

# BIOLOGICAL RESOURCE ASSESSMENT

Aquatic and Terrestrial Wildlife, and Botanical Resources

## Notre Dame Bridge over Little Chico Creek Project

City of Chico, California

March 2021



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# BIOLOGICAL RESOURCE ASSESSMENT

## Notre Dame Bridge over Little Chico Creek Project

### Project Location:

City of Chico, Butte County, California  
Section 30, Township 22N, Range 2E

## INTRODUCTION

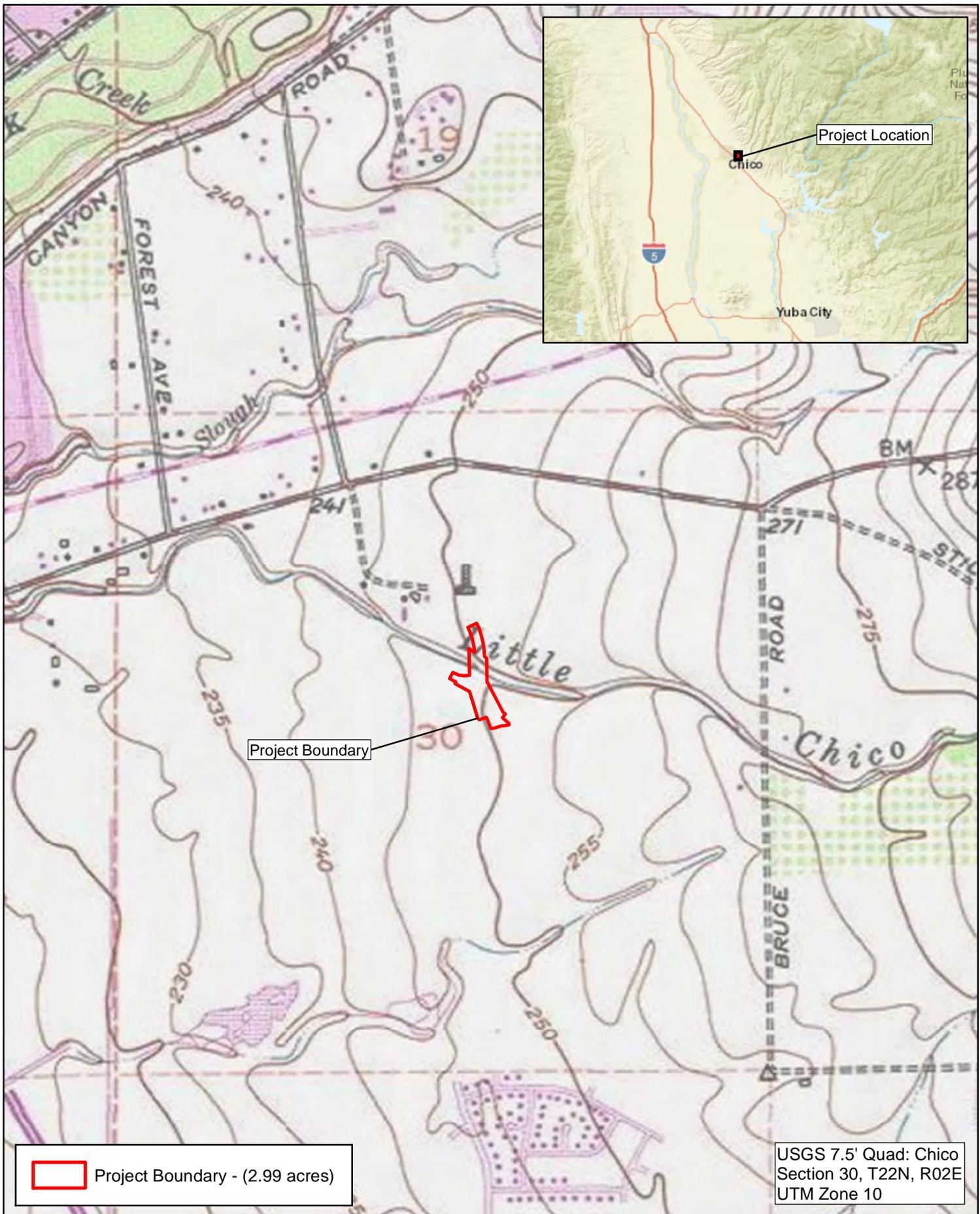
### Purpose and Overview

The purpose of this biological resource assessment (BRA) is to document the endangered, threatened, sensitive, and rare species and their habitats that occur or may occur in the biological survey area (BSA) of the Notre Dame Bridge over Little Chico Creek project area (Project) located in the City of Chico, Butte County, California (**Figure 1**). The physical extent of the Project boundary is 2.99 acres. The Project proposes to construct a bridge over Little Chico Creek to connect two disjunct sections of Notre Dame Boulevard.

The BSA is the area where the biological surveys are conducted (**Figure 2**) and is limited to the Project boundary where construction activities will take place. Gallaway Enterprises conducted a habitat assessment and biological and botanical surveys within the BSA to evaluate site conditions and potential for biological and botanical species to occur. Other primary references consulted include species lists and information gathered using United States Fish and Wildlife Service's (USFWS) Information for Planning and Consultation (IPaC) system, the California Department of Fish and Wildlife's (CDFW) California Natural Diversity Database (CNDDDB), the California Native Plant Society's (CNPS) inventory of rare and endangered plants, and literature review. The results of the BRA are the findings of habitat assessments and surveys, and recommendations for avoidance and minimization measures.

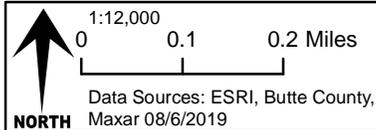
### Project Location and Environmental Setting

The BSA is located between two disjunct sections of Notre Dame Blvd, in the eastern limits of the City of Chico, Butte County, California, latitude 39.734879, longitude -121.795435, within the United States Geological Survey (USGS) "Chico" quadrangle, Section 30, Township 22N, Range 2E. The BSA is located in the northern Sacramento Valley at the base of the Sierra Nevada foothills. The BSA and adjacent land consist of an intermittent drainage, disturbed annual grassland, and urban development; including residential and commercial development and a barren, paved bike path. Little Chico Creek, an intermittent drainage, flows east to west through the BSA. The area is heavily influenced by human development and the Project occurs within the greater Meriam Park Development project, which is in various stages of completion. The Little Chico Creek riparian corridor extends to the east and west beyond the BSA.



 Project Boundary - (2.99 acres)

USGS 7.5' Quad: Chico  
Section 30, T22N, R02E  
UTM Zone 10



Notre Dame Bridge over Little Chico Creek Project  
Regional Location  
Figure 1

**gallaway**  
ENTERPRISES

GE: #20-120 Map Date: 03/17/2021



 Project Boundary - (2.99 acres)  
 Biological Survey Area - (2.99 acres)

 1:1,200  
0 50 100 Feet  
Data Sources: ESRI, Butte County,  
Maxar 8/06/2019

Notre Dame Bridge over Little Chico Creek Project  
Biological Survey Area  
Figure 2

The BSA ranges in elevation from 248 to 255 feet above sea level and is sloped between 0-2 percent. Soils within the BSA are loams with a restrictive layer ranging from 4 inches to more than 80 inches deep. The average annual precipitation is 25.66 inches and the average temperature is 61° F (WRCC 2021) in the region where the BSA is located.

## Project Description

The Project will construct a new bridge to connect the existing sections of Notre Dame Boulevard to provide a transportation corridor over Little Chico Creek. The new structure will accommodate two 12-foot travel lanes, eight-foot bike lanes, a five-foot sidewalk on the west side and an eight-foot multi use path on the east side. The new bridge is anticipated to be a multi-span structure, approximately 100 feet long. The structure type is expected to be a three-span, cast-in-place, reinforced concrete bridge with 30-degree skew and will include rock slope protection at the banks under and adjacent to the bridge. In addition to the bridge, the existing bike path on the south side of the creek will be re-routed to a new bridge undercrossing.

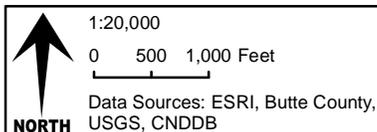
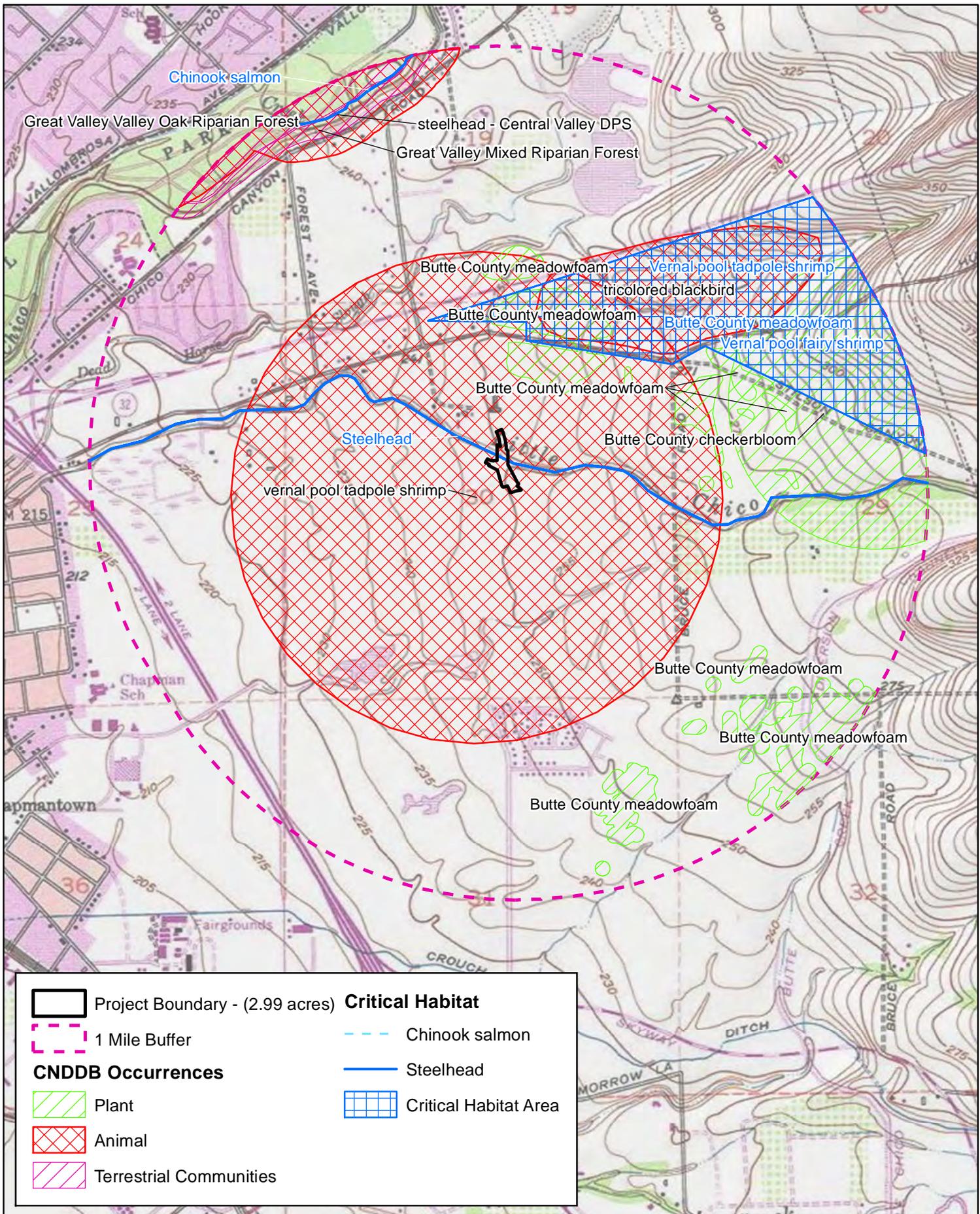
Construction of the bridge will involve excavation for and construction of concrete abutments and piers, founded on either spread footings or deep foundation. Other temporary work within Little Chico Creek includes falsework erection and removal and installation of scour countermeasures at the support locations. Little Chico Creek is a seasonal creek and construction is anticipated to proceed without the need for a temporary water diversion system. Construction of the roadway approaches will involve the removal and realignment of a portion of the existing bike path on the south bank. The approach roadway will tie into the existing curb, gutter, and sidewalk on the north and south portions of Notre Dame Boulevard. Approach roadway work will include both median and parkway landscape per city standards as well as street lighting and public utility extensions crossing the creek.

## METHODS

### References Consulted

Gallaway Enterprises obtained lists of special-status species that occur in the vicinity of the BSA. The CNDDDB Geographic Information System (GIS) database was also consulted and showed special-status species within a 1-mile radius of the BSA (**Figure 3**). Other primary sources of information regarding the occurrence of federally listed threatened, endangered, proposed, and candidate species and their habitats within the BSA used in the preparation of this BRA are:

- The USFWS IPaC Official Species List for the Project area, December 10, 2020, Consultation Code 08ESMF00-2021-SLI-0527 (**Appendix A; Species Lists**);
- The results of a species record search of the CDFW CNDDDB, RareFind 5, for the 7.5 minute USGS “Chico” and “Richardson Springs” quadrangles (**Appendix A; Species Lists**);
- The review of the CNPS Inventory of Rare and Endangered Vascular Plants of California for the 7.5 minute USGS “Chico” and “Richardson Springs” quadrangles (**Appendix A; Species Lists**);
- USFWS Critical Habitat Portal, December 10, 2020;



Notre Dame Bridge over Little Chico Creek Project  
 CNDDDB and Critical Habitat Occurrences

Figure 3

- Results from field surveys conducted by Gallaway Enterprises on December 11 and 23, 2020 and January 11 and March 23, 2021 (**Appendix B; Observed Species Lists**);
- Results from the Draft Delineation of Jurisdictional Waters of the United States (WOTUS) conducted by Gallaway Enterprises on December 23, 2020 (**Appendix C; Draft Delineation of Jurisdictional Waters of the U.S. Map, Notre Dame Bridge over Little Chico Creek Project**);
- Results of the *Biological Assessment for the Proposed Meriam Park Development* prepared by Gallaway Consulting, Inc., July 2006;
- The CDFW *Incidental Take Permit (ITP) for Meriam Park Development Project* (ITP# 2081-2014-059-02); and
- The USFWS *Biological Opinion on the Meriam Park Development Project, Butte County, California* (Service File Number 1-1-06-F-0273, August 20, 2010).

