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WILLOW ROCK ENERGY STORAGE PROJECT

BIOLOGICAL RESOURCES ASSESSMENT REPORT

2024 Addendum

UNINCORPORATED COMMUNITY OF ANSEL, KERN COUNTY, CALIFORNIA

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1.0 INTRODUCTION

WSP USA Environment & Infrastructure Inc. (WSP) was contracted by GEM A-CAES LLC, a subsidiary of Hydrostor, Inc. (Hydrostor) to prepare a Biological Resources Assessment Report (BRAR) for the proposed Willow Rock Energy Storage Center (WRESC) project located unincorporated community of Ansel, Kern County, California (**Figure 1**). This BRAR has been prepared in support of the California Energy Commission (CEC) Application for Certification.

In 2023, WSP conducted a standard biological resources assessment and completed focused biological surveys for special status plant and wildlife species for the WRESC project and prepared a BRAR (WSP 2024a). In September 2023, Hydrostor updated the WRESC project design to include additional project features following the completion of the 2023 biological survey season. This BRAR addendum summarizes the results of focused biological surveys conducted within accessible portions of the additional WRESC project design features. Accessible portions were identified are areas within public road rights-of-way, parcels owned by the applicant, or parcels with right-of-entry agreements. The document also provides a discussion of potential impacts to special status biological resources and presents recommendations for possible avoidance, minimization, and mitigation measures.

Protocol-level biological resource surveys described in this BRAR include focused surveys for Crotch's bumble bee (*Bombus crotchii*), desert tortoise (*Gopherus agassizii*), burrowing owl (*Athene cunicularia*), Swainson's hawk (*Buteo swainsoni*), Mohave ground squirrel (*Xerospermophilus mohavensis*), and sensitive plant species. In addition, a western Joshua tree (*Yucca brevifolia*) census and a delineation of jurisdictional waters were also completed. Stand-alone technical documents were prepared for each survey type (Dipodomys 2024; WSP 2024b, 2024c, 2024d, 2024e, 2024f, 2024g, 2024h).

1.1 Project Description

The additional WRESC project design areas that were evaluated in this BRAR are described as P2 North (47 acres) and P2 South (10 acres), as well as approximately 3.69 miles of additional gen-tie alignments. In the context of this report, "project area" refers to just the additional project areas that were added for the additional 2024 BRAR addendum.

1.2 Project Location and Topography

The project area is located on private property in the rural community of Ansel within the 7.5-minute Soledad Mountain and Rosamond, California, U.S. Geological Survey topographic quadrangle. P2 North (north of Dawn Road) and P2 South (south of Dawn Road) are both located east of State Route 14 and the additional gen-tie alignments are located west of State Route 14 (**Figure 1**). The project area is located within portions of Sections 31, 32, and 33 of Township 10 North and Range 12 West; portions of Section 4 of Township 9 North and Range 12 West; and portions of Sections 14, 15, of Township 9 North and Range 13 West (**Figure 2**).

Topography in the project area slopes from northwest to southeast with flat areas in the southern portions and gently rolling hills in the central portion of the project area. Elevations range from approximately 2,400 feet (732 meters) to 2,720 feet (830 meters) along Dawn Road (**Figure 3**).

2.0 REGULATORY FRAMEWORK

2.1 Federal Regulations

Federal Endangered Species Act **(FESA)** – The U.S. Fish and Wildlife Service (USFWS) and the National Marine Fisheries Service are the designated federal agencies accountable for administering the FESA. The FESA defines species as "endangered" or "threatened" and provides regulatory protection at the federal level.

- Section 9 of the FESA prohibits the "take" of listed (i.e., endangered or threatened) species. The FESA definition of take is "to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, collect, or attempt to engage in such conduct." Recognizing that take cannot always be avoided, Section 10(a) includes provisions for take that are incidental to, but not the purpose of, otherwise lawful activities. Specifically, Section 10(a) (1) (A) permits (authorized take permits) are issued for scientific purposes. Section 10(a) (1) (B) permits (incidental take permits) are issued for the incidental take of listed species that does not jeopardize the species.
- Section 7(a)(2) requires federal agencies to evaluate a proposed project with respect to listed or proposed listed species and their respective critical habitats (if applicable). Federal agencies must employ programs for the conservation of listed species and are prohibited from authorizing, funding, or carrying out any action that would jeopardize a listed species or destroy or modify its "critical habitat."
- Section 10(a) of the FESA authorizes the issuance of incidental take permits and establishes standards for the content of habitat conservation plans. The project area is not within a proposed Habitat Conservation Plan area (see Section 2.3).

As defined by the FESA, "individuals, organizations, States, local governments, and other non-federal entities are affected by the designation of critical habitat only if their actions occur on federal lands, require a federal permit, license, or other authorization, or involve federal funding."

Migratory Bird Treaty Act **(MBTA)** – Treaties signed by the United States, Great Britain, Mexico, Japan, and the republics of the former Soviet Union make it unlawful to pursue, capture, kill, and/or possess, or attempt to engage in any such conduct to any migratory bird, nest, egg or parts thereof listed in this document. As with the FESA, the MBTA also allows the Secretary of the Interior to grant permits for the incidental take of these protected migratory bird species. Impacts include direct disturbance to/destruction of nests, eggs, and birds, as well as indirect effects such as loud construction noises (e.g., drilling, operation of heavy equipment, etc., in excess of 60 decibels at the nest site) and increased site activities (e.g., moving vehicles, use of guard dogs, presence of

personnel) in close proximity to active nests. A list of avian species protected under the MBTA is available under Title 50 Part 10.13 of the Code of Federal Regulations.

