Appendix B Biological Resource Evaluation

Appendix

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BIOLOGICAL RESOURCE EVALUATION FOR SANTA FE ELEMENTARY SCHOOL EXPANSION PROJECT CITY OF PORTERVILLE, TULARE COUNTY, CALIFORNIA

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Environmental Enterprise Solutions

January 17, 2025

CERTIFICATION STATEMENT

I hereby certify that the statements furnished above and in the attached exhibits present the data and information required for this report, and that the facts, statements, and information presented are true and correct to the best of my knowledge and belief.

January 17, 2025
Date

Sloane Sanchez
Sloane Sanchez
Senior Biologist

January 17, 2025
Date

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SECTION 1. INTRODUCTION

HANA Resources, Inc. (HANA) was retained by PlaceWorks to prepare an updated Biological Resources Evaluation (BRE) report for the proposed Santa Fe Elementary School Expansion Project to substantiate the biological analyses (especially related to listed species) in the draft Initial Study/Mitigated Negative Declaration (IS/MND). Following completion of the reconnaissance-level biological evaluation, HANA prepared this BRE that: 1) summarized existing conditions; 2) assessed the potential presence of sensitive biological resources; 3) analyzed the potential impacts on those resources from project development; 4) recommended, as appropriate, best management practices (BMPs), avoidance and protection measures, and mitigation measures to avoid, eliminate and/or reduce environmental impacts to less than significant levels; and 5) identified biological permits or approvals that the project may need. The BRE includes: 1) methods and results of the literature review 2) figures depicting the size and location of plant communities and other sensitive biological resources. It must be noted that this is an abbreviated BRE that did not include a site visit. The Study Area includes the proposed Project site and a 500-foot zone out from the proposed project site and is referred to as the Biological Study Area (BSA). The proposed project will impact only the project area.

1.1. PROJECT LOCATION

The proposed Project covers approximately 4.6 acres in the City of Porterville, Tulare County, CA (**Exhibit I,** *Project Vicinity Map*). The proposed Project is located at Santa Fe Elementary School near the intersection of South Plano Street and East Orange Avenue and is on the APNs 261-150-056, 261-150-057, 261-150-058, and (**Exhibit II,** *Project Location Map*). The proposed Project site (**Exhibit III,** *Site Plan Map*). is located on the United States Geological Survey (USGS) Porterville Quadrangle, 7.5-Minute Topographic map. The site's surface elevation ranges from about 457 to 466 feet above mean sea level (MSL). The proposed Project area is located within Section 36 in Township 21 South-Range 27 East, Mount Diablo Meridian.

1.2. PROJECT DESCRIPTION

The proposed project is for the construction of two new buildings for classrooms, a new parking lot, a pick-up/drop-off area, new driveways, and a restructuring of existing parking lot 2 at Santa Fe Elementary School and will include construction of a sidewalk along Orange Avenue.

The development will have the following:

- Building 700: 5,823 square-feet and 1,860 square-feet of shaded outdoor area
- Building 800: 10,358 square-feet and 3,686 square feet of shaded outdoor area
- Reconfiguration of Parking Lot 2 to include a pick-up/drop-off area and new driveways, resulting in a loss of 7 parking stalls
- Construction of Parking Lot 3 to include 49 parking stalls

The project also includes removing the existing structures and trees, moderate grading operation, construction of retaining walls, wet/dry utilities, street work, landscaping, and flatwork.

Exhibit I: Project Vicinity Map

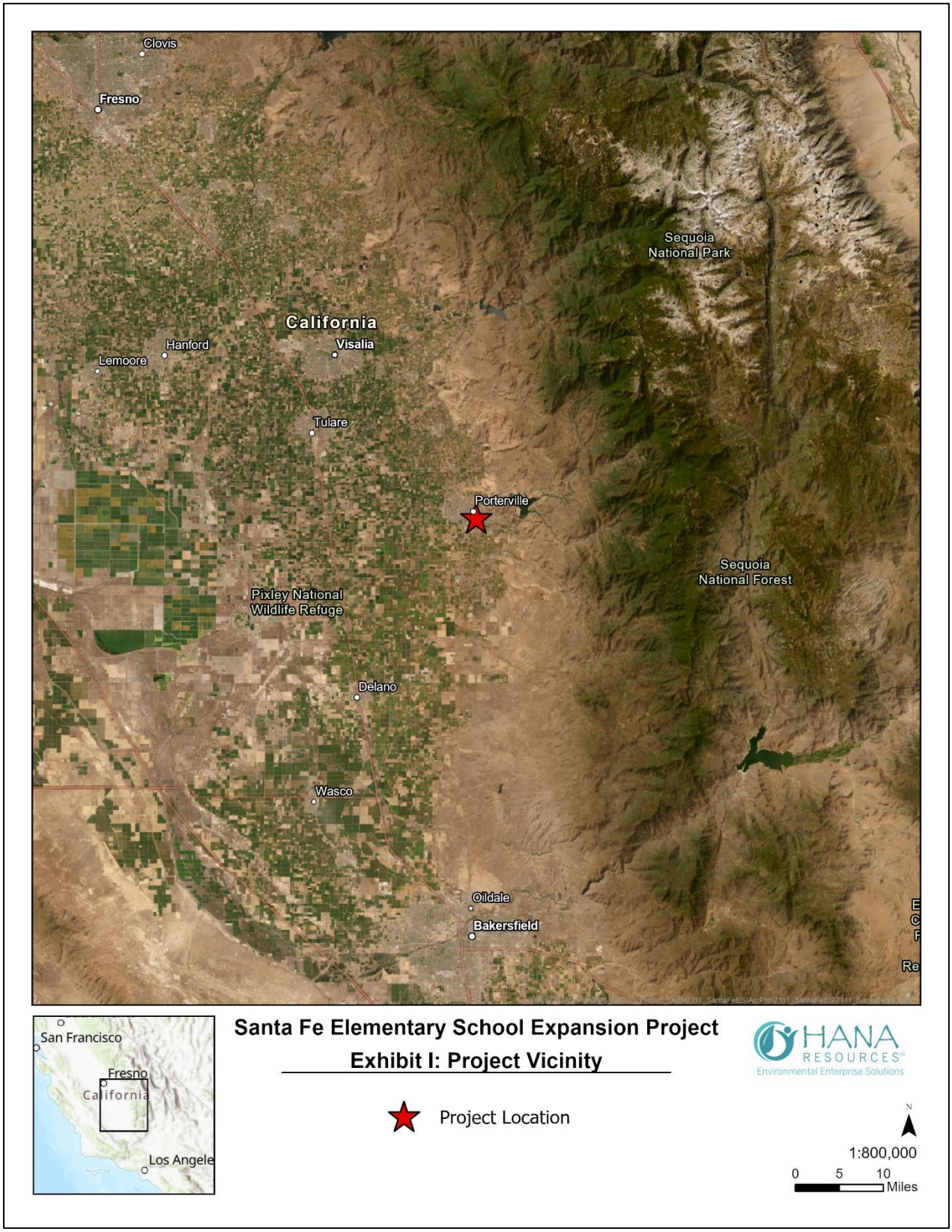


Exhibit II: Project Location Map

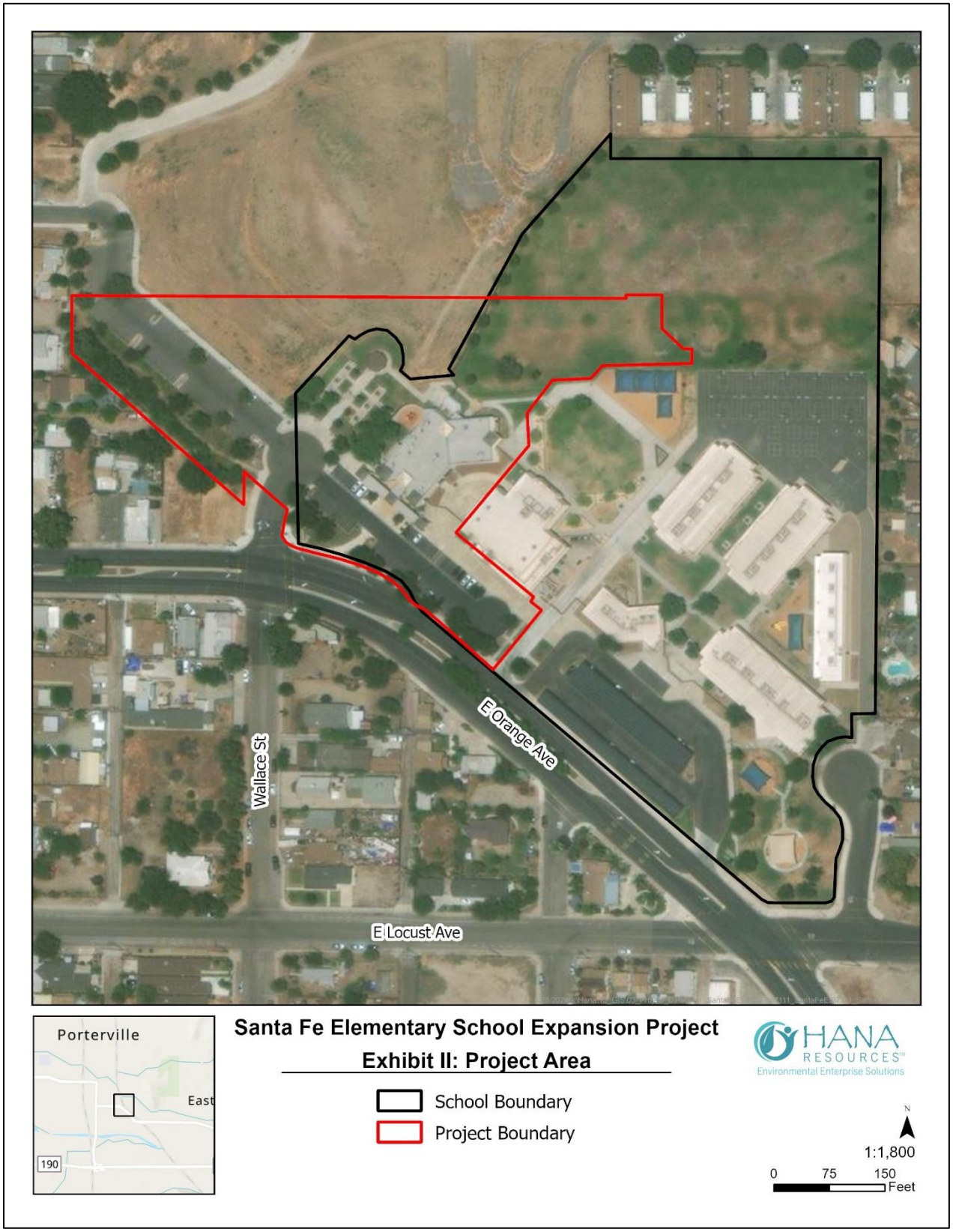
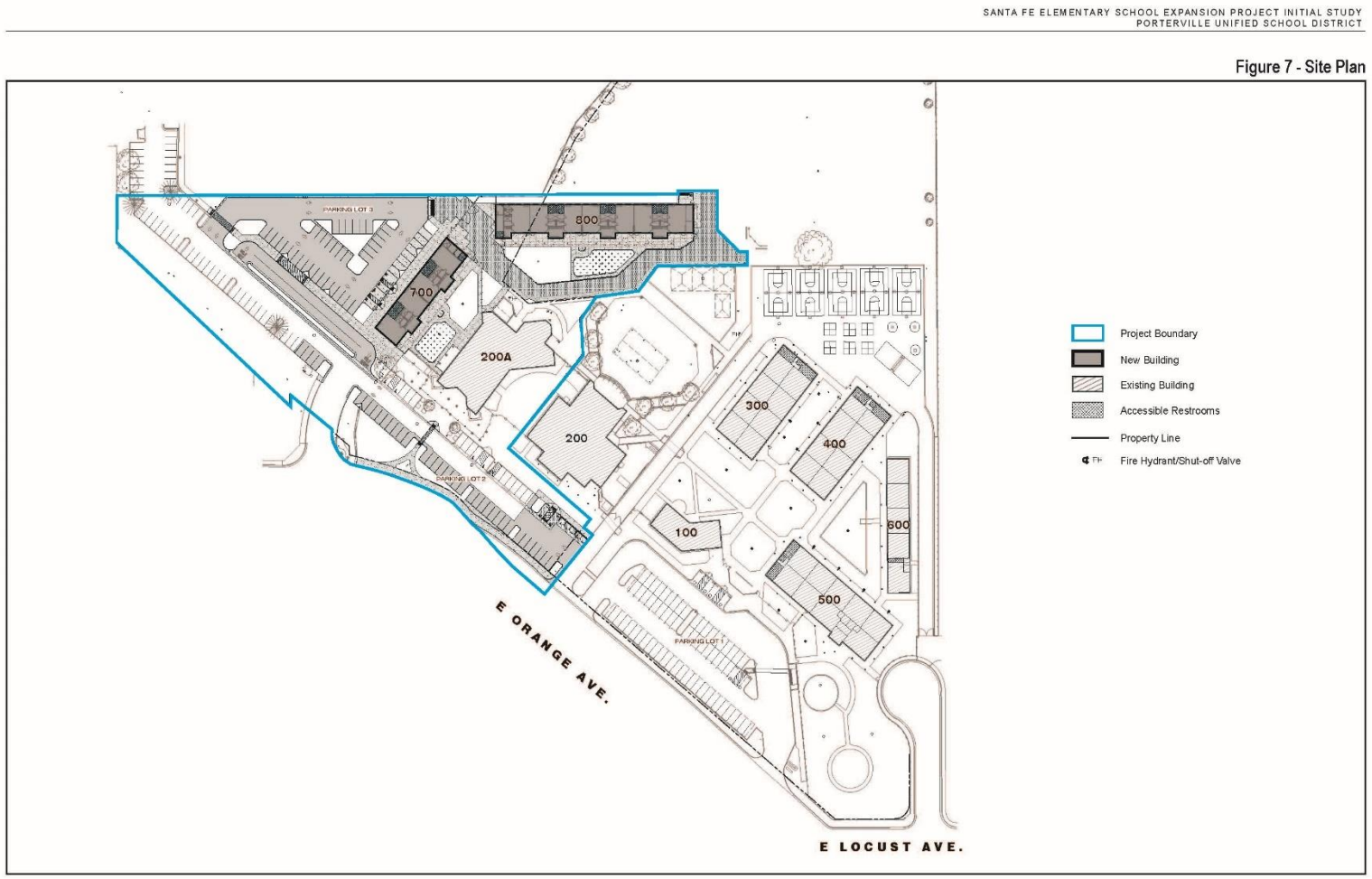


Exhibit III: Site Plan Map



PlaceWorks 2024

SECTION 2. REGULATORY OVERVIEW

2.1. Federal Statutes, Regulations and Executive Orders

Endangered Species Act (ESA)

The federal Endangered Species Act of 1973 (Title 16, United States Code [U.S.C.] §§ 1531-1543) (ESA), as amended, designates and provides for protection of listed threatened and endangered plant and animal species, and their critical habitat. The U.S. Fish and Wildlife Service (USFWS), in the Department of the Interior, and the National Oceanic and Atmospheric Administration's (NOAA) National Marine Fisheries Service (NMFS), in the Department of Commerce, share responsibility for administration of the ESA. These responsibilities include listing and delisting species, designating critical habitat, and formulating recovery plans. The USFWS has primary responsibility for terrestrial and freshwater organisms, while the responsibilities of NMFS are mainly marine wildlife.