### **Special-Status Species**

Special-status species that have potential to occur in the BSA are those that fall into one of the following categories:

- Listed as threatened or endangered, or are proposed or candidates for listing under the California Endangered Species Act (CESA, 14 California Code of Regulations 670.5) or the Federal Endangered Species Act (ESA, 50 Code of Federal Regulations 17.12);
- Listed as a Species of Special Concern (SSC) by CDFW or protected under the California Fish and Game Code (CFGC)(i.e., Fully Protected species);
- Ranked by the CNPS as 1A, 1B, or 2;
- Protected under the Migratory Bird Treaty Act (MBTA);
- Protected under the Bald and Golden Eagle Protection Act; or
- Species that are otherwise protected under policies or ordinances at the local or regional level as required by the California Environmental Quality Act (CEQA, §15380).

### **Critical Habitat**

The ESA requires that critical habitat be designated for all species listed under the ESA. Critical habitat is designated for areas that provide essential habitat elements that enable a species' survival and which are occupied by the species during the species' listing under the ESA. Areas outside of the species' range of occupancy during the time of its listing can also be determined as critical habitat if the agency decides that the area is essential to the conservation of the species.

The USFWS Critical Habitat Portal was accessed on December 10, 2020 to determine if critical habitat occurred within the BSA. Appropriate Federal Registers were also used to confirm the presence or absence of critical habitat.

### **Sensitive Natural Communities**

Sensitive Natural Communities (SNCs) are monitored by CDFW with the goal of preserving these areas of habitat that are rare or ecologically important. Many SNCs are designated as such because they represent a historical landscape and are typically preserved as valued components of California's diverse habitat assemblage.

## **Waters of the United States**

Gallaway Enterprises prepared a delineation map depicting the extent of WOTUS within the BSA (**Appendix C**). The delineation map should be considered draft until verified by the Army Corps of Engineers (Corps).

## **Biological and Botanical Surveys**

Many past biological surveys have been conducted within and immediately adjacent to the Project area by various companies over the years for a number of different proposed projects. A recent habitat assessment for special-status species was conducted specifically within the BSA by Gallaway Enterprises Senior Botanist Elena Gregg and Senior Biologist Melissa Murphy.

## **Habitat Assessments**

Habitat assessments were conducted by Gallaway Enterprises staff on December 11 and 23, 2020 and January 11, 2021. Habitat assessments for botanical and wildlife species were conducted to determine if suitable habitat elements for special-status species occur within the BSA. Additionally, the habitat assessments are used to confirm that habitat conditions have not changed since previous multiple-year surveys were completed. The habitat assessments were conducted by walking the entire BSA and recording observed species and specific habitat types and elements (**Figure 4**). If habitat was observed for special-status species it was then evaluated for quality based on vegetation composition and structure, physical features (e.g., soils, elevation), microclimate, surrounding area, presence of predatory species and available resources (e.g., prey items, nesting substrates), and land use patterns. A list of species observed within the BSA is included in **Appendix B**.

## **Protocol-level Botanical Survey**

A protocol-level botanical survey was conducted by Mrs. Gregg within the BSA on March 23, 2021. The protocol-level botanical survey was conducted for all special status-plant species with blooming periods that overlapped the survey date. The survey was conducted by walking in all accessible areas of the BSA and taking inventory of observed botanical species and habitat elements. A Trimble Global Positioning System (GPS) unit was on hand to record the location, extent, and estimated number of individuals of any special-status plant populations observed within the BSA.

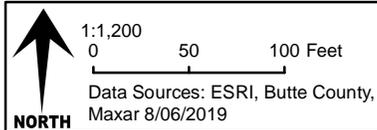
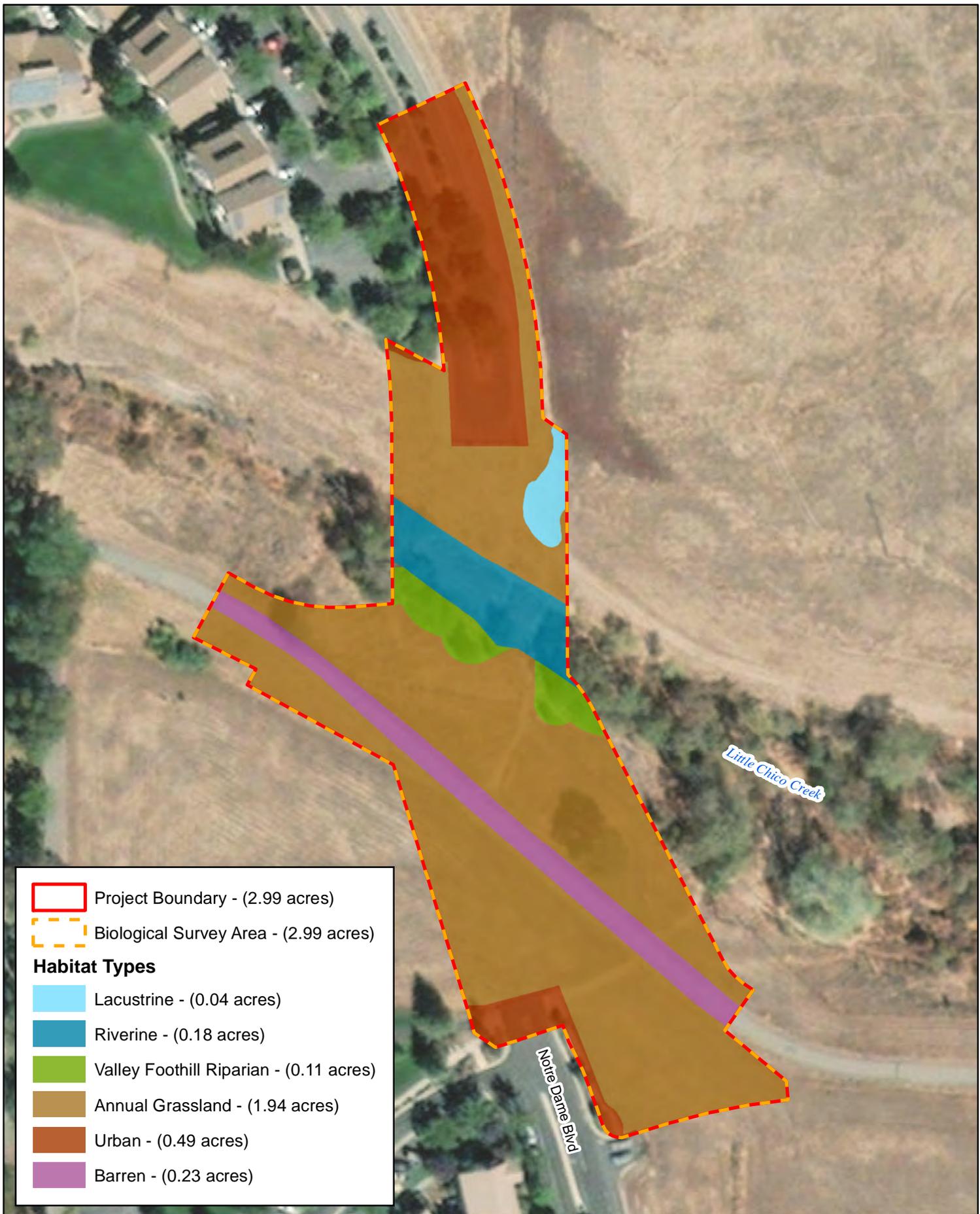
## **RESULTS**

### **Vegetation Communities**

The vegetation communities present within the BSA have been classified, as detailed below, to follow the current classification scheme identified in *A Guide to Wildlife Habitats of California* (Mayer and Laudenslayer 1988).

#### **Valley Foothill Riparian**

Marginal valley foothill riparian habitat occurs on the southern bank of Little Chico Creek within the BSA. Trees present were primarily California sycamore (*Platanus racemosa*) with a few valley oak (*Quercus*



Notre Dame Bridge over Little Chico Creek Project  
Habitat Types  
Figure 4

*lobata*), and Fremont cottonwood (*Populus fremontii*). The understory in this habitat type included mule's fat (*Baccharis salicifolia*), Himalayan blackberry (*Rubus armeniacus*), perennial ryegrass (*Festuca perennis*), rabbit's foot grass (*Polypogon monspeliensis*) and cocklebur (*Xanthium strumarium*). Valley-foothill riparian habitats provide food, water, migration and dispersal corridors, and escape, nesting, and thermal cover for an abundance of wildlife (Mayer and Laudenslayer 1988).

### **Annual Grassland**

Annual grassland habitat occurs throughout most of the BSA; all grassland south of the bike path had been mowed at the time of site visits. Vegetation within this community is primarily composed of medusahead (*Elymus caput-medusae*), soft chess (*Bromus hordeaceus*), wild oats (*Avena* spp.), perennial ryegrass, Spanish lotus (*Acmispon americanus*), filaree (*Erodium botrys*), and yellow star-thistle (*Centaurea solstitialis*). Along the manmade bike path traversing the annual grassland, there are two (2) mature valley oaks. These oaks are likely remnants of extensive valley oak woodland habitat that existed prior to the development of the area. Many wildlife species use grassland habitat for foraging but often require some other habitat characteristic such as woody vegetation, cliffs, caves, or ponds in order to find shelter and cover for escapement (Mayer and Laudenslayer 1988). Common species that are found breeding in this habitat type include a variety of ground-nesting avian species and small mammals.

### **Aquatic Habitat**

#### **Riverine**

Riverine habitat is distinguished by intermittent or continually running water. Streams begin at outlets of ponds or lakes or from springs or seeps. Flows within streams vary seasonally, with some streams drying up every year or nearly every year. The riverine habitat present within the BSA occurs within Little Chico Creek. Watershed surveys conducted within Little Chico Creek have identified four (4) different zones of the creek: the mountain zone, canyon zone, urban zone, and agricultural zone (Brown and Mott 2002). The BSA is positioned within the urban zone of Little Chico Creek, which is where the creek changes from a perennial stream to an intermittent stream. Within the BSA, Little Chico Creek conveys water and provides riverine habitat during the winter and spring months and is dry during the summer and fall. Riverine habitat supports a variety of wildlife species including amphibians, reptiles, and fish, and provides prey items for birds and mammals.

#### **Lacustrine**

Lacustrine habitats are inland depressions containing standing water that vary in size from small ponds to large areas that cover many acres. Typical lacustrine habitats include lakes and ponds including vernal pools. Most permanent lacustrine systems support fish life and intermittent types usually do not (Mayer and Laudenslayer 1988).

Within the BSA, lacustrine habitat occurs in the form of a vernal swale that occurs in the northeastern portion of the annual grassland habitat. The vernal swale present is a northern hardpan vernal pool. Northern hardpan vernal pools are the most common classification of vernal pool in the Northwest Sacramento Valley Region. Pools consist of a shallow soil layer with an impermeable hardpan bottom, often within mima-mound topography. These types of vernal pools are often small and are inundated

with water for a short period of time. Species that specialize in vernal pools ecosystems include western spadefoot, vernal pool fairy shrimp (*Branchinecta lynchi*), vernal pool tadpole shrimp (*Lepidurus packardii*), and several rare botanical species.

## **Non-vegetated Habitat**

### **Urban**

Urban habitat is present at the edges of the northern and southern ends of the BSA, which is composed of residential homes, paved roads, and associated landscaping. This environment can present a mosaic of vegetation, including primarily ornamental landscaping, but can also incorporate native tree species. Generalist and invasive species often occupy urban habitat, such as common raven (*Corvus corax*), house sparrow (*Passer domesticus*), scrub-jay (*Aphelocoma californica*) and Brewer's blackbird (*Euphagus cyanocephalus*), as well as small to medium mammals (e.g., raccoon [*Procyon lotor*], opossum [*Didelphis virginiana*]) (Mayer and Laudenslayer 1988).

### **Barren**

Barren habitat is typified by non-vegetated soil, rock, and gravel. The existing roadway, gravel road shoulder, and asphalt bike path are characterized as barren habitat and are not considered habitat for any special-status species. Although some ground-nesting avian species, such as killdeer (*Charadrius vociferous*), and small reptiles, such as western fence lizards (*Sceloporus occidentalis*), can be found breeding in barren habitat, it is typically considered low-quality habitat for most wildlife species.

## **Critical Habitat**

Little Chico Creek has been designated as critical habitat for Central Valley steelhead (*Oncorhynchus mykiss irideus*) by the National Marine Fisheries Service (NMFS).

## **Sensitive Natural Communities**

No CDFW-designated Sensitive Natural Communities occur within the BSA.

## **Special-Status Species**

A summary of special-status species assessed for potential occurrence within the BSA based on the USFWS IPaC species list, the CNDDDB and CNPS species lists for the "Chico" and "Richardson Springs" USGS 7.5 minute quadrangles, and their potential to occur within the BSA are described in **Table 1**. Potential for occurrence was determined by reviewing database queries from federal and state agencies, performing field visits, and evaluating habitat characteristics.