***Bald and Golden Eagle Protection Act* (BGEPA)** – The BGEPA, enacted in 1940 and amended several times since, prohibits anyone, without a permit issued by the Secretary of the Interior, from "taking" bald or golden eagles, including their parts (including feathers), nests, or eggs.

The BGEPA provides criminal penalties for persons who "take, possess, sell, purchase, barter, offer to sell, purchase or barter, transport, export or import, at any time or any manner, any bald eagle ... [or any golden eagle], alive or dead, or any part (including feathers), nest, or egg thereof."

The BGEPA defines "take" as "pursue, shoot, shoot at, poison, wound, kill, capture, trap, collect, molest or disturb." Regulations further define "disturb" as "to agitate or bother a bald or golden eagle to a degree that causes, or is likely to cause, based on the best scientific information available, 1) injury to an eagle, 2) a decrease in its productivity, by substantially interfering with normal breeding, feeding, or sheltering behavior, or 3) nest abandonment, by substantially interfering with normal breeding, feeding, or sheltering behavior"

***National Environmental Policy Act* as Amended** – Portions of the project area could fall under the jurisdiction of a federal agency (i.e., U.S. Army Corps of Engineers [USACE]). The National Environmental Policy Act is a national declaration of environmental goals and a national guide for protecting the environment. Its main intent is for the federal government and its agencies to consider the environment before undertaking any major actions. These actions may include projects regulated or approved by federal agencies; any new or revised agency rules, regulations, plans, policies, or procedures; and any legislative proposals that will significantly affect the environment. This act requires all federal agencies to prepare impact assessments in which the public can be involved (Environmental Assessments and/or Environmental Impact Statements) for "every recommendation or report on proposals for legislation and other major federal actions significantly affecting the quality of the human environment" (Section 102[2][42 United States Code 4332).

***Section 404 of the Clean Water Act* (CWA)** – This section of the CWA, administered by the USACE, regulates the discharge of dredged and fill material into "Waters of the United States" (WOTUS). The USACE has created a series of nationwide permits that authorize certain activities within WOTUS, provided that the proposed activity does not exceed the impact threshold for each of the permits, takes steps to avoid impacts to wetlands where practicable, minimizes potential impacts to wetlands, and provides compensation for any remaining, unavoidable impacts through activities to restore or create wetlands. For projects that exceed the threshold for nationwide permits, individual permits under Section 404 can be issued.

Bureau of Land Management* (BLM) *Sensitive Species – The BLM sensitive species list is a list of plants and animals that are vulnerable to disturbance or extinction on BLM-administered lands.

The list is updated once a year, except for plants with a California Rare Plant Rank of 1B, which are automatically added or removed from the list based on the California Department of Fish and Wildlife (CDFW) Special Vascular Plants, Bryophytes, and Lichens List (CDFW 2024a).

2.2 State of California Law and Regulation

California Endangered Species Act (CESA) – This Act is similar to the FESA, but it is administered by the CDFW. The CDFW is authorized to enter into "memoranda of understanding" with individuals, public agencies, and other institutions to import, export, take, or possess state-listed species for scientific, educational, or management purposes. The CESA prohibits the take of state-listed species except as otherwise provided in state law. Unlike the FESA, the CESA applies the take prohibitions to species currently petitioned for state-listing status (candidate species). State lead agencies are required to consult with the CDFW to ensure that actions are not likely to jeopardize the continued existence of any state-listed species or result in the destruction or degradation of occupied habitat.

California Environmental Quality Act (CEQA) – Fundamentally, CEQA is a public disclosure law intended to foster informed public decision making. Among CEQA's many objectives is the prevention of potentially significant, avoidable damage to the environment by implementing alternatives or mitigation measures while ensuring transparency in governmental decision-making process and encouraging public participation. (Public Resources Code §§ 21000-21006; CEQA Guidelines, 20 CCR §§15001-15003.) CEQA has both procedural and substantive requirements. Procedurally, CEQA provides specific processes for noticing, obtaining public comment, and preparing environmental documentation. CEQA's substantive provisions require agencies to avoid or minimize a project's environmental impacts through the use of feasible alternatives or mitigation measures.

CEQA applies to "projects" proposed to be undertaken or requiring approval by state and/or local governmental agencies. (Public Resources Code § 21065; 14 CCR 15378). Projects are activities that have the potential to have a physical impact on the environment and may include the enactment of zoning ordinances, the issuance of conditional use permits, and the approval of tentative subdivision maps. Where a project requires approvals from more than one public agency, CEQA requires one of these public agencies to serve as the "lead agency."

A "lead agency" must complete the environmental review process required by CEQA. The most basic steps of the environmental review process are as follows:

- Determine if the activity is a "project" subject to CEQA.
- Determine if the "project" is exempt from CEQA.

- Perform an Initial Study to identify the environmental impacts of the project and determine whether the identified impacts are "significant." Based on its findings of "significance," the lead agency prepares one of the following environmental review documents:
    - Negative Declaration if it finds no "significant" impacts
    - Mitigated Negative Declaration if it finds "significant" impacts but revises the project to avoid or mitigate those significant impacts
    - Environmental Impact Report if it finds "significant" impacts

CEQA defines a "Significant effect on the environment" as "a substantial, or potentially substantial, adverse change in the environment." (Public Resources Code § 21068). The determination of whether an impact is potentially significant calls for agency judgment, taking into consideration the project's context and setting. Potential impacts or "effects" can be direct or indirect, or cumulative, with the determination based on substantial evidence in the record – scientific and factual data. (14 CCR § 15064, *et seq*.)