Section 9 (Prohibited Acts)

Once a species is listed, section 9 of the ESA makes it unlawful for any person, including private and public entities, to "take species listed as endangered or without a permit issued pursuant to section 10 or an incidental take statement issued pursuant to section 7. Section 9 defines "take" as "to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect or attempt to engage in any such conduct." The term "harm" is defined as "an act which actually kills or injures wildlife. Such an act may include substantial habitat modification or degradation where it actually kills or injures wildlife by significantly impairing essential behavioral patterns, including breeding, feeding, or sheltering."

ESA section 9's take prohibitions apply to listed wildlife and fish species, but not to plants. Endangered plants are not protected from take, although it is unlawful to remove, possess, or maliciously damage or destroy them on federal lands. Removing or damaging listed plants on state and private lands in knowing violation of state law, or in the course of violating a state criminal trespass law, also is illegal under the ESA.

Section 10 (Incidental Take Permits and Habitat Conservation Plans)

An incidental take permit pursuant to section 10(a)(1)(B) is required when non-Federal, otherwise lawful activities, including lawful project development, will result in take of threatened or endangered wildlife. Under this provision, the USFWS and/or NMFS may, where appropriate, authorize the taking of federally listed wildlife or fish if such taking occurs incidentally during otherwise legal activities. Section 10(a)(2)(B) requires an application for an incidental take permit to include a Habitat Conservation Plan (HCP). The purpose of the habitat conservation planning process associated with the permit is to ensure there is adequate avoidance, minimization and mitigation measures to address the effects of the authorized incidental take. Section 10 provides a clear regulatory mechanism to permit the incidental take of federally listed fish and wildlife species by private interests and non-Federal governmental agencies.

The County of Riverside is a Permittee pursuant to the Multiple Species Habitat Conservation Plan (MSHCP) and related section 10(a)(b)(1) permit. Payment of the mitigation fee and compliance with the requirements of the MSHCP are intended to provide full mitigation under CEQA, the National Environmental Policy Act (NEPA), the ESA and the California Endangered Species Act (CESA) for the impacts on the species and habitats covered by the MSHCP (MSHCP, Vol. I, p. 6-3).

Migratory Bird Treaty Act (MBTA)

The Migratory Bird Treaty Act (MBTA) of 1918 (Title 16, U.S.C. sections 703 - 712), as amended, implements various treaties and conventions between the United States (U.S.) and Canada, Japan, Mexico and the former Soviet Union for the protection of migratory birds. The MBTA makes it unlawful to pursue, hunt, take, capture, kill, possess, sell, purchase, barter, import, export, or transport any migratory bird, or any part, nest, or egg or any such bird, unless authorized under a permit issued by the Secretary of the Interior. Some regulatory exceptions apply. Take is defined in regulations implementing the MBTA as "to pursue, hunt, shoot, wound, kill, trap, capture, or collect, or attempt to carry out these activities." The MBTA prohibits the collection and destruction of a migratory bird, its nest, and birds or eggs contained in the nest. The USFWS' Migratory Bird Permit Memorandum (MBPM-2) dated April 15, 2003, clarifies that destruction of most unoccupied bird nests is permissible under the MBTA; exceptions include nests of federally listed threatened or endangered migratory birds, bald eagles, and golden eagles. Take under the MBTA does not include habitat destruction or alteration, as long as there is not a direct taking of birds, nests, eggs, or parts thereof. The USFWS has statutory authority and responsibility for enforcing the MBTA.

Bald and Golden Eagle Protection Act

The Bald and Golden Eagle Protection Act (16 USC Section 668) provides for the protection of the bald eagle (the national emblem) and the golden eagle by prohibiting, except under certain specified conditions, the taking, possession and commerce of such birds. If compatible with the preservation of bald and golden eagles, the Secretary of the Interior may permit the taking, possession and transportation of bald and golden eagles and nests for scientific or religious purposes, or for the protection of wildlife, agricultural or other interests. The Secretary of the Interior may authorize the take of golden eagle nests, which interfere with resource development or recovery operations. Bald eagles may not be taken for any purpose unless the Secretary issues a permit prior to the taking.

Clean Water Act (CWA)

The federal Clean Water Act (33 U.S.C. §§ 1251-1376) (CWA) is the principal federal law governing pollution control and water quality of the nation's waterways. It establishes the basic structure for regulating discharges of pollutants into "Waters of the United States" (Waters of the U.S.) and for regulating water quality and establishing water quality standards for surface waters. Sections 401, 402, and 404 of the CWA are pertinent to surface and coastal, Waters of the U.S. For purposes of Section 404 permitting under the CWA, "Waters of the U.S.", are comprised of those wetland and non-wetland bodies of water that meet the criteria set forth in 33 Code of Federal Regulations (CFR) § 328.3, as interpreted by a number of court opinions and guidance, including Solid Waste Agency of Northern Cook County (SWANCC) v. U.S. Army Corps of Engineers (USACE), 531 U.S. 159 (2001) (SWANCC), consolidated cases Rapanos v. United States (Rapanos), and Carabell v. United States (Carabell), 547 U.S. 715 (2006), and joint guidance issued by USACE and United States Environmental Protection Agency (EPA) in light of judicial decisions, including the joint guidance memorandum regarding Clean Water Act Jurisdiction. Following the U.S. Supreme Court's Decision in Rapanos v. United States and Carabell v. United States (December 12, 2008) (2008 Regulatory Guidance).

Section 404 – Discharge of Dredge and Fill Requirements

Section 404 of the CWA establishes a program to regulate the discharge of dredged or fill material into Waters of the U.S. The USACE implementing regulations define "dredged material" as material that is excavated or dredged from Waters of the U.S. The CWA implementing regulations define "Fill material" as material placed in Waters of the U.S. where the material has the impact of either replacing any portion of Waters of the U.S. with dry land or changing the bottom elevation of any portion of a Waters of the

U.S. Examples include discharges of rock, sand, soil, clay, plastics, construction debris, wood chips, overburden from mining or other excavation activities, and materials used to create any structure or infrastructure for development projects in Waters of the U.S.

Section 401 – Water Quality Certification

Although the CWA is a federal law, Section 401 of that law recognizes that states have the primary authority and responsibility for setting surface water quality standards, and requires the U.S. Army Corps of Engineers to obtain a state certification that their permits for discharge or dredge and fill material do not violate state water quality standards. Section 401 of the CWA requires every applicant for a Section 404 permit resulting in any discharge of dredge or fill material into Waters of the U.S. to provide a certification that any discharges will comply with the applicable state water quality standards set pursuant to the CWA and applicable state law.

2.2. State Statutes and Regulations

California Endangered Species Act

The California Endangered Species Act (CESA) (California Fish and Game Code § 2050 et seq.) was enacted in 1984 to parallel the federal ESA and allows the Fish and Game Commission to designate species, including plants, as “threatened” or ”endangered.” The CESA states that all native species of fishes, amphibians, reptiles, birds, mammals, and plants, and their habitats, threatened with extinction and those experiencing a significant decline which, if not halted, would lead to a threatened or endangered designation, will be protected or preserved. Unlike the ESA, the CESA does not include listing provisions for invertebrate species.

CESA makes it illegal to import, export, take, possess, purchase, sell, or attempt to do any of those actions to species that are designated as threatened, endangered, or candidates for listing, unless permitted by California Department of Fish and Wildlife (CDFW) Section 2080 of the California Fish and Game Code prohibits take of any species that the Commission determines to be an endangered species or a threatened species. “Take” is defined in section 86 of the California Fish and Game Code as "hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture, or kill."

Under section 2081 of CESA, CDFW may permit take or possession of threatened, endangered, or candidate species for scientific, educational, or management purposes, and may also permit take of these species that is incidental to otherwise lawful activities if certain conditions are met. Some of the conditions for issuance of permits allowing incidental take are that the adverse effects of the take must be minimized and fully mitigated, adequate funding must be ensured for implementation of identified mitigation, and that the activity shall not jeopardize the continued existence of the listed species. CESA emphasizes early consultation to avoid potential impacts on candidate and listed endangered and threatened species, and to develop appropriate mitigation to offset project caused losses of listed species populations and their essential habitats.

California Fish and Game Code §§ 1600-1616

Pursuant to §§ 1600–1616 of the California Fish and Game Code, the CDFW regulates all substantial diversions, obstructions, or changes to the natural flow or the bed, channel, or bank of any river, stream, or lake, which provides habitat and supports fish or wildlife. CDFW defines a “stream” (including creeks and rivers) as “a body of water that flows at least periodically or intermittently through a bed or channel having banks and supports fish or other aquatic life. This includes watercourses having surface or subsurface flow that supports or has supported riparian vegetation” (California Code of Regulations, Title

14, Division 1, Subdivision 1, Chapter 1, § 1.72). “Bank” means the slope or elevation of land that bounds the bed of the stream in a permanent or longstanding way, and that confines the stream water up to its highest level. “Lake” includes “natural lakes or man-made reservoirs.”

Rivers, streams, lakes, and riparian vegetation that provide habitat for fish and wildlife species are subject to jurisdiction by the CDFW under §§ 1600-1616 of the California Fish and Game Code. Riparian areas are lands adjacent to streams, lakes, and estuarine-marine shorelines. Section 2785(e) defines "riparian habitat" as lands which contain habitat which grows close to, and which depends upon soil moisture from a nearby freshwater source. CDFW regulates the bed, bank to bank, as well as associated riparian vegetation, and fish and wildlife resources. CDFW has interpreted jurisdictional boundaries to be defined by the tops of stream banks (i.e., the limit of stream influence) and/or the limit of the canopy of riparian vegetation (outer drip line) that is hydrologically connected to river, stream, or lake, whichever is greatest. As a result, the area of CDFW jurisdiction is usually greater than the active channel and overlaps and extends beyond the USACE jurisdiction. Isolated wetlands not associated with a river, stream or lake are not protected under §§ 1600 et seq. of the California Fish and Game Code. In addition, CDFW does not have regulatory authority on Tribal Lands.

2.3. Regional and Local Ordinances, Plans and Policies

City Codes of Porterville, California

Chapter 19-58: Street Tree Removal Permits: Establishes a permit system to authorize street tree removal. No persons will be authorized to remove trees, as covered by this article, without having first applied and received a permit to do so. These removal permits will not be valid for any period longer than thirty (30) days from the date of issuance. Exceptions, at the discretion of the director, shall occur for those permits issued to public utilities who are serving the area, which permits may be valid for one year after issuance.

Chapter 25-32A. 18: Stormwater Management and Rainwater Retention: Outlines stormwater management practices to minimize runoff and increase groundwater infiltration while improving water quality. Requires project applicants to refer to the city of Porterville and regional water quality control boards for any technical requirements.

SECTION 3. METHODOLOGY

3.1. LITERATURE REVIEW

A desktop literature review was performed to review existing documentation relevant to the Biological Study Area (BSA). The BSA is defined as the project area and a 500-foot buffer zone outside of but contiguous with the project site. The most recent records of the Information for Planning and Consultation (IPaC) database, managed by the U.S. Fish and Wildlife Service (USFWS 2024a); California Natural Diversity Database (CNDDB), managed by the California Department of Fish and Wildlife (CDFW 2024a); and the California Native Plant Society’s Electronic Inventory of Rare and Endangered Vascular Plants of California (CNPS 2024b) were reviewed for the quadrangles containing (i.e., *Porterville*, California USGS 7.5 minute quadrangles) and surrounding the Survey Area (i.e., *Frazier Valley, Lindsay, Fountain Springs, Ducor, Success Dam, Cairns Corner, Sausalito School, Woodvill*e; California USGS 7.5-minute quadrangles). These databases contain records of reported occurrences of federal- or state-listed as endangered or threatened species, proposed endangered or threatened species, former Federal Special of Concern (FSC), California

Species of Special Concern (CSC), or otherwise special-status species or sensitive habitat that may occur within or in the immediate vicinity of the BSA.

3.1.1. USACE, SWRQCB, and CDFW Preliminary Jurisdictional Assessment

A 50-foot-to-the-inch scaled topographic map, scaled aerial photograph, and the Porterville 7.5-minute USGS topographic quadrangle map were examined to determine the locations of potential areas of USACE, California State Water Resources Quality Control Board (SWRQCB), and/or CDFW jurisdiction. HANA biologists examined these resources to identify potential USACE jurisdiction pursuant to Section 404 and 401 of the Clean Water Act and CDFW jurisdiction pursuant to Section 1602 of the State of California Fish and Game Code. No jurisdictional drainages/areas were identified.

3.2. SOILS

Soil maps for the proposed Project were referenced online to determine the types of soil found on the site from the USDA Natural Resources Conservation Service (NRCS) Web Soil Survey (USDA 2024). Soils are determined in accordance with categories set forth by the U.S. Department of Agriculture (USDA) Soil Conservation Service and by referencing the USDA Natural Resources Conservation Service (NRCS) Web Soil Survey (USDA 2024).

3.3. WETLANDS

The project boundary and its 500-foot buffer were referenced online to determine presence or absence of wetlands through USFWS's Natural Wetland Inventory (NWI) Wetland Mapper (USFWS 2024c). The USFWS is the principal federal agency tasked with monitoring and providing information on the extent, status, characteristics, and functions of the countries wetlands, deepwater, and other aquatic habitats (USFWS 2024c). This inventory follows the national standard definition of wetlands as outlined in Cowardin et al. 2nd edition (2013). Wetlands are then categorized based upon landscape, substrate, vegetation cover, and hydrologic regime and is known as the Cowardin system (Cowardin et al. 2013).

3.4. POTENTIAL FOR OCCURRENCE

3.4.1. Criteria

A vegetation community or special-status species is considered to potentially occur in a BSA if its known geographic range includes part of the BSA or an adjacent USGS 7.5-minute quadrangle and/or if the general habitat or environmental conditions (e.g., soil type, etc.) required for the species are present. The criteria for evaluating the potential for occurrence (PFO) on a site is presented in **Table 1**, *Criteria for Evaluating Special-status Species Occurrences*.

Table 1. Criteria for Evaluating Special-status Species Occurrences

PFO	Criteria
Absent	Species is restricted to habitats or environmental conditions that do not occur within the site.
Low	Historical records for this species do not exist within the immediate vicinity of the site (approximately 5 miles), and/or habitats or environmental conditions needed to support the species are of poor quality.
Moderate	Either a historical record exists of the species within the immediate vicinity of the site (approximately 5 miles) and marginal habitat exists on the site, or the habitat requirements or environmental conditions associated with the species occur within the site, but no historical records exist within 5 miles of the site.
High	Both a historical record exists of the species within the site or its immediate vicinity (approximately 5 miles), and the habitat requirements and environmental conditions associated with the species occur within the site.

3.4.2. Status Codes

A list of abbreviations used to help determine the significance of biological resources potentially occurring in the BSA is provided in Table 2, *Abbreviations for Federal- and State-listed Special-status Species*.