**Table 1. Special-status species and sensitive natural communities and their potential to occur in the BSA of the Notre Dame Bridge over Little Chico Creek Project, Chico, CA**

<b>Common Name</b> <i>(Scientific Name)</i>	<b>Status</b> Fed/State/CNPS	<b>Associated Habitats</b>	<b>Potential for Occurrence</b>
<b>SENSITIVE NATURAL COMMUNITIES</b>			
<b>Great Valley Mixed Riparian Forest</b>	_/_SNC/_	Riparian forest.	<u>None</u> . There is no designated Great Valley Mixed Riparian Forest within the BSA.
<b>Great Valley Valley Oak Riparian Forest</b>	_/_SNC/_	Riparian forest.	<u>None</u> . There is no designated Great Valley Valley Oak Riparian Forest within the BSA.
<b>Northern Volcanic Mud Flow Vernal Pool</b>	_/_SNC/_	Vernal pools.	<u>None</u> . There is no designated Northern Volcanic Mud Flow Vernal Pool within the BSA.
<b>PLANTS</b>			
<b>Adobe lily</b> <i>(Fritillaria pluriflora)</i>	_/_/1B.2	Adobe soils. (Blooming Period [BP]: Feb – Apr)	<u>None</u> . No adobe soils present in the BSA.
<b>Ahart’s paronychia</b> <i>(Paronychia ahartii)</i>	_/_/1B.1	Vernal pools and mesic habitat in stony, barren clay soils. (BP: Feb – Jun)	<u>None</u> . There is no suitable habitat present within the BSA.
<b>Big-scale balsamroot</b> <i>(Balsamorhiza macrolepis)</i>	_/_/1B.2	Typically serpentine grasslands and openings in chaparral and woodlands. (BP: Mar – Jun)	<u>None</u> . There is no suitable habitat present within the BSA.
<b>Butte County checkerbloom</b> <i>(Sidalcea robusta)</i>	_/_/1B.2	Blue oak woodlands, often associated with ephemeral drainages. (BP: Apr – Jun)	<u>None</u> . No suitable habitat within the BSA.
<b>Butte County fritillary</b> <i>(Fritillaria eastwoodiae)</i>	_/_/3.2	Usually on dry slopes but also found in wet places; soils can be serpentine, red clay, or sandy in chaparral, cismontane woodland, lower montane coniferous forest. (BP: Mar – Jun)	<u>None</u> . There is no suitable habitat present within the BSA.

Common Name (Scientific Name)	Status Fed/State/CNPS	Associated Habitats	Potential for Occurrence
<b>PLANTS</b>			
<b>Butte County meadowfoam</b> ( <i>Limnanthes floccosa</i> ssp. <i>californica</i> )	FE/SE/1B.1	Vernal pools and wetlands within valley/foothill grasslands. (BP: Mar – May)	<u>None</u> . Although there are suitable soils in the portion of the BSA north of Little Chico Creek, the species was not detected during a protocol-level survey conducted in March 2021. Additionally, this species was not detected within the BSA during protocol-level surveys conducted by Gallaway Consulting in 2005 and 2006 (Biological Assessment for the Meriam Park Development, July 2006).
<b>California beaked-rush</b> ( <i>Rhynchospora californica</i> )	_/_/1B.1	Freshwater seep and marsh habitats. (BP: May – Jul)	<u>None</u> . No suitable habitat within the BSA.
<b>California satintail</b> ( <i>Imperata brevifolia</i> )	_/_/2B.1	Alkaline seeps and mesic riparian scrub. (BP: Sep – May)	<u>None</u> . No suitable habitat present within the BSA.
<b>Flagella-like atractylocarpus</b> ( <i>Campylopodia stenocarpa</i> )	_/_/2B.2	Cismontane woodland.	<u>None</u> . No suitable habitat present within the BSA.
<b>Red Bluff dwarf rush</b> ( <i>Juncus leiospermus</i> var. <i>leiospermus</i> )	_/_/1B.1	Vernal pools and vernal mesic sites. (BP: Mar – Jun)	<u>None</u> . Although the vernal swale present could provide suitable habitat, the species was not detected during a protocol-level survey conducted in March 2021. Additionally, this species was not detected within the BSA during protocol-level surveys conducted by Gallaway Consulting in 2005 and 2006 (Biological Assessment for the Meriam Park Development, July 2006).

Common Name (Scientific Name)	Status Fed/State/CNPS	Associated Habitats	Potential for Occurrence
<b>PLANTS</b>			
<b>Slender-leaved pondweed</b> ( <i>Stuckenia filiformis</i> ssp. <i>alpina</i> )	_/_/2B.2	Shallow freshwater marshes. (BP: May – Jul)	<u>None</u> . No suitable habitat present within the BSA.
<b>Veiny monardella</b> ( <i>Monardella venosa</i> )	_/_/1B.1	Heavy clay soils in cismontane woodland and valley and foothill grassland. (BP: May, Jul)	<u>None</u> . No suitable habitat present within the BSA.
<b>White-stemmed clarkia</b> ( <i>Clarkia gracilis</i> ssp. <i>albicaulis</i> )	_/_/1B.2	Chaparral and cismontane woodland. (BP: May – Jul)	<u>None</u> . No suitable habitat present within the BSA.
<b>Woolly rose mallow</b> ( <i>Hibiscus lasiocarpus</i> var. <i>occidentalis</i> )	_/_/1B.2	Freshwater marshes and swamps, often in rip-rap. (BP: Jun – Sep)	<u>None</u> . No suitable habitat present within the BSA.
<b>INVERTEBRATES</b>			
<b>Conservancy fairy shrimp</b> ( <i>Branchinecta conservatio</i> )	FE/_/_	Deep, turbid vernal pools.	<u>None</u> . The vernal swale present within the BSA does not provide suitable habitat for this species.
<b>Crotch bumblebee</b> ( <i>Bombus crotchii</i> )	_/_SC/_	Native grasslands and shrublands featuring Antirrhinum, Phacelia, Clarkia, Dendromecon, Eschscholzia, and Eriogonum.	<u>None</u> . Floral resources are limited due to urbanization within the BSA and none of the typical associate plant species are present.
<b>Valley elderberry longhorn beetle</b> ( <i>Desmocerus californicus dimorphus</i> )	FT/_/_	Blue elderberry shrubs, usually associated with riparian areas.	<b>Moderate</b> . There is one (1) elderberry cluster within the BSA. The cluster is located underneath a sycamore tree on the south side of Little Chico Creek.
<b>Vernal pool fairy shrimp</b> ( <i>Branchinecta lynchi</i> )	FT/_/_	Vernal pools.	<b>High</b> . The vernal swale present within the BSA provides suitable habitat and this species' presence is assumed.

Common Name (Scientific Name)	Status Fed/State/CNPS	Associated Habitats	Potential for Occurrence
<b>INVERTEBRATES</b>			
<b>Vernal pool tadpole shrimp</b> ( <i>Lepidurus packardi</i> )	FE/_/_	Deep vernal pools.	<b>High.</b> The vernal swale present within the BSA provides suitable habitat and this species' presence is assumed.
<b>FISH</b>			
<b>Chinook salmon</b> Sacramento River winter-run Evolutionarily Significant Unit (ESU) ( <i>Oncorhynchus tshawytscha</i> )	FE/SE/_	Sacramento River and its tributaries.	<b>None.</b> The unique life history timing pattern of winter-run Chinook salmon, requiring cold summer flows, argues against this run occurring in drainages other than the upper Sacramento system and Battle Creek (NMFS 2014).
<b>Chinook salmon</b> Central Valley spring-run ESU ( <i>Oncorhynchus tshawytscha</i> )	FT/ST/_	Sacramento River and its tributaries.	<b>Low during high flow events. None when the creek is dry.</b> Unspecified life stages of spring-run Chinook salmon have been observed sporadically within Little Chico Creek upstream of the BSA during high flow years. The Project will have no effect on Chinook salmon.
<b>Steelhead</b> California Central Valley Distinct Population Segment (DPS) ( <i>Oncorhynchus mykiss irideus</i> )	FT/_/_	Sacramento River and its tributaries.	<b>Low during high flow events. None when the creek is dry.</b> Steelhead have been observed only sporadically within Little Chico Creek, but only upstream of the BSA during high flow years. The Project will have no effect on steelhead.
<b>Delta smelt</b> ( <i>Hypomesus transpacificus</i> )	FT/SE/_	Found only from the San Pablo Bay upstream through the Delta in Contra Costa, Sacramento, San Joaquin, Solano, and Yolo Counties.	<b>None.</b> The BSA is not within the range of Delta smelt.

Common Name (Scientific Name)	Status Fed/State/CNPS	Associated Habitats	Potential for Occurrence
<b>HERPTILES</b>			
<b>Foothill yellow-legged frog</b> Feather River Clade ( <i>Rana boylei</i> )	_/ST/_	Partly shaded, shallow streams and riffles with rocky substrates in a variety of habitats, commonly found in canyons and narrow streams.	<u>None</u> . The BSA does not contain suitable aquatic habitat during the FYLF breeding period (April – July) and tadpole development period (3-4 months after breeding) (CDFW 2019, Zeiner et al. 1990).
<b>California red-legged frog</b> ( <i>Rana draytonii</i> )	FT/SSC/_	Lowlands and foothills in or near permanent sources of deep water with dense, shrubby or emergent riparian vegetation.	<u>None</u> . California red-legged frogs have been extirpated from the Central Valley floor since the 1960s (USFWS 2002). There are no CNDDDB occurrences within 20 miles of the BSA. No effect.
<b>Western spadefoot</b> ( <i>Spea hammondi</i> )	_/SSC/_	Occurs primarily in grassland habitats, but can be found in valley-foothill hardwood woodlands. Open, sparsely vegetated, intermittent pools are essential for breeding (January through May).	<u>Moderate</u> . The vernal swale present could provide suitable breeding when water is ponded for 30 days or longer and adjacent grasslands could provide suitable aestivation habitat.
<b>Giant garter snake</b> ( <i>Thamnophis gigas</i> )	FT/ST/_	Prefers freshwater marsh and low gradient streams. Has adapted to rice paddies, drainage canals, and irrigation ditches.	<u>None</u> . Little Chico Creek does not provide essential habitat components for GGS during their active season (USFWS 2017a). There are no CNDDDB occurrences within 7 miles of the BSA.
<b>Western pond turtle</b> ( <i>Emys marmorata</i> )	_/SSC/_	Bodies of water with deep pools, emergent vegetation for foraging and cover, and locations for basking and nesting.	<u>Low</u> . There are no perennial aquatic features within the BSA; however, western pond turtles can be found aestivating along intermittent drainages (Belli 2015). The BSA does not contain suitable aquatic habitat for western pond turtle during their nesting season (typically June and July).

Common Name (Scientific Name)	Status Fed/State/CNPS	Associated Habitats	Potential for Occurrence
<b>BIRDS</b>			
<b>Bald eagle</b> ( <i>Haliaeetus leucophealus</i> )	_/SE, FP/_	Coasts, large lakes, and river systems with open forests with large trees and snags.	<u>None</u> . No suitable habitat present within the BSA.
<b>Burrowing owl</b> ( <i>Athene cunicularia</i> )	_/SSC/_	Grasslands or openings with friable soils, rodent burrows, or man-made structures (e.g., culverts, debris piles).	<u>None</u> . Mature trees along Little Chico Creek that can be used as predator perches and the abundance of domestic cats and dogs make the BSA unsuitable for nesting.
<b>California black rail</b> ( <i>Laterallus jamaicensis coturniculus</i> )	_/ST, FP/_	Brackish and fresh emergent wetlands with dense vegetation (bulrushes and cattails).	<u>None</u> . No suitable habitat present within the BSA.
<b>Least Bell's vireo</b> ( <i>Vireo bellii pusillus</i> )	FE/SE/_	Willows and dense valley foothill riparian habitat.	<u>None</u> . The BSA is outside of the present known range of this species (USFWS 1998).
<b>Swainson's hawk</b> ( <i>Buteo swainsoni</i> )	_/ST/_	Valleys and low foothills. Requires tall trees for nesting and open land for foraging, preferably grasslands and grain or pasture fields.	<u>Low</u> . There are only a few trees within the BSA that could provide suitable nesting habitat and there are no known active nest trees within 10 miles.
<b>Tricolored blackbird</b> ( <i>Agelaius tricolor</i> )	_/ST/_	Colonial nester in large freshwater marshes. Requires open, accessible water source and does most of its foraging in open habitats such as farm fields, pastures, cattle pens, large lawns.	<u>None</u> . Due to the intermittent nature of Little Chico Creek, there is no open, accessible water source present during the tricolored blackbird breeding period, which is a steadfast habitat requirement for this species (CDFW 2018).

Common Name (Scientific Name)	Status Fed/State/CNPS	Associated Habitats	Potential for Occurrence
<b>MAMMALS</b>			
<b>Pallid bat</b> ( <i>Antrozous pallidus</i> )	_/SSC/_	Rocky outcroppings to open, sparsely vegetated grasslands with nearby water source. Day and night roosts include crevices in rocky outcrops and cliffs, caves, mines, trees (e.g., cavities and exfoliating bark), and various human structures (i.e., bridges).	<b>Moderate.</b> There are a few mature trees with sloughing bark and/or cavities that could provide suitable day-roosting habitat within the BSA. There is only one (1) CNDDDB occurrence of this species within 15 miles of the BSA.
<b>Western mastiff bat</b> ( <i>Eumops perotis californicus</i> )	_/SSC/_	Roosts in crevices on cliff faces, rock outcrops with a minimum 2 meter drop-off, bridges, and buildings.	<b>None.</b> No suitable roosting habitat is present within the BSA.

#### CODE DESIGNATIONS

**FE or FT** = Federally listed Endangered or Threatened

**FC** = Federal Candidate Threatened or Endangered

**SE or ST** = State Listed as Endangered or Threatened

**SC** = State Candidate Threatened or Endangered

**SSC** = State Species of Special Concern

**FP** = State Fully Protected Species

**Potential for Occurrence:** for plants it is considered the potential to occur during the survey period; for birds and bats it is considered the potential to breed, forage, roost, or over-winter in the BSA during migration. Any bird or bat species could fly over the BSA, but this is not considered a potential occurrence. The categories for the potential for occurrence include:

**None:** The species or natural community is known not to occur, and has no potential to occur in the BSA based on sufficient surveys, the lack suitable habitat, and/or the BSA is well outside of the known distribution of the species.

**Low:** Potential habitat in the BSA is sub-marginal and/or the species is known to occur in the vicinity of the BSA.

**Moderate:** Suitable habitat is present in the BSA and/or the species is known to occur in the vicinity of the BSA.

**High:** Habitat in the BSA is highly suitable for the species and there are reliable records close to the BSA, but the species was not observed. Pre-construction surveys required, with the exception of indicators for foraging habitat.