Section 2081 of the California Fish and Game Code (CFGC) – Under Section 2081 of the CFGC, the CDFW authorizes individuals or public agencies to import, export, take, or possess state endangered, threatened, or candidate species in California through permits or memoranda of understanding. These acts, which are otherwise prohibited, may be authorized through permits or "memoranda of understanding" if (1) the take is incidental to otherwise lawful activities, (2) impacts of the take are minimized and fully mitigated, (3) the permit is consistent with regulations adopted in accordance with any recovery plan for the species in question, and (4) the Applicant ensures suitable funding to implement the measures required by the CDFW. The CDFW shall make this determination based on the best scientific information available and shall include consideration of the species' capability to survive and reproduce.

Sections of the CFGC Pertaining to the Protection of Birds – Section 3503 makes it unlawful to take, possess, or needlessly destroy the nest or eggs of any bird. Section 3505.5 makes it unlawful to take, possess, or destroy any birds in the order Falconiformes or Strigiformes (birds-of-prey, i.e.: owls, hawks, eagles, etc.) or to take, possess, or destroy the nest or eggs of any bird-of-prey. Section 3513 makes it unlawful to take or possess any migratory nongame bird as designated in the MBTA.

Natural Community Conservation Planning (NCCP) Program – An NCCP program, which is managed by the CDFW, is intended to conserve multiple species and their associated habitats, while also providing for compatible use of private lands. Through local planning, the NCCP process is designed to provide protection for wildlife and natural habitats before the environment becomes so fragmented or degraded by development that species listing are required under the CESA. Instead of conserving small, often isolated "islands" of habitat for just one listed species, agencies, local jurisdictions, and/or other interested parties have an opportunity through the

NCCP program to work cooperatively to develop plans that consider broad areas of land for conservation that would provide habitat for many species. Partners enroll in the programs and, by mutual consent, areas considered to have high conservation priorities or values are set aside and protected from development. Partners may also agree to study, monitor, and develop management plans for these high value "reserve" areas. The NCCP program provides an avenue for fostering economic growth by allowing approved development in areas with lower conservation value. The project area is not in a proposed NCCP.

The Native Plant Protection Act (NPPA) – The NPPA includes measures to preserve, protect, and enhance rare and endangered native plant species. Definitions for "rare and endangered" are different from those contained in the CESA. However, the list of species afforded protection in accordance with the NPPA includes those listed as rare and endangered under the CESA. The NPPA provides limitations on take as follows: "no person will import into this State, or take, possess, or sell within this State" any rare or endangered native plants, except in accordance with the provisions outlined in the NPPA. If a landowner is notified by the CDFW pursuant to Section 1903.5 that a rare or endangered plant species is growing on their property, the landowner shall notify the CDFW at least 10 days prior to the changing of land uses to allow the CDFW to salvage the plants.

California Native Plant Society (CNPS) Rare Plant Program – The CNPS is a private plant conservation organization dedicated to the monitoring and protection of sensitive species in the state. CNPS has compiled an inventory comprised of information focusing on geographic distribution and qualitative characterization of rare, threatened, or endangered vascular plant species of California. The list serves as the candidate list for listing as threatened and endangered by the CDFW.

CNPS has developed five categories of rarity:

- List 1A: Presumed Extinct
- List 1B: Rare, threatened, or endangered throughout their range
- List 2: Rare, threatened, or endangered in California, but more common in other states
- List 3: Plant species for which additional information is needed before rarity can be determined
- List 4: Species of limited distribution in California (i.e., naturally rare in the wild), but whose existence does not appear to be susceptible to threat

All the plants constituting Lists 1A, 1B, and 2 meet the definitions of Section 1901, Chapter 10 of the NPPA, or Sections 2062 and 2067 of the CFGC and are eligible for state listing. It is mandatory that they be fully considered during preparation of environmental documents relating to CEQA.

Some of the plants constituting List 3 meet the definitions of Section 1901, Chapter 10 (NPPA), or Sections 2062 and 2067 of the CFGC and are eligible for state listing. These plants are not required to be fully considered during preparation of environmental documents relating to CEQA; however, the CNPS strongly recommends that they are considered.

Very few of the plants constituting List 4 meet the definitions of Section 1901, Chapter 10 (NPPA), or Sections 2062 and 2067 of the CFGC, and few, if any, are eligible for state listing. The plants are also not required to be fully considered during the preparation of environmental documents relating to CEQA. The CNPS recommends this consideration for populations at the periphery of a species' range or in areas where the taxon is especially uncommon or has sustained heavy losses, or for populations exhibiting unusual morphology or occurring on unusual substrates.

Western Joshua Tree Conservation Act (WJTCA) – The WJTCA, enacted in July 2023, is designed to safeguard the western Joshua tree and its habitat in alignment with the state's renewable energy and housing development goals. The legislation establishes a streamlined permitting process for specific development projects, accompanied by appropriate mitigation including but not limited to avoidance, minimization (seed collection and/or transplantation), and payment of fees. These fees are earmarked for acquiring and preserving western Joshua tree habitats, as well as implementing other conservation measures to protect the species. By adopting this efficient approach and collecting mitigation fees, the WJTCA aims to offset the negative impacts of authorized projects on western Joshua trees, contributing to the broader conservation of the species at a landscape scale.

To enforce the conservation efforts, the WJTCA prohibits the importation, export, take, possession, purchase, or sale of any western Joshua tree in California without authorization from the CDFW. The legislation empowers the CDFW to issue permits for incidental tree takes, allowing permittees to pay specified fees in lieu of mitigation activities. The act also grants CDFW authority to issue permits for the removal of dead western Joshua trees and the trimming of live ones under specific circumstances.

