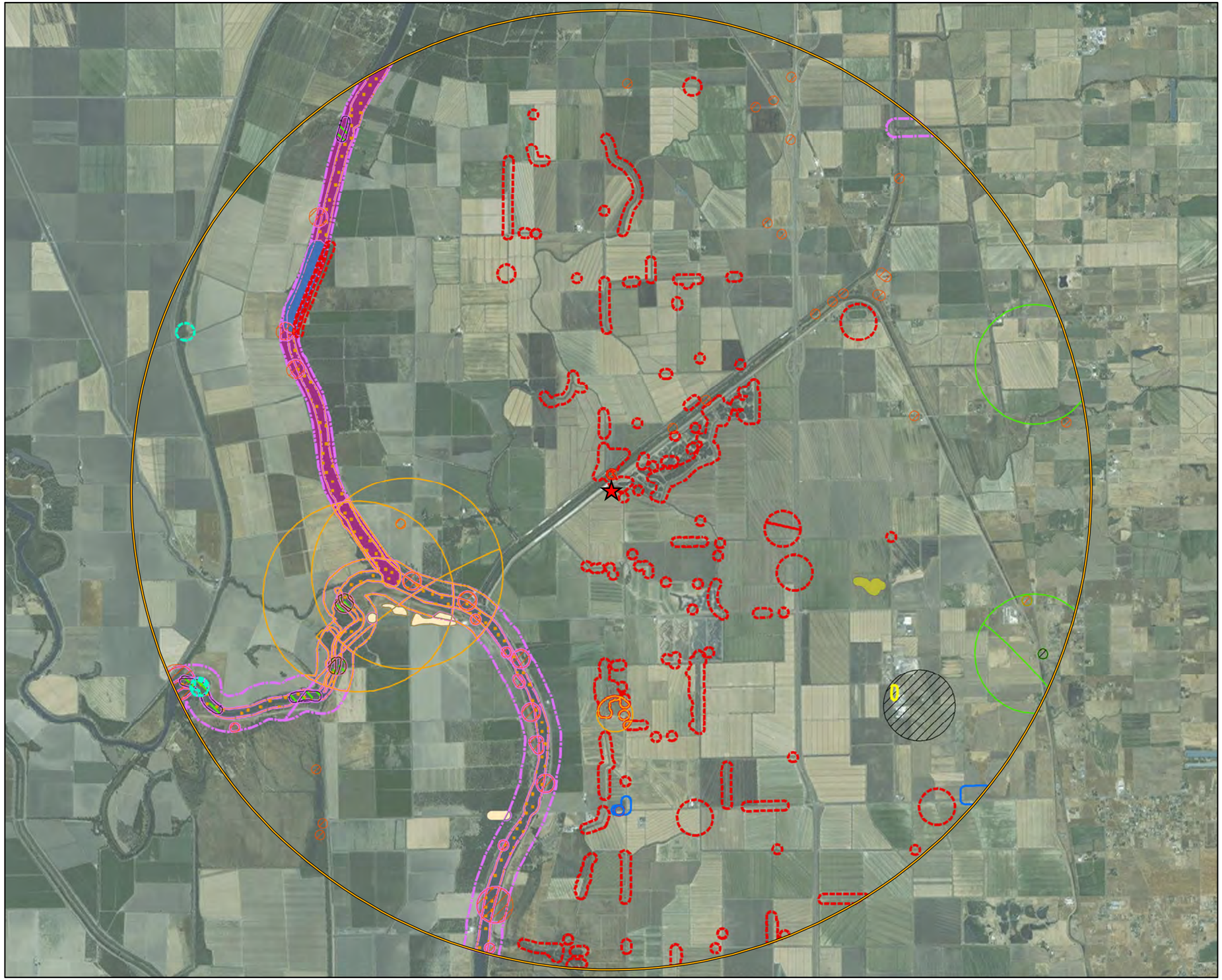
a. Would the project have a substantial adverse effect, either directly or through habitat modifications, on any species identified as candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?

Components of the Proposed Project/Action occur within or adjacent to areas of suitable habitat for special status species, including GGS, WPT, and SWHA. The potential impacts to special status species are described in more detail below.

Impact BR-1. Construction activities could impact GGS individuals. Less than significant with mitigation.

Because GGS are presumed to be present within the project area, construction of the Proposed Project/Action could result in impacts to GGS. Construction is anticipated to start in August 2018 and would be completed over the course of approximately 4 months, with work occurring during the GGS active and inactive seasons.

Potential impacts are associated with construction activities (e.g., trenching, earthmoving, and placement of riprap) during installation of the intake, intake piping, and pump structure. GGS could suffer direct injury and/or mortality from equipment strikes or become entombed in below-ground refugia during these activities. GGS are less mobile in over-wintering refugia along the earthen canal banks that would be excavated as part of the Proposed Project/Action and would be at increased risk of strike during this time frame. In addition, increased vehicle traffic on surface roads adjacent to open-water habitat could result in GGS being crushed beneath heavy construction equipment during ingress or egress from the construction site.



Service Layer Credits: Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AeroGRID, IGN, and the GIS User Community

FIGURE 3.5-1
CNDDB 5-mile Radius
North Drainage Canal Lift Pump Station
Sutter County, CA

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Mitigation Measure BR-1 would be implemented to avoid and minimize potential effects to GGS during construction activities. With implementation of the proposed avoidance and minimization measures identified in Mitigation Measure BR-1, potential impacts of the Proposed Project/Action would be reduced to less-than-significant levels.

Mitigation Measure BR-1. The following avoidance and minimization measures would be implemented to reduce potential impacts to GGS during construction:

1. At least 30 calendar days prior to initiating construction activities, the names and curriculum vitae of the biological monitor(s) for the proposed Project will be submitted to USFWS and CDFW for approval. Monitors shall have the ability to differentiate GGS from other snakes, shall have the authority to stop construction activities if a GGS is encountered during construction, and shall monitor the measures for effectiveness.

2. Prior to initiating construction activities, the Company will prepare a GGS relocation plan for use in the event that a GGS is injured or trapped during construction. The relocation plan will outline the biological monitor qualifications and responsibilities, and the steps to be taken if a GGS is encountered during construction. The relocation plan will identify the names and contact information for one or more USFWS/CDFW-approved biologists with a 10(a)(1)(A) recovery permit for GGS that will be responsible for handling GGS. The location (if known) where trapped GGS would be relocated will be included in the relocation plan, or the plan will specify that trapped individuals will be relocated to the nearest suitable habitat that is outside of the construction area. The relocation plan will describe the steps that will be taken in the event that an injured GGS is found. The relocation plan will describe the communication and notification process and documentation for submission to USFWS and CDFW. The relocation plan will be approved by USFWS and CDFW.

3. If a snake is encountered during construction, activities shall cease until the snake leaves the project area on its own or until the USFWS/CDFW-approved biologist determines that the snake is not a GGS. No snakes will be intentionally harassed, harmed, or killed, and they shall be allowed to leave the project area on their own volition. If a possible GGS is observed retreating into an underground burrow or is otherwise stationary within the project area, construction activities shall not begin or shall cease immediately in the reach where the snake is present. In the instance where a possible GGS goes underground and is not visible, USFWS and CDFW will be notified and a USFWS/CDFW-approved biologist with a 10(a)(1)(A) recovery permit will respond according to the GGS relocation plan.

4. GGS occurrences will be reported immediately to the USFWS/CDFW-approved biologist, who will contact USFWS and CDFW to determine whether additional protective measures are needed. The USFWS/CDFW-approved biologist shall notify USFWS and CDFW immediately if any listed species are found on-site, and will submit a report including date(s), location(s), habitat description, and any corrective measures taken to protect the species found. The biologist shall be required to report any take to USFWS and CDFW immediately by telephone at (916) 414-6600 and by electronic mail or written letter within one working day of the incident as follows:

- USFWS (916) 414-6600, Division Chief, Endangered Species Program
- CDFW (916) 358-2842, Region 2 Representative, Amy Kennedy

5. Before any work begins, construction personnel will receive worker environmental awareness training conducted by a USFWS/CDFW-approved biologist to recognize GGS and their habitat. The education program will briefly cover GGS and their habitat that may be encountered during the proposed Project, and will cover all restrictions and guidelines that must be followed by crews to avoid or minimize impacts. Upon completion of training, crews shall sign a form stating

that they attended the training and understand all the field personnel conservation and protection measures.

6. A USFWS/CDFW-approved biologist shall perform preconstruction surveys for GGS, oversee implementation of best management practices to prevent sediment from entering areas containing GGS habitat, and oversee installation of exclusion fencing. A USFWS/CDFW-approved biologist shall be present during any earth-moving activities, including riprap placement and trenching.
7. Before construction activities begin, flooded rice fields and other potential GGS habitat adjacent to the project area will be identified and flagged by a USFWS/CDFW-approved biologist, and high-visibility fencing will be erected to protect the areas from encroachment of personnel and equipment. The fencing shall be inspected before the start of each workday and shall be maintained until completion of the Project. The fencing shall be removed only when construction within a given area is completed. This fencing and any erosion control best management practice shall conform to the following specifications: tightly woven fiber netting (mesh size 0.25 inch or smaller) or similar material shall be used to ensure that GGS are not trapped or become entangled by the erosion control material. No monofilament wattles or erosion blankets will be used for this Project.
8. Movement of equipment and vehicles to and from the project area will be restricted to established roadways and designated staging areas to minimize habitat disturbance. Project-related vehicles shall observe a 15-mile-per-hour speed limit within the project area.
9. During construction, stockpiling of construction materials, portable equipment, vehicles, and supplies shall be restricted to the designated construction staging areas. All equipment, vehicles, and supplies shall be stored at the designated staging area at the end of each work period. To eliminate an attraction to predators of the GGS, all food-related trash items (such as wrappers, cans, bottles, and food scraps) shall be disposed of in closed containers, which will be removed from the project area daily.
10. Immediately prior to construction activities, a USFWS/CDFW-approved biologist will survey the project area for GGS. The biologist shall provide USFWS and CDFW with written documentation of the monitoring efforts within 48 hours after the survey is completed. The project area survey will be repeated if a lapse in construction activity of 14 days or greater has occurred.
11. Exclusion fencing will be installed using a modified ripper capable of deliberately and accurately ripping along the fence line to minimize disturbance and impacts to GGS. The edge of the material shall be buried in the ground to prevent GGS from crawling underneath the material. Exclusion fencing shall be monitored each day prior to and during construction to ensure that openings do not develop that will allow the entry of a GGS into the construction area. Prior to construction activity, the area would be inspected by a USFWS/CDFW-approved biologist for GGS. If at any time a GGS is discovered inside an area protected by exclusionary fencing, a USFWS/CDFW-approved biologist shall notify USFWS and CDFW immediately as described under measures 3 and 4.
12. Temporary fencing will be used around equipment that is left overnight in the project area. Temporary fencing will be constructed of material satisfactory to USFWS and CDFW. Immediately prior to moving vehicles stored within the temporarily fenced area, a USFWS/CDFW-approved biologist will survey the area and underneath the vehicle for GGS. If a GGS is discovered, a USFWS/CDFW-approved biologist shall notify USFWS and CDFW immediately as described under measures 3 and 4.

13. Clearing of vegetation and scraping or digging of soil shall be limited to the minimal area necessary to facilitate construction activities. In addition, earth-moving activity, including riprap placement and trenching, shall be overseen by a USFWS/CDFW-approved biologist.
14. Construction within canals may require dewatering using a screened sump pump. The area to be dewatered will be inspected by a USFWS/CDFW-approved biologist prior to dewatering and a spill response kit (e.g., cleanup items such as absorbent pads, waddles, and disposal containers) will be made available at the site. The dewatered portion shall remain dry (no standing water) for 15 consecutive days prior to construction activities. The dewatered area will be inspected by a USFWS/CDFW-approved biologist prior to construction activity within the constructed canal. If complete dewatering is not possible, potential snake prey (e.g., fish and tadpoles) shall be removed so that snakes and other wildlife are not attracted to the construction area. Stormwater runoff that occurs after the canal is dewatered and after exclusion fencing is installed around the project area will be directed to a screened trash pump and not be allowed to accumulate in the canal. The screened trash pump will be checked by a USFWS/CDFW-approved biologist prior to use.
15. To prevent entrapment of GGS during construction, an escape ramp shall be placed at each end of all open excavations at the end of each work day to allow GGS that may have become entrapped in the trench to escape the trench overnight. The ramp may be constructed of dirt fill, wood planking, or other suitable material. Before such holes or trenches are filled, a USFWS/CDFW-approved biologist shall thoroughly inspect them for GGS. If at any time a trapped GGS is discovered, USFWS and CDFW will be notified and a USFWS/CDFW-approved biologist with a 10(a)(1)(A) recovery permit will respond according to the GGS relocation plan.
16. During construction, all pipes, culverts, or similar structures that are stored in the project area overnight shall be thoroughly inspected for trapped GGS before the pipe is buried, capped, or otherwise used or moved. Pipes laid in trenches overnight should be capped. If at any time a trapped GGS is discovered, USFWS and CDFW will be notified and a USFWS/CDFW-approved biologist with a 10(a)(1)(A) recovery permit will respond according to the GGS relocation plan.
17. After construction activities are complete, any temporarily disturbed areas shall be restored to their pre-Project conditions. An area subject to temporary disturbance includes any area that is disturbed during the Project but that, after Project completion, shall not be subject to further disturbance and has the potential to be revegetated. All GGS habitats subject to temporary ground disturbances, including storage and staging areas, shall be restored (i.e., revegetated with an erosion control seed) by the Company. The banks of the Sankey Canal will be revegetated with a native seed mix.

Impact BR-2. Implementation of the Proposed Project/Action would result in permanent and temporary impacts to suitable habitat for GGS. Less than significant with mitigation.

Within the project area, suitable habitat for GGS consists of the Sankey Canal, the banks of the Sankey Canal, the Vestal Drain, and the NDC. Suitable habitat also exists along the entire limit of the access road from Highway 99 to the east to the project area, which parallels the NBC wetlands. Any ditches or aquatic features that are either dewatered or modified would constitute either a temporary or permanent reduction in available habitat. Impacts to suitable habitat resulting from implementation of the Proposed Project/Action would be confined to the Sankey Canal, dirt access roads, and disturbed ruderal vegetation. The Proposed Project/Action would permanently affect approximately 0.12 acre and would temporarily affect 0.86 acre of suitable upland and aquatic habitat within the project area (Figure 2-1). The Proposed Project/Action would result in a long-term benefit to GGS because of improved water management both locally at the NDC Lift Pump Station and regionally in the Natomas Basin. Mitigation Measure BR-2 would be implemented to

mitigate impacts to GGS habitat. With implementation of the mitigation identified in Mitigation Measure BR-2, potential impacts of the Proposed Project/Action would be reduced to less-than-significant levels.

Mitigation Measure BR-2. Compensatory mitigation is proposed to mitigate the impacts to GGS habitat. Compensatory mitigation would be completed in advance of the habitat impacts.

Impacts to GGS habitat would be mitigated by purchasing credits from NBC at the 2018 NBHCP fee of $33,091 per acre. Credits would be purchased prior to the start of construction. A total of 0.86 acre of temporary direct effects would be mitigated at a 1:1 ratio, and a total 0.12 acre of permanent direct effects would be mitigated at a 5:1 ratio. Therefore, a total payment of $48,313 would be made to NBC by NCMWC for the purchase of 1.46 acres (0.86 acre for temporary impacts and 0.6 acre for permanent impacts). Permanent protection and management of habitat would be conducted by NBC.

Impact BR-3. Construction activities could impact WPT. Less than significant with mitigation.

Because WPT are presumed to be present within the project area, construction of the Proposed Project/Action could result in impacts to WPT. Potential impacts are associated with construction activities (e.g., trenching, earthmoving, and placement of riprap) during installation of the intake, intake piping, and pump structure. Constructing in the winter prior to the relocation of the Vestal Drain eliminates the need for dewatering the drainage canal, which reduces the likelihood of impacts on WPT associated with dewatering activities. In addition, increased vehicle traffic on surface roads adjacent to open-water habitat could result in WPT being crushed beneath heavy construction equipment or worker vehicles during ingress or egress from the construction site.

Mitigation Measure BR-3 would be implemented to avoid and minimize potential effects to WPT during construction activities. With implementation of the proposed avoidance and minimization measures identified in Mitigation Measure BR-3, potential impacts of the Proposed Project/Action would be reduced to less-than-significant levels.

Mitigation Measure BR-3. The following avoidance and minimization measures would be implemented to reduce potential impacts to WPT during construction:

- Before any work begins, construction personnel will receive approved worker environmental awareness training conducted by a CDFW-approved biologist to recognize WPT and their habitat. The education program will briefly cover WPT and their habitat that may be encountered during the Proposed Project/Action, and will cover all restrictions and guidelines that must be followed by crews to avoid or minimize impacts. Upon completion of training, crews shall sign a form stating that they attended the training and understand all the field personnel conservation and protection measures.
- A CDFW-approved biologist shall perform preconstruction surveys for WPT, assist with implementation of best management practices to prevent equipment and personnel from entering areas containing WPT habitat, and oversee installation of exclusion fencing, as needed.
- Movement of equipment and vehicles to and from the project area will be restricted to established roadways and designated staging areas to minimize habitat disturbance. Project-related vehicles shall observe a 15-mile-per-hour speed limit within the project area.
- During construction, stockpiling of construction materials, portable equipment, vehicles, and supplies shall be restricted to the designated construction staging areas. All equipment, vehicles, and supplies shall be stored at the designated staging area at the end of each work period. To eliminate an attraction to predators of the WPT, all food-related trash items (such as wrappers,

cans, bottles, and food scraps) shall be disposed of in closed containers, which will be removed from the project area daily.