Table 2. Abbreviations for Federal- and State-listed Special-status Species

Designation	Abbreviation	Explanation
Federal	**FE**	Federally listed; Endangered
	FT	Federally listed; Threatened
	FC	Federal Candidate for listing
	FPE	Federally Preposed - Endangered
	FPT	Federally Proposed - Threatened
	BGEPA	Bald and Golden Eagle Protection Act
	USFS:S	US Forest Service – Sensitive Species
	BLM:S	Bureau of Land Management – Sensitive Species
State	**SE**	State listed; Endangered
	ST	State listed; Threatened
	SC-T	State Candidate for Threatened listing
	SC-E	State Candidate for Endangered listing
	RARE	State listed; Rare (Listed “Rare” animals have been re-designated as Threatened, but Rare plants have retained the Rare designation.)
	SC-RARE	State Candidate for Rare listing
	SSC	State Species of Special Concern
	SNC	State Natural Communities rarity ranking: 1-3 are considered sensitive, R is Rare.
	BCC	Bird of Conservation Concern
CNPS CRPR	**List 1A**	Plants presumed to Extinct in California
	List 1B	Plants Rare and Endangered in California and throughout their range
	List 2	Plants Rare, Threatened or Endangered in California but more common elsewhere in their range
	List 3	Plants about which we need more information; a review list
	List 4	Plants of limited distribution; a watch list
CNPS CRPR Extensions	**0.1**	Seriously Endangered in California (greater than 80 percent of occurrences threatened/high degree and immediacy of threat)

Designation	Abbreviation	Explanation
	0.2	Fairly Endangered in California (20-80 percent of occurrences threatened)
	0.3	Not Very Endangered in California (less than 20 percent of occurrences threatened)
Global and State Rank	**G1/S1**	Critically imperiled: at high risk of extinction, extremely rare
	G2/S2	Imperiled: at high risk of extinction, restricted range, very few populations
	G3/S3	Vulnerable: moderate risk of extinction, restricted range, few populations
	G4/S4	Apparently secure: uncommon, not rare, possible long-term declines
	G5/S5	Secure: common, widespread, abundant

SECTION 4. RESULTS

4.1. LITERATURE REVIEW

4.1.1. Soils

After review of the USDA Natural Resources Conservation Service (NRCS) Web Soil Survey (USDA 2024) (**Appendix A**), it was determined that the BSA is composed of the following two (2) soil types:

153 – San Emigdio loam
The San Emigdio loam has a mean annual precipitation of 11 to 16 inches and mean annual air temperature of 61 to 64°F. The soils can be found at elevations of 430 to 690 feet. The San Emigdio loam is comprised of loam and fine sandy loam. The parent material is alluvium derived from granitoid and/or alluvium derived from sedimentary rock. The soil is well drained. The soil is not hydric.

164 Tujunga sand
The Tujunga sand has a mean annual precipitation of 10 to 25 inches and mean annual air temperature of 59 to 64°F. The soils can be found at elevations of 10 to 2,500 feet. The Tujunga sand is composed of sand and loamy sand. The parent material is alluvium derived from granitoid. The soil is somewhat excessively drained. The soil is not hydric

4.1.2. Wetlands

After review of the USFWS National Wetland Inventory's Wetland Mapper, it was determined that no wetlands occurred on the project site. However, a single wetland occurred within the BSA (Project area + 500-foot buffer) to the north. This wetland, Porter Slough, follows an urban trail to the northwest where it enters a culver approximately 670 feet north of the project area, running underground across the city-owned parcel and residential area north of the school's campus, before exiting the culvert approximately 350 feet northeast of the project area.

Porter Slough
Porter Slough is an 11.73-acre wetland defined as riverine habitat and falls under the Cowardin systems wetland type R4SBC and is defined below.

System: Riverine (R)
Porter Slough, as defined as a Riverine system, is a wetland contained within a channel and is not dominated by vegetation including trees, shrubs, and emergent vegetation A channel is an open conduit,

either formed naturally or artificially created and contains periodically moving water.

Subsystem: Intermittent (4)
Porter Slough, as defined by the Riverine subsystem of Intermittent, is a channel that contains flowing water only part of the year. When not containing flowing water, surface water may be absent or become isolated in pools.

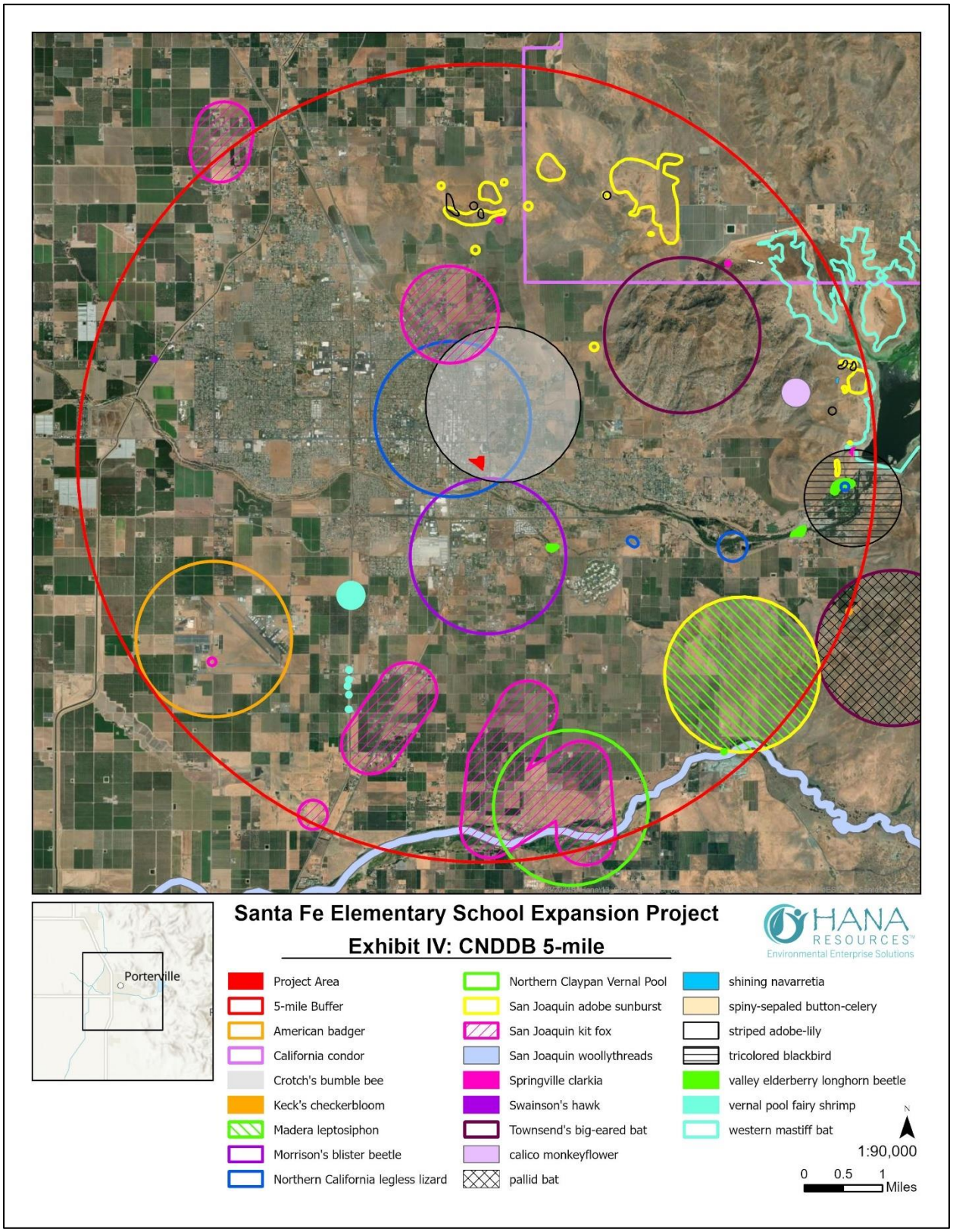
Class: Streambed (SB)
Porter Slough, as defined by the class Streambed, is a wetland contained within the Intermittent Subsystem of the Riverine System that is completely dewatered at low tide.

Water Regime: Seasonally Flooded (C)
Porter Slough, as defined by the water regime Seasonally Flooded, receives surface water for extended period early in the growing season and who's surface water becomes absent by the end of the growing season. The water table after surface water becomes absent is variable and can range from being at the surface to well below the surface.

4.2. POTENTIAL FOR OCCURRENCE

A map of the CNDDB database occurrences is included in **Exhibit IV,** *Special-Status Species within 5 Miles of Project Location*.

Exhibit IV: Special-Status Species within 5 Miles of Project Location



4.2.1. Vegetation

Vegetation

Sensitive natural communities are communities that are of limited distribution statewide or within a county or region and are often vulnerable to environmental effects of projects. These communities may or may not contain special status plants or their habitat.

The literature review resulted in a list of one (1) vegetation community known to occur within the nine-quadrangle area, presented in **Table 3**, *Sensitive Vegetation Communities*. None of these vegetation community types were considered *high or moderate* potential within the BSA. The one (1) vegetation community is considered to have *low* potential for occurrence.

Table 3. Sensitive Vegetation Communities

Plant Community Name	PFO	Description	Site Factors
Northern Claypan Vernal Pool	Low	A shallow ephemeral wetland found within grasslands and open woodlands. The clay composition allows for water availability into the summer before drying. An explosive growth of vegetation occurs during periods of water availability. Associated with fairy shrimp.	A riverine wetland occurs to the north within the 500-foot buffer placed on the BSA. A grassy play field is located within the school's property. However, the soil data for the area suggests a sandy-loam composition allowing for a well-drained soil that could not support this community's formation.

4.2.2. Plants

The literature review resulted in a list of twenty-six (26) special-status plant species that have been known to occur within the BSA and surrounding twelve-quadrangles, presented in **Table 4**, *Special Status Plant Species*. No plant species were considered to have *high* or *moderate* potential; all twenty-six (26) species were considered to have *low* to *no* potential to occur in the BSA. Factors used to determine potential for occurrence include quality of habitat, soil type, impact from previous land use, and the date and location of prior CNDDB, CNPS, and Jepson eFlora occurrence records.

Table 4. Special-Status Plant Species

Scientific Name (=Synonym)	Common Name (=Synonym)	Status	General Habitat Description in California	BSA Contains Potential Suitable Habitats	Plant Elevation Range (feet amsl)	BSA is Located Within the Plant Species' Known:		Potential For Occurrence in the BSA
						Elevation Range	General Distribution	
Listed Endangered, Threatened, Candidate and State Rare Plants: Plants with official status under the federal Endangered Species Act (ESA), the California Endangered Species Act (CESA), and/or the Native Plant Protection Act (NPPA). A species may have other sensitive designations in addition to their federal or state listing.								
Clarkia springvillensis	Springville clarkia	FT, SE, G2, S2, CRPR:1B.2	Springville clarkia is an annual herb that is found on granitic soils in sunny sites. Springville clarkia grows mostly on the uphill slope of road banks, on small decomposing granitic domes, and in openings within the blue oak woodland's community in the foothills of the southern Sierra Nevada Mountains. In all, this species grows in open areas of valley and foothill grasslands, blue oak woodlands (cismontane woodlands) and chaparral communities (chamise). This listed plant flowers from May to July.	No	805-4005	No	Yes	**No Potential for Occurrence in the BSA.** The BSA does not contain habitat associated with this species nor does the BSA fall within the elevation range of this species.
Monolopia congdonii	San Joaquin woollythreads	FE, G2, S2, CRPR:1B.2	San Joaquin woollythreads is an annual herb grows on neutral to sub alkaline soils. On the San Joaquin Valley floor, it typically is found on sandy or sandy loam soils, whereas in the Carrizo Plain it occurs on silty soils. Usually found in poorly drained saline soils. San Joaquin woollythreads occupies microhabitats in non-native, valley and foothill grasslands, valley saltbush scrub, interior Coast Range saltbush scrub and upper Sonoran subshrub communities. This listed plant flowers from February to May.	No	195-2625	Yes	Yes	**Low Potential for Occurrence in the BSA.** The BSA contains a non-native grassland and an undeveloped field, however these areas are highly disturbed, regularly maintained by mowing, and not typically associated with this species.
Pseudobahia peirsonii	San Joaquin adobe sunburst	FT, SE, G1, S1, CRPR:1B.1	San Joaquin adobe sunburst is an annual herb that is restricted to heavy adobe clay soils on low slopes of grassy valley floors and rolling foothills in blue oak woodlands. It grows in grasslands dominated by non-native annual plants. It is also occasionally found in cismontane woodlands. This listed plant flowers from March to April.	No	295-2625	Yes	Yes	**Low Potential for Occurrence in the BSA.** The BSA occurs within the grassy valley floor habitat and adjacent to the nearby foothills of the Sierra Nevadas, however the BSA does not contain the necessary clay soils typically associated with this species.
Sidalcea keckii	Keck's checkerbloom	FE, G2, S2, CRPR:1B.1	Keck's checkerbloom is an annual herb that grows on grassy slopes of valley and foothill grasslands and on grassy slopes in cismontane woodlands (blue oak woodlands). It occurs on heavy, dark clay soils where the grasslands is not particularly lush. The species is associated with serpentine soils. This listed plant flowers from April to June.	No	245-2135	Yes	Yes	**No Potential for Occurrence in the BSA.** The BSA does not contain the sloped grasslands or clay soils for which this species is associated. Additionally, this species has no modern occurrences in the area.
Fritillaria striata	striped adobe-lily	ST, G1, S1, CRPR:1B.1, USFS:S	Striped adobe-lily is a perennial bulbiferous herb that grows on heavy clay adobe soils in open annual valley and foothill grasslands and rolling foothills and blue oak woodlands, cismontane woodlands. This listed plant flowers from February to April.	No	445-4775	Yes	Yes	**No Potential for Occurrence in the BSA.** The BSA does not contain the clay soils nor habitat for which this species is associated.
Caulanthus californicus	California jewelflower	FE, SE, G1, S1, CRPR:1B.1	California jewelflower is an annual herb that is found in open areas within several plant communities, including valley and foothill non-native grasslands, upper Sonoran subshrub scrub, and cismontane juniper woodlands and scrub. Historical records indicate that this species also occurred in the valley saltbush scrub community (chenopod scrub) in the past. Herbaceous cover is dense at most California jewel-flower sites. California jewel-flower has been reported from level terrain (flats) to gentle slopes of 25%. Primary soil types at known	No	200-3280	Yes	Yes	**Low Potential for Occurrence in the BSA.** The BSA contains a non-native grassland and an undeveloped field, however these areas are highly disturbed and regularly maintained making occurrence unlikely.