State Water Resources Control Board (SWRCB) – The SWRCB regulates water quality regulations under the federal CWA and the state Porter-Cologne Act, implemented in different regions of the state by various Regional Water Quality Boards (RWQCBs). If the project has impacts to waters, the RWQCB must issue a Water Quality Certification for the project in accordance with Section 401 of the CWA. In addition, the project must comply with the National Pollutant Discharge Elimination System, including compliance with the California Storm Water National Pollutant Discharge Elimination System General Construction Permit for discharges of storm water runoff associated with construction activities. General Construction Permits for projects that disturb one or more acres of land require development and implementation of a Storm Water Pollution Prevention Plan.

2.3 Local Regulations

Kern County General Plan (KCGP) – The KCGP assists Kern County officials in the decision-making process which affects growth and resources in unincorporated Kern County jurisdiction. As mandated by the state, every city and county must adopt and periodically update a comprehensive long-range general plan for physical development within its jurisdiction. The KCGP also serves as a guide to the private sector of the economy in relating its development initiatives to the public plans, objectives, and policies of Kern County (Kern County 2009).

Kern County Zoning Ordinance (KCZO) – The KCZO, TITLE 19, "Zoning," provides detailed direction on land use decisions. In particular, Title 19 was "..adopted to promote and protect the public health, safety, and welfare through the orderly regulation of land uses throughout the unincorporated area of the County." (KCZO, Title 19, § 19.02.020, "Purposes").

3.0 METHODS

3.1 Literature Review and Records Search

Prior to the field surveys, a literature review and records search was conducted to identify potential special status biological resources known from the vicinity of the project area. In the context of this report, and for the purpose of this assessment, "vicinity" is defined as areas within a 10-mile (16-kilometer) radius of the project area.

The literature search included a review of the following documents and/or databases:

- CDFW Special Animals List (CDFW 2024a)
- California Natural Diversity Data Base RareFind 5 (CDFW 2024b)
- CNPS Electronic Inventory of Rare, Threatened, and Endangered Plants of California (CNPS 2024)
- U.S. Department of Agriculture, Natural Resources Conservation Service Web Soil Survey (USDA 2024a)
- U.S. Geological Survey 7.5-Minute Series Soledad Mtn and Rosamond, California. Quadrangle Map (USGS 1973 and 1979)
- iNaturalist Observations (iNaturalist 2024)
- Aerial photographs (Google Earth 2024)
- USFWS National Wetlands Inventory map to identify areas mapped as wetland features (USFWS 2024)
- National Hydrography Dataset (USGS 2024)
- Federal Emergency Management Agency National Flood Hazard Map (2024)

- Methods to Describe and Delineate Episodic Stream Processes on Arid Landscapes for Permitting Utility-scale Solar Power Plants (Brady and Vyverberg 2014)
- Preliminary Hydrology & Hydraulic Analysis for the Willow Rock Energy Storage Center (Kiewit 2024)
- Pertinent documents from the WSP library and WRESC project files (e.g., other biological survey reports)

Once the list of potentially occurring sensitive species was generated, an assessment of each species was completed. The assessment consisted of identifying the occurrence of suitable habitat, the closest known recorded occurrence, and the species' known range. Based on the assessment, the potential for occurrence of each species was identified as either Occurs, High Potential, Moderate Potential, Low Potential, Absent, or Unknown. The following definitions were used to establish this determination:

Occurs = Observed on the site by WSP personnel or recorded there by other qualified biologists.

High = Observed in similar habitat in region (within 3 miles) by qualified biologists, or habitat on the site is a type often utilized by the species and the site is within the known range of the species.

Moderate = Reported sightings in surrounding region, or site is within the known range of the species and habitat on the site is a type occasionally used by the species.

Low = Site is within the known range of the species but habitat on the site is rarely used by the species.

Absent = A focused study failed to detect the species, or no suitable habitat is present.

Unknown = Distribution and habitat use has not been clearly determined.

Scientific nomenclature for this document follows standard reference sources for the following:

- Plant communities:
  - Jepson Manual: Higher Plants of California (Baldwin et al. 2012)
  - Jepson Flora Project (2024)
  - U.S. Department of Agriculture, Natural Resources Conservation Service PLANTS Database (2024b)
- Amphibians, reptiles, and mammals:
  - CDFW (2024a)

- Birds:
    - California Bird Records Committee (2024)

3.2 Vegetation Mapping

Vegetation mapping was conducted to determine the vegetation communities and habitat suitability for special status and listed species within the project area and associate buffers, including a 500-foot buffer around the gen-tie transmission line alignments and a 1,000-foot buffer around the additional workspace areas (P2 North and P2 South). Mapping was completed following the National Vegetation Classification System per the Manual of California Vegetation, Second Edition (Sawyer et al. 2009). Biologist drove accessible portions of the project area and accessed areas as needed on foot. Only portions of the project area owned by the Applicant or properties with a right of entry agreement were accessed. All other areas were considered inaccessible and were observed from a distance utilizing aerial photos and binoculars to verify vegetation communities. No additional surveys will be required once this land is leased/owned. Esri ArcGIS Field Maps software was used to map various vegetation communities and all relevant data, including dominant and subdominant plant species. For any community that could not be easily classified under the Manual of California Vegetation, the Preliminary Descriptions of the Terrestrial Natural Communities of California was used (Holland 1986). On-site and adjacent areas were characterized for their existing conditions and current land uses. Prior to conducting any field work, the visual changes in vegetation coverage as detected during the review of aerial photographs (Google Earth 2024) were outlined and mapped using geographic information systems (GIS). The GIS shapefiles were then loaded into the Field Maps application for field verification. Accessible portions of the project area were walked and/or driven to spot-check and verify the vegetation communities and confirm the GIS mapping. The vegetation observed and land cover types are discussed in Section 4.3. A comprehensive list of all plant species observed is available in Appendix C.