- If a turtle is encountered during construction, activities shall cease until the turtle leaves the project area on its own or until the CDFW-approved biologist determines that the turtle is not a WPT. WPT occurrences will be reported immediately to the CDFW-approved biologist, who will contact CDFW to determine whether additional protective measures are needed and to ensure that appropriate actions will be taken to minimize the potential for harm of the WPT.
- Basking sites (e.g., vegetation mats, logs, debris, and mud banks) and suitable upland habitat for egg laying would be identified and flagged by the CDFW-approved biologist. These areas would be avoided by all construction personnel.

Impact BR-4. Construction activities could impact SWHA or other MBTA birds. Less than significant with mitigation.

There are no shrubs or trees present in the project area, and no tree removal is proposed as part of the Proposed Project/Action. As a result, there would be no direct displacement of SWHA or other nesting birds. However, suitable trees that could provide nest sites for SWHA occur within the 0.5-mile buffer for protection of this species, and there are known SWHA nest sites that occur within 0.5 mile of the project area. The closest suitable nesting trees occur approximately 500 feet to the north within the Natomas Cross Canal. While construction of the Proposed Project/Action would create a short-term source of noise and disturbance in the project area, the suitable nesting trees for SWHA and other sensitive bird species (e.g., raptors such as the white-tailed kite or ferruginous hawk) are located along busy urban and suburban streets. Therefore, existing noise and disturbance from human activities are likely frequent enough that any birds nesting in such trees would be acclimated to such disturbances and are not likely to be affected by the proposed work activities. In addition, Mitigation Measure BR-4 would be implemented to avoid and minimize potential effects to SWHA and other MBTA birds during construction activities. With implementation of the avoidance and minimization measures identified in Mitigation Measure BR-4, potential impacts of the Proposed Project/Action would be reduced to less-than-significant levels.

Mitigation Measure BR-4. The following avoidance and minimization measures would be implemented to reduce potential impacts to SWHA and other MBTA birds during construction:

- Construction personnel would receive USFWS/CDFW-approved worker environmental awareness training to recognize SWHA and other MBTA birds, including all raptors, and potential nesting sites.
- Any construction activities conducted during the normal nesting season (February 15 through August 31) for all raptors would be preceded by a preconstruction survey no more than 15 days prior to the start of construction. Preconstruction nesting bird surveys and ongoing nesting surveys will be conducted by a USFWS/CDFW-approved biologist, covering a radius of 0.5 mile for SWHA, 250 feet for non-listed raptors, and 100 feet for non-listed passerines at all work locations. If nesting birds are found, the USFWS/CDFW-approved biologist will evaluate whether existing screening buffers (e.g., buildings, trees, and intervening topography) are sufficient to allow work to proceed, and will determine what level of work exclusion buffers or nest monitoring, if any, is needed.
- Noise, vibration, dust, and vehicle movement shall be kept to the minimum necessary. Movement of equipment and vehicles to and from the project area will be restricted to established roadways and designated staging areas to minimize disturbance. Project-related vehicles shall observe a 15-mile-per-hour speed limit within the construction area.

- If it appears that a nesting raptor is being disturbed by construction activities associated with the upgrades, the USFWS/CDFW-approved biologist will halt all construction activities and evaluate the potential for continued construction or suspending construction activities until the young hawks have fledged.

b. Would the project have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?

No Impact. The Proposed Project/Action is located in a developed, agricultural area and would not affect any riparian or other sensitive natural community. Therefore, no impact would occur.

c. Would the project have a substantial adverse effect on Federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?

No Impact. The Proposed Project/Action is located in a developed, agricultural area and would not affect any protected wetlands. Therefore, no impact would occur.

d. Would the project interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?

No Impact. The Proposed Project/Action would make approximately 4,000 AF of water available in the lower Sacramento River below Verona each year by reducing the pumping rate of the Sankey Diversion during operation of the NDC Lift Pump Station. This increase in the quantity and quality of flows in the lower Sacramento River could improve streamflow conditions for anadromous fish species (e.g., salmon, steelhead, green sturgeon, and Delta Smelt) migrating upstream to spawning habitat in the Sacramento River, Feather River, and tributary streams. The timing of the water availability would vary depending on the water year. Based on historical system demand and availability of drain water, the Proposed Project/Action would have the greatest benefit in the early spring (March and April) when the juvenile spring-run Chinook salmon are migrating, and in the fall (late September, October, and November) when juvenile fall-run Chinook salmon are migrating. After a few years of operations, the NDC Lift Pump Station would be optimized to increase system efficiency and could potentially reduce diversion rates at the Sankey Diversion during critical summer months. Implementation of the Proposed Project/Action has the potential to be beneficial for anadromous fish species in the lower Sacramento River. Therefore, no adverse impact would occur.

e. Would the project conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?

No Impact. No tree removal is proposed as part of the Proposed Project/Action. The Proposed Project/Action would not conflict with local policies or ordinances protecting biological resources that are applicable to the project area. Therefore, no impact would occur.

f. Would the project conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?

No Impact. Within the Natomas Basin, NCMWC delivers water to approximately 4,500 acres of habitat preserve managed by NBC under the NBHCP. These preserves provide critical foraging habitat for SWHA and GGS, as well as critical habitat for several other species such as burrowing owl, tricolored blackbird, and white-faced ibis. The improvements to water management and conservation resulting from the Proposed Project/Action would increase the reliability of water

deliveries to the preserve sites, which is essential to their long-term sustainability. Therefore, no adverse impact would occur.

3.7 Cultural Resources

Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporation	Less Than Significant Impact	No Impact
a. Cause a substantial adverse change in the significance of a historical resource as defined in § 15064.5?	No	No	No	Yes
b. Cause a substantial adverse change in the significance of an archaeological resource pursuant to § 15064.5?	No	Yes	No	No
c. Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	No	No	No	Yes
d. Disturb any human remains, including those interred outside of formal cemeteries?	No	Yes	No	No

3.7.1 Environmental Setting/Affected Environment

In general, cultural resources are districts, sites, buildings, structures, objects, and landscapes significant in American history, prehistory, architecture, archaeology, engineering, and culture. The National Register of Historic Places (NRHP) provides criteria for evaluating the historical significance of cultural resources. California also maintains a state register of historic properties and landmarks, which generally follows the NRHP criteria. Properties listed in the NRHP are automatically added to the California Register of Historic Resources (CRHR). To be eligible for inclusion in the NRHP, a property must meet the requirements of at least one of the four following primary NRHP criteria (36 CFR 60.4):

1. Are associated with events that have made a significant contribution to the broad patterns of our history;
2. Are associated with the lives of persons significant in our past;
3. Embody the distinctive characteristics of a type, period, or method of construction, or that represent the work of a master, or that possess high artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinction; or
4. Have yielded or may be likely to yield information important in prehistory or history.

In addition, properties must retain enough integrity to demonstrate their significance under the criteria. Generally, properties must be at least 50 years of age to be eligible for the NRHP unless they are proven to have exceptional importance.

Archaeological resources include materials resulting from human activities and may include prehistoric villages, campsites, lithic or artifact scatters, fishing sites, roasting pits/hearths, milling features, rock art (e.g., petroglyphs/pictographs and intaglios), rock features (e.g., circles and blinds), burials or historic-era remains from domestic, industrial, commercial, or other such activities. Historical resources include buildings, structures, or objects. Historical resources may include townsites, homesteads, agricultural, or ranching features and mining-related features.

A literature search was completed by the California Historical Resources Information System Northeast Information Center at California State University Chico, and at North Central Information Center located at California State University, Sacramento, on January 17, 2017, for the project area. This search included a review of all recorded prehistoric and historic archaeological sites and historic architectural resources, as well as all known cultural resources survey and excavation reports documented in the National Archaeological Database. The search was conducted for the study area, which is defined as the Area of Potential Effect (APE), and a 0.5-mile buffer around the APE was included to provide context for the type of historic properties that could be present within the APE (Figure 3.6-1).

Additionally, the NRHP, the CRHR, California Historical Landmarks, California Points of Historic Interest, and historic maps were examined for potential resources in the APE. Constructed in the early 1910s, the NDC was determined to be the only historic-era resource site within the APE. The NDC was determined eligible for the NRHP as a contributing resource to the RD 1000 Rural Historic Landscape District (Historic District) in 1994, and the NDC was documented to the Historic American Engineering Record in 1997 (Peak, 1997). It is also listed on the CRHR (Bradley and Corbett, 1995). A cultural resources survey of the built environment APE was conducted on February 2, 2017.

A pedestrian survey of the archaeological potential of the APE was completed on February 2, 2017. Although visibility during the survey was limited by thick vegetation and pooled water, it was determined that excavations related to the Sankey Canal in 2011 completely disturbed the sediment in the entire APE.

Paleontological resources include fossil remains, as well as fossil localities and rock or soil formations that have produced fossil material. Fossils are the remains or traces of prehistoric animals and plants. Areas of Sutter County underlain by Modesto (alluvium), Riverbank (alluvium), and Turlock Lake (sand, silt, and gravel) formation have the potential for paleontological resources including fossil remains, as well as fossil localities and rock or soil formations that have produced fossil material (Sutter County, 2011b). However, the project area is located in an area of Quaternary Basin deposits outside of these paleontologically sensitive formations (Wagner et al., 1987).

LEGEND

- Area of Potential Effects
- Cultural Resources Study Area (0.5-mile Buffer)
- Access Road

VICINITY MAP

N

0 500 1,000

Feet

FIGURE 3.6-1
Cultural Resources Study Area
North Drainage Canal Lift Pump Station
Sutter County, CA

3.7.2 Impacts/Environmental Consequences

a. Would the project cause a substantial adverse change in the significance of a historical resource as defined in § 15064.5?

No Impact. The Proposed Project/Action would modify water regulation within the Historic District by constructing a lift pump station on the southeastern bank of the Sankey Canal, which is directly southwest of the NDC. The NDC is the only historic-era resource site within the study area. In 2013, the Sankey Canal was constructed north and south of the NDC terminus with three large pipes carrying water over the NDC. Therefore, modifications to the historical setting of the NDC have occurred previously at this location, and implementation of the Proposed Project/Action would have no adverse impact on the NDC or on the Historic District.

b. Would the project cause a substantial adverse change in the significance of an archaeological resource pursuant to § 15064.5?

Impact CR-1. Construction activities could result in disturbance of previously unidentified cultural resources. Less than significant with mitigation.

Although the project area is located in an area considered moderately sensitive for buried archaeological deposits, previous excavations related to the Sankey Canal in 2011 completely disturbed the sediment in the entire APE. As a result, the sensitivity for buried deposits in the project area are low to none. However, it is possible that previously undiscovered buried archaeological deposits could be found during construction. Mitigation Measure CR-1 would be implemented if archaeological resources are discovered during construction.

Mitigation Measure CR-1. If archaeological resources are discovered during construction, a Reclamation archeologist will be notified and work will not resume until approved by Reclamation. In the event that human remains or possible human remains are discovered, Section 7050.5(b) of the California Health and Safety code shall be implemented. There shall be no further excavation or disturbance until the Sutter County Coroner has determined that the remains are not subject to any provisions of law concerning investigation of the circumstances and manner and cause of death, and has determined that the recommendations concerning treatment and disposition of the human remains have been made to the person responsible for the excavation, or to his or her authorized representative, in the manner provided in Section 5097.98 of the PRC. The Sutter County Coroner, upon recognizing the remains as being of Native American origin, is responsible for contacting the Native American Heritage Commission within 24 hours.

c. Would the project directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?

No Impact. The project area is located in an area of Quaternary Basin deposits. Sediments adjacent to the Sacramento and American rivers are composed of recent (Holocene) alluvial floodplain deposits (Wagner et al., 1987). Construction activities that would occur within alluvial floodplain or basin deposits would be located within Holocene-age alluvium, which are generally considered too young to contain paleontologically sensitive resources. Therefore, no impact to paleontological resources would occur.

d. Would the project disturb any human remains, including those interred outside of formal cemeteries?

Same as Impact CR-1 described above. The project area does not include any known cemeteries, burial sites, or human remains. Previous excavations related to the Sankey Canal in 2011 completely disturbed the sediment in the entire APE. As a result, it is unlikely any human remains would be disturbed during construction of the Proposed Project/Action. However, it is possible that previously undiscovered human remains could be found during construction. Mitigation Measure CR-1 would be implemented if human remains are discovered during construction.

3.8 Geology and Soils

Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporation	Less Than Significant Impact	No Impact
a. Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:				
i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.	No	No	No	Yes
ii) Strong seismic ground shaking?	No	No	No	Yes
iii) Seismic-related ground failure, including liquefaction?	No	No	No	Yes
iv) Landslides?	No	No	No	Yes
b. Result in substantial soil erosion or the loss of topsoil?	No	No	Yes	☐
c. Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on-site or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse?	No	No	No	Yes
d. Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property?	No	No	No	Yes
e. Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of waste water?	No	No	No	Yes

3.8.1 Environmental Setting/Affected Environment

Sutter County is located in the Great Valley geomorphic province of California. The geology of the Great Valley is typified by thick sequences of alluvial sediments derived primarily from erosion of the mountains of the Sierra Nevada to the east and, to a lesser extent, erosion of the Klamath Mountains and Cascade Range to the north. These sediments were transported downstream and subsequently laid down as a river channel, floodplain deposits, and alluvial fans.

The NRCS has mapped over 40 individual soil units in Sutter County (Sutter County, 2011a). The predominant soil series in the county are the Capay, Clear Lake, Conejo, Oswald, and Olashes soils, which account for over 60 percent of the total land area (Sutter County, 2011a). The Capay and Clear Lake soils are generally present in the western and southern parts of the county, which is where the Proposed Project/Action is located.

In general, Sutter County is an area of low erosion activity, and it is not subject to high subsidence because a number of factors needed to cause subsidence do not exist (Sutter County, 2011a). Much of Sutter County is on an alluvial plain that contains some low-lying, poorly consolidated to unconsolidated sediment that are often water-saturated and, therefore, are subject to seismically induced ground disturbance (Sutter County, 2011a). Although no active earthquake faults are known to exist in the county, active faults in the region (including the Foothills Suture Zone, the Rodgers Creek-Hayward Fault, and the San Andreas [Loma Prieta] fault) could generate ground motion felt within Sutter County. With the exception of the Sutter Buttes, the county is within a landslide-free zone attributable to the flat topography (Sutter County, 2011a).

3.8.2 Impacts/Environmental Consequences

a. Would the project expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:

i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault?

ii) Strong seismic ground shaking?

iii) Seismic-related ground failure, including liquefaction?

iv) Landslides?

No Impact. The project area is not in an area designated as an Alquist-Priolo Earthquake Fault Zone (California Department of Conservation, 2017a). Furthermore, liquefaction during an earthquake requires strong shaking, which is not likely to occur in the project area because of the relatively low occurrence of seismic activity. The project area is not located within an earthquake-induced landslide zone. Additionally, most of the project area is within flatland, and no rainfall-induced landslides or existing landslides are mapped (California Department of Conservation, 2017b). Therefore, the Proposed Project/Action would not expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving seismic-related events.

b. Would the project result in substantial soil erosion or the loss of topsoil?

Impact GS-1. Soil erosion from construction of the NDC Lift Pump Station and associated project components. Less than significant.

Construction activities associated with the Proposed Project/Action would result in 0.98 acre of ground disturbance. Earth-moving activities such as excavation, temporary stockpiling, and grading could result in increased erosion and sedimentation to surface waters. However, substantial erosion is not expected because of the relatively small scale and short duration of earth-moving activities. In addition, the flat topography in the project area would minimize the potential for runoff movement and associated erosion. Wind during construction could result in minor soil losses. As described in Section 2.1, off-site stockpiling of excavated material for the NLIP Phase 4b project would occur at the Brookfield borrow site. Off-site stockpiles at the Brookfield borrow site would become part of the NLIP Phase 4b project and therefore are covered under the existing NLIP Phase 4b project environmental approvals; meeting these environmental commitments is the responsibility of the

NLIP Phase 4b project permit holders (i.e., USACE and SAFCA). This potential impact would be less than significant.

c. Would the project be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in an on-site or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse?

No Impact. Implementation of the Proposed Project/Action would not result in the creation of new structures that would be located on an unstable geologic unit or soils, nor would it cause a geologic unit or soils to become unstable resulting in landslide, lateral spreading, liquefaction, or collapse. Therefore, no impact would occur.

d. Would the project be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property?

No Impact. Soil types in the project area could include those that are more susceptible to expansion (e.g., silty clays or silty clay loams); however, construction activities would not result in the creation of new structures that would be located on expansive soils and would not result in the creation of substantial risks to life or property as a result of the potential presence of expansive soils. Therefore, no impact would occur.

e. Would the project have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater?

No Impact. The use of septic tanks or alternative wastewater disposal systems would not be required to implement the Proposed Project/Action. Therefore, no impact would occur.

3.9 Greenhouse Gas Emissions

Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporation	Less Than Significant Impact	No Impact
a. Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?	No	No	Yes	No
b. Conflict with any applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases?	No	No	No	Yes

3.9.1 Environmental Setting/Affected Environment

Various gases in the earth's atmosphere play an important role in moderating the earth's surface temperature. Solar radiation enters earth's atmosphere from space, and a portion of the radiation is absorbed by the earth's surface. The earth emits this radiation back toward space, but the properties of the radiation change from high-frequency solar radiation to lower-frequency infrared radiation. Greenhouse gases (GHGs) are transparent to solar radiation but are effective in absorbing infrared radiation. Consequently, radiation that would otherwise escape back into space is retained, resulting in a warming of the earth's atmosphere. This phenomenon is known as the greenhouse effect.

GHGs include both naturally occurring and anthropogenic gases that trap heat in the earth's atmosphere. GHGs include, but are not limited to, CO_2, methane, nitrous oxide, hydrochlorofluorocarbons, perfluorocarbons, and sulfur hexafluoride. Although there is disagreement as to the speed of global warming and the extent of the impacts attributable to human activities, the majority of the scientific community now agrees that there is a direct link between increased emissions of GHGs and long-term global temperatures.

The accumulation of GHGs in the atmosphere influences the long-term range of average atmospheric temperatures. Scientific evidence indicates a trend of increasing global temperature over the past century attributable to an increase in GHG concentrations from human activities. The climate change associated with this global warming is predicted to produce economic and social consequences across the globe. This section describes the regulatory background and existing conditions for GHG emissions.