**Known:** Species was detected in the BSA or a recent reliable record exists for the BSA.

#### Species Not Considered

The proposed Project falls within the boundaries of the Meriam Park Development, which has been in various stages of planning, review, and permitting over the last 30 years. An Incidental Take Permit (ITP, #2081-2014-059-02) was issued for the overall Meriam Park Development, which identified giant garter

snake (GGS, *Thamnophis gigas*) and Butte County meadowfoam (BCM, *Limnanthes floccosa* ssp. *californica*) as having potential to occur.

The Notre Dame over Little Chico Creek Bridge Project is currently undergoing its own environmental review, including an eventual CEQA analysis and permitting. Though the Notre Dame over Little Chico Creek Bridge Project falls within the previously-established boundaries of the Meriam Park Development, and therefore the falls within the purview of the existing ITP, current conditions indicate that there is no potential for GGS and BCM to occur within the BSA. As such, we do not recommend that ITP measures for the Meriam Park Development be applied to this separate Project. The following analysis explains why these species do not occur within the BSA:

### **Butte County meadowfoam**

All occupied BCM habitat identified within the Meriam Park Development occurs in the northern portion of the Meriam Park Development project boundary, approximately 1,000 feet north of the Notre Dame BSA. Though suitable soils known to support BCM are present within the BSA, protocol-level surveys conducted in 2005, 2006, and 2021 all found that BCM does not occur on the vernal swale present within the BSA.

### **Giant garter snake**

The existing Meriam Park Development ITP and its amendments were issued prior to the release of the final *Recovery Plan for the Giant Garter Snake* (USFWS 2017a), which clarifies GGS habitat and dispersal requirements to our current understanding.

Little Chico Creek is an intermittent drainage that only conveys water during the winter and early spring months. The aquatic component of GGS habitat is regarded as a “steadfast requirement for the survival of the snake,” and researchers indicate the importance of the presence of water from March through November (USFWS 2017a). As the stretch of Little Chico Creek within the BSA is known to seasonally dry up during this time period, it does not provide the necessary habitat components required to support GGS. Giant garter snakes subsist primarily on aquatic prey and capture all their food in the water; therefore, an absence of water would indicate an absence of prey items for GGS during their active period (Hansen 1980 cited in USFWS 2017a). During the time period when Little Chico Creek does convey water, generally winter and early spring, GGS are inactive and hibernating in upland terrestrial habitat.

Even when water is present, the stretch of Little Chico Creek within the Action Area is not expected to function as a dispersal or movement corridor. According to the Recovery Plan, a dispersal corridor for GGS is defined as a canal, waterway, slough, channel, or creek that connects to two (2) or more areas known to support GGS. Little Chico Creek within the BSA cannot function as a dispersal corridor as there is no habitat known to support GGS east of the BSA. Additionally, the Recovery Plan states that a corridor must have the necessary habitat components to provide suitable GGS habitat in order to function as a viable dispersal and movement corridor (USFWS 2017a).

The nearest CNDDDB occurrence (#235) is located approximately 7 miles southwest of the Action Area. This occurrence was observed in 2005 within a drainage ditch of the Chico Water Pollution Control plant near Little Chico Creek, and the detection was located approximately 10 miles north of what was previously considered to be the northernmost extent of the species' range (pers. comm. D. Kelly and E. Hansen cited in CNDDDB 2020). Furthermore, there is no confirmed evidence that GGS have ever utilized wetlands or drainages north of CNDDDB occurrence #235.

A GGS individual was anecdotally observed on July 28, 2005 by biologists near Dead Horse Slough, north of the BSA. The snake was identified as a GGS based on snake morphology and colorings; however, as handling GGS is not permitted, the snake was not captured and positively identified. Based on this observation, GGS has in the past been assumed to be present in hydrologically connected areas containing suitable habitat components, such as Teichert Ponds and Little Chico Creek. Little Chico Creek within the Action Area is hydrologically connected to Dead Horse Slough and Teichert Ponds to the west, but does not connect them to any suitable habitat eastward. Upstream and to the east of the BSA, Little Chico Creek flows down the foothills from headwaters at Platte Mountain, past census-designated place Forest Ranch and downhill through hard, sloping rock formations (Brown and Mott 2002). These areas do not support marsh wetland habitat known to support GGS, and are located outside of the known range of GGS.

Since the stretch of Little Chico Creek present within the BSA does not provide suitable aquatic habitat during the GGS active season, does not meet the requirements to be considered a possible dispersal or movement corridor, and is not adjacent to highly suitable habitat components (e.g., rice fields, marshes), there is no potential for GGS to occur within the BSA and there will be no impacts to GGS as a result of Project activities.

### **Endangered, Threatened, and Rare Plants**

A botanical habitat assessment was conducted within the BSA on December 23, 2020 and a protocol-level rare plant survey was conducted on March 23, 2021 by Gallaway Enterprises' senior botanist, Elena Gregg. No special-status plant species were observed within the BSA; therefore, there is no potential for special-status plants to occur. A list of all of the plant species observed during the surveys is provided in **Appendix B**.

### **Endangered, Threatened and Special Status Wildlife**

Wildlife habitat assessments were conducted within the BSA on December 11, 2020 and January 11, 2021. Suitable habitat was identified for valley elderberry longhorn beetle (VELB, *Desmocerus californicus dimorphus*), vernal pool fairy shrimp (*Branchinecta lynchi*), vernal pool tadpole shrimp (*Lepidurus packardii*), Central Valley spring-run Chinook salmon (*Oncorhynchus tshawytscha*), California Central Valley steelhead (*Oncorhynchus mykiss irideus*), western spadefoot (*Spea hammondi*), western pond turtle (*Emys marmorata*), Swainson's hawk (*Buteo swainsoni*), pallid bat (*Antrozous pallidus*), and nesting migratory bird and raptor species protected under the MBTA and CFGC.

### **Valley elderberry longhorn beetle**

The VELB is listed as threatened under the federal ESA. The VELB is a small (0.5 - 0.8 inch long), wood-boring beetle that is endemic to the Central Valley of California. The beetle is found only in association with its host plant, elderberry (*Sambucus* spp.). Adults feed on the foliage and flowers of elderberry shrubs and are present from March through early June. During this period the beetles mate and females lay eggs on living elderberry plants. The first instar larvae bore to the center of elderberry stems where they feed on the pith of the plant for 1 to 2 years as they develop. Prior to forming their pupae, the elderberry wood-boring larvae chew through the bark and then plug the holes with wood shavings. In the pupal chamber, the larvae metamorphose into their pupae and then into adults where upon they emerge between mid-March through June (Barr 1991). Current threats to VELB consist primarily of riparian habitat destruction which causes extirpation, fragmentation, and isolation of beetle populations (Barr 1991).

### **CNDDDB Occurrences**

There are five (5) occurrences of VELB within 5 miles of the BSA (#107, 108, 183, 228, 291). These occurrences are all associated with riparian zones of creeks. The closest occurrence is within Big Chico Creek (#107) approximately 1.5 miles north of the BSA. There are no CNDDDB-documented occurrences of VELB within the Little Chico Creek watershed.

### **Status of VELB occurring within the BSA**

Due to the difficulty of detecting living VELB individuals within elderberry plants and detecting exit holes, presence of VELB is often assumed when the elderberry shrub has stems with a diameter of 1 inch or greater at ground level. One (1) cluster of blue elderberry (*Sambucus cerulea*) occurs under a California sycamore tree on the south side of Little Chico Creek within the BSA (**Figure 5**). The cluster of blue elderberry has several stems with a diameter greater than 1 inch at ground level and is located in a riparian corridor. The stems in the cluster contain exit holes.

### **Vernal pool fairy shrimp**

Vernal pool fairy shrimp are federally listed as threatened and are widespread, but not abundant. Known populations occur in California to southern Oregon. The geographic range of this species encompasses most of the Central Valley from Shasta County to Tulare County and the central coast range from northern Solano County to Santa Barbara County, California: additional disjunctive occurrences have been identified in western Riverside County, California, and in Jackson County, Oregon, near the city of Medford. The vernal pool fairy shrimp occupies a variety of different vernal pool habitats, from small, clear, sandstone rock pools to large, turbid, alkaline, grassland valley floor pools. Occupied habitats range in size from rock outcrops pools as small as one square meter to large vernal pools up to 12 acres. Smaller vernal pools are the most commonly occupied and are found more frequently in grass or mud bottomed swales, or basalt flow depression pools in unplowed grasslands. Vernal pool fairy shrimp have been collected from early December to early May (USFWS 2005).

### **CNDDDB Occurrences**

There are two (2) CNDDDB occurrences (#121, #689) within 5 miles of the BSA.



 Project Boundary - (2.99 acres)

 Biological Survey Area - (2.99 acres)

**Elderberry Shrub - (0.01 acres)**

 Elderberry Shrub Location (including dripline)

 1:1,200

0 50 100 Feet

Data Sources: ESRI, Butte County, Maxar 8/06/2019

**NORTH**

Notre Dame Bridge over Little Chico Creek Project  
Elderberry Shrub Location Map  
Figure 5

### **Status of vernal pool fairy shrimp occurring within the BSA**

No protocol-level surveys for branchiopods were conducted within the BSA; however, known CNDDDB occurrences of vernal pool fairy shrimp occur within 5 miles of the BSA and the vernal feature within the BSA potentially provides suitable habitat. As such, vernal pool fairy shrimp are assumed to be present within the vernal swale present in the BSA.

### **Vernal pool tadpole shrimp**

Vernal pool tadpole shrimp are federally endangered species. They are a small crustacean in the Triopsidae family. The vernal pool tadpole shrimp is known from 18 populations in the Central Valley, ranging from east of Redding in Shasta County, south to the San Luis National Wildlife Refuge in Merced County, and from a single vernal pool complex on the San Francisco Bay National Wildlife Refuge in the City of Fremont, Alameda County (USFWS 1996). They inhabit vernal pools containing clear to highly turbid water, ranging in size from 54 square feet in the former Mather Air Force Base area of Sacramento County, to the 89-acre Olcott Lake at Jepson Prairie. Their diet consists of organic debris and living organisms, such as fairy shrimp and other invertebrates (USFWS 1996).

### **CNDDDB Occurrences**

There are eight (8) CNDDDB occurrences (#55, #58, #59, #78, #146, #157, #190, #315) within 5 miles of the BSA. One occurrence, #78, overlaps the BSA, though its exact location is indicated to be unknown (CNDDDB 2021).

### **Status of vernal pool tadpole shrimp occurring within the BSA**

No protocol-level surveys for branchiopods were conducted within the BSA; however, known CNDDDB occurrences of vernal pool tadpole shrimp occur within 5 miles of the BSA and the vernal feature within the BSA potentially provides suitable habitat. As such, vernal pool tadpole shrimp are assumed to be present within the vernal pools present in the BSA.

### **Central Valley spring-run Chinook salmon**

Chinook salmon are an anadromous species which originate in freshwater environments, such as major streams and tributaries, before migrating to oceanic environments to grow and mature, then returning to their natal freshwater environments to spawn and eventually die. Chinook salmon are the largest of the salmon species. They range in appearance throughout their developmental stages and aquatic environments.

Central Valley spring-run (CVSR) Chinook salmon are considered an Evolutionarily Significant Unit (ESU) by NMFS and their listing status is threatened under the ESA and CESA. Critical habitat was designated later 2005 (70 FR 52488). In 2014, NMFS released a final multi-species recovery plan that addresses all three listed salmonids in the California Central Valley, including the CVSR Chinook salmon (NMFS 2014).

Central Valley spring-run Chinook salmon are differentiated from the other ESUs or other “runs” of Chinook salmon due to their distinct life history strategy in which natural populations migrate from the Pacific Ocean to their natal spawning habitat in Central Valley tributaries starting in the spring; as early as February for some populations. Unlike other runs of Chinook salmon, spring-run migrate upstream

early in the year and then disperse throughout the upper reaches of a river and hold there over the summer months before spawning, instead of spawning quickly upon arrival. Juveniles will then emigrate during late fall and winter with increased flows to make their way to the Pacific Ocean. Key habitat for CVSR Chinook salmon includes moderately deep pools utilized for holding habitat over summer, small cobble or gravel substrate for spawning, and slow, off-channel water with debris or vegetation that juveniles utilize for rearing habitat and refuge. Shade and wood cover have been indicated as important for juvenile Chinook salmon holding habitat (Zajanc et al. 2012). Chinook salmon adults utilize deep pools for holding that usually have a large bubble curtain at the head, underwater rocky ledges, and shade cover throughout the day, or hold in smaller “pocket” water behind large rocks in fast water (Moyle 1995).

### **Status of Chinook salmon occurring in the BSA**

According to the NMFS, the Little Chico Creek watershed is not typically used as a migration corridor or spawning habitat for adult CVSR Chinook salmon. There have been incidental observations of CVSR Chinook salmon within the upper canyon reaches of Little Chico Creek during a few high-flow years (California State University Chico 2002), but due to the habitat deterioration and flow changes that have occurred within the urban zone of Little Chico Creek where the BSA is situated, the BSA only supports habitat for migrant or spill-over CVSR Chinook salmon from the upstream reaches of Little Chico Creek and only during high-flow events. There is no spawning habitat for anadromous fish in the BSA. Chinook salmon juveniles are not expected to hold or rear within the BSA due to lack of preferred habitat components such as bubble curtains, underwater rocky ledges, shade cover, or pocket water behind large rocks in fast water. As such, there is low potential for CVSR Chinook salmon to occur within the BSA when water is present and no potential when flows are absent.

### **California Central Valley steelhead**

The California Central Valley steelhead Distinct Population Segment (DPS) is federally listed as threatened under the ESA; originally listed in 1998 and listed again under revised criteria in 2006 (71 FR 834). In 2014, NMFS released a final multi-species recovery plan that addresses all three listed salmonids in the California Central Valley, including steelhead (NMFS 2014).