3.3 Field Surveys

A general habitat assessment was conducted for the potentially occurring sensitive species identified during the literature review. With the assistance of the vegetation map, all vegetation communities, plants, and wildlife species identified within 1,000 feet of the gen-tie transmission line alignment and a 1-mile buffer around the additional work areas were identified. While conducting this assessment, all plant and wildlife species identified were recorded in field notebooks. The surveys consisted of driving along public roads and identifying any new vegetation communities not identified in the project vegetation mapping. The information collected during this field survey effort was used to determine the suitable habitat for potentially occurring sensitive plant and wildlife species.

3.4 Focused Surveys

Based on the vegetation mapping and field surveys, suitable habitat was identified for Crotch's bumble bee, desert tortoise, burrowing owl, Swainson's hawk, Mohave ground squirrel, and sensitive plant species. Based on the presence of western Joshua tree during the initial habitat assessment, a full census of western Joshua trees was conducted. In addition, several ephemeral drainage features were also identified during the habitat assessment; therefore, a jurisdictional delineation to determine the limits of jurisdictional waters was completed.

All biological surveys and resource assessments were performed according to current protocols and guidelines for each survey. **Table 1** describes the "survey area" parameters for each survey. The results of each survey are described in Section 4.0.

Table 1. 2024 Survey Area Parameters

Survey	Survey Area
Crotch's Bumble Bee	Project area only
Desert Tortoise	Project area only
Burrowing Owl	Project area and 500-foot buffer
Swainson's Hawk	Project area and 0.5-mile buffer
Mohave Ground Squirrel	Project area only
Sensitive Plants	Project area only
Joshua Tree Census	Project area and 1,000-foot buffer
Jurisdictional Waters	Project area and 200-foot upstream/downstream of project site

3.4.1 Crotch's Bumble Bee

The methods applied for the Crotch's bumble bee protocol survey were based on the Survey Considerations for California Endangered Species Act Candidate Bumble Bee Species (CDFW 2023). This protocol recommends a single Crotch's bumble bee survey for the Queen Flight Season between February and March and three Colony Active Period surveys between April and August. During the Queen Flight Season, a habitat assessment was completed to document, delineate, and evaluate suitable bumble bee habitat that would form the foundation for future foraging bumble bee and nest surveys (CDFW 2023).

The preliminary habitat assessment survey was completed in concert with the "Queen Survey" on March 26 and 27, 2024, by WSP senior staff and field assistants. The assessment was completed by walking straight line transects spaced 10 meters apart across the project area to achieve full coverage. Data collected during the assessment surveys included visually inspecting the project area for components of Crotch's bumble bee habitat and encountered nectar sources. Suitable

habitats were mapped using a global positioning system. Points were taken at each individual nectar source and polygons mapped at larger areas of nectar sources. These data were used to refine the spatial scope of the focused protocol surveys following the initial habitat assessment. Where access was not possible (e.g., private property), binoculars were used to scan for nectar sources, suitable habitat, and occurrence of bumble bees.

Foraging bumble bee and nesting surveys were completed during the Colony Active Period, which is the peak nectar blooming period (April through June 30). Surveys were initiated at the beginning of the blooming season based on periodic site visits in early March. A total of three surveys were spaced at least two to three weeks apart (weather dependent) between April, May, and June (**Table 2**). Due to the extended winter rain season, the Queen Flight Season was pushed to late March to account for weather conditions unsuitable for surveys but was still within the recommended survey period.

Surveys were conducted during daylight hours on sunny days and not during wet conditions (i.e., foggy, raining, or drizzling). Surveys were completed between 1 hour after sunrise and 2 hours before sunset (0730 to 1530). The surveys targeted optimal weather conditions that are sunny with low wind speeds (less than 8 miles per hour [mph]). Partly cloudy days or overcast conditions are permissible if shadows are still visible. Survey pace consisted of no more than 1 person-hour per 3 acres of highest quality habitat in the survey area or continued to sample until at least 150 bumble bees are sighted, whichever came first. Survey personnel and dates are presented in **Table 2**.

Table 2: Crotch's Bumble Bee Survey Dates and Personnel

Date (2024)	Survey	Surveyor(s)
26-27 March	Habitat Assessment/Queen Survey	NM, TC, MB, SW, EU
2-4 April	Colony Active Period	DH, PC, TC, MB, SW
29-30 April	Colony Active Period	SC, NM, MW, TC, EU, MB, SW, MB2, PC, CS
1-3 May	Colony Active Period	SC, NM, MW, TC, EU, MB, SW, MB2, PC, CS

Key: EU = Emily Urquidi; MP = Marshall Paymard; MB = Melanie Bukovac; MB2 = Melissa Bukovac; NM = Nathan Moorhatch; PC = Phil Clevinger; SC = Scott Crawford; SW = Sarah, Williams; TC = Tim Chumley

3.4.2 Desert Tortoise Survey

Surveys were conducted following the protocol set forth by the USFWS in the *General Ecology and Survey Protocol for Determining Presence/Absence and Abundance for the Desert Tortoise - Mojave Population Preparing for Any Action That May Occur Within the Range of the Mojave Desert Tortoise (Gopherus agassizii)* (USFWS 2019). Desert tortoise surveys were conducted in concert with sensitive plant surveys and burrowing owl surveys, since both require 10-meter (30-foot) transects, which include 100 percent cover of the project area and are terrestrial in nature. Although typical desert tortoise surveys are typically walked at an average of 1 and 2 mph, the average pace of the surveys was reduced to 0.5 mph to accommodate desert tortoise, sensitive plants, and burrowing

owl burrow data collection during the same survey. Per the protocol (USFWS 2019), WSP biologists documented and classified any observed burrows, dens, scats, and shell remains associated with desert tortoise, if present. **Table 3** presents survey dates and personnel.