3.9.1.1 Federal Regulations

Climate change and its associated effects are being addressed through various efforts at the Federal level to improve fuel economy and energy efficiency, such as the National Clean Car Program and Executive Order (EO) 13693, Planning for Federal Sustainability in the Next Decade, which was signed by President Obama on March 19, 2015. These efforts focus on reducing GHGs internally in Federal agency missions, programs, and operations. Federal agencies are also directed to participate in the Interagency Climate Change Adaptation Task Force, which is developing a national strategy for adapting to climate change.

USEPA, in conjunction with the National Highway Traffic Safety Administration, issued the first of a series of GHG emission standards for new cars and light-duty vehicles in April 2010. The final combined standards that made up the first phase of this national program apply to passenger cars, light-duty trucks, and medium-duty passenger vehicles, covering model years 2012 through 2016. The standards implemented by this program are expected to reduce GHG emissions by an estimated 960 million metric tons and save 1.8 billion barrels of oil over the lifetime of the vehicles sold under the program (USEPA, 2017c).

On August 28, 2012, USEPA and the National Highway Traffic Safety Administration issued a joint final rulemaking to extend the national program for fuel economy standards to model years 2017 through 2025 passenger vehicles and light-duty trucks. Over the lifetime of the model years 2017 through 2025 standards, projections are that approximately 4 billion barrels of oil would be saved and 2 billion metric tons of GHG emissions would be eliminated (USEPA, 2017c).

In 2014, USEPA finalized Tier 3 Standards for gasoline and passenger cars, light-duty trucks, medium-duty passenger vehicles, and some heavy-duty vehicles. Starting in 2017, Tier 3 sets new vehicle emissions standards and lowers the sulfur content of gasoline, considering the vehicle and its fuel as an integrated system. In 2015, USEPA and the National Highway Traffic Safety Administration proposed model years 2018 to 2027 GHG emissions and fuel economy standards for medium- and heavy-duty vehicles (USEPA, 2017c).

3.9.1.2 State Regulations and Plans

At the state level with the passage of several pieces of legislation including State Senate and Assembly Bills (ABs) and EOs, California launched an innovative and proactive approach to address GHG emissions and potential climate change-related impacts, as follows:

- **AB 1493, Vehicular Emissions:** Greenhouse Gases, 2002: This bill requires CARB to develop and implement regulations to reduce automobile and light truck GHG emissions. These stricter emissions standards were designed to apply to automobiles and light trucks beginning with the 2009 model year.

- **EO S-3-05, June 1, 2005:** The goal of this EO is to reduce California's GHG emissions to (1) year 2000 levels by 2010, (2) year 1990 levels by 2020, and (3) 80 percent below year 1990 levels by 2050. In 2006, this goal was further reinforced with the passage of AB 32.
- **AB 32, The Global Warming Solutions Act of 2006:** AB 32 sets the same overall GHG emissions reduction goals as outlined in EO S-3-05, while further mandating that CARB create a scoping plan and implement rules to achieve "real, quantifiable, cost-effective reductions of greenhouse gases." In December 2008, CARB approved the initial Scoping Plan, which included a suite of measures to sharply cut GHG emissions. Key elements of the initial Scoping Plan included the following:
  - Expand and strengthen energy efficiency programs, including building and appliance standards.
  - Increase electricity generation from renewable resources to at least 33 percent of the statewide electricity mix by 2020.
  - Establish targets for passenger vehicle-related GHG emissions for regions throughout California, and pursue policies and incentives to achieve those targets. Included with this strategy is support for the development and implementation of a high-speed rail system to expand mobility choices and reduce GHG emissions.
  - Adopt and implement measures pursuant to existing State laws and policies, including California's clean car standards and the Low Carbon Fuel Standard.
  - Develop a cap-and-trade program to ensure that the target is met, while providing flexibility to California businesses to reduce emissions at low cost.

In May 2014, CARB approved the first update to the Climate Change Scoping Plan (First Update). The First Update identifies opportunities to leverage existing and new funds to further drive GHG emission reductions through strategic planning and targeted low carbon investments. The First Update highlights California's progress toward meeting the "near-term" 2020 GHG emission reduction goals defined in the initial Scoping Plan. It also evaluates how to align the State's "longer-term" GHG reduction strategies with other State policy priorities for water, waste, natural resources, clean energy, transportation, and land use, as follows:

- EO S-20-06 (October 18, 2006) establishes the responsibilities and roles of the Secretary of the California Environmental Protection Agency and state agencies with regard to climate change.
- EO S-01-07 (January 18, 2007) sets forth the low carbon fuel standard for California. Under this EO, the carbon intensity of California's transportation fuels is to be reduced by at least 10 percent by 2020.
- SB 97, Chapter 185, 2007, Greenhouse Gas Emissions required the Governor's Office of Planning and Research to develop recommended amendments to the CEQA Guidelines for addressing GHG emissions. The amendments became effective March 18, 2010.
- SB 375, Chapter 728, 2008, Sustainable Communities and Climate Protection requires CARB to set regional emissions reduction targets for passenger vehicles. The Metropolitan Planning Organization for each region must then develop a "Sustainable Communities Strategy" that integrates transportation, land use, and housing policies to plan for the achievement of the emissions target for their region.
- SB 391, Chapter 585, 2009 California Transportation Plan requires the State's long-range transportation plan to meet California's climate change goals under AB 32.
- The Renewables Portfolio Standard (RPS) was established in 2002 under SB 1078, accelerated in 2006 under SB 107, and expanded in 2011 under SB 2. California's RPS is one of the most ambitious renewable energy standards in the country. The RPS program requires investor-owned utilities,

electric service providers, and community choice aggregators to increase procurement from eligible renewable energy resources to 33 percent of total procurement by 2020.

- SB 605, Chapter 523, 2014, required CARB to complete a comprehensive strategy to reduce emissions of short-lived climate pollutants by January 1, 2016.
- On April 29, 2015, the Governor issued EO B-30-15 establishing a mid-term GHG reduction target for California of 40 percent below 1990 levels by 2030. All State agencies with jurisdiction over sources of GHG emissions were directed to implement measures to achieve reductions of GHG emissions to meet the 2030 and 2050 targets. CARB was directed to update the AB 32 Scoping Plan to reflect the 2030 target. The mid-term target would help frame the suite of policy measures, regulations, planning efforts, and investments in clean technologies and infrastructure needed for ongoing emissions reductions, and laws to support these goals followed.
- SB 350, Chapter 547, 2015, establishes targets to increase retail sales of renewable electricity to 50 percent by 2030 and double the energy efficiency savings in electricity and natural gas end uses by 2030.
- SB 1383, Chapter 395, 2016, signed by the Governor on September 19, 2016, requires CARB, no later than January 1, 2018, to approve and begin implementing a comprehensive strategy to reduce emissions of short-lived climate pollutants to achieve a reduction in methane by 40 percent, hydrofluorocarbon gases by 40 percent, and anthropogenic black carbon by 50 percent below 2013 levels by 2030. The new law also requires reductions of organic waste at landfills to 50 percent below 2014 standards by 2020, and to 75 percent below 2014 by 2025. These latter targets are aggregate statewide and need not be met by each jurisdiction.
- In 2016, the California Legislature voted to extend the state's GHG emission reduction targets, while simultaneously passing an CARB reform bill. SB 32 (Chapter 249, 2016), the California Global Warming Solutions Action of 2006: Emissions Limit, establishes a new target for GHG emissions reductions in the state at 40 percent of 1990 levels by 2030. This new target passed exactly one decade after AB 32, which required CARB to work to reduce California's statewide GHG emissions to 1990 levels by 2020. SB 32 was tied to AB 197 (Chapter 250, 2016), a measure to increase legislative oversight of CARB, creating a Joint Legislative Committee on Climate Change Policies to ascertain facts and make recommendations to the Legislature concerning the state's programs, policies, and investments related to climate change. The bills became effective on January 1, 2017.
- On January 20, 2017, CARB released "The 2017 Climate Change Scoping Plan Update, the Proposed Strategy for Achieving California's 2030 Greenhouse Gas Target" (CARB, 2017a). The proposed framework includes the following elements:
  - 50 percent renewable energy
  - 50 percent reduction in statewide vehicular petroleum use
  - Doubling of energy efficiency in existing buildings
  - Carbon sequestration in California's land base
  - Aggressive reductions in short-lived climate pollutants, such as black carbon, fluorinated gases, and methane

EO S-13-08 (2008) required the California Natural Resources Agency to prepare the state's strategy to organize State government adaptation programs. The 2009 California Climate Adaptation Strategy report summarized the best-known science on climate change impacts in the state (in the areas of public health, biodiversity and habitat, ocean and coastal resources, water management, agriculture; forestry, and transportation and energy infrastructure) to assess vulnerability, and outlined possible solutions that could be implemented within and across State agencies to promote resiliency. In 2014, the California Natural Resources Agency issued an updated plan titled Safeguarding California:

Reducing Climate Risk. In 2016, the California Natural Resources Agency released Safeguarding California: Implementation Action Plans in accordance with EO B-30-15, including an in-depth evaluation for the Water Sector (California Natural Resources Agency, 2016).

During preparation of a 2017 update to the Safeguarding California Plan, the California Natural Resources Agency released a high-level policy document showing preliminary recommendations for the state's plan to protect California's people, natural resources, and built environment from climate change. To safeguard California's built environment, recommendations related to water management include flood preparation, groundwater management for drought resiliency, supply diversification, water use efficiency, improvement of water storage capacity, climate considerations in water management decisions, protection and restoration of water resources and the ecosystems dependent on them, and other measures to improve California's climate change resilience.

In considering when to disclose projected quantitative GHG emissions, California has not established a significance threshold for cumulative emissions from temporary mobile sources such as construction equipment. AB 32 established 25,000 metric tons/year as the threshold for mandatory emissions reporting for stationary sources, but this threshold does not apply to mobile sources.

3.9.1.3 Local Regulations

In response to the requirements of SB 97, the California Resources Agency adopted amendments to the State CEQA Guidelines to provide regulatory guidance on the analysis and mitigation of GHG emissions in CEQA documents, while giving lead agencies the discretion to set quantitative or qualitative thresholds for the assessment and mitigation of GHG and global climate change impacts. Formal CEQA thresholds for lead agencies must always be established through a public hearing process. Neither FRAQMD or Sutter County have established formal quantitative or qualitative thresholds through a public rulemaking process.

3.9.1.4 California GHG Emission Inventory

In the United States, the main source of GHG emissions is electricity generation, followed by transportation. In California, however, transportation sources (e.g., passenger cars, light-duty trucks, other trucks, buses, and motorcycles) make up the largest category of GHG-emitting sources (CARB, 2017b). In 2015, the most recent year for which data is provided, the annual California statewide GHG emissions were 440.4 million metric tons of CO_2-equivalent (CARB, 2017b). The transportation sector accounts for about 39 percent of the statewide GHG emissions inventory. The industrial sector accounts for about 23 percent of the total statewide GHG emissions inventory. The dominant GHG emitted is CO_2, primarily from fossil fuel combustion (approximately 84 percent of the total inventory).

3.9.2 Impacts/Environmental Consequences

a. Would the project generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?

Impact GHG-1. Construction of the Proposed Project/Action would result in greenhouse gas emissions. Less than significant.

GHG impacts from construction activities were evaluated based on the GHG emissions that would occur from fuel combustion in off-road construction equipment and on-road vehicles. Construction activity impacts would be short term and would occur over approximately 4 months. GHG emissions from construction equipment and vehicles were estimated using the 2016 CalEEMod (version 2016.3.1). Construction assumptions used in the air quality emissions estimate are provided in Appendix B. On-road mobile sources include vehicles authorized by the California Department of Motor Vehicles to operate on public roads, as well as newer model year vehicles that comply with Federal fuel economy and GHG emissions standards. As described under Impact AQ-1, Best

Management Practices such as minimizing idling times and maintaining equipment in good condition would be implemented as part of Mitigation Measure AQ-1, which would also reduce GHG emissions.

As shown in Table 3-5, the estimated total GHG emissions attributable to temporary construction activities is 27.2 metric tons of carbon dioxide equivalents. Operation would result in indirect energy savings beneficial to the state's power grid by reducing the quantity of water pumped from the Sacramento River at a higher head (25 feet) and increasing the quantity of water pumped from the upper tailwater water pool at a lower head (15 feet) for an annual energy consumption savings of approximately 53,200 kilowatt hours (NCMWC, 2016). Therefore, the Proposed Project/Action would comply with the RPS and AB 32 Scoping Plan GHG reduction strategy. Impacts to GHG emissions during construction and operations would be less than significant.

Table 3-5. Construction and Operations Greenhouse Gas Emissions in Carbon Dioxide Equivalents

Emissions	Carbon Dioxide Equivalents (metric tons/year)
Annual Construction Emissions	27.2
Annual Operations Emissions	0
Total Annual Emissions	**27.2**

b. Would the project conflict with any applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of greenhouse gases?

No impact. Neither Sutter County nor FRAQMD have any specific plans, policies, or regulations adopted for reducing emissions of GHGs. GHGs have the potential to adversely affect the environment because such emissions contribute, on a cumulative basis, to global climate change. GHG impacts are considered to be cumulative impacts because any increase in GHG emissions would add to the existing inventory of gases that contribute to climate change. Although the emissions of one single project would not cause global climate change, GHG emissions from multiple projects (i.e., past, present and future throughout the world) could result in a cumulative impact with respect to global climate change.

In the global cumulative context, the location of the source releasing the GHG emissions is less relevant than for other pollutants. The First Update to the California Climate Change Scoping Plan and the 2017 Climate Change Scoping Plan Update identified a long-term vision and near-term activities to put California on the path to its 2030 and 2050 emission reductions goals; however, many factors will influence the state's ability to achieve the GHG reduction goals (CARB, 2017a). These factors include changes in regulatory standards; fuel, transportation, and power generation technologies; growth in population; land use development patterns; and other factors that cannot yet be known. Because reaching a conclusion about the project's effect on compliance with the 2030 and 2050 targets identified in the 2017 Scoping Plan Update, EO S-3-5, and AB 32 would require speculation, a determination about the project's potential to result in a significant impact with regard to these goals cannot be made. In all other respects, the Proposed Project/Action would not conflict with any applicable plan, policy, or regulation adopted for reducing the emissions of GHGs because the construction emissions would be minor and short term. In addition, operation of the Proposed Project/Action would result in indirect energy savings over current conditions as described above for Impact GHG-1.

3.10 Hazards and Hazardous Materials

Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporation	Less Than Significant Impact	No Impact
a. Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	No	No	Yes	No
b. Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?	No	No	Yes	No
c. Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	No	No	No	Yes
d. Be located on a site, which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?	No	No	No	Yes
e. For a project located within an airport land use plan, or where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the project area?	No	No	No	Yes
f. For a project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area?	No	No	No	Yes
g. Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	No	No	No	Yes
h. Expose people or structures to a significant risk of loss, injury, or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?	No	No	No	Yes

3.10.1 Environmental Setting/Affected Environment

Hazardous materials include chemicals and other substances defined as hazardous by Federal and state laws and regulations. Hazardous materials that may be associated with construction sites include fuels, motor oil, grease, various lubricants, solvents, soldering equipment, and glues. The California Department of Toxic Substances Control maintains a database containing information on properties in California where hazardous substances have been released, or where the potential for a release exists. This database is commonly known as EnviroStor and is one of a number of lists that make up the "Cortese List" (i.e., a list of hazardous materials sites compiled pursuant to Government Code section 65962.5). There are no sites included on the list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 in the vicinity of the proposed project area (California Department of Toxic Substances Control, 2017).

The primary public-use airport near the project area is the Sacramento International Airport (approximately 8 miles south of the project area), which is an international general aviation airport. Because Sacramento International Airport serves the travel demands of the greater Sacramento region, many commercial flights arrive and depart from the airport frequently. There are several small privately-owned landing strips throughout Sutter County, and the Vestal Strip Airport is less than 1 mile to the south of the project area. However, flight activity at these private landing strips is highly variable, particularly where landing strips are used mostly for crop dusting.

3.10.2 Impacts/Environmental Consequences

a. Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?

Impact HZ-1: The use of pesticides, lubricants, fuels, and other hazardous materials during maintenance and construction could result in localized spills. Less than significant.

Construction associated with the Proposed Project/Action would require the use of heavy equipment and vehicles. Most of this equipment requires petroleum products such as fuel, hydraulic fluids, and lubricants for effective operation. There is a risk of small fuel or oil spills as a result of fuel replenishment and other lubricant and hydraulic fluid changes and replenishments that may be required during equipment use; however, this would have a negligible impact on public health because all hazardous materials would be stored, handled, and disposed of according to manufacturers' recommendations, and any spills would be cleaned up in accordance with existing regulations. Therefore, potential impacts would be less than significant.

b. Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?

Same as Impact HZ-1 described above. As described above, the Proposed Project/Action includes the use of petroleum products such as fuel, hydraulic fluids, and lubricants during construction. Spills or an accidental upset (such as through operator error) could result in a release of these materials into the environment. However, construction activities would occur in sparsely populated areas dominated by existing agricultural use, and potential risks to the public and environment would be less than significant.

c. Would the project emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?

No Impact. The Proposed Project/Action would not emit hazardous emissions nor would hazardous or acutely hazardous materials, substances, or waste be located within 0.25 mile of a school because there are no schools within 0.25 mile of the project area. Therefore, no impact would occur.

d. Would the project be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?

No Impact. The project area is not located on a site included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5.

e. For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the project area?

No Impact. No public use airports are located within 2 miles of the project area. However, the project area is located within Referral Area 2, which includes locations where airspace protection (other than wildlife hazards) and/or overflight, but not noise or safety, are compatibility concerns of the Sacramento International Airport Land Use Compatibility Plan (Sacramento Area Council of Governments, 2013). Implementation of the Proposed Project/Action would not expose people residing or working in the project area to an increased safety hazard above that which already exists. Therefore, no impact would occur.

f. For a project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area?