Scientific Name (=Synonym)	Common Name (=Synonym)	Status	General Habitat Description in California	BSA Contains Potential Suitable Habitats	Plant Elevation Range (feet amsl)	BSA is Located Within the Plant Species' Known:		Potential For Occurrence in the BSA
						Elevation Range	General Distribution	
			sites are sub alkaline, sandy loams. This listed plant flowers from February to May.					
Sensitive Plants: These plants have no official status under the ESA, the CESA, and/or the NPPA; however, they are designated as sensitive or locally important by federal agencies, state agencies, and/or local conservation agencies and organizations.								
Diplacus pictus	Calico monkeyflower	G2, S2, CRPR:1B.2, BLM:S	Calico monkeyflower is an annual herb that is found in broadleaf upland forests and cismontane woodlands. Usually grows on bare ground around shrubs, rock outcrops on granitic soils and in disturbed areas. This sensitive plant flowers from March to May.	No	330-4690	Yes	Yes	**No Potential for Occurrence in the BSA.** The BSA does not contain the forests nor woodlands for which this species is associated.
Eryngium spinosepalum	spiny-sepaled button-celery	G2, S2, CRPR:1B.2, BLM:S	Spiny-sepaled button-celery is an annual/perennial herb that grows in valley and foothill grasslands and vernal pools within those grasslands. Some sites on clay soil of granitic origin. This sensitive plant flowers from April to May.	No	260-3200	Yes	Yes	**Low Potential for Occurrence in the BSA.** The BSA contains substandard habitat that could potentially support this species and has a modern occurrence within 1 mile of the site along the Tule River that connects to the BSA. However the habitat and condition of these two wetlands differ significantly.
Leptosiphon serrulatus	Madera leptosiphon	G3, S3, CRPR:1B.2, BLM:S, USFS:S	Madera leptosiphon is an annual herb that occurs in open areas in cismontane woodlands and lower montane coniferous forests. Found on dry slopes or in rocky bare areas often on decomposed granite in woodlands. This sensitive plant flowers from April to May.	No	985-4265	No	Yes	**No Potential for Occurrence in the BSA.** The BSA does not contain the habitats for which this species is associated, nor does the BSA occur within the elevation range of this species.
Navarretia nigelliformis ssp. radians	shining navarretia	G4T2T3, S2S3, CRPR:1B.2, BLM:S	Shining navarretia is an annual herb that is found in cismontane woodlands, valley and foothill grasslands, and vernal pools. This sensitive plant flowers from April to July.	No	215-3280	Yes	Yes	**Low Potential for Occurrence in the BSA.** The BSA contains a non-native grassland (play field) which is substandard to support this species. This species has modern documentation within a 5-mile radius of the BSA.
Atriplex cordulata var. erecticaulis	Earlimart orache	G3T1, S1, CRPR:1B.2	Earlimart orache is an annual herb that grows in valley and foothill grasslands in dry areas between vernal pools, but not actually in the pools or depressions. In addition, it can grow along roadsides. This sensitive plant flowers from August to November.	No	130-330	Yes	Yes	**Low Potential for Occurrence in the BSA.** The BSA contains a non-native grassland (play field) and disturbed habitat which is non-ideal but has low potential to support this species. It lacks the vernal pools for which this species is usually associated.
Atriplex coronata var. vallicola	Lost Hills crownscale	G4T3, S3, 1B.2, BLM:S	Lost Hills crownscale is an annual herb that typically grows in the dried beds of alkaline vernal pools within chenopod scrub or annual valley and foothill grassland communities, although one population in southern Kern County occurs on exposed slopes rich in gypsum. Found in dried ponds, rain pools, and flats of alkaline soils. This sensitive plant flowers from April to August.	No	165-2085	Yes	Yes	**No Potential for Occurrence in the BSA.** The BSA lacks the dried wetland habitat for which this species is associated. Additionally, no modern records for this species occur within a 5-mile radius of the BSA.
Atriplex depressa	Brittlescale	G2, S2, CRPR:1B.2	Brittlescale is an annual herb, which grows that typically can be found in valley and foothill grasslands, Chenopod scrub, and playas as well as moist meadows and vernal pools. This sensitive plant flowers from April to October.	No	5-1050	Yes	Yes	**No Potential for Occurrence in the BSA.** The BSA lacks the dried wetland habitat for which this species is associated. Additionally, no modern records for this species occur within a 5-mile radius of the BSA.
Atriplex minuscula	Lesser saltscale	G2, S2, CRPR:1B.1	Lesser saltscale is an annual herb that grows on sandy soils in alkaline areas often in association with slough systems and river floodplains. However, it is found only in microhabitats that are not inundated year-round. This species has been found in the valley alkaline sink scrub, chenopod scrub, valley Sacaton grasslands, and non-native grasslands natural communities. It grows in alkaline soils. This sensitive plant flowers from May to October.	No	50-655	Yes	Yes	**Low Potential for Occurrence in the BSA.** The BSA's 500-foot buffer includes a small portion of the nearby Porter Slough which contains habitat associated with this species. However, this habitat is heavily invaded with non-natives and no modern records for this species occurs within 5-miles.
Atriplex persistens	vernal pool smallscale	G2, S2, CRPR:1B.2	Vernal pool smallscale is an annual herb that is found in alkaline vernal pools throughout the central valley. This sensitive plant flowers from June to October.	No	35-375	Yes	Yes	**No Potential for Occurrence in the BSA.** The BSA does not contain vernal pools for which this species requires. Additionally, no modern records of this species occur within 5 miles of the BSA.

Scientific Name (=Synonym)	Common Name (=Synonym)	Status	General Habitat Description in California	BSA Contains Potential Suitable Habitats	Plant Elevation Range (feet amsl)	BSA is Located Within the Plant Species' Known:		Potential For Occurrence in the BSA
						Elevation Range	General Distribution	
Atriplex subtilis	subtle orache	G1, S1, CRPR:1B.2	Subtle orache is an annual herb that generally is found in alkaline soils in valley and foothill grasslands and chenopod scrub, in vernal pools. This sensitive plant flowers from June to October.	No	130-330	Yes	Yes	**Low Potential for Occurrence in the BSA.** The BSA contains a non-native grassland (play field) that is substandard to support this species. It lacks the vernal pools for which this species is usually associated. Recent documentation places this species just outside of a 5-mile radius of the BSA.
Azolla microphylla	Mexican mosquito fern	G5, S4, CRPR:4.2	Mexican mosquito fern is an aquatic fern that can be found in ponds and slow-moving waters. This sensitive plant flowers in August.	No	100-330	Yes	Yes	**Low Potential for Occurrence in the BSA.** The BSA's 500-foot buffer contains a small section of the nearby Porter Slough, whose habitat is disturbed and invaded with non-native species making this non-ideal habitat.
Clarkia exilis	slender clarkia	G3, S3, CRPR:4.3	Slender clarkia is an annual herb that can be found in cismontane woodlands along the southern sierra foothills. This sensitive plant flowers from April to May.	No	395-3280	Yes	Yes	**Low Potential for Occurrence in the BSA.** The BSA does not contain the associated habitat for which this species is known to occupy. However, recent documentation places this species in the surrounding foothills.
Convolvulus simulans	small-flowered morning-glory	G4, S4, CRPR:4.2	Small-flowered morning-glory is an annual herb that grows on friable clay soils which are typically devoid of shrubs, in openings in chaparral, coastal sage scrub, and valley and foothill grasslands. This sensitive plant flowers from March to July.	No	100-2430	Yes	Yes	**Low Potential for Occurrence in the BSA.** The BSA lacks the clay soil component for which this species occupies but contains open areas, though of poor quality. Recent documentation places this species just outside of town in the surrounding foothills.
Delphinium hansenii ssp. ewanianum	Ewan's larkspur	G4T3, S3, CRPR:4.2	Ewan's larkspur is a perennial herb that grows on sandy soils of valley & foothill grassland and cismontane woodlands. This sensitive plant flowers from March to May.	No	195-1970	Yes	Yes	**Low Potential for Occurrence in the BSA**. The BSA contains a non-native grassland (play field) that is substandard to support this species. Additionally, no modern records of this species occur within 5 miles of the BSA.
Delphinium inopinum	unexpected larkspur	G3, S3, CRPR:4.3 USFS:S	Unexpected larkspur is a perennial herb that is found in upper montane coniferous forests on open rocky outcrops and ridge tops; on metamorphics in red fir and western white pine forests. This sensitive plant flowers from May to July.	No	6200-9185	No	Yes	**No Potential for Occurrence in the BSA**. The BSA does not contain the associated habitat for which this species is known to occupy. nor does the BSA occur within the elevation range of this species.
Delphinium recurvatum	recurved larkspur	G2?, S2, CRPR:1B.2, BLM:S	Recurved larkspur is a perennial herb that grows in chenopod scrub, cismontane woodlands, and valley and foothill grasslands. Found in poorly drained, fine alkaline soils. This sensitive plant flowers from March to June.	No	10-2590	Yes	Yes	**Low Potential for Occurrence in the BSA**. The BSA contains a non-native grassland (play field) that is substandard to support this species. It also lacks the poorly drained soils for which the species is typically associated.
Fritillaria agrestis	stinkbells	G3, S3, CRPR:4.2	Stinkbells is a perennial bulbiferous herb that is found in chaparral, cismontane woodlands, pinyon and juniper woodlands, and valley and foothill grasslands on clay and sometimes serpentine. This sensitive plant flowers from March to June.	No	32-5100	Yes	Yes	**Low Potential for Occurrence in the BSA.** The BSA lacks the soil composition of grasslands where this species can be found. Additionally, no modern records for this species occur within 5 miles of the BSA.
Lasthenia chrysantha	alkali-sink goldfields	G2, S2, CRPR:1B.1	Alkali-sink goldfields is an annual herb that grows in alkali vernal pools and wet saline flats throughout the central valley. This sensitive plant flowers from February to April.	No	0-655	Yes	Yes	**No Potential for Occurrence in the BSA**. The BSA does not contain vernal pools for which this species requires. Additionally, no modern records of this species occur within 5 miles of the BSA.
Puccinellia simplex	California alkali grass	G2, S2, CRPR:1B.2, BLM:S	California alkali grass is an annual herb that grows in valley and foothill grasslands along wet meadows, seeps, and alkaline vernal pools. This sensitive plant flowers from March to May.	No	5-3050	Yes	Yes	**Low Potential for Occurrence in the BSA.** The BSA's 500-foot buffer contains a small section of the nearby Porter Slough, containing non-ideal riparian habitat that is invaded with non-native species.

Scientific Name (=Synonym)	Common Name (=Synonym)	Status	General Habitat Description in California	BSA Contains Potential Suitable Habitats	Plant Elevation Range (feet amsl)	BSA is Located Within the Plant Species' Known:		Potential For Occurrence in the BSA
						Elevation Range	General Distribution	
Senecio aphanactis	chaparral ragwort	G3, S2, CRPR:2B.2	Chaparral ragwort is an annual herb found in chaparral, cismontane woodlands, coastal scrub (sometimes alkaline) and drying alkaline flats. This sensitive plant flowers from January to April.	No	50-2625	Yes	No	**No Potential for Occurrence in the BSA.** This species has a single CNPS documentation in the area but has no other modern or historical sightings for the western Sierra Nevada foothills.

Legend and Notes

Notes:

- The BSA contains approximate elevations of 457 to 466 feet above mean sea level (amsl).
- The BSA encompasses disturbed habitat with non-native grassland, open ruderal habitat, ornamental vegetation.
- **Yes** = the BSA is located within the plant species' known distribution, elevation range, and/or the BSA contains suitable habitats and/or soils to support the plant species. The plant species has a potential to occur within the BSA. Further evaluation is needed.
- **No** = the BSA is located outside the plant species' known distribution, elevation range, and/or the BSA lacks suitable habitats and/or soils to support the plant species. It is highly unlikely for the plant species to have a potential to occur within the BSA. No further evaluation is needed.
- A CNPS elevation range is provided for each taxon in feet. The stated range is for the California portion of a plant's range only (if the taxon also occurs outside the state). These CNPS elevation range data are accumulated from literature, herbarium specimens, and field survey information.

Federal Endangered Species Act (ESA) Listing Codes: the ESA is administered by the USFWS and NMFS. The USFWS has primary responsibility for terrestrial and freshwater organisms, while the responsibilities of NMFS are mainly marine wildlife such as whales and anadromous fish such as salmon. For the purposes of the ESA, Congress defined species to include subspecies, varieties, and, for vertebrates, distinct population segments. The official federal listing of Endangered and Threatened plants is published in 50 CFR § 17.12.

- **FE = federally listed as endangered:** any species of plant or animal that is in danger of extinction throughout all or a significant portion of their range.
- **FT = federally listed as threatened:** any species of plant or animal that is considered likely to become endangered throughout all or a significant portion of its range within the foreseeable future.
- **FC = federal candidate for listing:** candidate species are plants and animals for which the USFWS has sufficient information on their biological status and threats to propose them for listing as endangered or threatened under the ESA, but for which development of a proposed listing regulation is precluded by higher priority listing actions to address species in greater need. A proposed regulation has not yet been published in the Federal Register for these species.
- **FPE = federally proposed for listing as endangered:** a candidate species that has been proposed by USFWS for listing as endangered and the proposed rule, but not a final rule, to list has been published in the Federal Register.
- **FPT = federally proposed for listing as threatened:** a candidate species that has been proposed by USFWS for listing as threatened and the proposed rule, but not a final rule, to list has been published in the Federal Register.
- **FPD = federally proposed for delisting:** a species that has been proposed by USFWS for delisting (or down listing from endangered to threatened) and the proposed rule to delist has been published in the Federal Register.

California Endangered Species Act (CESA) and California Native Plant Protection Act (NPPA) Listing Codes: the CESA and NPPA are administered by CDFW. The official listing of *Plants of California Declared to Be Endangered, Threatened or Rare* is contained in the California Code of Regulations, Title 14, § 670.2. Species, subspecies and varieties of California native plants are declared to be endangered, threatened as defined by § 2062 and § 2067 of the Fish and Game Code or rare as defined by § 1901 of the Fish and Game Code.

- **SE = state-listed as endangered:** "endangered species" means a native species or subspecies of a bird, mammal, fish, amphibian, reptile, or plant which is in serious danger of becoming extinct throughout all, or a significant portion, of its range due to one or more causes, including loss of habitat, change in habitat, overexploitation, predation, competition, or disease (Fish and Game Code § 2062).
- **ST = state-listed as threatened:** "threatened species" means a native species or subspecies of a bird, mammal, fish, amphibian, reptile, or plant that, although not presently threatened with extinction, is likely to become an endangered species in the foreseeable future in the absence of the special protection and management efforts (Fish and Game Code § 2067).
- **SCE = state candidate for listing as endangered:** a native species or subspecies of a bird, mammal, fish, amphibian, reptile, or plant that the Fish and Game Commission has formally noticed published in the California Regulatory Notice Register as being under review by CDFW for addition to the list of endangered species, or a species for which the Fish and Game Commission has published a notice of proposed regulation to add the species to the list (Fish and Game Code § 2068).
- **SCT = state candidate for listing as threatened:** a native species or subspecies of a bird, mammal, fish, amphibian, reptile, or plant that the Fish and Game Commission has formally noticed published in the California Regulatory Notice Register as being under review by CDFW for addition to the list of threatened species, or a species for which the Fish and Game Commission has published a notice of proposed regulation to add the species to the list (Fish and Game Code § 2068).
- **SCD = state candidate for delisting:** a native species or subspecies of a bird, mammal, fish, amphibian, reptile, or plant that the Fish and Game Commission has formally noticed published in the California Regulatory Notice Register as being under review by CDFW for removal from either the list of endangered species or the list of threatened species, or a species for which the Fish and Game Commission has published a notice of proposed regulation to remove the species to either list.
- **SR = state rare:** A species, subspecies, or variety of native plant is rare when, although not presently threatened with extinction, it is in such small numbers throughout its range that it may become endangered if its present environment worsens (Fish and Game Code § 1901).