Steelhead are small-bodied in general compared to their coastal counterparts and rarely exceed 60 centimeters in fork length, which may be an adaptation to the distance inland these fish migrate to reach their spawning areas in some cases (Moyle 2002). Steelhead will spend one to three years growing in a marine environment before migrating into the Sacramento and San Joaquin River systems, as well as far upstream into the tributaries of these river systems, to spawn. Steelhead generally move quickly through the main stem of the Sacramento River to their respective spawning grounds, where they then seek out suitable spawning habitat. The steelhead population is entirely a “winter-run” fish that enter the river system in November through April as fully reproductively mature adults to spawn before emigrating back to marine habitat (Moyle et al. 2008). Adult steelhead require cold, clear, relatively fast-moving water that is usually provided by snowmelt-driven stream systems at the time they are spawning. Depths required for spawning are typically 10 to 150 cm (Moyle 2002), and optimum depth for spawning is 14 inches (Bovee 1978 cited in McEwan 2001). Juvenile steelhead may spend from just

months up to 7 years rearing in freshwater, with most emigrating to the ocean after 1 to 2 years (NMFS 2016). For the first year or two of life, juvenile steelhead are found in cool, fast-flowing, permanent streams and rivers where riffles predominate over pools and there is ample cover from riparian vegetation or undercut banks (Moyle 2002).

#### **Status of California Central Valley steelhead occurring in the BSA**

Little Chico Creek has been designated by NMFS as critical habitat for steelhead; however, the portion of Little Chico Creek that occurs within the BSA is positioned within the urban zone of the creek, which contains only intermittent flows. Steelhead have been known to spawn miles upstream of the BSA in the upper reaches of Little Chico Creek; however, there is no spawning potential for steelhead in the Project area (Brown and Mott 2002). During the summer months (July 1 – October 31) Little Chico Creek is dry or contains pockets of still water with warm temperatures that make Little Chico Creek within the Project area unsuitable for any life stage of anadromous salmonid (T. McReynolds, CDFW, pers. comm., 2018, Ord Ferry Bridge Replacement Biological Opinion, NMFS File No. WCR-2018-11046). Due to the lack of perennial flows within the portion of Little Chico Creek in the BSA, the BSA only supports habitat for steelhead migrants and strays from the upstream portion of the creek and only during high-flow events. Steelhead juveniles and adults are not expected to hold or rear within the BSA due to lack of preferred habitat components. There is low potential for steelhead to occur within the BSA when water is present and no potential when flows are absent.

#### **Western spadefoot**

The western spadefoot is a SSC in California. It is an endemic species in California. The western spadefoot toad ranges from the northern point of the Central Valley south to the western corner of California. They are a stocky, small toad that varies in colors from gray, green and brown and typically have four irregular spots or stripes on their back. Their eyes are described as being golden with vertical pupils. The most distinguishing feature of the toad is a hardened, black spade on the hind foot. The spade is used for burrowing into moist soils. Suitable habitat consists of open grasslands with intermittent streams and vernal pools. Vernal pools and water sources that are ponded for a minimum of 30 days are essential for breeding and depositing eggs. Current threats facing the western spadefoot toad are loss of habitat, changes in hydrological regimes, and human disturbances.

#### **CNDDB Occurrences**

There are three (3) occurrences of western spadefoot within 5 miles of the BSA (#180, #391, #442). These occurrences are located approximately 2 miles northwest of the BSA, in areas featuring intermittent drainages and vernal pools. These occurrences are separated from the BSA by Highway 32, Bidwell Park, Big Chico Creek, and extensive residential development, but contain similar habitat components to land within the BSA.

#### **Status of western spadefoot occurring in the BSA**

The BSA features a vernal swale that could support breeding habitat for western spadefoot when water is ponded for 30 days or longer and adjacent grasslands that could provide suitable aestivation habitat. There is moderate potential for western spadefoot to occur within the BSA when water is present.

### **Western pond turtle**

The western pond turtle is a SSC in California. Western pond turtles are drab, darkish-colored turtles with a yellowish to cream colored head. They range from the Washington Puget Sound to the California Sacramento Valley. Suitable aquatic habitats include slow moving to stagnant water, such as backwaters and ponded areas of rivers and creeks, semi-permanent to permanent ponds and irrigation ditches. Preferred habitats include features such as hydrophytic vegetation, for foraging and cover, and basking areas to regulate body temperature. In early spring through early summer, female turtles begin to move over land in search for nesting sites. Eggs are laid on the banks of slow-moving streams. The female digs a hole approximately 4 inches deep and lays up to eleven eggs. Afterwards, the eggs are covered with sediment and are left to incubate under the warm soils. Eggs are typically laid between March and August (Zeiner et al. 1990). Current threats facing the western pond turtle include loss of suitable aquatic habitats due to rapid changes in water regimes and removal of hydrophytic vegetation.

### **CNDDDB Occurrences**

There are two (2) occurrences of western pond turtle within 5 miles of the BSA (#775 and #1227). One of these occurrences, #775, is located within Little Chico Creek approximately 1 mile downstream from the BSA.

### **Status of western pond turtle occurring in the BSA**

The BSA does not contain suitable aquatic habitat for western pond turtle during their nesting season (typically June and July). Little Chico Creek contains suitable aquatic habitat for western pond turtle when there is flowing water present. The stretch of Little Chico Creek that occurs within the BSA generally lacks emergent rocks and logs on which western pond turtles bask for thermoregulation and fresh emergent vegetation for foraging and cover; however, there are open banks for basking. Western pond turtles are known to travel up to 400 meters from aquatic habitat into upland areas to nest (Reese and Welsh 1997), and they may aestivate in upland areas along intermittent drainages for several months during dry periods (Belli 2015). Due to the intermittent nature of Little Chico Creek and lack of suitable habitat components, there is low potential for western pond turtle to occur within the BSA.

### **Swainson's hawk**

Swainson's hawks are listed under the CESA as threatened. They are found throughout the western part of the United States and from Canada to Mexico. Swainson's hawks are a fairly large, slender hawk with three different color morph displays. The most common morph in northern California is the dark morph, which demonstrates black to dark brown under coverts and flight feathers. Suitable habitat includes open grasslands or agricultural fields that are adjacent to a riparian forest or oak woodland. Swainson's hawks primarily nest in riparian forests next to open fields that provide foraging opportunities. Nesting and courtship begin in April. Current threats facing the Swainson's hawk are loss of nesting and foraging habitat, change in agricultural regimes, pesticides, poaching and human disturbances (CDFW 1994).

### **CNDDDB Occurrences**

The nearest occurrence (#699) is located approximately 4 miles southwest of the BSA. This occurrence was a nest located in a walnut orchard at the Chico State Farm, which was last observed in 1998. Other

nesting occurrences within 10 miles of the BSA (#491, 492, 652, 1724) are associated with the Sacramento River and other local drainages; however, none of these have been confirmed to be active within the last 10 years.

#### **Status of Swainson's hawk occurring within the BSA**

Swainson's hawks forage for small mammals and insects in open grasslands, low-growing crops and pastures. Adjacent land surrounding the BSA consists of annual grassland, residential development, and a narrow strip of trees associated with the banks of the intermittent creek present in the BSA. Swainson's hawks nest in trees taller than 10 feet in wetlands and along drainages, or in windbreaks in fields and around farmsteads (Tesky 1994). There are only a few trees taller than 10 feet within the BSA, primarily located in the vicinity of Little Chico Creek. As such, there is suitable nesting habitat for Swainson's hawks within the BSA and possible foraging habitat adjacent to the BSA. Swainson's hawks will forage up to 10 miles from their nest; however, according to the current data in the CNNDDB, there are no known active nests within 10 miles of the BSA. Due to the few trees present, the location of the BSA adjacent to residential neighborhoods and busy streets, and given that there are no active nests within 10 miles of the BSA, there is low potential for Swainson's hawks to nest or forage within the BSA.

#### **Pallid bat**

Pallid bats are designated as a CDFW SSC. Pallid bats roost alone, in small groups (2 to 20 bats), or gregariously (hundreds of individuals). Day and night roosts include crevices in rocky outcrops and cliffs, caves, mines, trees (e.g., basal hollows of coast redwoods and giant sequoias, bole cavities of oaks, exfoliating Ponderosa pine and valley oak bark, deciduous trees in riparian areas, and fruit trees in orchards), and various human structures such as bridges (especially wooden and concrete girder designs), barns, porches, bat boxes, and human-occupied as well as vacant buildings. Roosts generally have unobstructed entrances/exits, are high above the ground, warm, and inaccessible to terrestrial predators. However, this species has also been found roosting on or near the ground under burlap sacks, stone piles, rags, and baseboards. Lewis 1996 found that pallid bats have low roost fidelity and both pregnant and lactating pallid bats changed roosts an average of once every 1.4 days throughout the summer. Overwintering roosts have relatively cool, stable temperatures and are located in protected structures beneath the forest canopy or on the ground, out of direct sunlight. In other parts of the species' range, males and females have been found hibernating alone or in small groups, wedged deeply into narrow fissures in mines, caves, and buildings. At low latitudes, outdoor winter activity has been reported at temperatures between -5 and 10 °C (WBWG 2021).

#### **CNDDDB Occurrences**

There is only one CNDDDB occurrence of pallid bat within 15 miles of the BSA (#132) dating from 1992, with the location only described as "Chico."

#### **Status of pallid bats occurring in the BSA**

There are a few mature trees within the BSA that have suitable habitat elements (e.g., cavities, peeling bark) and may provide suitable day roost habitat. There is moderate potential for pallid bats to occur within the BSA.

### **Migratory birds and raptors**

Nesting birds are protected under the Migratory Bird Treaty Act (MBTA) (16 USC 703) and the CFGC (§3503). The MBTA (16 USC §703) prohibits the killing of migratory birds or the destruction of their occupied nests and eggs except in accordance with regulations prescribed by the USFWS. The bird species covered by the MBTA includes nearly all of those that breed in North America, excluding introduced (i.e., exotic) species (50 Code of Federal Regulations §10.13). Activities that involve the removal of vegetation including trees, shrubs, grasses, and forbs or ground disturbance has the potential to affect bird species protected by the MBTA.

The CFGC (§3503.5) states that it is “unlawful to take, possess, or destroy any birds in the order Falconiformes (hawks, eagles, and falcons) or Strigiformes (owls) or to take, possess, or destroy the nest or eggs of any such bird except as otherwise provided by this code or any regulation adopted pursuant thereto.” Take includes the disturbance of an active nest resulting in the abandonment or loss of young. The CFGC (§3503) also states that “it is unlawful to take, possess, or needlessly destroy the nest or eggs of any bird, except as otherwise provided by this code or any regulation made pursuant thereto.”

### **CNDDDB Occurrences**

The majority of migratory birds and raptors protected under the MBTA and CFGC are not recorded on the CNDDDB because they are abundant and widespread.

### **Status of migratory birds and raptors occurring in the BSA**

There is suitable nesting habitat for a variety of ground, shrub, and tree nesting avian species within the BSA.

## **REGULATORY FRAMEWORK**

The following describes federal, state, and local environmental laws and policies that may be relevant if the BSA were to be developed or modified.

### **Federal**

#### **Waters of the United States, Clean Water Act, Section 404**

The Corps and the U.S. Environmental Protection Agency (EPA) regulate the discharge of dredged or fill material into jurisdictional waters of the United States, under the Clean Water Act (§404). The term “waters of the United States” is an encompassing term that includes “wetlands” and “other waters.” Wetlands have been defined for regulatory purposes as follows: “those areas that are inundated or saturated by surface or groundwater at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions (33 CFR 328.3, 40 CFR 230.3). Wetlands generally include swamps, marshes, bogs, and similar areas.” Other waters of the United States are intermittent or perennial tributaries and impoundments including lakes, ponds, and other surface water features, that exhibit an ordinary high-water mark but lack positive indicators for one or more of the three wetland parameters (i.e., hydrophytic vegetation, hydric soil, and wetland hydrology) (33 CFR 328.4).

The Corps may issue either individual permits on a case-by-case basis or general permits on a program level. General permits are pre-authorized and are issued to cover similar activities that are expected to cause only minimal adverse environmental effects. Nationwide permits are general permits issued to cover particular fill activities. All nationwide permits have general conditions that must be met for the permits to apply to a particular Project, as well as specific conditions that apply to each nationwide permit.

### **Clean Water Act, Section 401**

The Clean Water Act (§401) requires water quality certification and authorization for placement of dredged or fill material in WOTUS. In accordance with the Clean Water Act (§401), criteria for allowable discharges into surface waters have been developed by the State Water Resources Control Board, Division of Water Quality. The resulting requirements are used as criteria in granting National Pollutant Discharge Elimination System (NPDES) permits or waivers, which are obtained through the Regional Water Quality Control Board (RWQCB) per the Clean Water Act (§402). Any activity or facility that will discharge waste (such as soils from construction) into surface waters, or from which waste may be discharged, must obtain an NPDES permit or waiver from the RWQCB. The RWQCB evaluates an NPDES permit application to determine whether the proposed discharge is consistent with the adopted water quality objectives of the basin plan.

### **Federal Endangered Species Act**

The United States Congress passed the ESA in 1973 to protect species that are endangered or threatened with extinction. The ESA is intended to operate in conjunction with the National Environmental Policy Act (NEPA) to help protect the ecosystems upon which endangered and threatened species depend.

Under the ESA, species may be listed as either “endangered” or “threatened.” Endangered means a species is in danger of extinction throughout all or a significant portion of its range. Threatened means a species is likely to become endangered within the foreseeable future throughout all or a significant portion of its range. All species of plants and animals, except non-native species and pest insects, are eligible for listing as endangered or threatened. The USFWS also maintains a list of “candidate” species. Candidate species are species for which there is enough information to warrant proposing them for listing, but that have not yet been proposed. “Proposed” species are those that have been proposed for listing, but have not yet been listed.

The ESA makes it unlawful to “take” a listed animal without a permit. Take is defined as “to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect or attempt to engage in any such conduct.” Through regulations, the term “harm” is defined as “an act which actually kills or injures wildlife. Such an act may include significant habitat modification or degradation where it actually kills or injures wildlife by significantly impairing essential behavioral patterns, including breeding, feeding, or sheltering.”