No Impact. The Vestal Strip Airport is less than 1 mile to the south of the project area. However, flight activity at these private landing strips is highly variable, particularly where landing strips are used mostly for crop dusting. Implementation of the Proposed Project/Action would not expose people residing or working in the project area to an increased safety hazard above that which already exists. Therefore, no impact would occur.

g. Would the project impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?

No Impact. Implementation of the Proposed Project/Action is consistent with ongoing agricultural activities and existing uses in the project area, and would not impair implementation of or physically interfere with an adopted emergency response plan.

h. Would the project expose people or structures to a significant risk of loss, injury, or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?

No Impact. There are few residences near the project area, and the components included in the Proposed Project/Action are consistent with existing agricultural facilities in the area. Therefore, the Proposed Project/Action would not expose people or structures to increased risk from wildland fires.

3.11 Hydrology and Water Quality

Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporation	Less Than Significant Impact	No Impact
a. Violate any water quality standards or waste discharge requirements?	No	No	No	Yes
b. Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted)?	No	No	No	Yes
c. Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in substantial erosion or siltation on- or off-site?	No	No	No	Yes
d. Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site?	No	No	No	Yes
e. Create or contribute runoff water, which would exceed the capacity of existing or planned storm water drainage systems, or provide substantial additional sources of polluted runoff?	No	No	No	Yes
f. Otherwise substantially degrade water quality?	No	No	No	Yes
g. Place housing within a 100-year flood hazard area as mapped on a Federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map?	No	No	No	Yes
h. Place within a 100-year flood hazard area structures, which would impede or redirect flood flows?	No	No	Yes	No
i. Expose people or structures to a significant risk of loss, injury, or death involving flooding, including flooding as a result of the failure of a levee or dam?	No	No	Yes	No
j. Inundation by seiche, tsunami, or mudflow?	No	No	No	Yes

3.11.1 Environmental Setting/Affected Environment

Sutter County lies entirely within the Sacramento River watershed. The Sacramento River provides a significant source of fresh water to the California Bay-Delta. The Sacramento River is listed in the Central Valley Regional Water Quality Control Board's (CVRWQCB's) Total Maximum Daily Load program for a number of pesticides, mercury, polychlorinated biphenyls, and unknown toxicity (CVRWQCB, 2016). The Sacramento River is approximately 1.8 miles southwest of the project area. Because the Proposed Project/Action is located in an agricultural area, there are many canals and drains surrounding the project area, including the NDC and Natomas Cross Canal. The Sankey Canal and Vestal Drain are within the project area (Figure 2-1).

NCMWC diverts water from the Sacramento River north of the confluence with the American River, and excess drain water from the NCMWC service area is pumped back into the Sacramento River by RD 1000. These rivers provide a significant source of fresh water to the California Bay-Delta. California has experienced several consecutive years of drought, and the continued need for cold water pool management in Shasta Reservoir and associated limitations on allocations in critically dry years can be expected in the presence of continued climate change.

Sutter County is located within the greater Sacramento Valley Groundwater Basin, which includes the East Butte, Sutter, and North American subbasins (Sutter County, 2011a). The Sacramento River and associated tributaries are the major sources of groundwater recharge to the groundwater subbasins underlying Sutter County. Other sources of groundwater recharge in Sutter County are from deep percolation of rainfall, agricultural irrigation, and subsurface inflow from adjacent groundwater basins (California Department of Water Resources, 2003).

There are approximately 280 miles of levees protecting Sutter County lands from flooding (Sutter County, 2008). These levees provide the county with protection against flooding from the Sacramento River, Feather River, Sutter Bypass, Tisdale Bypass, Wadsworth Canal, Bear River, Yankee Slough, Natomas Cross Canal, East Side Canal, and the Pleasant Grove Canal. The Federal Emergency Management Agency (FEMA) produces and continuously updates flood hazard data in support of the National Flood Insurance Program (NFIP). Areas with a 1 percent probability of annual flooding are considered to be in a Special Flood Hazard Area, otherwise known as a 100-year floodplain. According to the FEMA NFIP Flood Rate Insurance Map for unincorporated Sutter County, the project area is located in Zone A99 within a Special Flood Hazard Area (FEMA, 2015).

3.11.2 Impacts/Environmental Consequences

a. Would the project violate any water quality standards or waste discharge requirements?

No Impact. Construction of the Proposed Project/Action would not result in any discharge that would violate water quality standards or waste discharge requirements. Operation of the Proposed Project/Action would allow more efficient use of drain water, thereby reducing fresh water diversions from the Sacramento River and reducing the amount of drain water being pumped back into the Sacramento River. Overall, this could contribute to a localized improvement in water quality and reduced salinity in the Sacramento River, in part because agricultural drain water tends to have a higher level of salts that are picked up from the irrigated fields and because increased loads of nutrients and chemical contaminants would be expected from fields that utilize fertilizers and pesticides in production. Therefore, no adverse impact would occur.

b. Would the project substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted)?

No Impact. Implementation of the Proposed Project/Action would not substantially deplete groundwater supplies because no groundwater would be used and no groundwater wells would be affected. In addition, the Proposed Project/Action would allow more efficient use of drain water and would facilitate continued irrigation for existing agricultural uses during critically dry years when NCMWC could be subject to reduced allocations of Sacramento River water. This is a potential benefit to groundwater recharge within the NCMWC service area. Therefore, implementation of the Proposed Project/Action would not cause substantial interference with groundwater recharge such that there would be a net deficit in aquifer volume.

c. Would the project substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in substantial erosion or siltation on- or off-site?

No Impact. Construction activities associated with the Proposed Project/Action would occur in areas that have been previously disturbed by construction of the existing canals, canal access roads, and drains in the project area and vicinity. Operation of the Proposed Project/Action would allow more efficient use of drain water within the NCMWC service area; however, this would not alter the overall drainage pattern of the area or alter the course of a stream or river in a manner that would result in substantial erosion or siltation. Therefore, no impact would occur.

d. Would the project substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner which would result in flooding on-site or off-site?

No Impact. Construction activities associated with the Proposed Project/Action would occur in areas that have been previously disturbed by construction of the existing canals, canal access roads, and drains in the project area and vicinity. After construction is complete, temporary disturbance areas would be returned to their original condition. Operation of the Proposed Project/Action would allow more efficient use of drain water within the NCMWC service area; however, this would not alter the overall drainage pattern of the area, alter the course of a stream or river, or substantially increase the amount of surface runoff in a manner that would result in flooding. Therefore, no impact would occur.

e. Would the project create or contribute runoff water which would exceed the capacity of existing or planned storm water drainage systems or provide substantial additional sources of polluted runoff?

No Impact. Implementation of the Proposed Project/Action would not result in an increase in impermeable surfaces that would create or contribute runoff that would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff. Therefore, no impact would occur.

f. Would the project otherwise substantially degrade water quality?

No Impact. Construction of the Proposed Project/Action would not result in discharge or otherwise degrade water quality. Operation of the Proposed Project/Action would allow more efficient use of drain water, thereby reducing fresh water diversions from the Sacramento River and reducing the amount of drain water being pumped back into the Sacramento River. Overall, this could contribute to a localized, improvement in water quality and reduced salinity in the Sacramento River, in part because agricultural drain water tends to have a higher level of salts that are picked up from the irrigated fields and because increased loads of nutrients and chemical contaminants would be expected from fields that utilize fertilizers and pesticides in production. Therefore, no adverse impact would occur.

g. Would the project place housing within a 100-year flood hazard area as mapped on a Federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map?

No Impact. The Proposed Project/Action does not include the construction of housing, and would not otherwise place housing within a 100-year flood hazard area. Therefore, no impact would occur.

h. Would the project place within a 100-year flood hazard area structures, which would impede or redirect flood flows?

Impact HR-1: Implementation of the Proposed Project/Action would place structures within a 100-year flood hazard area. Less than significant.

The Proposed Project/Action includes the construction of new structures associated with the NDC Lift Pump Station within a 100-year flood hazard area. However, these new structures would be consistent with existing irrigation facilities in the project area, and a floodplain development permit would be obtained from Sutter County, if required. Therefore, implementation of the Proposed Project/Action would not impede or redirect flood flows, and impacts would be less than significant.

i. Would the project expose people or structures to a significant risk of loss, injury, or death involving flooding, including flooding as a result of the failure of a levee or dam?

Same as Impact HR-1 described above. The project area is located in an agricultural area with few people or structures. While the Proposed Project/Action does include the construction of new agricultural structures within the 100-year flood hazard area, these structures would be consistent with existing irrigation facilities in the project area and would comply with applicable regulations. Therefore, this impact would be less than significant.

j. Would the project result in inundation by seiche, tsunami, or mudflow?

No Impact. The Proposed Project/Action is not located near the Pacific Ocean or other waterbody capable of creating a tsunami or seiche. The topography in the project area is flat with little relief, which is not prone to mudflow. Therefore, no impact would occur.

3.12 Land Use and Planning

Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporation	Less Than Significant Impact	No Impact
a. Physically divide an established community?	No	No	No	Yes
b. Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?	No	No	No	Yes
c. Conflict with any applicable habitat conservation plan or natural community conservation plan?	No	No	No	Yes

3.12.1 Environmental Setting/Affected Environment

The Proposed Project/Action is located west of Powerline Road and north of Sankey Road approximately 2.2 miles east of Verona, in Sutter County, California. Sutter County is predominately rural with a landscape dominated by extensive agricultural areas, significant natural and recreational resources, and relatively low population density. Yuba City and Live Oak are the two incorporated cities in the county (Sutter County, 2011b). The unincorporated area of the county includes several rural communities including Verona, Meridian, Nicolaus, and East Nicolaus. Agriculture and open space are the predominant land uses within the county (Sutter County, 2011b). The project area is zoned AG for agriculture (Sutter County, 2016). AG zoning districts are intended to protect and promote the

long-term viability and productivity of Sutter County's agricultural resources, uses, and economy (Sutter County, 2016).

3.12.2 Impacts/Environmental Consequences

a. Would the project physically divide an established community?

No Impact. The Proposed Project/Action is located in an agricultural area and would not result in the construction of any features that would physically divide an established community; therefore, no impact would occur.

b. Would the project conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to, the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?

No Impact. The Proposed Project/Action is consistent with existing agricultural uses in the project area and would not conflict with any applicable land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect.

c. Would the project conflict with any applicable habitat conservation plan or natural community conservation plan?

No Impact. Within the Natomas Basin, NCMWC delivers water to approximately 4,500 acres of habitat preserve managed by NBC under the NBHCP. These preserves provide critical foraging habitat for SWHA and GGS, as well as critical habitat for several other species such as burrowing owl, tricolored blackbird, and white-faced ibis. The improvements to water management and conservation resulting from the Proposed Project/Action would increase the reliability of water deliveries to the preserve sites, which is essential to their long-term sustainability. Therefore, the Proposed Project/Action would not conflict with the NBHCP.

3.13 Mineral Resources

Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporation	Less Than Significant Impact	No Impact
a. Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?	No	No	No	Yes
b. 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?	No	No	No	Yes

3.13.1 Environmental Setting/Affected Environment

Sutter County contains areas classified by the State Geologist as Mineral Resource Zone (MRZ)-1 and MRZ-3 (Sutter County, 2011b). MRZ-1 indicates an area where little likelihood exists for the presence of significant mineral deposits, and MRZ-3 indicates areas containing mineral deposits, the significance of which requires further evaluation (Sutter County, 2011b). There are no areas within Sutter County designated by the State Mining and Geology Board to have regional or statewide significance (Sutter County, 2011b). However, mineral extraction does occur in the county and has historically been limited to the extraction of clay, sand, soils, and rock. There are four active mining operations within the county, all of which are open-pit type or surface mines (Sutter County, 2011a). There are no mineral extraction

areas within the project area or vicinity. The Sutter County Surface Mining Code (Sutter County, 1998) and the Zoning Code (Sutter County, 2016) regulate the extraction of mineral resources within the county.

3.13.2 Impacts/Environmental Consequences

a. Would the project result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?

No Impact. The Proposed Project/Action would not result in the loss of availability of any known mineral resource of value to the region or state because no such sites occur within the project area. Therefore, no impact would occur.

b. Would the project 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?

No Impact. The Proposed Project/Action would not result in the loss of availability of a locally important mineral resource recovery site because no such sites occur within the project area. Therefore, no impact would occur.

3.14 Noise

Would the project result in:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporation	Less Than Significant Impact	No Impact
a. Exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	No	No	No	Yes
b. Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels?	No	No	No	Yes
c. A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?	No	No	No	Yes
d. A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?	No	No	No	Yes
e. For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?	No	No	No	Yes
f. For a project within the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels?	No	No	No	Yes

3.14.1 Environmental Setting/Affected Environment

The Sutter County General Plan Noise Element establishes noise standards in the county in addition to noise abatement and control ordinances (Sutter County, 2011b). The basic unit of measurement that indicates the relative amplitude of sound is the decibel. The most common method of characterizing sound is the A-weighted decibel. This scale gives greater weight to the frequencies of sound to which the human ear is most sensitive. Most commonly, environmental sounds are described in terms of an average level that has the same acoustical energy as the summation of all the time-varying events. This energy equivalent sound/noise descriptor is called equivalent noise level. The closest noise monitoring station to the project area is at the Sacramento International Airport.

Primary sources of noise in Sutter County include vehicle traffic, airplane traffic, railroads, and agricultural equipment (Sutter County, 2011a). In the project area, the principal noise sources are airplane and vehicle traffic, as well as agricultural uses. The primary public use airport near the project area is the Sacramento International Airport (approximately 8 miles south of the project area), which is an international general aviation airport, with many commercial flights arriving and departing from the airport frequently. The Vestal Strip Airport is a small, privately owned landing strip that is less than 1 mile to the south of the project area. However, flight activity is highly variable and is mostly for crop dusting. Vehicle traffic on State Routes 99 and 113, as well as Interstate 5 and the Garden Highway, contribute to noise levels in the project area and vicinity. There are also many local roads that experience high traffic volumes, particularly high truck-traffic volumes, which contribute to traffic noise and vibration. Field machinery, especially diesel tractors and trucks, make up most of the noise inputs from agricultural use.

Sensitive noise receptors are defined as residences, schools, child-care centers, hospitals, long-term health care facilities, convalescent centers, and retirement homes (Sutter County, 2011b). There are few residences near the project area, with the nearest residence almost 1 mile away. Sensitive receptors may also be nonhuman species (i.e., wildlife). Sensitive receptors in the project area include riparian bird species that could occur in and adjacent to the surrounding agricultural land. Riparian bird species sensitive to excessive noise that occur in the project area are described in Section 3.6, Biological Resources.

3.14.2 Impacts/Environmental Consequences

a. Exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?

No Impact. Noise sources associated with construction activities include vehicular traffic, machinery including diesel-engine-driven heavy trucks and diesel-powered construction equipment. Construction noise, including construction associated with maintenance activities, would comply with Sutter County's noise standards and therefore would not generate noise levels in excess of standards or ordinances. Operation of Proposed Project/Action would include the use of electric motor-driven pumps, which are consistent with the existing agricultural facilities in the project area. Therefore, no impact would occur.

b. Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels?

No Impact. Construction equipment would generate some groundborne vibration, but vibration attenuates rapidly (approximately 50 percent for each doubling of distance from the source). The project area is located in an agricultural area with few sensitive receptors; therefore, implementation of the Proposed Project/Action would not expose persons to or generate excessive groundborne vibration or groundborne noise.

c. A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?

No Impact. Noise sources associated with construction of the Proposed Project/Action would be temporary. Operation of Proposed Project/Action would include the use of electric motor-driven pumps, which are consistent with the existing agricultural facilities in the project area, and would not result in a substantial, permanent increase in ambient noise levels. Therefore, no impact would occur.

d. A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?

No Impact. Construction noise, including construction associated with maintenance activities, would comply with Sutter County's noise standards and therefore would not result in a substantial increase in ambient noise levels. Operation of the Proposed Project/Action would include the use of electric motor-driven pumps, which are consistent with the existing agricultural facilities in the project area. Therefore, no impact would occur.

e. For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?

No Impact. No public use airports are located within 2 miles of the project area. However, the project area is located within Referral Area 2, which includes locations where airspace protection (other than wildlife hazards) and/or overflight, but not noise or safety, are compatibility concerns of the Sacramento International Airport Land Use Compatibility Plan (Sacramento Area Council of Governments, 2013). Implementation of the Proposed Project/Action would not expose people residing or working in the project area to excessive noise levels above that which already exists. Therefore, no impact would occur.

f. For a project within the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels?

No Impact. The Vestal Strip Airport is less than 1 mile to the south of the project area. However, flight activity at these private landing strips is highly variable, particularly where landing strips are used mostly for crop dusting. Implementation of the Proposed Project/Action would not expose people residing or working in the project area to excessive noise levels above that which already exists. Therefore, no impact would occur.

3.15 Population and Housing

Would the project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporation	Less Than Significant Impact	No Impact
a. Induce substantial population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?	No	No	No	Yes
b. Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere?	No	No	No	Yes
c. Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?	No	No	No	Yes

3.15.1 Environmental Setting/Affected Environment

In 2016, Sutter County's estimated population was 96,651 (United States Census Bureau, 2016a). Yuba City is the largest city in the county, with a population of 66,845 (United States Census Bureau, 2016b). Other communities in the county include Verona, Meridian, Nicolaus, and East Nicolaus. Sutter County's population is expected to grow to 153,462 by 2050 (Sutter County, 2017).

3.15.2 Impacts/Environmental Consequences

a. Would the project induce substantial population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?

No Impact. The Proposed Project/Action does not include construction of substantial new housing, establish substantial new employment opportunities, or remove any obstacle to additional growth; therefore, it would not induce population growth in Sutter County either directly or indirectly. No impact would occur.

b. Would the project displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere?