California Rare Plant Ranks (Formerly known as CNPS Lists): the CNPS is a statewide, nonprofit organization that maintains, with CDFW, an Inventory of Rare and Endangered Plants of California. In the spring of 2011, CNPS and CDFW officially changed the name "CNPS List" or "CNPS Ranks" to "California Rare Plant Rank" (or CPRP). This was done to reduce confusion over the fact that CNPS and CDFW jointly manage the Rare Plant Status Review Groups and the rank assignments are the product of a collaborative effort and not solely a CNPS assignment.

Legend and Notes

- **CRPR: 1A = California Rare Plant Rank 1A - plants presumed extirpated in California and either rare or extinct elsewhere:** the plants with a CRPA of 1A are presumed extirpated because they have not been seen or collected in the wild in California for many years. This rank includes plants that are both presumed extinct as well as those plants which are presumed extirpated in California. All of the plants constituting CRPR 1A meet the definitions of § 2062 and § 2067 (CESA) of the Fish and Game Code, and are eligible for state listing. Should these taxa be rediscovered, it is mandatory that they be fully considered during preparation of environmental documents relating to CEQA.
- **CRPR 1B = California Rare Plant Rank 1B - plants rare, threatened, or endangered in California and elsewhere:** plants with a CRPR of 1B are rare throughout their range with the majority of them endemic to California. Most of the plants that are ranked 1B have declined significantly over the last century. All of the plants constituting CRPR 1B meet the definitions of § 2062 and § 2067 (CESA) of the Fish and Game Code, and are eligible for state listing. It is mandatory that they be fully considered during preparation of environmental documents relating to CEQA.
- **CRPR 2A = California Rare Plant Rank 2A - plants presumed extirpated in California, but more common elsewhere:** the plant taxa of CRPR 2A are presumed extirpated because they have not been observed or documented in California for many years. This list includes only those plant taxa that are presumed extirpated in California, but more common elsewhere in their range. All of the plants on List 2A meet the definitions of § 2062 and § 2067 (CESA) of the Fish and Game Code, and are eligible for state listing. Should these taxa be rediscovered, it is mandatory that they be fully considered during preparation of environmental documents relating to CEQA.
- **CRPR 2B = California Rare Plant Rank 2B - plants rare, threatened, or endangered in California, but more common elsewhere:** except for being common beyond the boundaries of California, plants with a CRPR of 2B would have been ranked 1B. From the federal perspective, plants common in other states or countries are not eligible for consideration under the provisions of the ESA. All of the plants constituting CRPR 2B meet the definitions of § 2062 and § 2067 (CESA) of the Fish and Game Code, and are eligible for state listing. It is mandatory that they be fully considered during preparation of environmental documents relating to CEQA.
- **CRPR 3 = California Rare Plant Rank 3 - plants about which more information is needed - a review list:** the plants that comprise CRPR 3 are united by one common theme – CNPS and CDFW lack the necessary information to assign them to one of the other ranks or to reject them. Nearly all of the plants constituting CRPR 3 are taxonomically problematic. Some of the plants constituting CRPR 3 meet the definitions of § 2062 and § 2067 (CESA) of the Fish and Game Code, and are eligible for state listing. CNPS strongly recommends that CRPR 3 plants be evaluated for consideration during preparation of environmental documents relating to CEQA.
- **CRPR 4 = California Rare Plant Rank 4 - plants of limited distribution - a watch list**: the plants in this category are of limited distribution or infrequent throughout a broader area in California. While CNPS and CDFW cannot call these plants "rare" from a statewide perspective, they are uncommon enough that their status should be monitored regularly. Should the degree of endangerment or rarity of a CRPR 4 plant change, CNPS and CDFW will transfer it to a more appropriate rank. Some of the plants constituting CRPR 4 meet the definitions of § 2062 and § 2067 (CESA) of the Fish and Game Code, and few, if any, are eligible for state listing. Nevertheless, many of them are significant locally, and CNPS strongly recommends that CRPR 4 plants be evaluated for consideration during preparation of environmental documents relating to CEQA.
- **Considered But Rejected =** plants that have been considered for inclusion into the CNPS *Inventory*, but were not included for various reasons.

California Native Plant Society (CNPS) Threat Ranks: The CNPS Threat Rank is an extension added onto the California Rare Plant Rank (CRPR) (as a decimal code) and designates the level of threats by a 1 to 3 ranking with 1 being the most threatened and 3 being the least threatened. A Threat Rank is present for all CRPR 1B's, 2B's, 4's, and the majority of CRPR 3's. CRPR 4 plants are seldom assigned a Threat Rank of .1, as they generally have large enough populations to not have significant threats to their continued existence in California; however, certain conditions exist to make the plant a species of concern and hence be assigned a CRPR. In addition, all CRPR 1A and 2A (presumed extirpated in California), and some CRPR 3 (need more information) plants, which lack threat information, do not have a Threat Rank extension.

- **.1** = seriously threatened in California (over 80% of occurrences threatened / high degree and immediacy of threat)
- **.2** = moderately threatened in California (20-80% occurrences threatened / moderate degree and immediacy of threat)
- **.3** = not very threatened in California (<20% of occurrences threatened / low degree and immediacy of threat or no current threats known)

Other:

- **Annual**: grows from seed and reproduce within a single year.
- **Perennial**: lives more than one year.
- **Deciduous**: plants shed their leaves for part of the year.
- **Evergreen:** plants retain their leaves for an entire year.
- **Mesic habitat:** a habitat with a moderate or well-balanced supply of moisture.
- **Hemiparasitic:** plants that are connected to host plants and derive energy, water, and minerals from them, but also maintain their own functional root systems or photosynthetic surfaces.
- **Parasitic:** plants that are connected to host plants and rely solely on them for energy, water, and nutritional requirements.
- **Carnivorous:** plants that trap insects and other small animals and derive nourishment from them.
- **Herbs**: plants that are herbaceous and lack above-ground woody tissue.
    - **Bulbiferous herb**: plants that have fleshy underground storage organs typically derived from scale leaves (this category includes coniferous and other similar plants in which storage organs have other origins).
    - **Rhizomatous herb**: plants that have underground stems (rhizomes), typically bearing shoots which develop into new plants.
    - **Stoloniferous herb:** plants that have above-ground runners (stolon's) which typically root and produce new plants.
- **Shrubs:** smaller woody perennials that retain most of their above-ground woody tissue and are typically many-stemmed.
    - **Leaf succulents:** succulents with thick, fleshy leaves.
    - **Stem succulents:** succulents with thick, fleshy stems and reduced or absent leaves.
- **Trees:** larger woody perennials that retain all of their above-ground wood tissue and are typically single-stemmed.
- **Vines:** twining woody perennials requiring external support for growth.
- **Mosses:** small green plants (one of three groups of bryophytes) with structures that resemble miniature leaves and stems. The leaves generally have a midrib called a costa. The sporophyte (the spore-bearing structure) is persistent for weeks.
- **Liverworts:** small green plants (one of three groups of bryophytes). There are both leafy and thalloid types - leafy liverworts lack a midrib on the leaves, while thalloid liverworts have no leaves. The sporophyte is short-lived.

4.2.3. Wildlife

The literature review resulted in a list of thirty-one (31) special-status wildlife species that have been known to occur within the BSA and surrounding twelve-quadrangles, which is presented in **Table 5**, *Special Status Wildlife Species*. None of these special-status wildlife species were considered to have *high* potential**;** four (4) have *moderate* potential, and twenty-seven (27) were considered to have *low* to no potential to occur in the BSA. Factors used to determine potential for occurrence include quality of habitat, soil type, impact from previous land use, and the date and location of prior CNDDB and eBird occurrence records.

Table 5. Special-Status Wildlife Species

Scientific Name (=Synonym)	Common Name (=Synonym)	Status	General Habitat Descriptions in California	The BSA:		Potential For Occurrence in the BSA
				Located Within Species' Distribution and/or Elevation Range (if known)	Contains Suitable Foraging, Roosting, and/or Breeding Habitats	
Listed Endangered, Threatened, and Candidate Wildlife: Wildlife with official status under the federal Endangered Species Act (ESA) and/or the California Endangered Species Act (CESA). A species may have other sensitive designations in addition to their federal or state listing.						
Listed Invertebrates						
Branchinecta lynchi	vernal pool fairy shrimp	FT	Vernal pool fairy shrimp inhabit ephemeral freshwater vernal pools in Oregon and California, where it can survive in water as shallow as 3 cm with temperatures between 43 and 68 °F. The species is well-adapted to seasonal dry periods, with eggs capable of lying dormant until the pools refill in the next wet season.	Yes	No	**Low Potential for Occurrence in the BSA.** The BSA lacks the soil composition required for the formation of vernal pools or other ephemeral freshwater habitats.
Bombus crotchii	Crotch's bumble bee	CE, G3G4, S1S2	Inhabits open grassland and scrub habitats in California. While its historic range has declined by almost 98%, this species is still found in the Western Desert, Pacific Coast, and Mediterranean regions of the state. Food plant genera include *Antirrhinum, Phacelia, Clarkia, Dendromecon, Eschscholzia,* and *Eriogonum.*	Yes	No	**Low Potential for Occurrence in the BSA.** The BSA lacks the native plant genera associated with this species. Additionally, this species has largely declined from its range within the Central Valley.
Desmocerus californicus dimorphus	valley elderberry longhorn beetle	FT, G3T3, S3	This species is found only in association with elderberry (*Sambucus* spp.), its host plant that grows in the riparian habitat and foothill oak woodlands of California's Central Valley. Completely reliant on elderberry for survival, their entire lifecycle involves a mutualistic relationship where the plant protects this species for up to two years during its larval development. Upon hatching in spring/summer, their foraging behavior aids the plant in transferring pollen and fertilizing seeds. With over 90% of the riparian forests essential to this species lost, it is now exclusively confined to a limited number of remaining habitat patches surrounded by development.	Yes	No	**No Potential for Occurrence in the BSA.** The BSA lacks this species host plant, *Sambucus spp*., and riparian habitat which is typically associated with this species and host plant.
Listed Amphibians						
Spea Hammondii	Western Spadefoot toad	FPT, G2G3, S3S4, BLM:S	Found in coastal sage scrub, open chaparral, pine-oak woodlands, and grassland habitats, but is most common in grasslands with vernal pools or mixed grassland/coastal sage scrub areas. To reproduce, this species requires rain pools or vernal pools that persist with over three weeks of standing water to metamorphose successfully. They can also breed in slow-moving streams (e.g., areas flooded by intermittent streams). Water breeding sites must lack predators such as fish, bullfrogs (*Lithobates catesbeianus*), and crayfish. They estivate in sandy soil in upland habitats adjacent to potential breeding sites in burrows approximating 1 meter in depth.	Yes	No	**Low Potential for Occurrence in the BSA.** The BSA largely contains well-drained sandy to sandy-loam soils. These soils are suitable for estivation, but they prevent the formation of vernal pools and rain pools which is associated with upland habitat use for this species. The wetland that occurs within the 500-foot buffer of the BSA is not consistent with breeding habitat.
Listed Reptiles						
Gambelia silus	Blunt-nosed leopard lizard	FE, SE, CA fully protected	The blunt-nosed leopard lizard is found in arid grasslands and shrublands in the San Joaquin Valley in California. It requires sandy soils for burrowing and sparse vegetation for foraging. Its diet includes insects such as ants (*Formicidae*) and beetles (e.g., *Cicindelidae*). Requires sandy soil for burrowing and sparse vegetation for foraging.	Yes	No	**Low Potential for Occurrence in the BSA**. The BSA occurs near the edge of this species range and lacks the habitat/plant communities for which this species is known to occupy.

Scientific Name (=Synonym)	Common Name (=Synonym)	Status	General Habitat Descriptions in California	The BSA: Located Within Species' Distribution and/or Elevation Range (if known)	The BSA: Contains Suitable Foraging, Roosting, and/or Breeding Habitats	Potential For Occurrence in the BSA
Actinemys marmorata (=*Actinemys marmorata marmorata*)	Northwestern pond turtle (=northern western pond turtle)	FPT, SSC, BLM:S, USFS:S	Requires stagnant or slow-moving water in aquatic habitats. Uncommon in high gradient streams. Found in ponds, lakes, rivers, streams, creeks, marshes, and irrigation ditches, with abundant vegetation, and either rocky or muddy bottoms, in woodland, forest, and grassland. In streams, prefers pools to shallower areas. Logs, rocks, cattail (*Typha* sp.) mats, and exposed banks are required for basking. May enter brackish water and even seawater. This species has a versatile diet of invertebrates, small amphibians, algae, and carrion.	Yes	No	**Low Potential for Occurrence in the BSA**. The BSA does contain a slow-moving wetland that could be utilized; however, this wetland is of poor quality and not what is associated with this species.
Listed Birds						
Agelaius tricolor	tricolored blackbird	ST, SSC, BLMS, BCC Season of Concern: nesting colony	The tricolored blackbird breeds near fresh water, preferably in emergent wetlands with tall, dense cattails (*Typha* sp.) or tules, but also in thickets of willow (*Salix*), blackberry (*Rubus*), wild rose (*Rosa*), tall herbaceous plants. Forages in grassland and cropland habitats. Breeding colonies may attract thousands of birds to a single site. These colonies require nearby water, a suitable nesting substrate, and open-range foraging habitat of natural grassland, woodland, or agricultural cropland. The species is not migratory but is nomadic and highly colonial.	Yes	No	**Moderate Potential for Occurrence in the BSA**. The BSA is within the year-round range of this species and well documented in the surrounding area. However, the BSA contains poor quality wetland habitat not-ideal for supporting breeding or nesting. Occurrences likely limited to foraging opportunities.
Buteo swainsoni	Swainson's hawk	ST, BCC, Season of Concern: nesting	Swainson's hawks require large, open areas with abundant prey in association with suitable nest trees. Suitable foraging areas include native grasslands or lightly grazed pastures and croplands, open deserts, sparse shrub lands. Nests peripherally to riparian systems of valleys and utilize lone trees or groves of trees, such as oaks, cottonwoods (*Populus* sp.), California black walnuts (*Juglans californica*) and willows (*Salix* sp.), adjacent to their hunting areas. In the Great Basin of the western United States, they typically nest in juniper (*Juniperus*) trees of juniper-sage flats not near riparian zones.	Yes	No	**Low Potential for Occurrence in the BSA**. The BSA appears to occur within the breeding range for this species and lacks habitat to support breeding/nesting. Potential occurrences likely limited to foraging as the large open field could offer foraging opportunities.
Gymnogyps californianus	California condor	FE, SE, fully protected, CDF:S	Permanent resident of the semi-arid, pine or chaparral covered rugged mountain ranges. While breeding sites have been found at higher elevations, foraging habitat lies in foothills predominately covered by grasslands or oak-savannah habitats. They roost on cliffs and in large trees and snags. Nests on cliffs and less often in large trees. Most important habitat requirements may be adequate food supplies, open-enough habitat that food can be readily found and accessed, and reliable air movements allowing extended soaring flight.	Yes	No	**Low Potential for Occurrence in the BSA**. While the BSA is nearby designated critical habitat, it lacks the habitat and dietary requirements to support this species.
Passerculus sandwichensis beldingi	Belding's savannah sparrow	SE, BCC	This small, inconspicuous, ground dwelling species is a subspecies of the Savannah sparrow (*P. sandwichensis*) and can be distinguished by its darker and heavier streaking as well its smaller beak profile. This species is a salt marsh specialist and commonly associated with pickleweed marshes of Southern California where they will reside year-round. This species has a small breeding territory and will nest semi-colonially or locally concentrated within the upper littoral or maritime zones, nests will be constructed near or on the ground.	No	No	**No Potential for Occurrence in the BSA.** The BSA lacks the salt marsh habitat for which this species needs for foraging and breeding.
Aquila chrysaetos	Golden Eagle	fully protected, WL, BLMS, BCC, CDF:S, Season of Concern: nesting and	Golden eagles occur primarily in mountainous canyon land, rimrock terrain of open desert and grassland areas. Habitat typically includes open rolling foothills of grasslands, oak savannas, oak and juniper woodlands, chaparral, mountain areas, and desert. They usually avoid heavily forested areas and extensive croplands. They may be found in coniferous habitat when open space is available (e.g., fire breaks, clear-cuts, burned areas, pasture-land, etc.). Golden eagles are typically not found in heavily forested areas, extensive croplands, or	Yes	No	**Low Potential for Occurrence in the BSA**. The BSA lacks nesting/breeding habitat, however the large open fields provide suitable foraging habitat.