### **Migratory Bird Treaty Act**

The MBTA (16 USC §703) prohibits the killing of migratory birds or the destruction of their occupied nests and eggs except in accordance with regulations prescribed by the USFWS. The bird species covered by the MBTA includes nearly all of those that breed in North America, excluding introduced (i.e., exotic) species (50 Code of Federal Regulations §10.13). Activities that involve the removal of vegetation including trees, shrubs, grasses, and forbs or ground disturbance has the potential to affect bird species protected by the MBTA. Thus, vegetation removal and ground disturbance in areas with breeding birds should be conducted outside of the breeding season (approximately March 1 through August 31 in the Central Valley). If vegetation removal or ground disturbance activities are conducted during the breeding season, then a qualified biologist must determine if there are any nests of bird species protected under the MBTA present in the construction area prior to commencement of construction. If active nests are located or presumed present, then appropriate avoidance measures (e.g., spatial or temporal buffers) must be implemented.

## **State of California**

### **California Endangered Species Act**

The CESA is similar to the ESA, but pertains to state-listed endangered and threatened species. The CESA requires state agencies to consult with the CDFW when preparing documents to comply with the CEQA. The purpose is to ensure that the actions of the lead agency do not jeopardize the continued existence of a listed species or result in the destruction, or adverse modification of habitat essential to the continued existence of those species. In addition to formal listing under the federal and state endangered species acts, “species of special concern” receive consideration by CDFW. Species of special concern are those whose numbers, reproductive success, or habitat may be threatened.

### **California Fish and Game Code (§3503.5)**

The CFGC (§3503.5) states that it is “unlawful to take, possess, or destroy any birds in the order Falconiformes (hawks, eagles, and falcons) or Strigiformes (all owls except barn owls) or to take, possess, or destroy the nest or eggs of any such bird except as otherwise provided by this code or any regulation adopted pursuant thereto.” Take includes the disturbance of an active nest resulting in the abandonment or loss of young. The CFGC (§3503) also states that “it is unlawful to take, possess, or needlessly destroy the nest or eggs of any bird, except as otherwise provided by this code or any regulation made pursuant thereto.”

### **Lake and Streambed Alteration Agreement, CFGC (§1602)**

The CDFW is a trustee agency that has jurisdiction under the CFGC (§1600 et seq.). The CFGC (§1602), requires that a state or local government agency, public utility, or private entity must notify CDFW if a proposed Project will “substantially divert or obstruct the natural flow or substantially change the bed, channel, or bank of any river, stream, or lake designated by the department, or use any material from the streambeds... except when the department has been notified pursuant to Section 1601.” If an existing fish or wildlife resource may be substantially adversely affected by the activity, CDFW may propose reasonable measures that will allow protection of those resources. If these measures are

agreeable to the parties involved, they may enter into an agreement with CDFW identifying the approved activities and associated mitigation measures.

### **Rare and Endangered Plants**

The CNPS maintains a list of plant species native to California with low population numbers, limited distribution, or otherwise threatened with extinction. This information is published in the Inventory of Rare and Endangered Vascular Plants of California. Potential impacts to populations of CNPS California Rare Plant Rank (CRPR) plants receive consideration under CEQA review. The CNPS CRPR categorizes plants as follows:

- Rank 1A: Plants presumed extinct in California;
- Rank 1B: Plants rare, threatened, or endangered in California or elsewhere;
- Rank 2A: Plants presumed extirpated or extinct in California, but not elsewhere;
- Rank 2B: Plants rare, threatened, or endangered in California, but more numerous elsewhere;
- Rank 3: Plants about which we need more information; and
- Rank 4: Plants of limited distribution.

The California Native Plant Protection Act (CFGF §1900-1913) prohibits the taking, possessing, or sale within the state of any plants with a state designation of rare, threatened, or endangered as defined by CDFW. An exception to this prohibition allows landowners, under specific circumstances, to take listed plant species, provided that the owners first notify CDFW and give the agency at least 10 days to retrieve (and presumably replant) the plants before they are destroyed. Fish and game code §1913 exempts from the 'take' prohibition "the removal of endangered or rare native plants from a canal, lateral channel, building site, or road, or other right of way."

### **California Environmental Quality Act Guidelines §15380**

Although threatened and endangered species are protected by specific federal and state statutes, CEQA Guidelines §15380(d) provides that a species not listed on the federal or state list of protected species may be considered rare or endangered if the species can be shown to meet certain specified criteria. These criteria have been modeled based on the definition in the ESA and the section of the CFGF dealing with rare, threatened, and endangered plants and animals. The CEQA Guidelines (§15380) allows a public agency to undertake a review to determine if a significant effect on species that have not yet been listed by either the USFWS or CDFW (e.g., candidate species, Species of Special Concern) would occur. Thus, CEQA provides an agency with the ability to protect a species from a project's potential impacts until the respective government agencies have an opportunity to designate the species as protected, if warranted.

## **CONCLUSIONS AND RECOMMENDATIONS**

### **Endangered, Threatened, and Rare Plants**

There are no special-status botanical species present within the BSA; therefore, there will be no effects to botanical species and no avoidance and minimization measures are proposed.

## Designated Critical Habitat

The NMFS has designated Little Chico Creek within the BSA as critical habitat for Central Valley steelhead. The Project is expected to result in a minor habitat modification and permanent impacts to a small portion of steelhead critical habitat where the bridge structure and rock slope protection will be placed within Little Chico Creek. As the 2009 Biological Assessment prepared for Meriam Park development did not identify Little Chico Creek within the BSA as designated critical habitat, Project impacts to Central Valley steelhead critical habitat will be addressed in a separate Biological Assessment developed for the purpose of assisting the US Army Corps of Engineers and the applicant with ESA Section 7 consultation.

## Endangered, Threatened, and Special-status Wildlife

The following avoidance and minimization measures are recommended to further reduce or eliminate Project-associated impacts to special-status wildlife species:

### *Valley elderberry longhorn beetle*

Although the Notre Dame Bridge project occurs within the Action Area of a previous USFWS BO, the elderberry shrub was not present at the time previous studies and analysis of impacts occurred. The Notre Dame Bridge project was considered in the previous BO; however, details regarding the location of the bridge, bridge type selection, and a specific project description for the bridge were not known at the time of initial ESA consultation. Therefore, consultation with the USFWS regarding potential impacts to VELB will be required. Due to the shrub's location within the riparian corridor and the presence of exit holes in the branches of the shrub, the presence of VELB is assumed. The determination regarding mitigation will be made by the USFWS during the consultation process.

Removal of the shrub will be required for bridge placement. Transplantation of the shrub, which is growing around a large sycamore tree, will not be feasible due to its location and positioning. Per section 6.0 of USFWS' *Framework for Assessing Impacts to the Valley Elderberry Longhorn Beetle* (2017b), suitable riparian habitat will be mitigated for at a ratio of 3:1 for all acres that will be permanently impacted by the project. Compensatory mitigation will be provided by purchasing credits at Nicolaus Ranch VELB Conservation Bank, River Ranch VELB Conservation Bank, or another USFWS-approved bank.

**Table 2. Proposed Compensatory Mitigation for VELB within Notre Dame over Little Chico Creek Bridge Project**

Habitat	Compensation Ratio*	Total Acres of Disturbance	Acres of Credits	Total Credit Purchase^
Riparian	3:1	0.11	0.33	8

\* acre(s) of credits: acre(s) of disturbance

^ One credit (unit) = 1,800 sq. ft.

### ***Vernal pool fairy shrimp and vernal pool tadpole shrimp***

Vernal pool fairy shrimp are federally listed as threatened and vernal pool tadpole shrimp are federally listed as endangered. Consultation with the USFWS and mitigation for impacts to this species at this location has already been completed in association with the Meriam Park Development Project (Service File Number 1-1-06-F-0273). The compensatory mitigation that was paid to Dove Ridge Conservation Bank on August 7, 2009 included mitigation for the vernal swale (DW062) that occurs within and adjacent to the BSA.

To protect vernal habitats during construction, the following avoidance and minimization measures are recommended:

- The Project proponent shall include a copy of the Biological Opinion (BO), as applicable, within its construction documents making the primary contractor responsible for implementing all requirements and obligations included within the BO, and to educate and inform all other contractors involved in the Project as to the requirements of the BO.
- The contractor will be responsible for understanding and following the guidelines set forth in the Section 404 permit and Section 401 water quality certification and the contractor will avoid and minimize potential construction-related water quality impacts through compliance with the RWQCB by preparing and submitting the following water quality permits and plans.
- A National Pollutant Discharge Elimination System (NPDES) storm water permit for general construction activities.
- A Notice of Intent to obtain proper coverage under the State Construction General Permit.
- The contractor shall ensure, when feasible, that activities that are inconsistent with the maintenance of the suitability of vernal pool crustacean habitat and the associated on-site watershed are prohibited. These include, but are not limited to:
  - the alteration of existing topography that may alter hydrology into habitat for Federally-listed vernal pool crustaceans;
  - the placement of any equipment within suitable habitat; and
  - dumping, burning, and/or burying of rubbish, garbage, or any other wastes and fill materials within 250 feet of habitat.
- Prior to the commencement of construction activities, high visibility fencing will be erected around the habitats of the federally listed species to identify and protect these Environmentally Sensitive Areas (ESA, i.e. vernal pools) from encroachment of personnel and equipment. These areas will be avoided by all construction personnel. The fencing shall be inspected before the start of each work day and maintained by the contractor until completion of the Project. The fencing may be removed only when the construction of the Project is completed.
- Construction timing will be confined to the summer and fall months when waters of the United States and suitable habitat within the Project site are dry.
- During construction activities silt fencing will be erected as necessary to prevent dust from drifting into adjacent WOTUS and suitable habitat.
- During construction operations, the number of access routes, number and size of staging areas, and the total area of the proposed Project activity will be limited to the minimum necessary.

Routes and boundaries will be clearly demarcated. Movement of heavy equipment to and from the Project site will be restricted to established roadways to minimize habitat disturbance.

- During construction operations, stockpiling of construction materials, portable equipment, vehicles and supplies will be restricted to the designated construction staging areas and exclusive of the ESAs.

### ***Anadromous fishes***

- Construction activities within Little Chico Creek shall be limited to the dry season when no flowing water is present in the channel.
- All riparian vegetation to be removed as a result of Project activities will be restored onsite to pre-Project conditions.
- Channel disturbance shall be kept to a minimum during construction activities within the channel and only occur within designated areas.
- Best management practices (BMPs) shall be implemented that are necessary to minimize the risk of sedimentation, turbidity, and hazardous material spills. Applicable BMPs will include temporary erosion control measures, including use of straw bales, mulch or wattles, silt fences, filter fabric, spill remediation material, and ultimately seeding and revegetating.
- An erosion control plan that incorporates erosion BMPs shall be created and implemented prior to the wet season (October 15 – April 1) in order to avoid sediment from entering Little Chico Creek.
- Avoid the removal of riparian vegetation including trees with a DBH greater than 4 inches in the stream zone of Little Chico Creek.

### ***Western spadefoot***

- When water is present in the vernal swale present within the BSA, a qualified biologist shall conduct a clearance survey to determine the presence or absence of western spadefoot individuals immediately prior to the start of work. If western spadefoot individuals are observed where they could be potentially impacted by Project activities then work shall not be conducted within 100 feet of the toad(s) until a qualified biologist has relocated the toad(s) outside of the Project boundary.

### ***Western pond turtle***

- When water is present within Little Chico Creek, a qualified biologist shall conduct a clearance survey to determine the presence or absence of western pond turtle individuals immediately prior to the start of work. If western pond turtles are observed where they could be potentially impacted by Project activities, then work shall not be conducted within 100 feet of the turtle(s) until a qualified biologist has relocated the turtle(s) outside of the Project boundary.
- If turtle eggs are uncovered during construction activities, then all work shall stop within a 25 foot radius of the nest and the qualified biologist should be notified immediately. The 25-foot buffer should be marked with identifiable markers that do not consist of fencing or materials that may block the migration of young turtles to the water or attract predators to the nest site. No work will be allowed within the 25 foot buffer until the turtle eggs have hatched or the nest fails.

### ***Swainson's hawk***

- If Project activities will be initiated during the Swainson's hawk nesting period (March 1 – September 15), then protocol-level nesting Swainson's hawk surveys shall be conducted by a qualified biologist within 500 feet of the project boundary in accordance with the Swainson's Hawk Technical Advisory Committee's *Recommended Timing and Methodology for Swainson's Hawk Nesting Surveys in California's Central Valley* (2000). The final survey shall be conducted within 7 days prior to the initiation of Project activities to determine the presence or absence of active Swainson's hawk nests. If an active Swainson's hawk nest is found, no work shall occur within 500 feet of the active nest and CDFW shall be consulted.

### ***Pallid bat***

- Mature trees should be removed and/or fallen between September 16 and March 15, outside of the bat maternity season. Trees should be removed at dusk to minimize impacts to roosting bats.

## **Migratory Birds and Raptors**

In order to avoid impacts to avian species protected under the MBTA and the CFGC, the following avoidance and minimization measures are recommended:

- Project activities including site grubbing and vegetation removal shall be initiated outside of the bird nesting season (February 1 – August 31).
- If Project activities cannot be initiated outside of the bird nesting season then the following will occur:
  - A qualified biologist will conduct a pre-construction survey within 250 feet of the BSA, where accessible, within 7 days prior to the start of Project activities.
  - If an active nest (i.e., containing egg[s] or young) is observed within the BSA or in an area adjacent to the BSA where impacts could occur, then a species protection buffer will be established. The species protection buffer will be defined by the qualified biologist based on the species, nest type, and tolerance to disturbance. Construction activity shall be prohibited within the buffer zones until the young have fledged or the nest fails as determined by a qualified biologist. Nests shall be monitored by a qualified biologist once per week and a report submitted to the CEQA lead agency weekly.

## **Other Natural Resources**

### ***Waters of the United States***

Project activities will occur within the ordinary high water mark and/or result in fill or discharge to WOTUS; therefore, the following will apply:

- Prior to any discharge or fill material into WOTUS, authorization under a Nationwide Permit or Individual Permit shall be obtained from the Corps. For fill requiring a Corps permit, a water quality certification from the Regional Water Quality Board (Clean Water Act §401) shall also be obtained prior to discharge of dredged or fill material.