No Impact. The Proposed Project/Action would not displace existing housing or necessitate the construction of replacement housing elsewhere. Therefore, no impact would occur.

c. Would the project displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?

No Impact. The Proposed Project/Action would not displace a substantial number of people or necessitate the construction of replacement housing elsewhere. Therefore, no impact would occur.

3.16 Public Services

Would the Project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporation	Less Than Significant Impact	No Impact
a. Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for any of the public services:				
Fire protection?	No	No	No	Yes
Police protection?	No	No	No	Yes
Schools?	No	No	No	Yes
Parks?	No	No	No	Yes
Other public facilities?	No	No	No	Yes

3.16.1 Environmental Setting/Affected Environment

The Sutter County Sheriff's Department provides police protection services within unincorporated Sutter County. The California Highway Patrol provides traffic enforcement on all highways in the county and on all roadways in the unincorporated county area (Sutter County, 2011b). Fire protection and emergency services for Sutter County are provided by four county service areas and two independent fire protection districts. There are no schools, parks, or other public facilities within 0.25 mile of the proposed project area (California Spatial Data Clearinghouse, 2014).

3.16.2 Impacts/Environmental Consequences

a. Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times, or other performance objectives for any public services?

No Impact. Increases in demand for public services generally result from population increases. Implementation of the Proposed Project/Action would not result in a population increase; therefore, it would not result in a substantial adverse impact to public services.

3.17 Recreation

Would the Project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporation	Less Than Significant Impact	No Impact
a. Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?	No	No	No	Yes
b. Does the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?	No	No	No	Yes

3.17.1 Environmental Setting/Affected Environment

Park and recreation facilities in Sutter County include state wildlife areas for hunting, fishing, and hiking; river recreation areas for boating, picnicking, and fishing; parks for recreation and community events; and sports facilities for baseball, soccer, and golf (Sutter County, 2011b).

3.17.2 Impacts/Environmental Consequences

a. Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?

No Impact. The Proposed Project/Action would not increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated. Therefore, no impact would occur.

b. Does the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?

No Impact. The Proposed Project/Action would not require the construction or expansion of recreational facilities that could result in an adverse physical effect on the environment. Therefore, no impact would occur.

3.18 Transportation/Traffic

Would the Project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporation	Less Than Significant Impact	No Impact
a. Conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit?	No	No	No	Yes
b. Conflict with an applicable congestion management program, including, but not limited to level of service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways?	No	No	No	Yes
c. Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks?	No	No	No	Yes
d. Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	No	No	No	Yes
e. Result in inadequate emergency access?	No	No	No	Yes
f. Conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities?	No	No	No	Yes

3.18.1 Environmental Setting/Affected Environment

Sutter County has a comprehensive transportation system including highways, local roads, urban arterials, rural highways and streets, bus transit services, freight rail, and airports (Sutter County, 2011b). Primary north-south routes in Sutter County include State Route 99. Many local roads also experience high traffic volumes. In the vicinity of the project area, most roadways are classified as local roads, with the exception of Garden Highway, which is classified as a Rural Major Collector (Sutter County, 2011b). The project area also includes RD 1000 and NCMWC rights-of-way along canals and drains. RD 1000 and NCMWC access these rights-of-ways using paved and unpaved roads on one or both sides the canals and drains. In general, these unpaved roads are used daily by vehicles associated with normal maintenance and agricultural activities.

3.18.2 Impacts/Environmental Consequences

a. Conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit?

No impact. The Proposed Project/Action would result in a minor, short-term increase in construction traffic; however, this minor construction traffic would be consistent with existing agricultural activities in the project area, and would not conflict with an applicable plan, ordinance, or policy establishing measures of effectiveness for the performance of the circulation system. Ongoing operation and maintenance activities associated with the new facility will be consistent with operation and maintenance, and would not conflict with an applicable plan, ordinance, or policy establishing measures of effectiveness for the performance of the circulation system. Therefore, no impact would occur.

b. Conflict with an applicable congestion management program, including, but not limited to level of service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways?

No impact. The Proposed Project/Action would result in a minor, short-term increase in construction traffic; however, this minor construction traffic would be consistent with existing agricultural activities in the project area, and would not conflict with an applicable congestion management program. Ongoing operation and maintenance activities associated with the new facility will be consistent with operation and maintenance, and would not conflict with an applicable congestion management program.

c. Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks?

No Impact. Implementation of the Proposed Project/Action would not increase air traffic levels or result in a change in existing air traffic patterns. Therefore, no impact would occur.

d. Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?

No Impact. Implementation of the Proposed Project/Action would not change the existing roadway infrastructure such that there would be an increase in hazards attributable to design features. Therefore, no impact would occur.

e. Result in inadequate emergency access?

No Impact. Implementation of the Proposed Project/Action would not change the existing roadway infrastructure in a way that would result in inadequate emergency access. Therefore, no impact would occur.

f. Conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities?

No Impact. Implementation of the Proposed Project/Action would not conflict with adopted alternative transportation plans or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities. Therefore, no impact would occur.

3.19 Tribal Cultural Resources

Would the Project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporation	Less Than Significant Impact	No Impact
a. Cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:	No	No	No	Yes
i. Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code section 5020. 1(k) or				
ii. A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1. In applying the criteria set forth in subdivision (c) of Public Resources Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.				

3.19.1 Environmental Setting/Affected Environment

Tribal cultural resources (TCRs) as defined by PRC Section 21074 (1) are sites, features, places, cultural landscapes, sacred places, and objects with cultural value to a California Native American Tribe that are either on or eligible for inclusion in the CRHR or a local historic register; or (2) are defined as such because the lead agency, at its discretion and supported by substantial evidence, chooses to treat the resource as a TCR. Additionally, a cultural landscape may also qualify as a TCR if it meets the criteria to be eligible for inclusion in the CRHR and is geographically defined in terms of the size and scope of the landscape. Other historical resources (as described in PRC 21084.1), a unique archaeological resource (as defined in PRC 21083.2(g)), or nonunique archaeological resources (as described in PRC 21083.2(h)) may also be TCRs if they conform to the criteria to be eligible for inclusion in the CRHR.

AB 52 requires the lead agency to begin consultation with any California Native American tribe that is traditionally and culturally affiliated with the geographic area of the proposed project if the tribe requests the lead agency, in writing, to be informed by the lead agency through formal notification of proposed projects in that geographic area and the tribe subsequently requests consultation. PRC Section 21084.3 states that "public agencies shall, when feasible, avoid damaging effects to any tribal cultural resource."

Pursuant to AB 52, RD 1000 initiated Native American outreach with the Mechoopda Indian Tribe, Mooretown Rancheria of Maidu Indians, United Auburn Indian Community of the Auburn Rancheria, Strawberry Valley Rancheria, Estom Yumeka Maidu Tribe of the Enterprise Rancheria, and Shingle Springs Band of Miwok Indians. Letters describing the Proposed Project/Action and offering consultation on TCRs that could be affected by the Proposed Project/Action were sent to each tribe on April 17, 2018. At this time, no specific TCRs have been identified, and no requests for additional consultation under AB 52 were received.

3.19.2 Impacts/Environmental Consequences

a. Would the project cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe?

No impact. There were no TCRs identified in the project area or that could be affected by the Proposed Project/Action during the AB 52 process. As described in Section 3.7, Cultural Resources, previous excavations related to the Sankey Canal in 2011 completely disturbed the sediment in the entire project area. As a result, the sensitivity for buried deposits in the project area is low to none. However, as described in Impact CR-1, it is possible that previously undiscovered buried cultural resources could be found during construction. Mitigation Measure CR-1 would be implemented if cultural resources are discovered during construction.

3.20 Utilities and Service Systems

Would the Project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporation	Less Than Significant Impact	No Impact
a. Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?	No	No	No	Yes
b. Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	No	No	No	Yes
c. Require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	No	No	No	Yes
d. Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed?	No	No	No	Yes
e. Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?	No	No	No	Yes
f. Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?	No	No	No	Yes
g. Comply with Federal, state, and local statutes and regulations related to solid waste?	No	No	No	Yes

3.20.1 Environmental Setting/Affected Environment

The project area is in a rural, agricultural area in Sutter County. In the project area, NCMWC supplies irrigation water from their diversions on the Sacramento River. In addition, groundwater is pumped from privately owned wells. Wastewater is treated using individual septic systems, which is common for wastewater treatment in rural areas that lack a community- or city-owned treatment plant. The project area is located within the boundaries of the CVRWQCB. Pacific Gas and Electric Company provides electrical and natural gas service to customers within Sutter County. There are six energy generation facilities in Sutter County, and Pacific Gas and Electric Company currently has sufficient energy supplies and distribution facilities to meet anticipated demands and growth in the county (Sutter County, 2011a). The Yuba-Sutter Regional Waste Management Authority provides solid waste services to Sutter and Yuba counties. The Ostrom Landfill, located in Yuba County, is the primary disposal site. This Class II Landfill is permitted to accept solid waste, construction debris, food and green waste, some types of contaminated soils, and non-friable asbestos (Sutter County, 2011a).

3.20.2 Impacts/Environmental Consequences

a. Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?

No Impact. Implementation of the Proposed Project/Action would not result in any discharge that would exceed CVRWQCB wastewater treatment requirements. Therefore, no impact would occur.

b. Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?

No Impact. Implementation of the Proposed Project/Action would not require the construction of new water or wastewater treatment facilities or expansion of existing facilities. Therefore, no impact would occur.

c. Require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?

No Impact. Implementation of the Proposed Project/Action would not require the construction of new stormwater drainage facilities or expansion of existing facilities. Therefore, no impact would occur.

d. Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed?

No Impact. Implementation of the Proposed Project/Action would not require new or expanded entitlements to water supplies. Therefore, no impact would occur.

e. Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?

No Impact. Implementation of the Proposed Project/Action would not require additional wastewater services or result in a determination by a wastewater treatment provider that it has inadequate capacity to serve the project's projected demand. Therefore, no impact would occur.

f. Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs?

No Impact. Implementation of the Proposed Project/Action would not generate solid waste in excess of the permitted capacity of the landfills serving the project area. Therefore, no impact would occur.

g. Comply with Federal, state, and local statutes and regulations related to solid waste?

No Impact. Implementation of the Proposed Project/Action would comply with Federal, state, and local statutes and regulations related to solid waste. Therefore, no impact would occur.

3.21 Environmental Justice

Would the Project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporation	Less Than Significant Impact	No Impact
a. Cause impacts to minority or low-income populations that are disproportionately high and adverse, either directly, indirectly, or cumulatively?	No	No	No	Yes

3.21.1 Environmental Setting/Affected Environment

USEPA defines environmental justice as follows:

> …the fair treatment and meaningful involvement of all people regardless of race, color, national origin, or income with respect to the development, implementation, and enforcement of environmental laws, regulations, and policies. Fair treatment means no group of people, including racial, ethnic, or economic groups should bear a disproportionate share of the negative environmental consequences resulting from industrial, municipal, and commercial operations or the execution of Federal, state, local, and tribal programs and policies (USEPA, 2017d).

EO 12898 requires Federal agencies to identify and address disproportionately high and adverse human health or environmental effects, including social and economic effects of its program, policies, and activities on minority populations and low-income populations. To determine whether a project could disproportionately affect a high-minority or low-income population, it must also be determined how the project would affect other segments of the population. For example, if the proportion of low-income and high-minority populations impacted by a project is greater than the middle- or high-income populations or low-minority populations, then there is potential for an environmental justice impact.

3.21.2 Impacts/Environmental Consequences

a. Cause impacts to minority or low-income populations that are disproportionately high and adverse, either directly, indirectly, or cumulatively?

No Impact. Implementation of the Proposed Project/Action would not result in any adverse human health or environmental effects on any population; therefore, implementing the Proposed Project/Action would not have a significant or disproportionately negative impact on low-income or minority individuals within the project area.

3.22 Indian Trust Assets

Would the Project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporation	Less Than Significant Impact	No Impact
a. Have a potential to affect Indian Trust Assets?	No	No	No	Yes

3.22.1 Environmental Setting/Affected Environment

Reclamation shares Indian trust responsibility with all other agencies of the Executive Branch to protect and maintain Indian Trust assets (ITAs) reserved by or granted to Indian tribes or Indian individuals by treaty, statute, or EO.

ITAs are legal interests in assets that are held in trust by the United States Government for Federally-recognized Indian tribes or individuals. The trust relationship usually stems from a treaty, EO, or act of Congress. The Secretary of the Interior is the trustee for the United States on behalf of Federally-recognized Indian tribes. "Assets" are anything owned that holds monetary value. "Legal interests" are property interest for which there is a legal remedy, such as compensation or injunction, if there is improper interference. Assets can be real property, physical assets, or intangible property rights, such as a lease or right to use something. ITAs cannot be sold, leased, or otherwise alienated without United States' approval. Trust assets may include lands, minerals, and natural resources, as well as hunting, fishing, and water rights. Indian reservations, rancherias, and public domain allotments are examples of lands that are often considered trust assets. In some cases, ITAs may be located off trust land.

Sacred sites are defined in EO 13007 (May 24, 1996) as follows:

> …any specific, discrete, narrowly delineated location on Federal land that is identified by an Indian tribe, or Indian individual determined to be an appropriately authoritative representative of an Indian religion, as sacred by virtue of its established religious significance to, or ceremonial use by, an Indian religion; provided that the tribe or appropriately authoritative representative of an Indian religion has informed the agency of the existence of such a site.

3.22.2 Impacts/Environmental Consequences

a. Have a potential to affect Indian Trust Assets?

No Impact. The Proposed Project/Action does not have a potential to affect ITAs. There are no Indian reservations, rancherias, or allotments in the project area. The nearest ITA is the United Auburn Indian Community of the Auburn Rancheria, located approximately 14 miles east-northeast of the project area. The Proposed Project/Action is not located on Federal lands; therefore, it would not affect or prohibit access to ceremonial use of Indian sacred sites. Therefore, no impact would occur.

3.23 Mandatory Findings of Significance

Would the Project:	Potentially Significant Impact	Less Than Significant with Mitigation Incorporation	Less Than Significant Impact	No Impact
a. Does the project have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?	No	Yes	No	No
b. Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects)?	No	Yes	No	No
c. Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?	No	Yes	No	No

3.23.1 Impacts/Environmental Consequences

a. *Less than significant with mitigation.* As indicated in Sections 3.6 and 3.7, impacts on biological and cultural resources were reduced to a less-than-significant level with incorporation of mitigation measures. As a result, implementation of the Proposed Project/Action with the proposed mitigation measures incorporated would not create environmental effects that would degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal community, or eliminate important examples of major periods of California history or prehistory.

b. *Less than significant with mitigation.* As indicated throughout this IS/EA, impacts on all environmental resources were reduced to a less-than-significant level with incorporation of mitigation measures. The separate NLIP Phase 4b project, including relocation of the Vestal Drain, also would be constructed in the project area. Relocation of the Vestal Drain is anticipated to be constructed in 2018 after the Proposed Project/Action is completed. While impacts as a result of the NLIP Phase 4b project would be similar in nature and location to the Proposed Project/Action, cumulative impacts are not anticipated because the NLIP Phase 4b impacts have been addressed and mitigated pursuant to the Final Environmental Impact Statement/Final Environmental Impact Report on the American River Watershed Common Features Project/Natomas Post-authorization Change Report/Natomas Levee Improvement Program, Phase 4b Landside Improvements Project (USACE and SAFCA, 2010) and associated permits. RD 1000 will coordinate with the NLIP Phase 4b project permit holders (i.e., USACE and SAFCA) to ensure coordination of post-construction restoration activities in the project area. As a result, implementation of the Proposed Project/Action with proposed mitigation measures would not create environmental effects that would have impacts that are individually limited, but cumulatively considerable. Therefore, impacts would be less than significant.

c. *Less than significant with mitigation.* As indicated throughout this IS/EA, potential impacts to resources, including air quality, are less than significant or were reduced to a less-than-significant level with incorporation of mitigation measures. As a result, implementation of the Proposed Project/Action with proposed mitigation measures incorporated would not create environmental effects that would cause substantial adverse effects on human beings either directly or indirectly.

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SECTION 4

Consultation and Coordination

4.1 Summary of Public Involvement

For CEQA purposes, this IS/EA and draft Mitigated Negative Declaration (MND) will be made available for a 30-day public review and comment period. A Notice of Intent to adopt an MND will be published in a local newspaper and filed with the Sutter County Clerk and State Clearinghouse. All comments received on the IS/EA and draft MND will be considered by the RD 1000 Board of Directors. The RD 1000 Board of Directors will consider whether to adopt the MND and Mitigation Monitoring and Reporting Program (MMRP) at a public board meeting.

In conjunction with NEPA, this IS/EA was prepared, in part, to examine the potential direct, indirect, and cumulative impacts to the affected environment associated with Reclamation's discretionary action to provide a WaterSMART Small-Scale Water Efficiency Project grant to fund the Proposed Project. Reclamation will post the IS/EA on the Northern California Area Office page of its NEPA website and will issue a press release to announce the start of the 30-day public review period. The IS/EA will be updated in response to all substantive comments received during the review period. Reclamation intends to issue a Finding of No Significant Impact (FONSI) based on the findings of the IS/EA following the completion of the public review period. The FONSI will note the rationale if any substantive changes to the document are made in its finalization.

4.2 Compliance with Federal Statutes and Regulations

This section describes the status of compliance with relevant Federal laws, EOs, and policies, as well as the consultation that has occurred to date or will occur in the near future. Most of these regulations involve ongoing compliance, which occurs in coordination with preparation of the IS/EA.

4.2.1 Federal Endangered Species Act

Section 7 of the ESA requires Federal agencies, in consultation with the Secretary of the Interior, to ensure that their actions do not jeopardize the continued existence of endangered or threatened species, or result in the destruction or adverse modification of the critical habitat of these species. Under Section 7 of the ESA, a project that could result in incidental take of a listed threatened or endangered species must consult with USFWS to obtain a Biological Opinion. If the Biological Opinion finds that the project could jeopardize the existence of a listed species ("jeopardy opinion"), the agency cannot authorize the project until it is modified to obtain a "nonjeopardy" opinion. A Biological Assessment was prepared to address potential impacts of the Proposed Project/Action, and Reclamation initiated consultation with USFWS on January 8, 2018. The avoidance and minimization measures and proposed mitigation that are identified in the Biological Assessment also are included in this IS/EA and will be included in the associated Mitigation Monitoring and Reporting Program.