Scientific Name (=Synonym)	Common Name (=Synonym)	Status	General Habitat Descriptions in California	The BSA: Located Within Species' Distribution and/or Elevation Range (if known)	The BSA: Contains Suitable Foraging, Roosting, and/or Breeding Habitats	Potential For Occurrence in the BSA
		wintering	on the immediate coast and are almost never detected in urbanized environments. Golden eagles usually nest on cliffs. Nesting is primarily restricted to rugged, mountainous country and open habitats with canyons and escarpments. Golden eagles will also nest in trees, on ground, clay cliffs, riverbanks, and human-made structures, including windmills, observation towers, powerline poles, electricity transmission towers, nesting platforms, abandoned gold dredges, and electrical transmission towers. Many nests have an unobstructed wide view of the surrounding area or are on prominent escarpments. These eagles require a huge territory to forage for prey. They typically forage in open habitats including grasslands, deserts, savannahs, and shrublands. Preferred territory sites include those that have a favorable nest site, a dependable food supply, and broad expanses of open country for foraging. Hilly or mountainous country, deeply cut canyons rising to open mountain slopes and crags are ideal habitat.			
Listed Mammals						
Vulpes macrotis mutica	San Joaquin kit fox	FE, ST, SE G4T2, S3	The San Joaquin kit fox inhabits arid grasslands and low shrublands in the San Joaquin Valley, California. It needs well-drained soil for burrowing and sparse vegetation for hunting. Its diet includes small mammals like kangaroo rats (*Dipodomys* spp.), insects, and occasionally birds.	Yes	No	**No Potential for Occurrence in the BSA**. The BSA lacks the habitat, prey species, and natural setting for which this species is typically found. Occurrences heavily favor the southern and western boundaries of the Central Valley.
Pekania pennanti	Fisher	Southern Sierra Nevada DPS is FE and ST	Solitary resident of dense, mature, and mixed forests in northern California. They require canopy cover and adequate den sites. This species primarily feeds on small to medium-sized mammals, including squirrels (e.g., *Sciurus* spp.), birds, and carrion.	Yes	No	**No Potential for Occurrence in the BSA**. The BSA lacks the densely forested areas and adequate prey species necessary for this species.
Dipodomys nitratoides nitratoides	Tipton kangaroo rat	FE, SE	Nocturnal species found in arid grasslands and desert scrub in the San Joaquin Valley in California. Requires extensive burrow systems to avoid extreme temperatures. Primarily feeds on grasses such as Stipa spp., and occasionally on insects. Requires loose, sandy soils for burrowing and sparse vegetation for foraging.	Yes	No	**No Potential for Occurrence in the BSA**. The BSA lacks the habitat necessary for this species to develop burrow systems. Additionally, it lies at the eastern edge of its range, occupying the valley floor in greater quantities rather than the foothills.
Sensitive Invertebrates						
Lytta morrisoni	Morrison's blister beetle	G1G2, S2	Morrison's blister beetles are found in open grasslands and agricultural fields in central California. The larvae diet relies on soil to access plant roots, while also preying on other insects. They feed on nectar of flowering plants, including alfalfa (*Medicago sativa*) and sunflowers (*Helianthus annuus*).	Yes	No	**Low Potential for Occurrence in the BSA**. The BSA contains open fields and nearby plant species which could support this species. No modern records for this species occur within the area.
Danaus plexippus	Monarch butterfly	ESA:CandidateUSFS:S	Monarch Butterflies are found in meadows, gardens, and open fields across North America. Breeds in summer and migrates to central Mexico for winter. Their diet consists primarily of milkweed (*Asclepias* spp.) during the larval stage, while adults feed on nectar from a variety of flowering plants, including goldenrod (*Solidago* spp.) and asters (*Aster* spp.).	Yes	Yes	**Moderate Potential for Occurrence in the BSA.** The BSA lacks their obligate host plant Milkweed (*Asclepias spp*.) on which they lay their eggs, but adults will utilize open fields and a wide variety of native and non-native flowering plants for nectar gathering during migration and breeding season.
Sensitive Reptiles						
Anniella pulchra	Northern California legless lizard	G3, S2S3, SSC, USFS:S	This fossorial species is found in coastal sand dunes, chaparral, pine-oak woodland, desert scrub, open grasslands, and riparian zones. However, they are microhabitat specialists within these areas and require sandy or loose loam soils conducive for burrowing. They avoid gravel-size substrates and soils with greater than 10% clay composition. Breeding occurs from early spring to July,	Yes	No	**Low Potential for Occurrence in the BSA.** The BSA contains soils this fossorial species requires, but it lacks the litter layer used for breeding and foraging.

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			following a 4-month gestation they give birth to live young. They are rarely active on the surface but will utilize the soil-litter interface for feeding and mating. Along the coast they are likely active year-round, inland they may enter a period of dormancy during winter. This species is usually found near native plants from a few centimeters below the surface to 50-centimeters deep.			
Sensitive Birds						
Icterus bullockii	Bullock's oriole	BCC-BCR	This species is found in western North America, northeastern Mexico, and southwestern Canada. They breed in open deciduous woodlands, scrubland, and riparian corridors. Bullock's orioles nest from late spring to early summer in willows (*Salix* spp.), cottonwoods (*Populus* spp.), sycamores (*Platanus* spp.), madrones (*Arbutus* spp.), and mesquite trees (*Prosopis spp.*) at approximately 10-25' above ground at habitat edges. It migrates to Mexico and Central America for winter. Can adapt to pecan trees (*Carya illinoinensis*) in orchards, irrigated fields, ranches, parks, and street trees. Its diet includes caterpillars (e.g., *Lonomia obliqua*) and beetles (e.g., *Chrysomela scripta*), fruits like mulberries (*Morus spp.*) and cherries (*Prunus spp.*), and nectar from flowering plants, using the "gaping" method to extract juices with their brush-like tongues.	Yes	No	**Moderate Potential for Occurrence in the BSA.** The BSA appears to occur within the breeding range of this species but lacks the habitat for which this species is typically found. It has been documented in nearby urban settings.
Larus californicus	California gull	BCC Rangewide (CON)	The California gull is commonly found near coastal areas, large inland lakes, and in urban areas with access to landfills across western North America. This species breeds in colonies near large bodies of water from April to July. This species is adaptable and can thrive in diverse environments including open spaces and areas with human activity. Its diet includes carrion, fish (e.g., *Gambusia affinis*), aquatic insects (e.g., *Chironomidae*), and scavenged food from human activities. They migrate to mudflats, estuaries, and beaches along coastal areas during the non-breeding season.	Yes	Yes	**Moderate Potential for Occurrence in the BSA**. The BSA appears to occur near the edge of this species non-breeding and migratory range. The species is well adapted to urban areas and has been documented in nearby open urban areas. Potential for occurrence likely limited to foraging opportunities.
Aechmophorus clarkii	Clark's grebe	BCC Rangewide (CON)	Clark's grebes inhabit freshwater lakes and marshes of western North America, where they breed in isolated vegetated lakes from May to July. They migrate to coastal waters and large lakes for winter. Their diet includes small fish such as *Gambusia affinis* and aquatic insects like diving beetles of the family *Dytiscidae*.	Yes	No	**No Potential for Occurrence in the BSA**. The BSA lacks the large aquatic habitats this species resides and forages in, documentations in the area are limited to Lake Success.
Geothlypis trichas sinuosa	Common yellowthroat	BCC-BCR	The Common yellowthroat inhabits dense, low vegetation, including marshes, wetlands, and scrublands throughout North America. They breed in these habitats from May to July and migrate to the southern U.S. and Mexico for winter. Nests are typically built close to the ground in thick underbrush. Their diet includes insects such as caterpillars (e.g., *Lonomia obliqua*) and beetles (e.g., *Chrysomela* spp.), as well as small fruits like elderberries (*Sambucus* spp.).	Yes	No	**Low Potential for Occurrence in the BSA**. The BSA lacks the habitat typically associated with this species but likely contains foraging opportunities and has been documented in nearby natural areas.
Spinus lawrencei	Larwrence's goldfinch	BCC Rangewide (CON)	Habitats include oak woodland, chaparral, riparian woodland, valley foothill hardwood-conifer, pinyon-juniper woodlands, palm oasis, usually near water. Breeding occurs predominately in open woodlands of arid and semiarid foothills and valleys, usually near water from sea level near the coast and in some interior valleys to nearly 2,900 meters in southern California. Nearby herbaceous habitats are often used for feeding. Nests are in evergreen oaks, conifers, or deciduous trees.	Yes	No	**Low Potential for Occurrence in the BSA**. The BSA lacks the habitat typically associated with this species but has been documented in urban settings within the area. It is more common in the area during breeding season.
Circus hudsonius	Northern harrier	BCC-BCR	Northern Harriers are found in open grasslands, fields, and marshes across North America. They breed in these habitats from April to August and migrate to	Yes	No	**Low Potential for Occurrence in the BSA**. The BSA contains open fields which this species utilizes for foraging

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			the southern U.S. for winter, nesting on the ground in dense vegetation or tall grass. Their diet primarily consists of small mammals such as voles (*Microtus* spp.), insects, and will opportunistically hunt small birds.			opportunities but has poor documentation within the area's urban settings. While documented year-round in the area, most occurrences are limited to non-breeding season.
Dryobates nuttallii	Nuttall's woodpecker	BCC-BCR	Nuttall's woodpeckers inhabit open oak woodlands at 900-5,000' in elevation, wooded suburban land, and riparian areas with fewer oak trees than surrounding areas. They are year-round residents that breed from March to July. This species feeds on insects such as beetles (e.g., *Acanthocinus aedilis*) and ants, as well as oak (*Quercus* spp.) sap and seeds. It prefers mature oak trees for nesting and foraging. Its diet primarily consists of insects (found on oak trees, cottonwoods, and willows) and occasionally fruit such as elderberries (*Sambucus canadensis*), poison oak (*Toxicodendron diversilobum*), blackberries (*Rubus* spp.).	Yes	No	**Low Potential for Occurrence in the BSA**. The BSA does not contain forested areas for which this species is typically associated, but the species is somewhat adapted to urban settings.
Baeolophus inornatus	Oak titmouse	BCC Rangewide (CON)	The oak titmouse inhabits a specific range between southwest Oregon to Baja California. They are primarily found in oak or pine woodlands, and will use scrub oaks and similar vegetation if they are near these preferred habitats. This species will exclusively live in open pine forests when in central California. This species breeds from March to August and nests in cavities up to 40' above ground. They prefer a warm and dry climate. Their diet includes insects such as caterpillars (e.g., *Geometridae*) and spiders, as well as seeds and acorns.	Yes	No	**Low Potential for Occurrence in the BSA**. The BSA lacks the woodland/forested areas for which this species is associated. Documentations within the immediate area are limited but are commonly documented in higher elevations to the east.
Contopus cooperi	Olive-sided flycatcher	BCC Rangewide (CON)	Olive-sided flycatchers breed in open woodlands and forest edges in western North America from May to August. They migrate to Central and South America for winter. It prefers areas with tall trees for perching and hunting insects. Their diet consists mainly of flying insects such as wasps (*Vespidae*) and beetles (e.g., *Carabidae*).	Yes	No	**Low Potential for Occurrence in the BSA**. The species likely only occurs within the area as migrant. The BSA lacks the habitat this species is associated with during migration.
Aechmophorus occidentalis	Western grebe	BCC Rangewide (CON)	Western Grebes breed in freshwater lakes and marshes and migrate to coastal bays and marine environments for winter. They feed on small fish such as perch (*Perca spp.*) and aquatic invertebrates like water fleas (*Daphnia spp.*). Western Grebes are found in large freshwater lakes and marshes in western North America. They are known for their striking courtship displays and are often seen in breeding colonies on isolated lakes. Their diet includes fish such as *Percidae* and small invertebrates. Habitat changes due to water management and pollution are concerns.	Yes	No	**No Potential for Occurrence in the BSA.** The BSA lacks the large aquatic habitats this species resides and forages in, documentations in the area are limited to Lake Success.
Sensitive Mammals						
Antrozous pallidus	pallid bat	SSC, BLMS	Pallid bat habitat includes deserts, grasslands, shrublands, woodlands, and forests form sea level up through mixed conifer forests. They are most common in deserts, preferring areas of open, dry habitats, with rocky areas for roosting and water nearby. Night roosts may be in more open sites, such as porches and open buildings. Pallid bats day roosts in deep rock crevices, tree hollows, mines, caves, and a variety of man-made structures.	Yes	No	**Low Potential for Occurrence in the BSA.** The BSA lacks common roosting habitat utilized by this species and has higher rates of disturbance making urban roosting on site unlikely. The species may utilize the site for foraging opportunities.
Corynorhinus townsendii	Townsend's big-eared bat	SSC, BLMS	Townsend's big-eared bats roost in caves, abandoned buildings, and old mines. It is found in a variety of habitats including forests and grasslands. Its diet consists of moths like Lonomiaobliqua, beetles, and other flying insects. It requires a variety of habitats, including forests and grasslands. Its diet consists of moths like Lonomia obliqua, beetles, and other flying insects.	Yes	No	**Low Potential for Occurrence in the BSA.** The BSA lacks the roosting habitat necessary for this species but may utilize the site for foraging opportunities.
Eumops perotis	western	SSC,	Western mastiff bats are found in a variety of habitats, such as semi-arid to arid	Yes	No	**Low Potential for Occurrence in the BSA.**

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				Located Within Species' Distribution and/or Elevation Range (if known)	Contains Suitable Foraging, Roosting, and/or Breeding Habitats	
californicus	mastiff bat	BLM:S	habitats, including conifer and deciduous woodlands, coastal scrub, annual and perennial grasslands, palm oases, chaparral, desert scrub, and urban, but the species' distribution may be geomorphically determined, occurring primarily where there are significant rock features offering suitable roosting habitat. A cliff dwelling species, where maternity colonies of 30 to several hundred roost generally under exfoliating rock slabs and rock crevices along cliffs. Western mastiff bats can also be found in similar crevices in large boulders and buildings. When roosting in rock crevices they require a sizable drop from their roost in order to achieve flight. Western mastiff bats prefer deep crevices that are at least 15 or 20 feet above the ground.			The BSA lacks the high roosting habitat necessary for this species but may utilize the site for foraging opportunities.
Taxidea taxus	American badger	SSC	Badgers occur from alpine meadows to elevations as low as Death Valley, which is below sea level. Essentially the badger is an animal of open places. In California, badgers occupy a diversity of habitats. The principal requirements seem to be sufficient food, friable soils, and relatively open, uncultivated ground. Grasslands, savannas, openings in desert scrub, and grassy mountain meadows near timberline are preferred. They can also occur in treeless pastures and drained marshes. Badgers are generally associated with dry, open, treeless regions, prairies, parklands, and cold desert areas. They seem to occur primarily in areas of low to moderate slope.	Yes	No	**Low Potential for Occurrence in the BSA.** The BSA is in a developed area of Porterville that lacks the necessary habitat and food sources to support this species.