- Prior to any activities that would obstruct the flow of or alter the bed, channel, or bank of any perennial, intermittent, or ephemeral creeks, notification of streambed alteration shall be submitted to the CDFW, and, if required, a Lake and Streambed Alteration Agreement (§1602) shall be obtained.

Mitigation requirements for the fill of WOTUS will be implemented through an onsite restoration plan, and/or an In Lieu Fund and/or a certified mitigation bank with a Service Area that covers the Project area. These agreements, certifications and permits may be contingent upon successful completion of the CEQA process.

### ***Tree Removal***

If any trees with a diameter at breast height of 6 inches or greater are present within the BSA and proposed for removal, an inventory of the trees and health assessment performed by a qualified arborist will be required by the City. The City of Chico's Municipal Code and Tree Preservation Regulations should be complied with and mitigation may be necessary.

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## **PERSONAL COMMUNICATIONS**

McReynolds, T. January 23, 2018. Personal Communications. Fisheries Biologist. California Department of Fish and Wildlife. Chico, California.

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# Appendix A

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Species Lists



## 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:  
Consultation Code: 08ESMF00-2021-SLI-1277  
Event Code: 08ESMF00-2021-E-03688  
Project Name: Notre Dame Bridge over Little Chico Creek

March 12, 2021

Subject: List of threatened and endangered species that may occur in your proposed project location 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](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](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: 08ESMF00-2021-SLI-1277

Event Code: 08ESMF00-2021-E-03688

Project Name: Notre Dame Bridge over Little Chico Creek

Project Type: BRIDGE CONSTRUCTION / MAINTENANCE

Project Description: bridge construction

Project Location:

Approximate location of the project can be viewed in Google Maps: <https://www.google.com/maps/@39.734951550000005,-121.79582335422708,14z>



Counties: Butte County, California

---

## Endangered Species Act Species

There is a total of 8 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.

IPaC does not display listed species or critical habitats under the sole jurisdiction of NOAA Fisheries<sup>1</sup>, as USFWS does not have the authority to speak on behalf of NOAA and the Department of Commerce.

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.

1. [NOAA Fisheries](#), also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

### Reptiles

NAME	STATUS
Giant Garter Snake <i>Thamnophis gigas</i> No critical habitat has been designated for this species. Species profile: <a href="https://ecos.fws.gov/ecp/species/4482">https://ecos.fws.gov/ecp/species/4482</a>	Threatened

### Amphibians

NAME	STATUS
California Red-legged Frog <i>Rana draytonii</i> There is <b>final</b> critical habitat for this species. The location of the critical habitat is not available. Species profile: <a href="https://ecos.fws.gov/ecp/species/2891">https://ecos.fws.gov/ecp/species/2891</a>	Threatened

### Fishes

NAME	STATUS
Delta Smelt <i>Hypomesus transpacificus</i> There is <b>final</b> critical habitat for this species. The location of the critical habitat is not available. Species profile: <a href="https://ecos.fws.gov/ecp/species/321">https://ecos.fws.gov/ecp/species/321</a>	Threatened

### Insects

NAME	STATUS
Valley Elderberry Longhorn Beetle <i>Desmocerus californicus dimorphus</i> There is <b>final</b> critical habitat for this species. The location of the critical habitat is not available. Species profile: <a href="https://ecos.fws.gov/ecp/species/7850">https://ecos.fws.gov/ecp/species/7850</a>	Threatened

## Crustaceans

NAME	STATUS
Conservancy Fairy Shrimp <i>Branchinecta conservatio</i> There is <b>final</b> critical habitat for this species. The location of the critical habitat is not available. Species profile: <a href="https://ecos.fws.gov/ecp/species/8246">https://ecos.fws.gov/ecp/species/8246</a>	Endangered
Vernal Pool Fairy Shrimp <i>Branchinecta lynchi</i> There is <b>final</b> critical habitat for this species. The location of the critical habitat is not available. Species profile: <a href="https://ecos.fws.gov/ecp/species/498">https://ecos.fws.gov/ecp/species/498</a>	Threatened
Vernal Pool Tadpole Shrimp <i>Lepidurus packardii</i> There is <b>final</b> critical habitat for this species. The location of the critical habitat is not available. Species profile: <a href="https://ecos.fws.gov/ecp/species/2246">https://ecos.fws.gov/ecp/species/2246</a>	Endangered

## Flowering Plants

NAME	STATUS
Butte County Meadowfoam <i>Limnanthes floccosa ssp. californica</i> There is <b>final</b> critical habitat for this species. The location of the critical habitat is not available. Species profile: <a href="https://ecos.fws.gov/ecp/species/4223">https://ecos.fws.gov/ecp/species/4223</a>	Endangered

## Critical habitats

THERE ARE NO CRITICAL HABITATS WITHIN YOUR PROJECT AREA UNDER THIS OFFICE'S JURISDICTION.

**From:** [Brittany Reaves](#)  
**To:** ["nmfs.wcrca.specieslist@noaa.gov"](mailto:nmfs.wcrca.specieslist@noaa.gov)  
**Subject:** Notre Dame over Little Chico Creek Bridge Project  
**Date:** Friday, March 12, 2021 3:23:00 PM

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Notre Dame over Little Chico Creek Bridge Project

Quad Name **Chico**

Quad Number **39121-F7**

**ESA Anadromous Fish**

SONCC Coho ESU (T) -

CCC Coho ESU (E) -

CC Chinook Salmon ESU (T) -

CVSR Chinook Salmon ESU (T) - **X**

SRWR Chinook Salmon ESU (E) - **X**

NC Steelhead DPS (T) -

CCC Steelhead DPS (T) -

SCCC Steelhead DPS (T) -

SC Steelhead DPS (E) -

CCV Steelhead DPS (T) - **X**

Eulachon (T) -

sDPS Green Sturgeon (T) -

**ESA Anadromous Fish Critical Habitat**

SONCC Coho Critical Habitat -

CCC Coho Critical Habitat -

CC Chinook Salmon Critical Habitat -

CVSR Chinook Salmon Critical Habitat - **X**

SRWR Chinook Salmon Critical Habitat -

NC Steelhead Critical Habitat -

CCC Steelhead Critical Habitat -

SCCC Steelhead Critical Habitat -

SC Steelhead Critical Habitat -

CCV Steelhead Critical Habitat - **X**

Eulachon Critical Habitat -

sDPS Green Sturgeon Critical Habitat -

**ESA Marine Invertebrates**

Range Black Abalone (E) -

Range White Abalone (E) -

**ESA Marine Invertebrates Critical Habitat**

Black Abalone Critical Habitat -

**ESA Sea Turtles**

East Pacific Green Sea Turtle (T) -

Olive Ridley Sea Turtle (T/E) -

Leatherback Sea Turtle (E) -

North Pacific Loggerhead Sea Turtle (E) -

**ESA Whales**

Blue Whale (E) -

Fin Whale (E) -

Humpback Whale (E) -

Southern Resident Killer Whale (E) -

North Pacific Right Whale (E) -

Sei Whale (E) -

Sperm Whale (E) -

**ESA Pinnipeds**

Guadalupe Fur Seal (T) -

Steller Sea Lion Critical Habitat -

**Essential Fish Habitat**

Coho EFH -

Chinook Salmon EFH - **X**

Groundfish EFH -

Coastal Pelagics EFH -

Highly Migratory Species EFH -

**MMPA Species (See list at left)**

**ESA and MMPA Cetaceans/Pinnipeds**

**See list at left and consult the NMFS Long Beach office**

**562-980-4000**

MMPA Cetaceans -

MMPA Pinnipeds -

Project Proponent:

MPH CO, LLC

Attn: John H. Cornish

1811 Concord Ave: Suite 200

Chico, CA 95928

**Brittany Reaves**

**Biologist**

Gallaway Enterprises

(530) 332-9909



**Selected Elements by Common Name**  
**California Department of Fish and Wildlife**  
**California Natural Diversity Database**



**Query Criteria:** Quad<span style='color:Red'> IS </span>(Chico (3912167)<span style='color:Red'> OR </span>Richardson Springs (3912177))

Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
<b>adobe-lily</b> <i>Fritillaria pluriflora</i>	PMLIL0V0F0	None	None	G2G3	S2S3	1B.2
<b>Ahart's paronychia</b> <i>Paronychia ahartii</i>	PDCAR0L0V0	None	None	G3	S3	1B.1
<b>bald eagle</b> <i>Haliaeetus leucocephalus</i>	ABNKC10010	Delisted	Endangered	G5	S3	FP
<b>big-scale balsamroot</b> <i>Balsamorhiza macrolepis</i>	PDAST11061	None	None	G2	S2	1B.2
<b>burrowing owl</b> <i>Athene cunicularia</i>	ABNSB10010	None	None	G4	S3	SSC
<b>Butte County checkerbloom</b> <i>Sidalcea robusta</i>	PDMAL110P0	None	None	G2	S2	1B.2
<b>Butte County fritillary</b> <i>Fritillaria eastwoodiae</i>	PMLIL0V060	None	None	G3Q	S3	3.2
<b>Butte County meadowfoam</b> <i>Limnanthes floccosa ssp. californica</i>	PDLIM02042	Endangered	Endangered	G4T1	S1	1B.1
<b>California beaked-rush</b> <i>Rhynchospora californica</i>	PMCYP0N060	None	None	G1	S1	1B.1
<b>California black rail</b> <i>Laterallus jamaicensis coturniculus</i>	ABNME03041	None	Threatened	G3G4T1	S1	FP
<b>California linderiella</b> <i>Linderiella occidentalis</i>	ICBRA06010	None	None	G2G3	S2S3	
<b>California satintail</b> <i>Imperata brevifolia</i>	PMPOA3D020	None	None	G4	S3	2B.1
<b>chinook salmon - Central Valley spring-run ESU</b> <i>Oncorhynchus tshawytscha pop. 11</i>	AFCHA0205L	Threatened	Threatened	G5T1T2Q	S2	
<b>Crotch bumble bee</b> <i>Bombus crotchii</i>	IIHYM24480	None	Candidate Endangered	G3G4	S1S2	
<b>flagella-like atractylocarpus</b> <i>Campylopodia stenocarpa</i>	NBMUS84010	None	None	G5	S1?	2B.2
<b>foothill yellow-legged frog</b> <i>Rana boylei</i>	AAABH01050	None	Endangered	G3	S3	SSC
<b>Gallaway's amphipod</b> <i>Stygobromus gallawayae</i>	ICMAL05E10	None	None	G1	S1	
<b>Great Valley Mixed Riparian Forest</b> <i>Great Valley Mixed Riparian Forest</i>	CTT61420CA	None	None	G2	S2.2	
<b>Great Valley Valley Oak Riparian Forest</b> <i>Great Valley Valley Oak Riparian Forest</i>	CTT61430CA	None	None	G1	S1.1	
<b>hoary bat</b> <i>Lasiurus cinereus</i>	AMACC05030	None	None	G3G4	S4	



**Selected Elements by Common Name**  
**California Department of Fish and Wildlife**  
**California Natural Diversity Database**



Species	Element Code	Federal Status	State Status	Global Rank	State Rank	Rare Plant Rank/CDFW SSC or FP
<b>least Bell's vireo</b> <i>Vireo bellii pusillus</i>	ABPBW01114	Endangered	Endangered	G5T2	S2	
<b>North American porcupine</b> <i>Erethizon dorsatum</i>	AMAFJ01010	None	None	G5	S3	
<b>Northern Volcanic Mud Flow Vernal Pool</b> <i>Northern Volcanic Mud Flow Vernal Pool</i>	CTT44132CA	None	None	G1	S1.1	
<b>pallid bat</b> <i>Antrozous pallidus</i>	AMACC10010	None	None	G4	S3	SSC
<b>Red Bluff dwarf rush</b> <i>Juncus leiospermus var. leiospermus</i>	PMJUN011L2	None	None	G2T2	S2	1B.1
<b>silver-haired bat</b> <i>Lasionycteris noctivagans</i>	AMACC02010	None	None	G3G4	S3S4	
<b>slender-leaved pondweed</b> <i>Stuckenia filiformis ssp. alpina</i>	PMPOT03091	None	None	G5T5	S2S3	2B.2
<b>steelhead - Central Valley DPS</b> <i>Oncorhynchus mykiss irideus pop. 11</i>	AFCHA0209K	Threatened	None	G5T2Q	S2	
<b>Swainson's hawk</b> <i>Buteo swainsoni</i>	ABNKC19070	None	Threatened	G5	S3	
<b>tricolored blackbird</b> <i>Agelaius tricolor</i>	ABPBXB0020	None	Threatened	G1G2	S1S2	SSC
<b>valley elderberry longhorn beetle</b> <i>Desmocerus californicus dimorphus</i>	IICOL48011	Threatened	None	G3T2	S3	
<b>vernal pool fairy shrimp</b> <i>Branchinecta lynchi</i>	ICBRA03030	Threatened	None	G3	S3	
<b>vernal pool tadpole shrimp</b> <i>Lepidurus packardii</i>	ICBRA10010	Endangered	None	G4	S3S4	
<b>western mastiff bat</b> <i>Eumops perotis californicus</i>	AMACD02011	None	None	G4G5T4	S3S4	SSC
<b>western pond turtle</b> <i>Emys marmorata</i>	ARAAD02030	None	None	G3G4	S3	SSC
<b>western spadefoot</b> <i>Spea hammondi</i>	AAABF02020	None	None	G2G3	S3	SSC
<b>white-stemmed clarkia</b> <i>Clarkia gracilis ssp. albicaulis</i>	PDONA050J1	None	None	G5T3	S3	1B.2
<b>woolly meadowfoam</b> <i>Limnanthes floccosa ssp. floccosa</i>	PDLIM02043	None	None	G4T4	S3	4.2
<b>woolly rose-mallow</b> <i>Hibiscus lasiocarpus var. occidentalis</i>	PDMAL0H0R3	None	None	G5T3	S3	1B.2

**Record Count: 39**

\*The database used to provide updates to the Online Inventory is under construction. [View updates and changes made since May 2019 here.](#)