4.2.2 Federal Migratory Bird Treaty Act, Bald and Golden Eagle Protection Act, and Executive Order 13168

The MBTA and the Bald and Golden Eagle Protection Act prohibit the take of migratory birds (or any part, nest, or eggs of any such bird) and the take and commerce of eagles. EO 13168 requires that any project with Federal involvement address impacts of Federal actions on migratory birds. As described in Section 3.6, Biological Resources, no tree removal is proposed as part of the Proposed Project/Action, and there would be no direct displacement of migratory birds and other protected birds and their nests.

Construction of the Proposed Project/Action would create a short-term source of noise and disturbance in the project area; however, Mitigation Measure BR-4 would be implemented to avoid and minimize potential effects. No significant impacts to migratory birds and other protected birds are anticipated as a result of the Proposed Project/Action.

4.2.3 National Historic Preservation Act

The purpose of this act is to protect, preserve, rehabilitate, or restore significant historical, archeological, and cultural resources. Section 106 requires Federal agencies to take into account effects on historic properties. Once an undertaking has been established, the Section 106 review involves a step-by-step procedure described in detail in the implementing regulations (36 CFR Part 800). Potential impacts to cultural resources are described in Section 3.7, Cultural Resources. Based on review of the available information, Reclamation initiated consultation with the State Historic Preservation Officer on February 14, 2018, and requested concurrence on a finding that the Proposed Project/Action would have no adverse effect on historic properties, pursuant to 36 CFR § 800.5(b) (Appendix D). Reclamation received concurrence on the National Register eligibility of these resources and the finding of no adverse effect on historic properties on March 15, 2018.

4.2.4 Executive Order 11988 – Floodplain Management and Executive Order 11990 – Protection of Wetlands

EO 11988 requires Federal agencies to recognize the values of floodplains and to consider the public benefits from restoring and preserving floodplains. Under EO 11990, Federal agencies must avoid affecting wetlands unless it is determined that no practicable alternative is available. Section 3.11, Hydrology and Water Quality, discusses potential impacts relative to the 100-year flood zone. While the Proposed Project/Action is located within the 100-year floodplain, implementation of the Proposed Project/Action would not exacerbate flooding or create additional risks to the environment or the public. As described in Section 3.6, Biological Resources, implementation of the Proposed Project/Action would not have a substantial effect on any protected wetlands, and there would be no loss of riparian habitat.

4.2.5 Farmland Protection Policy Act

The Farmland Protection Policy Act requires a Federal agency to consider the effects of its actions and programs on the nation's farmlands. The Farmland Protection Policy Act is intended to minimize the impact of Federal programs with respect to the conversion of farmland to nonagricultural uses. It assures that, to the extent possible, Federal programs are administered to be compatible with state, local, and private programs and policies to protect farmland. As described in Section 3.4, Agriculture and Forest Resources, implementation of the Proposed Project/Action would not convert farmland, conflict with existing zoning for agricultural use/forest land, result in the loss/conversion of forest land, or involve other changes in the existing environment that could result in the conversion of farmland or forest land.

4.2.6 Clean Air Act General Conformity Rule

The United States Congress adopted general conformity requirements as part of the CAA amendments in 1990, and USEPA implemented those requirements in 1993 (Section 176 of the CAA [42 United States Code §7506] and 40 CFR Part 93, Subpart B). General conformity requires that all Federal actions conform with the SIP as approved or promulgated by USEPA. The purpose of the general conformity program is to ensure that actions taken by the Federal government do not undermine state or local efforts to achieve and maintain the NAAQS. Before a Federal action is taken, it must be evaluated for conformity with the SIP. All "reasonably foreseeable" emissions predicted to result from the action are

taken into consideration. These include direct and indirect emissions, and must be identified as to location and quantity. If it is found that the action would create emissions above de minimis threshold levels specified in USEPA regulations (40 CFR § 93.153(b)), then the Federal action cannot proceed unless mitigation measures are specified that would bring the project into conformance. As described in Section 3.5, Air Quality, estimated emissions of the Proposed Project/Action would be below de minimis thresholds, and no further general conformity analysis is required.

4.2.7 Executive Order 13007 – Indian Sacred Sites

Sacred sites are defined in EO 13007 (May 24, 1996) as follows:

> …any specific, discrete, narrowly delineated location on Federal land that is identified by an Indian tribe, or Indian individual determined to be an appropriately authoritative representative of an Indian religion, as sacred by virtue of its established religious significance to, or ceremonial use by, an Indian religion; provided that the tribe or appropriately authoritative representative of an Indian religion has informed the agency of the existence of such a site.

The Proposed Project/Action would not be located on or impact any Federal lands, and it would not affect access to, or use of, Indian Sacred Sites.

4.2.8 Indian Trust Assets

ITAs are legal interests in property or rights held in trust by the U.S. for Indian Tribes or individual Indians. Indian reservations, Rancherias, and Public Domain Allotments are common ITAs in California. The nearest ITA is a property held in trust to the United Auburn Indian Community of the Auburn Rancheria, approximately 14 miles east of the Project location. The Proposed Project/Action does not have the potential to affect ITAs (Appendix E).

4.2.9 Executive Order 12898—Environmental Justice

Executive Order 12898 requires Federal agencies to identify and address disproportionately high and adverse human health or environmental effects, including social and economic effects, of its programs, policies, and activities on minority populations and low-income populations. No significant changes in agricultural communities or practices would result from the Proposed Project/Action. Implementing the Proposed Project/Action is not likely to have adverse effects to any populations. Therefore, implementing the Proposed Project/Action would not have disproportionately high or adverse human health or environmental effects on low-income or minority populations.

4.3 Additional Approvals/Permits Required

Additional approvals/permits that may be required for the Proposed Project/Action include the following:

- **California Department of Fish and Wildlife:** California Endangered Species Act Section 2080.1 Consistency Determination
- **United States Fish and Wildlife Service:** ESA Section 7 Consultation
- **State Historic Preservation Officer:** National Historic Preservation Act Section 106
- **Feather River Air Quality Management District (FRAQMD):** General Permit to Construct
- **Sutter County:** Floodplain Development Permit

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SECTION 5

List of Preparers

This report was prepared by CH2M HILL staff as listed in Table 5-1.

Table 5-1. List of Preparers

Preparer	Title	Education
Jessica Birnbaum, CH2M HILL	Environmental Planner	M.S., Natural Resource Planning, Humboldt State University B.S., Biology, Trinity College
Jerimy Borchardt, CH2M HILL	Project Manager	B.S., Civil Engineering, California State University, Fresno Professional Engineer: California (C77385)
Catherine Burrell, CH2M HILL	CEQA Lead	M.C.R.P., City and Regional Planning, California Polytechnic State University, San Luis Obispo B.A., Physical Geography and Resource Planning, California State University, Sacramento
Gloriella Cardenas, CH2M HILL	Cultural Resources Specialist	M.A., Anthropology, California State University, Fullerton B.A., Anthropology, California State University, Los Angeles
Edward Douglas, CH2M HILL	GIS Analyst	B.A., Geography, University of California, Los Angeles
Andrew Dunavent, CH2M HILL	Air Quality Engineer	B.S. Environmental Engineering, San Diego State University Engineer-in-Training (California) #15-808-27
Matthew Franck, CH2M HILL	QA/QC Reviewer	B.S., Environmental Policy Analysis and Planning, University of California, Davis
Victor Leighton III, CH2M HILL	Biologist	A.S., Forestry/Wildlife Biology, American River College
Marcia Montgomery, CH2M HILL	Cultural Resources Specialist	M.A., American History, Washington State University B.A., History, Lewis & Clark College Archaeological field school, Washington State University
Neil Nikirk, CH2M HILL	Environmental Scientist	M.S., Fisheries, University of Washington B.S., Fisheries Science, Oregon State University
Jeff Tupen, CH2M HILL	Principal Biologist	B.S., Environmental and Systematic Biology, California Polytechnic State University, San Luis Obispo
Pamela Vanderbilt, CH2M HILL	Principal Scientist, Air Quality Services	M.A., Biology, University of South Dakota B.S., Biology, University of South Dakota

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SECTION 6

References

Bradley, Denise, and M. Corbett. 1995. Rural Historic Landscape Report for Reclamation District 1000 for the Cultural Resources Inventory and Evaluations for the American River Watershed Investigation, Sacramento and Sutter Counties, California. Prepared for USACE by Dames & Moore, Inc. Chico, CA.

Calflora. 2017. Information on wild California plants for conservation, education, and appreciation. Available at https://www.calflora.org. Accessed October 26, 2017.

California Air Pollution Control Officers Association. 2016. California Emissions Estimator Model (CalEEMod). CalEEMod Version 2016.3.1. Available at http://www.caleemod.com. September.

California Air Resources Board (CARB). 2014. Final Regulation Order, Area Designations for State Ambient Air Quality Standards. Chapter 1. Air Resources Board. Subchapter 1.5. Air Basins and Air Quality Standards. Article 1.5. Area Pollutant Designations. Available at www.arb.ca.gov. Accessed on July 19, 2017.

California Air Resources Board (CARB). 2015a. Area Designations for State Ambient Air Quality Standards: Sulfur Dioxide. Available at www.arb.ca.gov. Accessed on June 15, 2018.

California Air Resources Board (CARB). 2015b. Area Designations for State Ambient Air Quality Standards: Carbon Monoxide. Available at www.arb.ca.gov. Accessed on June 15, 2018.

California Air Resources Board (CARB). 2016. Ambient Air Quality Standards. Available at www.arb.ca.gov. May 4. Accessed July 26, 2017.

California Air Resources Board (CARB). 2017a. The 2017 Climate Change Scoping Plan Update, The Proposed Strategy for Achieving California's 2030 Greenhouse Gas Target. Available at www.arb.ca.gov. January 20.

California Air Resources Board (CARB). 2017b. California Greenhouse Gas Emission Inventory for 2000-2015. Available at www.arb.ca.gov. Accessed August 1, 2017.

California Department of Conservation. 2016. Farmland Mapping and Monitoring Program. Sutter County Important Farmland. Accessed August 8, 2017. ftp.consrv.ca.gov.

California Department of Conservation. 2017a. Alquist-Priolo Earthquake Fault Zone Maps. Accessed May 18, 2017. Available at: maps.conservation.ca.gov.

California Department of Conservation. 2017b. Landslide Reports and Maps. Accessed May 18, 2017. Available at: maps.conservation.ca.gov.

California Department of Fish and Game. 1994. *Staff Report Regarding Mitigation for Impacts to Swainson's Hawks (*Buteo swainsoni*) in the Central Valley.* November 1.

California Department of Fish and Wildlife (CDFW). 2014. California Interagency Wildlife Task Group. CWHR version 9.0 personal computer program. Sacramento, CA.

California Department of Fish and Wildlife (CDFW). 2017. California Natural Diversity Database (CNDDB). Geographic Information Systems (GIS) data and computer printout of sensitive species records in California. California Department of Fish and Game, Natural Heritage Division, Sacramento, CA. January.

California Department of Toxic Substances Control. 2017. Envirostor Database: Hazardous Waste and Substance Site List. Available at www.envirostor.dtsc.ca.gov. Accessed May 18, 2017.

California Department of Water Resources. 2003. California's Groundwater, Bulletin 118, updated 2003. Sacramento Valley Groundwater Basins 5-21.59, 5-21.62, 5-21.64.

California Natural Resources Agency. 2016. Safeguarding California: Implementation Action Plans. Available at resources.ca.gov. Accessed October 13, 2017.

California Spatial Data Clearinghouse. 2014. Public and Private Schools (GIS layer). Available at: portal.gis.ca.gov. Accessed May 18, 2017.

Central Valley Regional Water Quality Control Board (CVRWQCB). 2016. Proposed Changes to the 2012 Central Valley 303(D) List. Appendix A to the Clean Water Act Sections 305(B) and 303(D) 2014 Integrated Report for the Central Valley Region, Final Staff Report. December 2016.

Cunningham, J.D. 1959. Reproduction and food of some California snakes: Herpetologica. Vol. 15. pp. 17–19.

Feather River Air Quality Management District (FRAQMD). 2005. Draft Staff Report Implementation of SB656 Measures to Reduce Particulate Matter. July.

Feather River Air Quality Management District (FRAQMD). 2010. Indirect Source Review Guidelines, A Technical Guide to Assess the Air Quality Impact of Land Use Projects Under the California Environmental Quality Act. June 7.

Feather River Air Quality Management District (FRAQMD). 2013. Sacramento Regional 8-hour Ozone Attainment and Reasonable Further Progress Plan (2013 SIP Revisions). September 26.

Feather River Air Quality Management District (FRAQMD). 2014. *Reasonably Available Control Technology (RACT) State Implementation Plan (SIP) Revision*. August 18.

Federal Emergency Management Agency (FEMA). 2015. National Flood Insurance Program. Flood Rate Insurance Rate Map 0603940815F for Sutter County (unincorporated areas). Map revised June 16, 2015.

Fitch, H.S. 1940. *A biogeographical study of the ordinoides artenkreis of garter snakes (genus Thamnophis).* Univ. Calif. Publ. Zool. 44:1-150.

Fitch, H.S. 2004. Year 2003 investigations of the giant garter snake (*Thamnophis gigas*) in the Middle American Basin: Sutter County, California. Annual report prepared for Sacramento Area Flood Control Agency. March 10, 2004. Contract No. 381. Unpublished. 40 pp.

Halstead, B.J., G.D. Wylie, and M.L. Casazza. 2015. Literature review of giant gartersnake (Thamnophis gigas) biology and conservation: U.S. Geological Survey Open-File Report 2015–1150, 38 pp. dx.doi.org.

Hansen, G. E. 1998. Cherokee Canal sediment removal Project post-construction giant garter snake (*Thamnophis gigas*) surveys. Final report for California Department of Water Resources. Contract No. B-81535. Unpublished. 9 pp.

Hansen, G.E., and J.M. Brode. 1980. Status of the giant garter snake *Thamnophis couchii gigas* (Fitch). Inland Fisheries Endangered Species Special Publication 80(5):1-14. California Department of Fish and Game, Sacramento, CA.

Hansen, G.E., and J.M. Brode. 1993. Results of relocating canal habitat of the giant garter snake (*Thamnophis gigas*) during widening of State Route 99/70 in Sacramento and Sutter counties, California. Final report for Caltrans Interagency Agreement 03E325 (FG7550) (FY 87/88-91-92). Unpublished. 36 pp.

Lovich, Jeff. 1998. Western Pond Turtle *Clemmys marmorata*. USGS, Western Ecological Research Center, University of California, Riverside, CA 92521 www.blm.gov/ca.

Natomas Basin Conservancy (NBC). 2017a. About the Natomas Basin Conservancy Plan. Available at www.natomasbasin.org. Accessed October 13, 2017.

Natomas Basin Conservancy (NBC). 2017b. Covered Species, Natomas Basin Habitat Conservation Plan and Metro Air Park Habitat Conservation Plan. Available at www.natomasbasin.org. Accessed August 2, 2017.

Natomas Mutual Water Company (NCMWC). 2016. WaterSMART: Water and Energy Efficiency Grants for Fiscal Year (FY) 2016 Application for Northern Drainage Canal Lift Pump Station Project. January 20.

Peak, Melinda A. 1997. Historic American Engineering Record for the Reclamation District 1000 HAER No. CA-187. Prepared by Peak & Associates, Eldorado Hills, CA.

Sacramento Area Council of Governments. 2013. Sacramento International Airport Land Use Compatibility Plan. December 12, 2013.

Sacramento Valley Air Quality Engineering and Enforcement Professionals. 2015. Northern Sacramento Valley Planning Area 2015 Triennial Air Quality Attainment Plan. August 17.

State of California, Office of Administrative Law (OAL). 2017. Notice of Approval of Changes without Regulatory Effect. 2016 Changes by Operation of Law. Area Designations for State Ambient Air Quality Standards. Chapter 1. Air Resources Board. Subchapter 1.5. Air Basins and Air Quality Standards. Article 1.5. Area Pollutant Designations. Available at www.arb.ca.gov. Accessed on July 19, 2017.

Sutter County. 1998. Surface Mining and Reclamation Plan Ordinance. Adopted August 25, 1998.

Sutter County. 2008. Sutter County General Plan Update Technical Background Report. Prepared by PBS&J in partnership with: West Yost & Associates, DKS Associates, MuniFinancial, and Applied Development Economics. February 2008.

Sutter County. 2011a. Sutter County General Plan Final Environmental Impact Report. SCH # 2010032074. Prepared by PBS&J. February 2011. Incorporates Draft EIR by Reference. Available at: www.co.sutter.ca.us.

Sutter County. 2011b. Sutter County General Plan. Adopted by Sutter County Board of Supervisors on March 29, 2011. Resolution No. 11-029. Available at: www.co.sutter.ca.us.

Sutter County. 2016. Zoning Code. June. Accessed on June 29, 2017 at www.co.sutter.ca.us.

Sutter County. 2017. Local Population: State of California, Department of Finance, *Report P-1 (Race): State and County Population Projections by Race/Ethnicity, 2010-2060 (by decade)*, December 2014. Available at www.co.sutter.ca.us. Accessed October 13, 2017.

United States Army Corps of Engineers (USACE). 2017. Draft Supplemental Environmental Assessment for the American River Watershed Common Features Natomas Basin Project, Reach D. August.

United States Army Corps of Engineers and Sacramento Area Flood Control Agency (USACE and SAFCA). 2010. Final Environmental Impact Statement/Final Environmental Impact Report on the American River Watershed Common Features Project/Natomas Post-authorization Change Report/Natomas Levee Improvement Program, Phase 4b Landside Improvements Project. October. Available at www.safca.org. Accessed September 12, 2017.