Legend and Notes

Notes

- **Yes** = the BSA is located within the wildlife species' known distribution, elevation range, and/or the BSA contains suitable habitats or conditions to support the species. The wildlife species has a potential to occur within the BSA. Further evaluation is needed.
- **No** = the BSA is located outside the wildlife species' known distribution, elevation range, and/or the BSA lacks suitable habitats or conditions to support the species. It is highly unlikely for the wildlife species to have a potential to occur within the BSA. No further evaluation is needed.
- **DPS = distinct population segment:** A DPS, or a distinct population segment, is a vertebrate population or group of populations that is discrete from other populations of the species and significant in relation to the entire species. The ESA provides for listing species, subspecies, or distinct population segments of vertebrate species.
- **ESU = evolutionarily significant unit:** a Pacific salmon population or group of populations that is substantially reproductively isolated from other conspecific populations and that represents an important component of the evolutionary legacy of the species.

Federal Endangered Species Act (ESA) Listing Codes: the ESA is administered by the USFWS and NMFS. The USFWS has primary responsibility for terrestrial and freshwater organisms, while the responsibilities of NMFS are mainly marine wildlife such as whales and anadromous fish such as salmon. For the purposes of the ESA, Congress defined species to include subspecies, varieties, and, for vertebrates, distinct population segments. The official federal listing of Endangered and Threatened animals is published in 50 CFR § 17.11.

- **FE = federally listed as endangered:** any species of plant or animal that is in danger of extinction throughout all or a significant portion of their range.
- **FT = federally listed as threatened:** any species of plant or animal that is considered likely to become endangered throughout all or a significant portion of its range within the foreseeable future.
- **FC = federal candidate for listing:** candidate species are plants and animals for which the USFWS has sufficient information on their biological status and threats to propose them for listing as endangered or threatened under the ESA, but for which development of a proposed listing regulation is precluded by higher priority listing actions to address species in greater need. A proposed regulation has not yet been published in the Federal Register for these species.
- **FPE = federally proposed for listing as endangered:** a candidate species that has been proposed by USFWS or NMFS for listing as endangered and the proposed rule, but not a final rule, to list has been published in the Federal Register.
- **FPT = federally proposed for listing as threatened:** a candidate species that has been proposed by USFWS or NMFS for listing as threatened and the proposed rule, but not a final rule, to list has been published in the Federal Register.
- **FPD = federally proposed for delisting:** a species that has been proposed by USFWS or NMFS for delisting (or down listing from endangered to threatened) and the proposed rule to delist has been published in the Federal Register.

California Endangered Species Act (CESA) Listing Codes: the CESA is administered by CDFW. The official listing of *Animals of California Declared To Be Endangered or Threatened* is contained in the California Code of Regulations, Title 14, § 670.5. Species and subspecies of California native animals are declared to be endangered or threatened as defined by §§ 2062 and 2067 of the Fish and Game Code.

- **SE = state-listed as endangered:** "endangered species" means a native species or subspecies of a bird, mammal, fish, amphibian, reptile, or plant which is in serious danger of becoming extinct throughout all, or a significant portion, of its range due to one or more causes, including loss of habitat, change in habitat, overexploitation, predation, competition, or disease (Fish and Game Code § 2062).

Legend and Notes

- **ST = state-listed as threatened:** "threatened species" means a native species or subspecies of a bird, mammal, fish, amphibian, reptile, or plant that, although not presently threatened with extinction, is likely to become an endangered species in the foreseeable future in the absence of the special protection and management efforts (Fish and Game Code § 2067).
- **SCE = state candidate for listing as endangered:** a native species or subspecies of a bird, mammal, fish, amphibian, reptile, or plant that the Fish and Game Commission has formally noticed published in the California Regulatory Notice Register as being under review by CDFW for addition to the list of endangered species, or a species for which the Fish and Game Commission has published a notice of proposed regulation to add the species to the list (Fish and Game Code § 2068).
- **SCT = state candidate for listing as threatened:** a native species or subspecies of a bird, mammal, fish, amphibian, reptile, or plant that the Fish and Game Commission has formally noticed by publication in the California Regulatory Notice Register as being under review by CDFW for addition to the list of threatened species, or a species for which the Fish and Game Commission has published a notice of proposed regulation to add the species to the list (Fish and Game Code § 2068).
- **SCD = state candidate for delisting:** a native species or subspecies of a bird, mammal, fish, amphibian, reptile, or plant that the Fish and Game Commission has formally noticed published in the California Regulatory Notice Register as being under review by CDFW for removal from either the list of endangered species or the list of threatened species, or a species for which the Fish and Game Commission has published a notice of proposed regulation to remove the species to either list.

California Department of Fish and Wildlife (CDFW) Designations:

For some wildlife species, the CNDDB is only concerned with specific portions of the life history, such as roosts, rookeries, or nesting colonies. For many species of birds, the primary emphasis is on the breeding population in California. For some species which do not breed in California but winter here, emphasis is on wintering range. The SSC designation thus may include a comment regarding the specific protection provided such as nesting or wintering.

- **SSC = species of special concern:** a species of special concern is a species, subspecies, or distinct population of an animal (fish, amphibian, reptile, bird and mammal) native to California that currently satisfies one or more of the following (not necessarily mutually exclusive) criteria: is extirpated from the state or, in the case of birds, in its primary seasonal or breeding role; is listed as federally-, but not state-, threatened or endangered; meets the state definition of threatened or endangered, but has not formally been listed; is experiencing, or formerly experienced, serious (noncyclical) population declines or range retractions (not reversed) that, if continued or resumed, could qualify it for state threatened or endangered status; has naturally small populations exhibiting high susceptibility to risk from any factor(s), that if realized, could lead to declines that would qualify it for state threatened or endangered status.
- **Fully protected:** fully protected animal species may not be taken or possessed at any time and no licenses or permits may be issued for their take except for collecting these species for necessary scientific research and relocation of the bird species for the protection of livestock. Lists were created for fish (Fish and Game Code § 5515), amphibians and reptiles (Fish and Game Code § 5050), birds (Fish and Game Code § 3511) and mammals (Fish and Game Code § 4700).
- **WL = watch list:** this list includes birds identified in the *California Bird Species of Special Concern* (Shuford and Gardali, 2008) report and are not on the current CDFW species of special concern list, but were on previous lists and they have not been state-listed under CESA; were previously state or federally listed and now are on neither list; or are on the list of fully protected species.
- **Special Animals List:** the CESA does not allow listing of insects, so despite the insect's precarious status, the insect has no protection under state legislation. CDFW includes this insect on its Special Animals List.
- **California Fish and Game Code §§ 4800 – 4810:** The mountain lion (genus *Puma*) is a specially protected mammal under the laws of California. It is unlawful to take, injure, possess, transport, import, or sell any mountain lion or any part or product thereof, except as specifically provided in California Fish and Game Code §§ 4800 - 4810.
- Protected by § 460 of the California Code of Regulations [CCR], Title 14

United States Fish and Wildlife Service (USFWS) Designations:

- **FSC = federal species of concern:** federal species of concern is an informal term. It is not defined in the ESA. The term commonly refers to species that are declining or appear to be in need of conservation.
- **BCC = bird of conservation concern:** a bird of conservation concern is listed in the USFWS' 2008 *Birds of Conservation Concern* report. The report identifies species, subspecies, and populations of all migratory and non-migratory bird species (beyond those already designated as federally threatened or endangered) that, without additional conservation actions, are likely to become candidates for listing under the ESA. While all of the bird species included in the report is priorities for conservation action, the list makes no finding with regard to whether they warrant consideration for ESA listing.

SECTION 5. CONCLUSIONS AND RECOMMENDATIONS

5.1. SENSITIVE SPECIES

5.1.1. Sensitive Plants

None of the twenty-six (26) sensitive plant species identified in the literature review have suitable habitat present on site. Focused surveys are required for any federal and/or state listed endangered species with potential to occur on site when the species is in bloom to ensure it is both evident and identifiable during the survey. Because the project area is largely developed with minimal disturbed habitat dominated by non-native vegetation and its location next to residential development, there is low to no potential for occurrence in the Survey Area for the sensitive species identified in the literature review. No focused surveys are required.

5.1.2. Sensitive Wildlife

Of the thirty-one (31) sensitive wildlife species identified in the literature review, four (4) sensitive wildlife species have a moderate potential to occur in the BSA due to potential foraging opportunities on site and/or nearby historic occurrences. Three (3) of these species are birds; one (1) state threatened and two (2) are USFWS birds of conservation concern. The BSA, while largely occurring as a migratory pathway and not providing suitable breeding or nesting habitat to resident or breeding species, should be treated with the potential for nesting to occur. In order to minimize potential impacts to avian species, vegetation clearing or ground disturbing activities should be conducted during the non-breeding season (September 1 to February 14) in order to limit impacts to nesting birds. If vegetation clearing or ground disturbing activities need to take place during breeding season (February 15 through August 31), in order to remain in compliance with the Migratory Bird Treaty Act, a pre-construction nesting bird survey(s) will be required. The last survey day should be conducted a minimum of three days prior to the start of work. The fourth species, the monarch butterfly, is a migratory species who's potential for occurrence is limited to time of year. The BSA occurs within the spring and summer range and as a migratory pathway to and from their winter range in coastal California. As the BSA lacks suitable habitat, occurs only within part of their migratory route, and the species is dependent on milkweed (Asclepias spp.) as a source of food and location where eggs are laid, we recommend including this species in pre-construction surveys. This would involve determining presence or absence of adult butterflies and milkweed, if neither are found then no additional mitigation efforts are needed. If present, a mitigation plan would be necessary to remain compliant with CEQA and could include a restoration/revegetation plan, avoiding direct impacts to individuals and host plants, or compensatory mitigation.

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APPENDIX A

USDA NATURAL RESOURCES CONSERVATION SERVICE WEB SOIL SURVEY

United States Department of Agriculture

NRCS

Natural Resources Conservation Service

A product of the National Cooperative Soil Survey, a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local participants

Custom Soil Resource Report for Tulare County, California, Central Part

August 26, 2024

Preface

Soil surveys contain information that affects land use planning in survey areas. They highlight soil limitations that affect various land uses and provide information about the properties of the soils in the survey areas. Soil surveys are designed for many different users, including farmers, ranchers, foresters, agronomists, urban planners, community officials, engineers, developers, builders, and home buyers. Also, conservationists, teachers, students, and specialists in recreation, waste disposal, and pollution control can use the surveys to help them understand, protect, or enhance the environment.

Various land use regulations of Federal, State, and local governments may impose special restrictions on land use or land treatment. Soil surveys identify soil properties that are used in making various land use or land treatment decisions. The information is intended to help the land users identify and reduce the effects of soil limitations on various land uses. The landowner or user is responsible for identifying and complying with existing laws and regulations.

Although soil survey information can be used for general farm, local, and wider area planning, onsite investigation is needed to supplement this information in some cases. Examples include soil quality assessments (http://www.nrcs.usda.gov/wps/portal/nrcs/main/soils/health/) and certain conservation and engineering applications. For more detailed information, contact your local USDA Service Center (https://offices.sc.egov.usda.gov/locator/app?agency=nrcs) or your NRCS State Soil Scientist (http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/contactus/?cid=nrcs142p2_053951).

Great differences in soil properties can occur within short distances. Some soils are seasonally wet or subject to flooding. Some are too unstable to be used as a foundation for buildings or roads. Clayey or wet soils are poorly suited to use as septic tank absorption fields. A high water table makes a soil poorly suited to basements or underground installations.

The National Cooperative Soil Survey is a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local agencies. The Natural Resources Conservation Service (NRCS) has leadership for the Federal part of the National Cooperative Soil Survey.

Information about soils is updated periodically. Updated information is available through the NRCS Web Soil Survey, the site for official soil survey information.

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Contents

How Soil Surveys Are Made

Soil surveys are made to provide information about the soils and miscellaneous areas in a specific area. They include a description of the soils and miscellaneous areas and their location on the landscape and tables that show soil properties and limitations affecting various uses. Soil scientists observed the steepness, length, and shape of the slopes; the general pattern of drainage; the kinds of crops and native plants; and the kinds of bedrock. They observed and described many soil profiles. A soil profile is the sequence of natural layers, or horizons, in a soil. The profile extends from the surface down into the unconsolidated material in which the soil formed or from the surface down to bedrock. The unconsolidated material is devoid of roots and other living organisms and has not been changed by other biological activity.

Currently, soils are mapped according to the boundaries of major land resource areas (MLRAs). MLRAs are geographically associated land resource units that share common characteristics related to physiography, geology, climate, water resources, soils, biological resources, and land uses (USDA, 2006). Soil survey areas typically consist of parts of one or more MLRA.

The soils and miscellaneous areas in a survey area occur in an orderly pattern that is related to the geology, landforms, relief, climate, and natural vegetation of the area. Each kind of soil and miscellaneous area is associated with a particular kind of landform or with a segment of the landform. By observing the soils and miscellaneous areas in the survey area and relating their position to specific segments of the landform, a soil scientist develops a concept, or model, of how they were formed. Thus, during mapping, this model enables the soil scientist to predict with a considerable degree of accuracy the kind of soil or miscellaneous area at a specific location on the landscape.

Commonly, individual soils on the landscape merge into one another as their characteristics gradually change. To construct an accurate soil map, however, soil scientists must determine the boundaries between the soils. They can observe only a limited number of soil profiles. Nevertheless, these observations, supplemented by an understanding of the soil-vegetation-landscape relationship, are sufficient to verify predictions of the kinds of soil in an area and to determine the boundaries.