Table 3: Desert Tortoise Survey Dates and Personnel

Survey Date	Surveyor(s)
April 2, 2024	NM, MP, EU, MB, MB2, PC
April 3, 2024	NM, MP, EU, MB, MB2, PC
April 4, 2024	NM, MP, EU, MB, MB2, PC
April 8, 2024	MW, TC, MB, MB2, PC
April 9, 2024	MW, SC, MP, TC, MB, MB2, CS, PC

Key: CS = Ciara Shirley; EU = Emily Urquidi; JG = John; MP = Marshall Paymard; MB = Melanie Bukovac; MB2 = Melissa Bukovac; NM = Nathan Moorhatch; PC = Phil Clevinger; SC = Scott Crawford; TC= Tim Chumley

Developed areas within the project area were excluded from the survey as unsuitable habitat. For habitat where biologists could not safely survey or gain permission to access, such as private property, surveys were conducted by meticulously scanning the project area using binoculars. All desert tortoise relevant data and wildlife species were recorded in field notes and potentially suitable burrow locations were recorded using the Esri ArcGIS Field Maps application.

3.4.3 Burrowing Owl Survey

The burrowing owl focused survey methods followed the guidelines outlined in *Appendix D of Staff Report on Burrowing Owl Mitigation* (CDFG 2012). Per the guidelines, four focused burrowing owl surveys were conducted (Survey Pass 1 through 4), with the first survey conducted during the peak breeding season (February 15 to April 15) and the subsequent three surveys conducted at least three weeks apart. The final survey was conducted on June 20, 2024. Therefore, the confidence level that these surveys accurately captured burrowing owl detection is high.

Surveys were conducted during appropriate weather conditions described in the guidelines. Weather conditions (i.e., temperature and wind speed) were recorded with handheld Kestrel weather meters. Cloud cover was visually estimated. **Table 4** presents survey personnel and dates.

WSP biologists walked a maximum of 33-foot (10-meter) wide belt transects within the project area to provide 100 percent visual coverage within the project area. While walking the transects, biologists specifically searched for burrowing owl, burrowing owl sign (i.e., pellets, whitewash, feathers, tracks, nest decorations), burrowing owl-suitable burrows, and burrow complexes. Burrow complexes are composed of a cluster or suitable burrows and burrow surrogates. Biologists paused at least every 328 feet (100 meters), as appropriate, to scan for burrowing owl using binoculars and/or the naked eye. In addition, the biologists listened for burrowing owl vocalizations.

Table 4: Burrowing Owl Survey Personnel and Dates

Date (2024)	Survey Pass	Surveyor(s)
April 2-4	1	MP, EU, MB, MB2, PC
April 8-9	1	MW, SC, MP, MB2, TC, MB, EU, PC, CS
May 5-7	2	NM
June 5-6	3	NM
June 18-20	4	NM

Key: CS = Ciara Shirley; EU = Emily Urquidi; JG = John; MP = Marshall Paymard; MB = Melanie Bukovac; MB2 = Melissa Bukovac; NM = Nathan Moorhatch; PC = Phil Clevinger; SC = Scott Crawford; TC = Tim Chumley

For habitat where biologists could not safely survey or gain permission to access, such as private property, surveys were conducted by meticulously scanning the area using binoculars. If burrowing owl were not directly observed at a suitable burrow with burrowing owl sign, sign was cleared from around the burrow entrances to facilitate detection of fresh sign that would indicate recent occupation in subsequent survey passes. Survey Pass 1 included a full sweep of the entire project area as part of the burrowing owl burrow survey, while subsequent survey passes focused only on areas known to have suitable burrows that resulted from Survey Pass 1. All evidence of burrowing owl or burrowing owl sign was recorded using the Esri ArcGIS Field Maps application.

3.4.4 Swainson's Hawk Survey

Swainson's hawk survey methods were based on the latest accepted CDFW protocol specifically referencing Antelope Valley (CEC and CDFW 2010). CDFW protocol designates 10 surveys to be conducted over four survey periods, aiming to capture progressive nesting behaviors and activity.

- **Survey Period I:** Preliminary survey of potential nest locations (optional). To be conducted between January and March 31.
- **Survey Period II:** Surveys targeting initial occupancy of traditional nest territories and nesting behaviors. To be conducted between April 1 and April 30.
- **Survey Period III:** Direct monitoring of known/identified active nests to confirm incubation. To be conducted between May 1 and May 30.
- **Survey Period IV:** Direct monitoring of known/identified active nests to confirm young rearing and final nest search. To be conducted between June 1 and July 15.

The survey dates, the representative survey, survey period, and surveyors are included in **Table 5**.