United States Census Bureau. 2016. American Fact Finder: Annual Estimates of the Resident Population: April 1, 2010 to July 1, 2016 for Sutter County. Available at factfinder.census.gov. Accessed October 13, 2017.

United States Census Bureau. 2016a. American Fact Finder: Annual Estimates of the Resident Population: April 1, 2010 to July 1, 2016 for Sutter County. Available at factfinder.census.gov. Accessed October 13, 2017.

United States Census Bureau. 2016b. American Fact Finder: Annual Estimates of the Resident Population: April 1, 2010 to July 1, 2016 for Yuba City. Available at factfinder.census.gov. Accessed October 13, 2017.

United States Environmental Protection Agency (USEPA). 2017a. Green Book – California Nonattainment/Maintenance Status for Each County By Year for All Criteria Pollutants, As of June 20, 2017. Available at www3.epa.gov. Accessed July 19, 2017.

United States Environmental Protection Agency (USEPA). 2017b. California State and Tribal Recommended Nonattainment Areas and the EPA's Intended Designated Nonattainment Areas for the 2015 Ozone NAAQS. Available at www.epa.gov. Accessed June 15, 2018.

United States Environmental Protection Agency (USEPA). 2017c. Timeline of Major Accomplishments in Transportation, Air Pollution, and Climate Change. Available at www.epa.gov. Accessed July 28, 2017.

United States Environmental Protection Agency (USEPA). 2017d. Learning about Environmental Justice. Available at www.epa.gov. Accessed October 13, 2017.

United States Fish and Wildlife Service (USFWS). 1993. Endangered and threatened wildlife and plants; determination of threatened status for the giant garter snake. Federal Register 58:54053-54066.

United States Fish and Wildlife Service (USFWS). 1999. *Draft Recovery Plan for the Giant Garter Snake (Thamnophis gigas).* Sacramento. 194 pages.

USFWS. 2012. Giant garter snake (*Thamnophis gigas*) 5-year Review: Summary and Evaluation. Available at: ecos.fws.gov.

USFWS. 2017. Information for Planning and Consultation (IPaC). ecos.fws.gov. Queried October 4, 2017.

Wagner, D. L., C. W. Jennings, T. L. Bedrossian, and E. J. Bortugno. 1987. Geologic Map of the Sacramento Quadrangle. Regional Geologic Map Series, Map No. 1A. California Division of Mines and Geology. Accessed at www.quake.ca.gov on 8/11/17.

Wylie, G.D., M.L. Casazza, and J.K. Daugherty. 1997. 1996 progress report for the giant garter snake study. Dixon Research Station, California Science Center, USGS Biological Resources Division, Dixon, CA.

Appendix A
Brookfield Borrow Site

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N

NOTES

1. HAUL ROUTES SHALL BE LANDWARD OF THE LEVEE. THE LEVEE CROWN SHALL NOT BE USED AS A HAUL ROUTE.
2. CONSTRUCTION TRAFFIC SHALL NOT EXCEED LEGAL LOADS FOR ROADS AND BRIDGES TO BE USED.

LEGEND

- STAGING AREA
- BORROW SITE
- HAUL ROUTE

US Army Corps of Engineers

MARK	DESCRIPTION	DATE

DESIGNED BY: E. JULIAN
DRAWN BY: E. JULIAN
CHECKED BY: M. BOEDTHER
SUBMITTED BY: P. VALENTINE
ISSUE DATE: 04/21/2017
SOLICITATION NO.:
CONTRACT NO.:
DESIGN FILE NO.: 1-04-0637
SIZE: ANSI-D
SPEC NO.: 2067
FILE NAME:

U.S. ARMY CORPS OF ENGINEERS
SACRAMENTO DISTRICT

IN-HOUSE DESIGN
1325 J STREET
SACRAMENTO, CA 95814-2922

AMERICAN RIVER COMMON FEATURES
NATOMAS BASIN REACH D DWSOWS

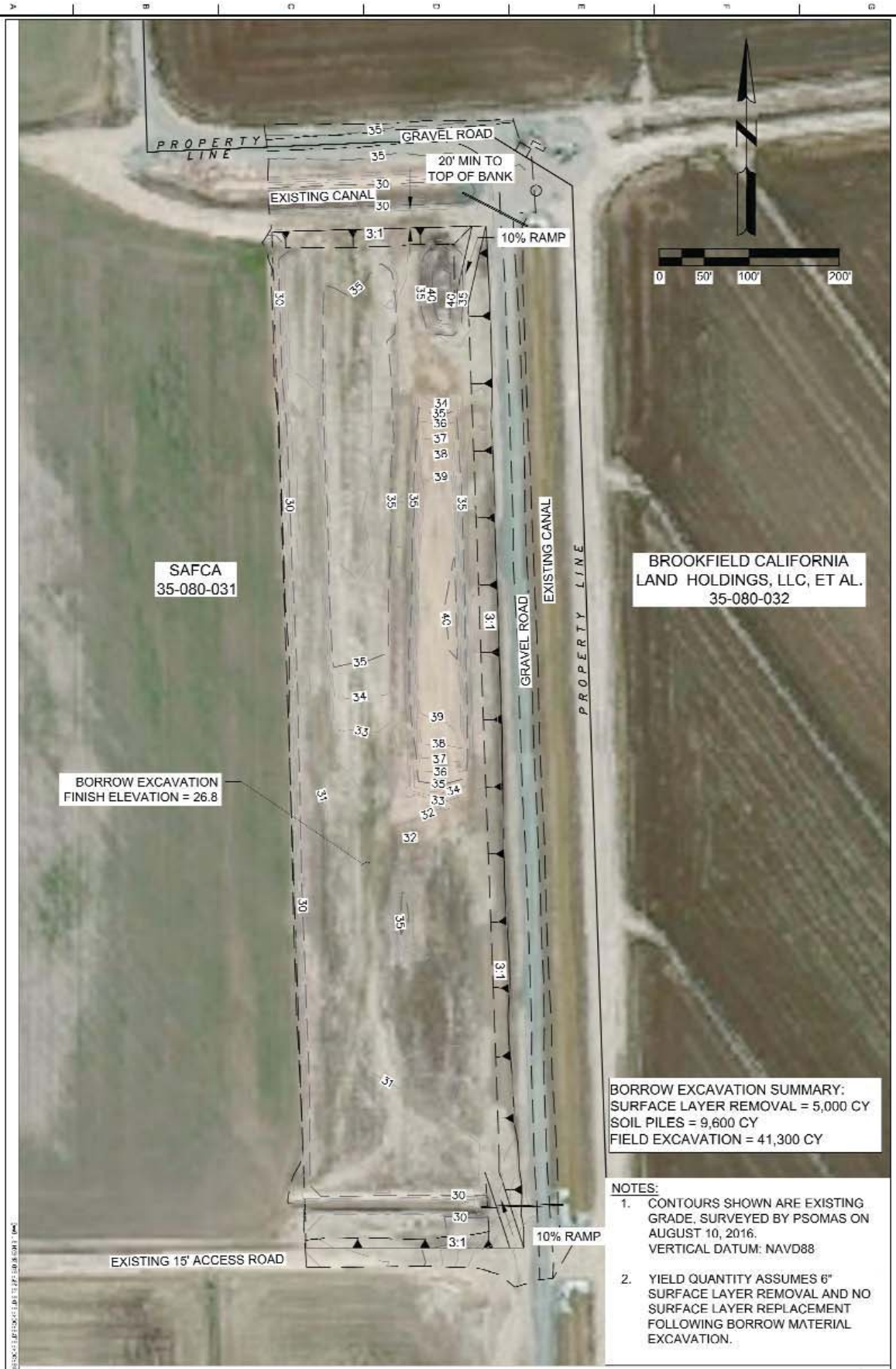
HAUL ROUTE, BORROW SITE, & STAGING MAP

SHEET ID
G-006

Plate 2

90% SUBMITTAL

Drawing Name: X:\AmerRiv\CommonFeaturesGRR\Natomas-Design\Reach D\CM\CM1 3D\1-04-0637G-006XXX.dwg
Last Opened: Apr 10, 2017 - 5:04pm by l2edeej9



SAFCA Sacramento Area Flood Control Agency

19415-00/08001
09/13/2016

BROOKFIELD BORROW SITE FIELD 2B

Mead & Hunt

EXHIBIT 1

90% SUBMITTAL

SHEET ID: G-009

AMERICAN RIVER COMMON FEATURES
NATOMAS BASIN REACH C WINDOWS

BROOKFIELD BORROW SITE - FIELD 2B
EXCAVATION PLAN

U.S. ARMY CORPS OF ENGINEERS
SACRAMENTO DISTRICT

IN-HOUSE DESIGN
1325 J STREET
SACRAMENTO, CA 95814-2922

DESIGNED BY: E. JULIAN	ISSUE DATE: 04/21/2017
DRAWN BY: E. JULIAN	SOLICITATION NO.:
CHECKED BY: M. BOESTER	CONTRACT NO.:
SUBMITTED BY: P. VALENTINE	DESIGN FILE NO.: 1404-0537
SPEC ANSI-D	SPEC NO.: 2007
	FILE NAME:

MARK	DESCRIPTION	DATE

US Army Corps of Engineers

Appendix B
Air Quality Emissions—Construction Assumptions

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Natomas Central Mutual Water Company

North Drainage Canal (NDC) Lift Pump Station Project

Construction Equipment Operation Estimate

				Operating Hours by Construction Phase										Mileage by Construction Phase*						
Task	**Task Description**	**Sequence**	**Duration (Days)**	**Excavator** *Cat 329L 209 HP*	**Backhoe** *Cat 450E 101 HP*	**Skidsteer** Bobcat S300 81 HP	**Crane** *Terex - 40 ton All Terrain 250 HP*	**Compactor** *Wacker 14 HP*	**Miller Bobcat 225 Welder (16 HP engine)**	**Dewatering Pumps** *8" Diesel 70 HP*	**Totals**		**Pickup - Foreman*** *Ford F250 400 HP*	**Pickup - Operator/Laborer** *Ford F250 400 HP*	**Pickup - Operator/Laborer** *Ford F250 400 HP*	**Dump Truck ***** *6X4 75KGVW 400 HP*	**End Dump ***** *6X4 75KGVW 400 HP*	**Totals**	**Maximum Number of Trips per Day**
3.1	Site Preparation	Sequentially	2		12	12					24		104	52	52	0	0	208	
3.2	Place/Compact Temp Piping in Sankey Canal & Excavate for Sump and Intake	Sequentially	4	24	24	12		12			72		208	104	104	0	0	416	
3.3	Finish Grade Excavation & Set Concrete Sumps & Pipe, Backfill & Compact	Sequentially	8	48	48	24	24	24	48	24	240		416	208	208	1504	1504	3,840	14
3.4	Cast-in-Place Intake Structure	Sequentially	10		24				60	30	114		520	260	260	0	0	1,040	
3.5	Trashrack & Trash Rake	Sequentially	3				18		18	9	45		156	78	78	0	0	312	
3.6	Pump Platform						Using submersible pumps eliminates need for pump platform												
3.7	Pumps & Discharge Piping	Sequentially	13		30		20	24	78		152		676	338	338	284	284	1,920	14
3.8	Electrical & Controls	Concurrent with Task 3.7	15						90		90		780	390	390	0	0	1,560	
3.9	Intake Channel Excavation & Finish Grading****	Sequentially	18	108	Work being complete as part of separate USACE Vestal Drain relocation project.						108					3354	3354	6,708	14
		Totals	58 Ground Disturbance	180	138	48	62	60	294	63	845	**Total Miles**	2,860	1,430	1,430	5,142	5,142	16,004	

Notes:

All equipment listed are diesel engines

Equipment sizes (except for Cat 329L Excavator) based on Army Corps of Engineers EP 1110-1-8, Vol. 7

Cat 329L HP based on interpolation between HP for Cat 312 DL, Cat 320 DL, and Cat 390 DL as published in EP 1110-1-8, Vol. 7

* Assumed from Natomas' yard to NDC, round trip is 26 miles. Materials delivery not included in estimate.

** Assumes two trips per day for travel to other sites for Maintenance Supervisor duties.

*** Assumes 12 yard haul off per trip and 20-percent fluff factor of spoils. Maximum number of trips per day = 7 each vehicle.

**** Assumes a small portion of Vestal Drain to be rough graded by Natomas to for safety and protection of work.

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Appendix C
USFWS Species List

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United States Department of the Interior

FISH AND WILDLIFE SERVICE
Sacramento Fish And Wildlife Office
Federal Building
2800 Cottage Way, Room W-2605
Sacramento, CA 95825-1846
Phone: (916) 414-6600 Fax: (916) 414-6713

In Reply Refer To: October 04, 2017
Consultation Code: 08ESMF00-2017-SLI-1911
Event Code: 08ESMF00-2018-E-00085
Project Name: Natomas Mutual Water Company Proposed North Drainage Canal Lift Station

Subject: Updated list of threatened and endangered species that may occur in your proposed project location, and/or may be affected by your proposed project

To Whom It May Concern:

The enclosed species list identifies threatened, endangered, proposed and candidate species, as well as proposed and final designated critical habitat, under the jurisdiction of the U.S. Fish and Wildlife Service (Service) that may occur within the boundary of your proposed project and/or may be affected by your proposed project. The species list fulfills the requirements of the Service under section 7(c) of the Endangered Species Act (Act) of 1973, as amended (16 U.S.C. 1531 et seq.).

Please follow the link below to see if your proposed project has the potential to affect other species or their habitats under the jurisdiction of the National Marine Fisheries Service:

http://www.nwr.noaa.gov/protected_species/species_list/species_lists.html

New information based on updated surveys, changes in the abundance and distribution of species, changed habitat conditions, or other factors could change this list. Please feel free to contact us if you need more current information or assistance regarding the potential impacts to federally proposed, listed, and candidate species and federally designated and proposed critical habitat. Please note that under 50 CFR 402.12(e) of the regulations implementing section 7 of the Act, the accuracy of this species list should be verified after 90 days. This verification can be completed formally or informally as desired. The Service recommends that verification be completed by visiting the ECOS-IPaC website at regular intervals during project planning and implementation for updates to species lists and information. An updated list may be requested through the ECOS-IPaC system by completing the same process used to receive the enclosed list.

The purpose of the Act is to provide a means whereby threatened and endangered species and the ecosystems upon which they depend may be conserved. Under sections 7(a)(1) and 7(a)(2) of the Act and its implementing regulations (50 CFR 402 et seq.), Federal agencies are required to

utilize their authorities to carry out programs for the conservation of threatened and endangered species and to determine whether projects may affect threatened and endangered species and/or designated critical habitat.

A Biological Assessment is required for construction projects (or other undertakings having similar physical impacts) that are major Federal actions significantly affecting the quality of the human environment as defined in the National Environmental Policy Act (42 U.S.C. 4332(2)(c)). For projects other than major construction activities, the Service suggests that a biological evaluation similar to a Biological Assessment be prepared to determine whether the project may affect listed or proposed species and/or designated or proposed critical habitat. Recommended contents of a Biological Assessment are described at 50 CFR 402.12.

If a Federal agency determines, based on the Biological Assessment or biological evaluation, that listed species and/or designated critical habitat may be affected by the proposed project, the agency is required to consult with the Service pursuant to 50 CFR 402. In addition, the Service recommends that candidate species, proposed species and proposed critical habitat be addressed within the consultation. More information on the regulations and procedures for section 7 consultation, including the role of permit or license applicants, can be found in the "Endangered Species Consultation Handbook" at:

http://www.fws.gov/endangered/esa-library/pdf/TOC-GLOS.PDF

Please be aware that bald and golden eagles are protected under the Bald and Golden Eagle Protection Act (16 U.S.C. 668 et seq.), and projects affecting these species may require development of an eagle conservation plan (http://www.fws.gov/windenergy/eagle_guidance.html). Additionally, wind energy projects should follow the wind energy guidelines (http://www.fws.gov/windenergy/) for minimizing impacts to migratory birds and bats.

Guidance for minimizing impacts to migratory birds for projects including communications towers (e.g., cellular, digital television, radio, and emergency broadcast) can be found at: http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/towers.htm; http://www.towerkill.com; and http://www.fws.gov/migratorybirds/CurrentBirdIssues/Hazards/towers/comtow.html.

We appreciate your concern for threatened and endangered species. The Service encourages Federal agencies to include conservation of threatened and endangered species into their project planning to further the purposes of the Act. Please include the Consultation Tracking Number in the header of this letter with any request for consultation or correspondence about your project that you submit to our office.

Attachment(s):

- Official Species List

Official Species List

This list is provided pursuant to Section 7 of the Endangered Species Act, and fulfills the requirement for Federal agencies to "request of the Secretary of the Interior information whether any species which is listed or proposed to be listed may be present in the area of a proposed action".

This species list is provided by:

Sacramento Fish And Wildlife Office
Federal Building
2800 Cottage Way, Room W-2605
Sacramento, CA 95825-1846
(916) 414-6600

Project Summary

Consultation Code: 08ESMF00-2017-SLI-1911

Event Code: 08ESMF00-2018-E-00085

Project Name: Natomas Mutual Water Company Proposed North Drainage Canal Lift Station

Project Type: WATER SUPPLY / DELIVERY

Project Description: The Natomas Mutual Water Company (Company) proposes to construct a new tailwater recovery lift pump station with 120-cubic-foot-per-second (cfs) capacity on the Sankey Canal near the North Drainage Canal (NDC). The NDC Lift Pump Station would be constructed within an existing Company-owned and maintained canal and access road. The new structure would be placed on the southern side of the Sankey Canal currently owned and operated by the Company.

Project Location:

Approximate location of the project can be viewed in Google Maps: https://www.google.com/maps/place/38.798509560438205N121.58011197192462W

Counties: Sutter, CA

Endangered Species Act Species

There is a total of 9 threatened, endangered, or candidate species on this species list. Species on this list should be considered in an effects analysis for your project and could include species that exist in another geographic area. For example, certain fish may appear on the species list because a project could affect downstream species. See the "Critical habitats" section below for those critical habitats that lie wholly or partially within your project area under this office's jurisdiction. Please contact the designated FWS office if you have questions.