Soil scientists recorded the characteristics of the soil profiles that they studied. They noted soil color, texture, size and shape of soil aggregates, kind and amount of rock fragments, distribution of plant roots, reaction, and other features that enable them to identify soils. After describing the soils in the survey area and determining their properties, the soil scientists assigned the soils to taxonomic classes (units). Taxonomic classes are concepts. Each taxonomic class has a set of soil characteristics with precisely defined limits. The classes are used as a basis for comparison to classify soils systematically. Soil taxonomy, the system of taxonomic classification used in the United States, is based mainly on the kind and character of soil properties and the arrangement of horizons within the profile. After the soil

scientists classified and named the soils in the survey area, they compared the individual soils with similar soils in the same taxonomic class in other areas so that they could confirm data and assemble additional data based on experience and research.

The objective of soil mapping is not to delineate pure map unit components; the objective is to separate the landscape into landforms or landform segments that have similar use and management requirements. Each map unit is defined by a unique combination of soil components and/or miscellaneous areas in predictable proportions. Some components may be highly contrasting to the other components of the map unit. The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The delineation of such landforms and landform segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, onsite investigation is needed to define and locate the soils and miscellaneous areas.

Soil scientists make many field observations in the process of producing a soil map. The frequency of observation is dependent upon several factors, including scale of mapping, intensity of mapping, design of map units, complexity of the landscape, and experience of the soil scientist. Observations are made to test and refine the soil-landscape model and predictions and to verify the classification of the soils at specific locations. Once the soil-landscape model is refined, a significantly smaller number of measurements of individual soil properties are made and recorded. These measurements may include field measurements, such as those for color, depth to bedrock, and texture, and laboratory measurements, such as those for content of sand, silt, clay, salt, and other components. Properties of each soil typically vary from one point to another across the landscape.

Observations for map unit components are aggregated to develop ranges of characteristics for the components. The aggregated values are presented. Direct measurements do not exist for every property presented for every map unit component. Values for some properties are estimated from combinations of other properties.

While a soil survey is in progress, samples of some of the soils in the area generally are collected for laboratory analyses and for engineering tests. Soil scientists interpret the data from these analyses and tests as well as the field-observed characteristics and the soil properties to determine the expected behavior of the soils under different uses. Interpretations for all of the soils are field tested through observation of the soils in different uses and under different levels of management. Some interpretations are modified to fit local conditions, and some new interpretations are developed to meet local needs. Data are assembled from other sources, such as research information, production records, and field experience of specialists. For example, data on crop yields under defined levels of management are assembled from farm records and from field or plot experiments on the same kinds of soil.

Predictions about soil behavior are based not only on soil properties but also on such variables as climate and biological activity. Soil conditions are predictable over long periods of time, but they are not predictable from year to year. For example, soil scientists can predict with a fairly high degree of accuracy that a given soil will have a high water table within certain depths in most years, but they cannot predict that a high water table will always be at a specific level in the soil on a specific date.

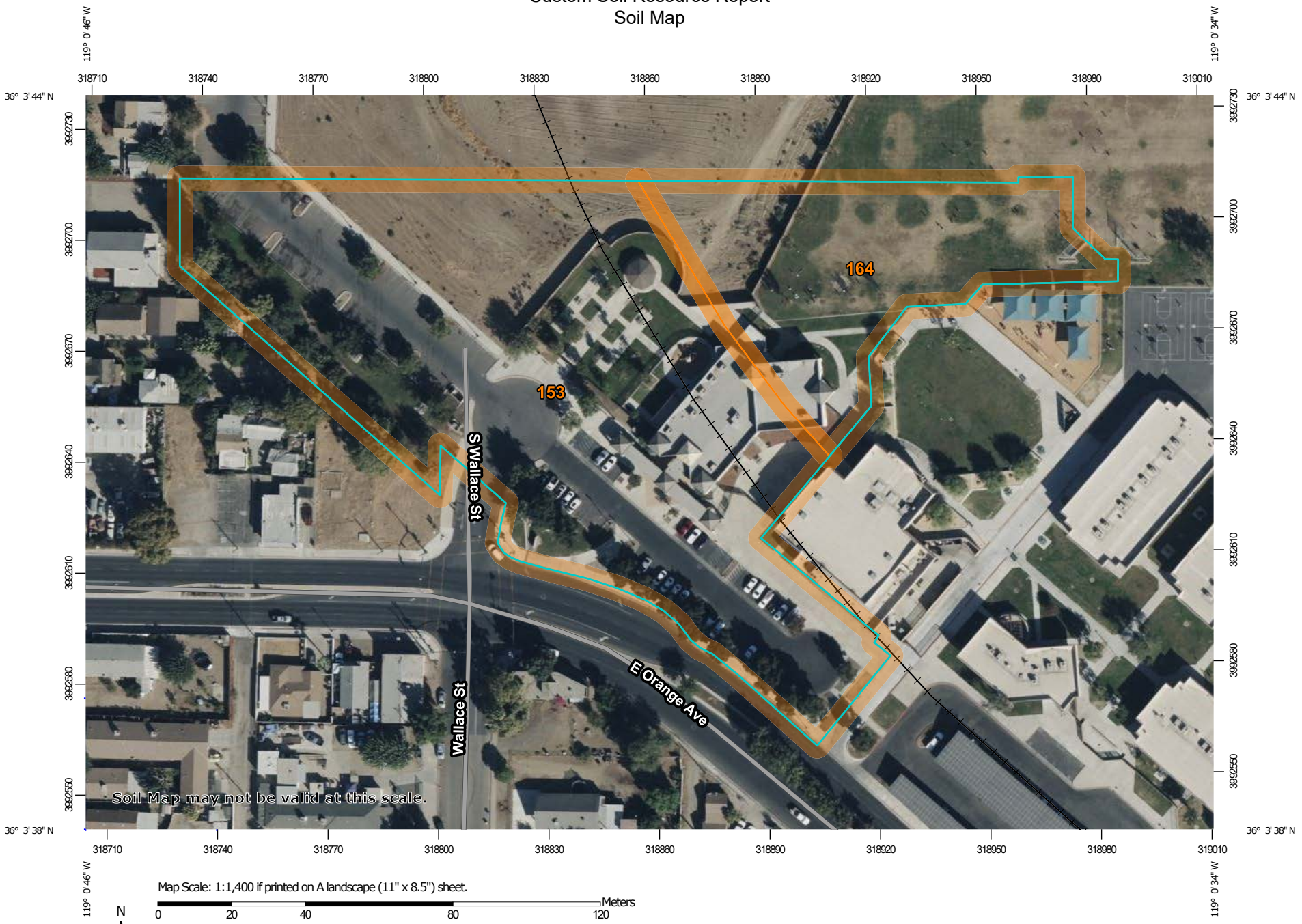
After soil scientists located and identified the significant natural bodies of soil in the survey area, they drew the boundaries of these bodies on aerial photographs and

identified each as a specific map unit. Aerial photographs show trees, buildings, fields, roads, and rivers, all of which help in locating boundaries accurately.

Soil Map

The soil map section includes the soil map for the defined area of interest, a list of soil map units on the map and extent of each map unit, and cartographic symbols displayed on the map. Also presented are various metadata about data used to produce the map, and a description of each soil map unit.

Custom Soil Resource Report
Soil Map



Map Scale: 1:1,400 if printed on A landscape (11" x 8.5") sheet.

N

Meters: 0 20 40 80 120

Feet: 0 50 100 200 300

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 11N WGS84

MAP LEGEND

Area of Interest (AOI)
- Area of Interest (AOI)

Soils
- Soil Map Unit Polygons
- Soil Map Unit Lines
- Soil Map Unit Points

Special Point Features
- Blowout
- Borrow Pit
- Clay Spot
- Closed Depression
- Gravel Pit
- Gravelly Spot
- Landfill
- Lava Flow
- Marsh or swamp
- Mine or Quarry
- Miscellaneous Water
- Perennial Water
- Rock Outcrop
- Saline Spot
- Sandy Spot
- Severely Eroded Spot
- Sinkhole
- Slide or Slip
- Sodic Spot
- Spoil Area
- Stony Spot
- Very Stony Spot
- Wet Spot
- Other
- Special Line Features

Water Features
- Streams and Canals

Transportation
- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

Background
- Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:24,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Tulare County, California, Central Part
Survey Area Data: Version 17, Aug 31, 2023

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Oct 26, 2022—Oct 28, 2022

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
153	San Emigdio loam	3.4	74.7%
164	Tujunga sand	1.2	25.3%
Totals for Area of Interest		**4.6**	**100.0%**

Map Unit Descriptions

The map units delineated on the detailed soil maps in a soil survey represent the soils or miscellaneous areas in the survey area. The map unit descriptions, along with the maps, can be used to determine the composition and properties of a unit.

A map unit delineation on a soil map represents an area dominated by one or more major kinds of soil or miscellaneous areas. A map unit is identified and named according to the taxonomic classification of the dominant soils. Within a taxonomic class there are precisely defined limits for the properties of the soils. On the landscape, however, the soils are natural phenomena, and they have the characteristic variability of all natural phenomena. Thus, the range of some observed properties may extend beyond the limits defined for a taxonomic class. Areas of soils of a single taxonomic class rarely, if ever, can be mapped without including areas of other taxonomic classes. Consequently, every map unit is made up of the soils or miscellaneous areas for which it is named and some minor components that belong to taxonomic classes other than those of the major soils.

Most minor soils have properties similar to those of the dominant soil or soils in the map unit, and thus they do not affect use and management. These are called noncontrasting, or similar, components. They may or may not be mentioned in a particular map unit description. Other minor components, however, have properties and behavioral characteristics divergent enough to affect use or to require different management. These are called contrasting, or dissimilar, components. They generally are in small areas and could not be mapped separately because of the scale used. Some small areas of strongly contrasting soils or miscellaneous areas are identified by a special symbol on the maps. If included in the database for a given area, the contrasting minor components are identified in the map unit descriptions along with some characteristics of each. A few areas of minor components may not have been observed, and consequently they are not mentioned in the descriptions, especially where the pattern was so complex that it was impractical to make enough observations to identify all the soils and miscellaneous areas on the landscape.

The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The objective of mapping is not to delineate pure taxonomic classes but rather to separate the landscape into landforms or landform segments that have similar use and management requirements. The delineation of such segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, however,

onsite investigation is needed to define and locate the soils and miscellaneous areas.

An identifying symbol precedes the map unit name in the map unit descriptions. Each description includes general facts about the unit and gives important soil properties and qualities.

Soils that have profiles that are almost alike make up a *soil series*. Except for differences in texture of the surface layer, all the soils of a series have major horizons that are similar in composition, thickness, and arrangement.

Soils of one series can differ in texture of the surface layer, slope, stoniness, salinity, degree of erosion, and other characteristics that affect their use. On the basis of such differences, a soil series is divided into *soil phases*. Most of the areas shown on the detailed soil maps are phases of soil series. The name of a soil phase commonly indicates a feature that affects use or management. For example, Alpha silt loam, 0 to 2 percent slopes, is a phase of the Alpha series.

Some map units are made up of two or more major soils or miscellaneous areas. These map units are complexes, associations, or undifferentiated groups.

A *complex* consists of two or more soils or miscellaneous areas in such an intricate pattern or in such small areas that they cannot be shown separately on the maps. The pattern and proportion of the soils or miscellaneous areas are somewhat similar in all areas. Alpha-Beta complex, 0 to 6 percent slopes, is an example.

An *association* is made up of two or more geographically associated soils or miscellaneous areas that are shown as one unit on the maps. Because of present or anticipated uses of the map units in the survey area, it was not considered practical or necessary to map the soils or miscellaneous areas separately. The pattern and relative proportion of the soils or miscellaneous areas are somewhat similar. Alpha-Beta association, 0 to 2 percent slopes, is an example.

An *undifferentiated group* is made up of two or more soils or miscellaneous areas that could be mapped individually but are mapped as one unit because similar interpretations can be made for use and management. The pattern and proportion of the soils or miscellaneous areas in a mapped area are not uniform. An area can be made up of only one of the major soils or miscellaneous areas, or it can be made up of all of them. Alpha and Beta soils, 0 to 2 percent slopes, is an example.

Some surveys include *miscellaneous areas*. Such areas have little or no soil material and support little or no vegetation. Rock outcrop is an example.

Tulare County, California, Central Part

153—San Emigdio loam

Map Unit Setting

National map unit symbol: hkff
Elevation: 430 to 690 feet
Mean annual precipitation: 11 to 16 inches
Mean annual air temperature: 61 to 64 degrees F
Frost-free period: 320 to 325 days
Farmland classification: Prime farmland if irrigated

Map Unit Composition

San emigdio and similar soils: 90 percent
Minor components: 10 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of San Emigdio

Setting

Landform: Alluvial fans
Landform position (two-dimensional): Footslope
Landform position (three-dimensional): Base slope
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Alluvium derived from granitoid and/or alluvium derived from sedimentary rock

Typical profile

Ap - 0 to 29 inches: loam
C - 29 to 66 inches: fine sandy loam

Properties and qualities

Slope: 0 to 2 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Capacity of the most limiting layer to transmit water (Ksat): High (1.98 to 5.95 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 5 percent
Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Available water supply, 0 to 60 inches: Moderate (about 7.8 inches)

Interpretive groups

Land capability classification (irrigated): 1
Land capability classification (nonirrigated): 4c
Hydrologic Soil Group: A
Ecological site: R017XE118CA - CALCAREOUS LOAMY
Hydric soil rating: No

Minor Components

Tujunga

Percent of map unit: 2 percent

Hydric soil rating: No

Honcut

Percent of map unit: 2 percent
Hydric soil rating: No

Unnamed, finer subsoil

Percent of map unit: 2 percent
Hydric soil rating: No

Wyman

Percent of map unit: 2 percent
Hydric soil rating: No

Unnamed, salty

Percent of map unit: 2 percent
Hydric soil rating: No

164—Tujunga sand

Map Unit Setting

National map unit symbol: hkfs
Elevation: 10 to 2,500 feet
Mean annual precipitation: 10 to 25 inches
Mean annual air temperature: 59 to 64 degrees F
Frost-free period: 280 to 350 days
Farmland classification: Not prime farmland

Map Unit Composition

Tujunga and similar soils: 90 percent
Minor components: 10 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Tujunga

Setting

Landform: Alluvial fans
Landform position (two-dimensional): Footslope
Landform position (three-dimensional): Base slope
Down-slope shape: Linear
Across-slope shape: Linear
Parent material: Alluvium derived from granitoid

Typical profile

A - 0 to 16 inches: sand
C - 16 to 60 inches: loamy sand

Properties and qualities

Slope: 0 to 5 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Somewhat excessively drained

Capacity of the most limiting layer to transmit water (Ksat): High to very high (5.95 to 19.98 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water supply, 0 to 60 inches: Low (about 4.2 inches)

Interpretive groups

Land capability classification (irrigated): 3s
Land capability classification (nonirrigated): 6s
Hydrologic Soil Group: A
Ecological site: R017XE080CA - SANDY
Hydric soil rating: No

Minor Components

Honcut

Percent of map unit: 4 percent
Hydric soil rating: No

Unnamed, calcareous

Percent of map unit: 3 percent
Hydric soil rating: No

San emigdio

Percent of map unit: 3 percent
Hydric soil rating: No

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