Table 5: Swainson's Hawk Survey Dates and Personnel

Survey Date	Survey	Period	Surveyor(s)
March 18-19	1	I	NM, MW, TC, EU, MB
March 25-27	2	I	NM, TC, EU, MB, SW
April 1-4	3	II	NM, MP, EU, MB, MB2, PC
April 12	4	II	MW, MP, TC, EU, MB, MB2, CS
April 23 - 24	5	II	NM, MW, MP, TC, EU, MB MB2
May 7 -8	6	III	NM, MW, EU, MB MB1
May 15 -17	7	III	TC, SW
May 21	8	III	MW, TC, SW, MB
June 5	9	IV	TC, SW
June 12	10	IV	NM, TC, EU, MB, MB2, SW
June 19	11	IV	TC, SW

Key: CS= Ciara Shirley; EU=Emily Urquidi; JG=John; MP= Marshall Paymard MB=Melanie Bukovac; MB2=Melissa Bukovac NM=Nathan Moorhatch; PC=Phil Clevinger; SC=Scott Crawford; SW = Sarah Williams; TC=Tim Chumley

CDFW staff (Jeremy Pohlman) was contacted prior to conducting the surveys to confirm the survey limits would include a 0.5-mile buffer around the project site. This revised survey buffer is allowed under the protocol based on the known recorded Swainson's hawk nest within 7 miles of the project site. CDFW allowed the 0.5-mile buffer per the protocol, but in addition requested a general nest survey with a 5-mile buffer around the project site, which was completed outside of the protocol guidelines.

Surveys were conducted by WSP crews in Survey Period I to identify trees or other features suitable for nesting location, such as transmission line lattice towers, telephone poles, or other man-made structures. The project site plus the 0.5-mile buffer area (the study area) was driven to identify suitable nesting locations. If a suitable nest was identified, it was mapped and scanned with binoculars to determine activity level and occupying species. If the nest status or species was difficult to determine, the biologists walked around the nest at a distance of no closer than 500 feet to reduce disturbance of potentially nesting Swainson's hawk. Survey Period I was completed in 5 days over a period of two weeks with six biologists.

Surveys were conducted by WSP crews in Survey Period II over the same survey area covered in Survey Period I (Figure 4). Except for rural residential parcels with suitable nesting trees, most of the developed areas within the survey area were excluded from the surveys due to a lack of suitable habitat for foraging and nesting. Three surveys were conducted during Survey Period II over 7 days with nine biologists.

Surveys were conducted by WSP crews in Survey Period III to monitor known/identified active nests to confirm incubation. All active nests, regardless of species, identified during Survey Periods I and II were visited three times. If nesting activity at a location was determined to be completed or the nest was otherwise inactive, it was no longer monitored for the remaining surveys. Survey Period III was completed over 6 days of surveys undertaken over the course of three weeks by seven biologists.

Surveys were conducted by WSP crews in Survey Period IV to monitor known/identified active nests to confirm young rearing and final nest search. As part of the final nest search, the project site plus the buffer area was again completely surveyed. A total of 3 days were needed over the course of three weeks to complete Survey Period IV by six biologists.

Data collected during the Swainson's hawk surveys included individual Swainson's hawk observations and associated activities, occupied Swainson's hawk nest (active/inactive), and nest competitors (e.g., common ravens [*Corvus corax*], red tailed hawk [*Buteo jamaicensis*]), if present. Location data was recorded with a global positioning system utilizing the Esri ArcGIS Field Maps application.

3.4.5 Mohave Ground Squirrel

Protocol surveys for Mohave ground squirrel were conducted per the *Mohave Ground Squirrel Survey Guidelines* (CDFG 2010) 10-by-10 or 4-by-25 grid design, totaling 100 traps per grid. A modified approach was used for trapping areas along linear alignments utilizing traps placed sequentially. This method was reviewed and approved by the CDFW prior to initiating surveys. Trapping efforts avoided human settlements, railroad tracks, and paved roads as the animal has been described as shy and adverse to human development. Grids were placed to maximize the potential for detection by selecting the highest quality Mohave ground squirrel habitat.

Each trap station consisted of an extra-large kangaroo rat Sherman Trap and a cardboard A-frame trap cover for shade protection. Traps were baited using a mixture of four-way horse feed and peanut butter powder made from a combination of peanut butter and oats. Traps were opened within 1 hour of sunrise and were checked every 2 to 4 hours during each trapping event. Traps were checked at shorter increments during inclement weather (i.e., low/high temperatures, low/high wind speed, precipitation). Traps were closed prior to sunset during inclement weather (i.e., wind speeds above 30 mph, temperatures at or near 90 degrees Fahrenheit or below 50 degrees Fahrenheit). Data recorded for each individual captured included species, sex, age, and reproductive condition. All captured animals were released at their capture location.

In addition, camera stations consisting of Bushnell Trophy Cams (Model 119874) were used for additional data collection, since this species is known to be trap shy. The cameras were installed at a slight angle to focus on the bait tube. These camera stations attempted to capture evidence of any dispersing individuals from natal habitat into the project areas. Dispersal periods are believed to occur early in the 4-to-12-week post-emergence interval observed in this species in late May to early June (Harris & Leitner 2005).

3.4.6 Sensitive Plant Species Survey

Sensitive plant survey methods were based on the following resources: *Protocols for Surveying and Evaluating Impacts to Special-status Native Plant Populations and Natural Communities* (CDFW 2018); *Guidelines for Conducting and Reporting Botanical Inventories for Federally Listed, Proposed and Candidate Plants* (USFWS 2000); and *General Rare Plant Survey Guidelines* (Cypher 2002). Surveys were conducted by walking 33-foot- (10-meter-) wide parallel transects throughout the entire project area. Due to the relatively flat nature of the project area and surrounding areas, nearly all accessible areas were observed directly. **Table 6** presents the survey dates and biologists who conducted the sensitive plant species surveys.