Birds

NAME	STATUS
Yellow-billed Cuckoo *Coccyzus americanus* Population: Western U.S. DPS There is **proposed** critical habitat for this species. Your location is outside the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/3911	Threatened

Reptiles

NAME	STATUS
Giant Garter Snake *Thamnophis gigas* No critical habitat has been designated for this species. Species profile: https://ecos.fws.gov/ecp/species/4482	Threatened

Amphibians

NAME	STATUS
California Red-legged Frog *Rana draytonii* There is **final designated** critical habitat for this species. Your location is outside the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/2891	Threatened
California Tiger Salamander *Ambystoma californiense* Population: U.S.A. (Central CA DPS) There is **final designated** critical habitat for this species. Your location is outside the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/2076	Threatened

Fishes

NAME	STATUS
Delta Smelt *Hypomesus transpacificus* There is **final designated** critical habitat for this species. Your location is outside the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/321	Threatened
Steelhead *Oncorhynchus (=Salmo) mykiss* Population: Northern California DPS There is **final designated** critical habitat for this species. Your location is outside the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/1007	Threatened

Insects

NAME	STATUS
Valley Elderberry Longhorn Beetle *Desmocerus californicus dimorphus* There is **final designated** critical habitat for this species. Your location is outside the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/7850 Habitat assessment guidelines: https://ecos.fws.gov/ipac/guideline/assessment/population/436/office/11420.pdf	Threatened

Crustaceans

NAME	STATUS
Vernal Pool Fairy Shrimp *Branchinecta lynchi* There is **final designated** critical habitat for this species. Your location is outside the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/498	Threatened
Vernal Pool Tadpole Shrimp *Lepidurus packardi* There is **final designated** critical habitat for this species. Your location is outside the critical habitat. Species profile: https://ecos.fws.gov/ecp/species/2246	Endangered

Critical habitats

There are no critical habitats within your project area under this office's jurisdiction.

Appendix D
National Historic Preservation Act Compliance

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CULTURAL RESOURCE COMPLIANCE
Mid-Pacific Region
Division of Environmental Affairs
Cultural Resources Branch

MP-153 Tracking Number: 15-NCAO-195/15-NCAO-196/16-NCAO-174

Project Name: Reclamation District 1000 (RD-1000) and Natomas Central Mutual Water Company (NCMWC) Supervisory Control and Data Acquisition (SCADA) Integration, Cottonwood Check Structure, and North Drainage Canal (NDC) Lift Pump Station Projects, Sacramento & Sutter Counties

NEPA Document: 18-18-MP

MP 153 Cultural Resources Reviewer: Lex Palmer

Date: March 15, 2018

Reclamation proposes to approve CALFED Water Use Efficiency program grant funding for the installation of SCADA systems and a Lift Pump Station located within the RD-1000 and NCMWD boundaries. This action constitutes an undertaking with the potential to cause effects to historic properties, assuming such properties are present, requiring compliance with Section 106 of the National Historic Preservation Act (NHPA) as amended.

Based on historic properties identification efforts conducted by CH2M on behalf of RD-1000 and NCMWC, Reclamation made a finding of no adverse effect to historic properties by the proposed undertaking. Reclamation notified the State Historic Preservation Officer (SHPO) of this finding, pursuant to 36 CFR §800.4(d)(1). SHPO replied with concurrence on the finding. Consultation correspondence between Reclamation and the SHPO has been provided with this cultural resources compliance document for inclusion in the administrative record for this action.

Please note that as a condition of this finding, Reclamation will provide a staff archaeologist to monitor the installation of a SCADA tower at the RD-1000 work shop. RD-1000 must coordinate with Reclamation on when this activity will occur.

This document serves as notification that Section 106 compliance has been completed for this undertaking. Please note that if project activities subsequently change, additional NHPA Section 106 review, including further consultation with the SHPO, may be required. Thank you for providing the opportunity to comment on this project.

Attachment:

Letter: SHPO to Reclamation dated March 15, 2018

State of California • Natural Resources Agency Edmund G. Brown Jr., *Governor*

DEPARTMENT OF PARKS AND RECREATION Lisa Ann L. Mangat, *Director*
OFFICE OF HISTORIC PRESERVATION

Julianne Polanco, State Historic Preservation Officer
1725 23rd Street, Suite 100, Sacramento, CA 95816-7100
Telephone: (916) 445-7000 FAX: (916) 445-7053
calshpo.ohp@parks.ca.gov www.ohp.parks.ca.gov

March 15, 2018

In reply refer to: BUR_2018_0215_001

Ms. Anastasia T. Leigh, Regional Environmental Officer
U.S. Bureau of Reclamation, Mid-Pacific Regional Office
2800 Cottage Way, Sacramento, CA 95825-1898

Subject: Section 106 Consultation for the Reclamation District 1000 (RD-1000) and Natomas Central Mutual Water Company (NCMWC) Supervisory Control and Data Acquisition (SCADA) Integration, Cottonwood Check Structure, and North Drainage Canal (NDC) Lift Pump Station Projects, Sacramento & Sutter Counties, CA (Projects #15-NCAO-195; #15-NCAO-196; #16-NCAO-174)

Dear Ms. Leigh:

The State Historic Preservation Officer (SHPO) received on February 15, 2018 your letter initiating consultation on the above referenced undertaking to comply with Section 106 of the National Historic Preservation Act of 1966 (as currently amended) and its implementing regulations found at 36 CFR Part 800. The Bureau of Reclamation (Reclamation) is seeking comments on delineation of the Area of Potential Effects (APE), appropriateness of historic properties identification efforts, and on its effect finding of no adverse effect to historic properties. The following documentation was provided:

- *Enclosure 1: Cultural Resources Inventory Report for the Cottonwood Check Structure Automation, SCADA Integration, and North Drainage Canal Lift Pump Station Projects, Sacramento and Sutter Counties, California; Reclamation Projects 15-NCAO-195/196; October 2017 [By: G. Cardenas, L. Price, M. Montgomery, N. Lawson, & A. McCarthy-Reid; CH2M HILL, Inc., Santa Ana, CA] [For: Natomas Central Mutual Water Company, Rio Linda, CA, and U.S. Bureau of Reclamation, Mid-Pacific Region Environmental Affairs MP-150, Sacramento, CA].*
- *Enclosure 2: (on Compact Disk): Appendix C: As Builts for Project; Appendix D: DPR 523 forms.*

Proposed work involves three interrelated grant-funded projects that are located within RD-1000 and NCMWD boundaries. Basically, the RD-1000 infrastructure drains the natural floodplain of the basin, while NCMWC infrastructure provides local agricultural irrigation:

- The SCADA Integration Project (#15-NCAO-195) requires RD-1000 and NCMWD to coordinate to install SCADA water level sensors and telemetry towers at nine sites that include seven RD-1000 pump stations, the RD-1000 shop, and the RD-1000 office. Excavation is needed to install the towers and run hard wire conduit from the towers to existing electrical control buildings.
- The Cottonwood Check Project (#15-NCAO-196) will replace an existing check structure in NCMWD's Lateral 3 with a new, automated Hydra-LOPAC gate; install instrumentation and control equipment conduit and cables along the Lateral 3 and Lateral 3A canal access roads; and place a solar powered SCADA system terminal at the new automated gate to manage flows.
- The NDC Lift Pump Station Project (#16-NCAO-174) is designed to recover agricultural tailwater by constructing a new lift pump on the south side of the NCMWD's Sankey Canal and access road. Construction components include a cast-in-place or precast concrete wet well and pump base slab, and installation of motors, a control cabinet, and electrical transformer. The wet well requires a concrete intake and trash racks to cover four 48-inch

intake pipes. The lift pump station needs excavation for electrical service conduit in the lower Sankey Canal access road.

The goal for the three projects is to provide greater flexibility in meeting spring water demands, improve water management, reduce Sacramento River fresh water diversions by 4,000 acre-feet annually, and reduce the amount of excess drain water being pumped back into the river.

The Area of Potential Effects (APE) comprises eleven (11) discontinuous light industrial and rural locations (Figures: 1-12A, Appendix A, CH2M 2017). All staging will occur on existing canal access roads, in the canals, or on paved surfaces at the RD-1000 and NCMWD headquarters shops. The total APE acreage for all three projects is about 5.3 acres:

- The RD-1000 SCADA Project (15-NCAO-195) horizontal APE will be 5 feet by 5 feet at each of the nine tower locations, with a vertical APE ranging from 3 feet deep for electrical conduit runs with varying lengths, and 10 feet deep for tower foundations.
- The Cottonwood Check Project (15-NCAO-196) horizontal APE is 80 square feet for the check structure replacement work area, and 275 feet long by 12 inches wide for the cable trench in the Lateral 3 and Lateral 3A canal access roads. The vertical APE is 3 feet deep. In addition, about 900 square feet of riprap will be installed upstream and downstream of the new check structure in the existing canal prism. Work will be in the canal and from the dirt access roads.
- The NDC Lift Station Project (16-NCAO-174) horizontal APE is 100 feet long and 65 feet wide for the lift station, and 270 feet long and 12 inches wide for an electrical service line conduit trench to be placed in the lower Sankey Canal access road. The vertical APE will be 14 feet deep.

On behalf RD-1000 and NCMWD, CH2M Hill Inc. (CH2M: 2017) conducted background records searches and conducted a cultural resources inventory that included shovel testing in portions of the APE. No archaeological sites were located during the inventory. Six (6) previously recorded and two newly recorded historic period architectural sites are located in the APE. Sections of the APE are located within the recorded boundary of the RD-1000 Rural Landscape Historic District and its contributing elements within the APE include the RD-1000 Pumping Plant 1A and the North Drainage Canal. The RD-1000 pumping plants record drawings (as-builts) were provided (Compact Disk enclosure).

The RD-1000 Rural Landscape Historic District was determined eligible for listing in the National Register of Historic Places (NRHP) in 1994 (Peak and Associates: 1997). It is significant as one of the first and largest reclamation districts in California with a period of significance from 1911 to 1939 and has been recorded and documented for the Historic American Engineering Record (HAER No. CA-187, June 1997). CH2M documented the NCMWC Lateral 3 and Lateral 3A in the APE, and recommended that the NCMWD irrigation system is eligible for NRHP listing as a contributing element to the RD-1000 Historic District under National Register Criterion A, for its role in Sacramento Valley agriculture and water conveyance. Reclamation agrees with the CH2M recommendation that Lateral 3 and Lateral 3A are eligible for NRHP listing as contributors to the district.

Reclamation identified the United Auburn Indian Community of the Auburn Rancheria (UAIC), Buena Vista Rancheria, Ione Band of Miwok Indians, Shingle Springs Band of Miwok Indians (Shingle Springs Band), and Wilton Rancheria as tribes potentially having interests in the project area. Reclamation contacted these tribes by letter dated April 07, 2017, and invited their participation in the Section 106 process. Reclamation also sent letters dated April 07, 2017, to the Nashville-El Dorado Miwok, Tsi Akim Maidu, and Mr. Don Ryberg of the Tsi Akim Maidu requesting their assistance in site identification.

The UAIC and the Shingle Springs Band responded, requesting copies of any associated cultural resources inventory reports and to be Section 106 consulting parties. Reclamation replied on October 24, 2017, providing the draft inventory report and again requesting information on any cultural resources of concern specific to these projects. A site visit was done with UAIC representatives on January 9, 2018. The UAIC indicated concerns about a SCADA tower installation at the RD-1000 shop due to proximity of known recorded prehistoric sites located along the Sacramento River east bank (CH2M 2017: Figure 10A). To address the UAIC concerns, Reclamation will provide a staff archaeologist to monitor the SCADA Tower foundation excavation that is located within the RD-1000 shop APE. Reclamation currently has no further responses, but will work to address any concerns that may subsequently arise and will make notifications as required.

Reclamation applied the criteria of adverse effect for each component and reached the following conclusions. The SCADA Integration Project (15-NCAO-195) involves construction of vertical antennas, though placement is in locations that will not have an indirect visual, or direct effect, to any contributing RD-1000 Historic District historic properties. Removal of the Cottonwood Check Structure (15-NCAO-196) constitutes only a minor change within the NCMWC irrigation system that has over 100 miles of canals, and the new replacement gate will let Lateral 3 continue to operate as designed. The NDC Lift Station Project (16-NCAO-174) will be built on only 200 feet of the 4-mile-long North Drainage Canal, which is a contributing element to the RD-1000 historic district. The new lift station is a minor change in the setting of the canal, will not impact the structure's National Register eligibility, and will allow the canal to still function as intended.

Following OHP staff review, the following comments are offered:

- Pursuant to 36 CFR 800.4(a)(1), there are no objections to the overall APE as defined;
- Pursuant to 36 CFR 800.4(b), Reclamation has documented a reasonable and good faith effort to identify historic properties within all sections of the area of potential effects.
- Pursuant to 36 CFR 800.4(c)(2), **I do not object** that Reclamation has determined that NCMWC Lateral 3 and Lateral 3A are eligible for listing in the NRHP under Criterion A, as contributors to the eligible RD-1000 Rural Landscape Historic District.
- Reclamation finds that, with the condition of having a Reclamation staff archaeologist monitor the SCADA Tower foundation excavation that is located within the RD-1000 shop APE, the proposed undertaking will result in no adverse effects to the historic properties affected. Pursuant to 36 CFR 800.5(b), **I do not object**.

Please be advised that under certain circumstances, such as unanticipated discovery or a change in project description, Reclamation may have additional future responsibilities for this undertaking under 36 CFR Part 800 (as currently amended). Should you require further information, please contact Jeanette Schulz at Jeanette.Schulz@parks.ca.gov or her desk phone is: (916) 445-7031.

Sincerely,

Julianne Polanco
State Historic Preservation Officer

Appendix E
Indian Trust Assets Compliance

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Simon, Megan <msimon@usbr.gov>

ITA Review - Proposed North Drainage Canal Lift Station - NCMWC

1 message

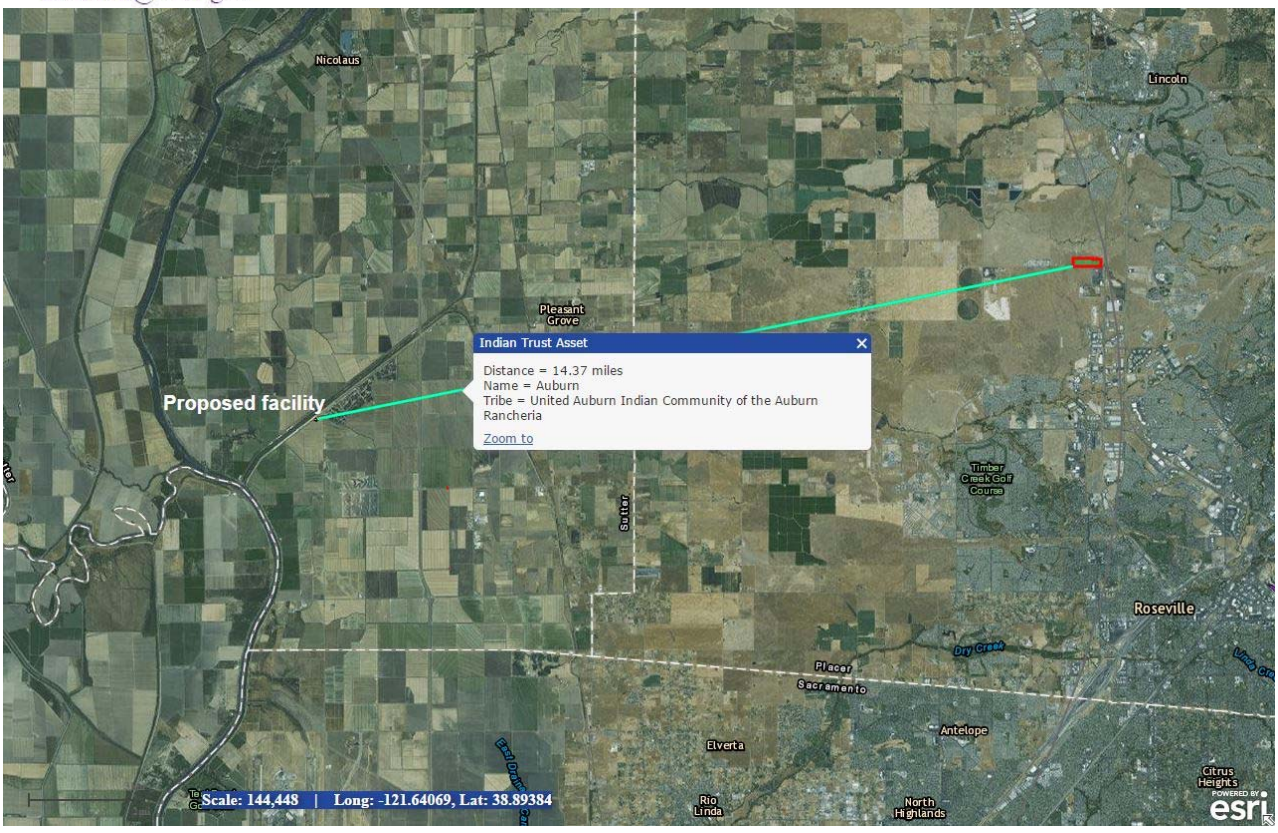
Simon, Megan <msimon@usbr.gov> Tue, Dec 20, 2016 at 2:24 PM
To: "Zedonis, Paul" <pzedonis@usbr.gov>

I have examined the referenced proposal and have determined that the facility is at least 14 miles from the closest Indian Trust Asset.

I have determined that there is no likelihood that this action will adversely impact Indian Trust Assets.

--

Megan K. Simon
Natural Resources Specialist
U.S. Bureau of Reclamation
Northern California Area Office
16349 Shasta Dam Blvd.
Shasta Lake, CA 96019
(530) 276-2045
msimon@usbr.gov



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