## Plant List

13 matches found. *Click on scientific name for details*

### Search Criteria

California Rare Plant Rank is one of [1A, 1B, 2A, 2B] Found in Quads 3912167 and 3912177;

[Modify Search Criteria](#) [Export to Excel](#) [Modify Columns](#) [Modify Sort](#) [Display Photos](#)

Scientific Name	Common Name	Family	Lifeform	Blooming Period	CA Rare Plant Rank	State Rank	Global Rank
<a href="#">Balsamorhiza macrolepis</a>	big-scale balsamroot	Asteraceae	perennial herb	Mar-Jun	1B.2	S2	G2
<a href="#">Campylopodia stenocarpa</a>	flagella-like atractylocarpus	Dicranaceae	moss		2B.2	S1?	G5
<a href="#">Clarkia gracilis ssp. albicaulis</a>	white-stemmed clarkia	Onagraceae	annual herb	May-Jul	1B.2	S3	G5T3
<a href="#">Fritillaria pluriflora</a>	adobe-lily	Liliaceae	perennial bulbiferous herb	Feb-Apr	1B.2	S2S3	G2G3
<a href="#">Hibiscus lasiocarpus var. occidentalis</a>	woolly rose-mallow	Malvaceae	perennial rhizomatous herb (emergent)	Jun-Sep	1B.2	S3	G5T3
<a href="#">Imperata brevifolia</a>	California satintail	Poaceae	perennial rhizomatous herb	Sep-May	2B.1	S3	G4
<a href="#">Juncus leiospermus var. leiospermus</a>	Red Bluff dwarf rush	Juncaceae	annual herb	Mar-Jun	1B.1	S2	G2T2
<a href="#">Limnanthes floccosa ssp. californica</a>	Butte County meadowfoam	Limnanthaceae	annual herb	Mar-May	1B.1	S1	G4T1
<a href="#">Monardella venosa</a>	veiny monardella	Lamiaceae	annual herb	May,Jul	1B.1	S1	G1
<a href="#">Paronychia ahartii</a>	Ahart's paronychia	Caryophyllaceae	annual herb	Feb-Jun	1B.1	S3	G3
<a href="#">Rhynchospora californica</a>	California beaked-rush	Cyperaceae	perennial rhizomatous herb	May-Jul	1B.1	S1	G1
<a href="#">Sidalcea robusta</a>	Butte County checkerbloom	Malvaceae	perennial rhizomatous herb	Apr,Jun	1B.2	S2	G2
<a href="#">Stuckenia filiformis ssp. alpina</a>	slender-leaved pondweed	Potamogetonaceae	perennial rhizomatous herb (aquatic)	May-Jul	2B.2	S2S3	G5T5

### Suggested Citation

California Native Plant Society, Rare Plant Program. 2021. Inventory of Rare and Endangered Plants of California (online edition, v8-03 0.39). Website <http://www.rareplants.cnps.org> [accessed 12 March 2021].

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**Contributors**

[The Calflora Database](#)

[The California Lichen Society](#)

[California Natural Diversity Database](#)

[The Jepson Flora Project](#)

[The Consortium of California Herbaria](#)

[CalPhotos](#)

**Questions and Comments**

[rareplants@cnps.org](mailto:rareplants@cnps.org)

# Appendix B

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Observed Species Lists

**Plant Species Observed within the Notre Dame Blvd BSA  
on December 23, 2020 and March 23, 2021**

<b>Scientific Name</b>	<b>Common Name</b>
<i>Acmispon americanus</i>	Spanish lotus
<i>Amaranthus albus</i>	Tumbleweed
<i>Asclepias speciosa</i>	Showy milkweed
<i>Avena spp.</i>	Wild oats
<i>Baccharis salicifolia ssp. salicifolia</i>	Mule's-fat
<i>Bromus carinatus</i>	California brome
<i>Bromus diandrus</i>	Rip-gut brome
<i>Bromus hordeaceus</i>	Soft chess
<i>Centaurea solstitialis</i>	Yellow star thistle
<i>Centaureum tenuiflorum</i>	June centaury
<i>Cephalanthus occidentalis</i>	Common buttonbush
<i>Cichorium intybus</i>	Chicory
<i>Croton setiger</i>	Turkey-mullein
<i>Cynodon dactylon</i>	Bermuda grass
<i>Cyperus strigosus</i>	False nutsedge
<i>Elymus caput-medusae</i>	Medusahead
<i>Epilobium brachycarpum</i>	Tall willowherb
<i>Epilobium spp.</i>	Willowherb
<i>Erigeron bonariensis</i>	South American horseweed
<i>Erodium botrys</i>	Long-beaked stork's-bill
<i>Erythranthe guttata</i>	Seep monkeyflower
<i>Festuca perennis</i>	Rye-grass
<i>Galium parisiense</i>	Wall bedstraw
<i>Heliotropium europaeum</i>	European heliotrope
<i>Hordeum marinum ssp. gussoneanum</i>	Mediterranean barley
<i>Hordeum murinum</i>	Wall hare barley
<i>Hypericum perforatum</i>	Klamathweed
<i>Lactuca serriola</i>	Prickly lettuce
<i>Malva sp.</i>	Bull mallow
<i>Melilotus sp.</i>	Sweetclover
<i>Paspalum dilatatum</i>	Dallisgrass
<i>Phytolacca americana</i>	American pokeweed
<i>Plantago lanceolata</i>	English plantain
<i>Platanus racemosa</i>	Western sycamore
<i>Polypogon monspeliensis</i>	Rabbitsfoot grass
<i>Populus fremontii</i>	Fremont's cottonwood
<i>Prunus dulcis</i>	Almond
<i>Quercus lobata</i>	Valley oak
<i>Rubus armeniacus</i>	Himalayan blackberry
<i>Rumex crispus</i>	Curly dock
<i>Salix gooddingii</i>	Goodding's black willow
<i>Salix lasiolepis</i>	Arroyo willow
<i>Sambucus nigra ssp. caerulea</i>	Blue elderberry

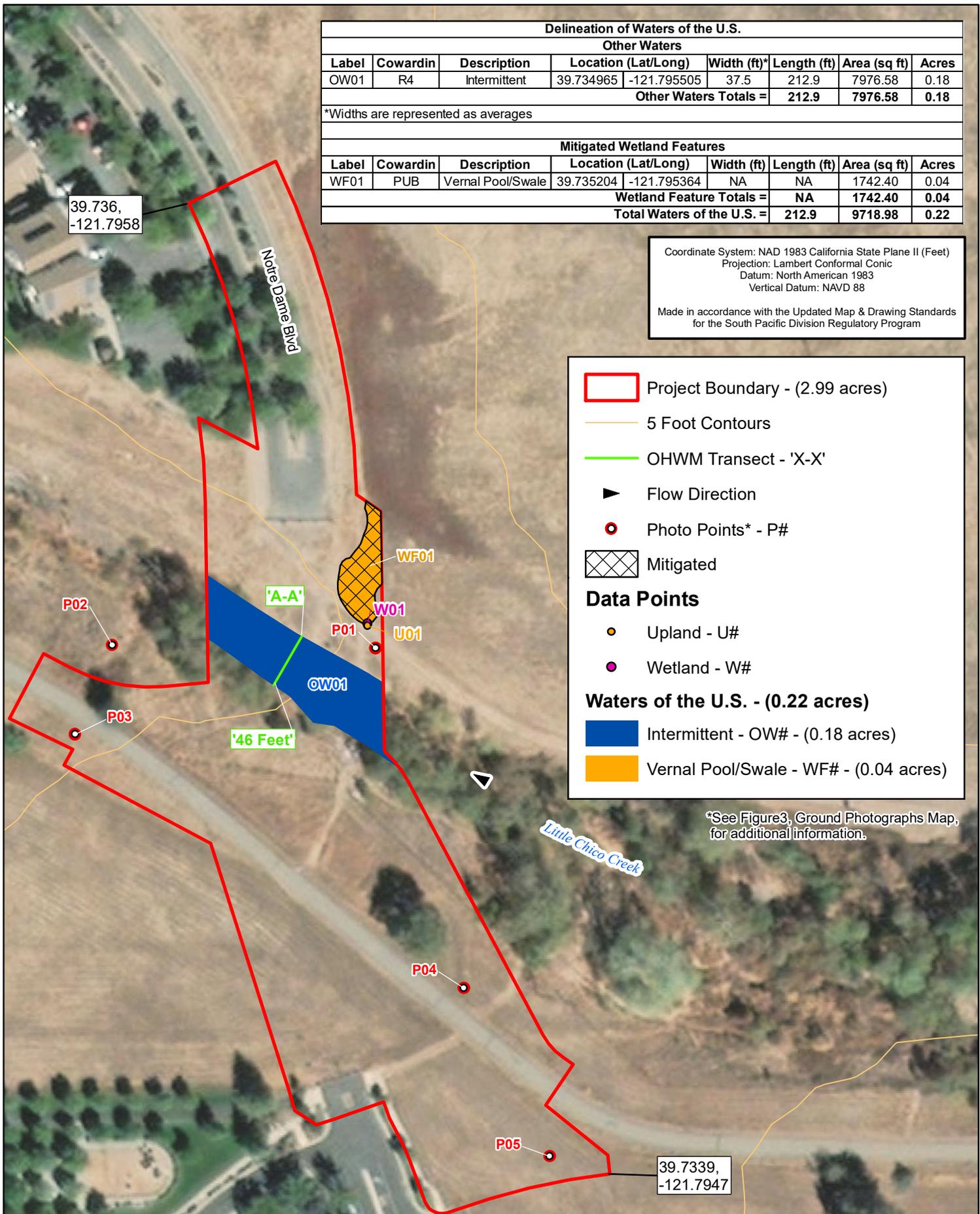
Scientific Name	Common Name
<i>Silybum marianum</i>	Milk thistle
<i>Sisymbrium officinale</i>	Hedge mustard
<i>Sorghum halepense</i>	Johnsongrass
<i>Stipa pulchra</i>	Purple needlegrass
<i>Trichostema lanceolatum</i>	Vinegarweed
<i>Trifolium hirtum</i>	Rose clover
<i>Typha spp.</i>	Cattails
<i>Verbascum blattaria</i>	Moth mullein
<i>Verbascum thapsus</i>	Woolly mullein
<i>Veronica anagallis-aquatica</i>	Water speedwell
<i>Vitis californica</i>	Wild grape
<i>Xanthium strumarium</i>	Rough cocklebur

Wildlife Species Observed within the Notre Dame over Little Chico Creek Bridge Project	
Scientific Name	Common Name
<b>Birds</b>	
<i>Aphelocoma californica</i>	California Scrub-jay
<i>Baeolophus inornatus</i>	Oak Titmouse
<i>Buteo jamaicensis</i>	Red-tailed Hawk
<i>Cathartes aura</i>	Turkey Vulture
<i>Colaptes auratus</i>	Northern Flicker
<i>Corvus brachyrhynchos</i>	American crow
<i>Junco hyemalis</i>	Dark-eyed Junco
<i>Mimus polyglottos</i>	Northern Mockingbird
<i>Passer domesticus</i>	House Sparrow
<i>Passerculus sandwichensis</i>	Savannah Sparrow
<i>Regulus calendula</i>	Ruby-crowned Kinglet
<i>Sayornis nigricans</i>	Black Phoebe
<i>Spinus tristis</i>	American Goldfinch
<i>Sturnus vulgaris</i>	Common Starling
<i>Zonotrichia leucophrys</i>	White-crowned Sparrow
<b>Amphibians</b>	
<i>Pseudacris regilla</i>	Pacific Tree Frog
<b>Mammals</b>	
<i>Canis lupus familiaris</i>	Domestic Dog
<i>Felis catus</i>	House Cat

# Appendix C

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Draft Delineation of Waters of the United States Map



Delineation of Waters of the U.S.								
Other Waters								
Label	Cowardin	Description	Location (Lat/Long)		Width (ft)*	Length (ft)	Area (sq ft)	Acres
OW01	R4	Intermittent	39.734965	-121.795505	37.5	212.9	7976.58	0.18
<b>Other Waters Totals =</b>						<b>212.9</b>	<b>7976.58</b>	<b>0.18</b>
*Widths are represented as averages								
Mitigated Wetland Features								
Label	Cowardin	Description	Location (Lat/Long)		Width (ft)	Length (ft)	Area (sq ft)	Acres
WF01	PUB	Vernal Pool/Swale	39.735204	-121.795364	NA	NA	1742.40	0.04
<b>Wetland Feature Totals =</b>						<b>NA</b>	<b>1742.40</b>	<b>0.04</b>
<b>Total Waters of the U.S. =</b>						<b>212.9</b>	<b>9718.98</b>	<b>0.22</b>

Coordinate System: NAD 1983 California State Plane II (Feet)  
 Projection: Lambert Conformal Conic  
 Datum: North American 1983  
 Vertical Datum: NAVD 88

Made in accordance with the Updated Map & Drawing Standards for the South Pacific Division Regulatory Program

- Project Boundary - (2.99 acres)
- 5 Foot Contours
- OHWM Transect - 'X-X'
- Flow Direction
- Photo Points\* - P#
- Mitigated

**Data Points**

- Upland - U#
- Wetland - W#

**Waters of the U.S. - (0.22 acres)**

- Intermittent - OW# - (0.18 acres)
- Vernal Pool/Swale - WF# - (0.04 acres)

\*See Figure 3, Ground Photographs Map, for additional information.

1:1,200 1 inch = 100 feet

0 50 100 Feet

Data Sources: ESRI, Butte County, Maxar 8/06/2019,

**NORTH**

**Notre Dame Bridge over Little Chico Creek Project**  
 Delineation of Waters of the U.S.

Delineation by: E. Gregg  
 Map by: T. Morgan

**gallaway ENTERPRISES**

GE: #20-120 Map Date: 04/19/2021

# Appendix D

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Project Site Photos

## Project Site Photos

Taken December 11, 2020



Looking west at annual grassland and bike path.



Looking north at proposed bridge site.



Looking northeast at Little Chico Creek.



Looking south at limited riparian habitat.