Table 6: Sensitive Plant Species Survey Dates and Personnel

Survey Date	Surveyor(s)
April 2, 2024	NM, MP, EU, MB, MB2, PC
April 3, 2024	NM, MP, EU, MB, MB2, PC
April 4, 2024	NM, MP, EU, MB, MB2, PC
April 8, 2024	MW, TC, MB, MB2, PC
April 9, 2024	MW, SC, MP, TC, MB, MB2, CS, PC
June 5, 2024	NM, SC, TC, EU, MB, SW, MB2, PC
June 6, 2024	NM, SC, TC, EU, MB, SW, MB2, PC
June 7, 2024	NM, SC, TC, EU, MB, SW, MB2, PC

Key: EU = Emily Urquidi; MP = Marshall Paymard; MB = Melanie Bukovac; MB2 = Melissa Bukovac; CS = Ciara Shirey; NM = Nathan Moorhatch; MW = Michael Wilcox; PC = Phil Clevinger; SC = Scott Crawford; SW = Sarah Williams; TC = Tim Chumley PhD

Plants were identified to species or subspecies level and recorded in the field notebooks of the biologists. For species that were not easily identifiable, a sample of each was collected and later identified at an off-site location. Species not identified off site were taken to Andy Sanders, Herbarium Collection Manager at the University of California, Riverside, for further identification and confirmation. Taxonomy of plant species identified within the project area was based on *The Jepson Manual, 2nd Edition* (Baldwin et al. 2012). All sensitive plant species identified during the survey effort were recorded in Esri's Field Maps application, including Joshua trees. In addition to documenting plant species, biologists also recorded all incidental wildlife detections by sight, sound, and/or sign (e.g., tracks, burrows, scat, etc.).

3.4.7 Western Joshua Tree Census

Western Joshua tree census surveys were completed by WSP biologists on April 10, 12, and 22, 2024, based on the census instructions outlined on the CDFW website (CDFW 2024c). The entire project footprint was systematically searched using parallel survey transects spaced approximately 5 meters apart to achieve thorough coverage of the project area, including a 1,000-foot survey buffer. The surveys were conducted to quantify the total number of trees in each height classification: A) less than 1 meter, B) between 1 meter and 5 meters, and C) over 5 meters. Each identified western Joshua tree based on an individual stem or truck independently emerging from the ground was photographed, mapped, and additional data specified in the Census Protocol was collected (WSP 2024g), including height, health, and maturity (fruit or flowering). The survey area for Western Joshua Tree only included areas within the 2024 survey area that were not previously mapped during the 2023 surveys.

3.4.8 Jurisdictional Waters and Wetlands

Field surveys were completed by walking or driving the entire study area (with some exceptions due to private property access) stopping at locations identified in Field Maps identified through the background literature review. At locations with evidence of recent/historic flows, the drainage features were walked upstream and downstream to include the 61-meter (200-foot) study area recommended by Brady and Vyverberg (2014). In areas where drainage features were hard to detect and to better understand the local flow regime, additional survey efforts were conducted above and beyond the recommended survey area. The survey crew conducted additional site evaluations when changes of any of the following features were observed during the field surveys: vegetation types, vegetation coverage, hydrology, and soil as well as the location of any underground culverts. If a drainage continued to flow within a parcel with restricted access, it was avoided during field surveys. A dashed line was utilized to map the potential drainage location based on aerial photograph interpretation and evidence of flows upstream and downstream of those inaccessible areas. If possible, flow patterns and size were estimated with the use of binoculars.

To determine jurisdictional boundaries of identifiable drainage features, the surveyor walked the length of all potential drainage features in the defined study area and recorded the centerline with the Field Maps application. The width of the drainage was determined by the field indicators at locations where transitions in vegetation types, vegetation coverage, changes in hydrology, and soil texture were apparent. Other data recorded included bank height and morphology, substrate type, and vegetation type within the streambed, including adjacent riparian vegetation, if present. Drainages were also determined to be active, dormant, abandoned, or a relict as described in Brady and Vyverberg (2014). Soil testing was not conducted in areas that lacked evidence of hydrophytic vegetation and wetland hydrology because indicative wetland parameters were absent. Upon completion of fieldwork, data collected in the field were incorporated into GIS, which was used to quantify the extent of jurisdictional waters and prepare graphical representations.

The field checks for jurisdictional drainage features were conducted by WSP Senior Biologists Scott Crawford and Marshall Paymard on October 3 and 4, 2023, and repeated by WSP Senior Biologists Scott Crawford and Dale Hameister on June 21, 2024.

3.4.9 Wildlife Corridors

The ability of the project area to act as a wildlife corridor was assessed as part of the general biological resources evaluation. Wildlife corridors link together areas of suitable habitat that are otherwise separated by rugged terrain, changes in vegetation, or human disturbance. Corridors mitigate the effects of habitat fragmentation by allowing animals to move between remaining habitats. Wildlife movement usually falls into one of three categories: (1) dispersal (e.g., juvenile animals from natal areas, individuals extending range distributions); (2) seasonal migration; and (3) local movements, such as daily travel paths, related to home range activities (e.g., foraging for food or water, defending territories, searching for mates, breeding areas, or cover). Aerial photographs, topographic maps, and documents such as missing linkages (Penrod et al. 2001), were used to analyze the project for use as a wildlife corridor. Site visits conducted throughout the spring survey season were used to identify any evidence of wildlife corridors.

4.0 RESULTS

The project area consists of largely undeveloped, natural open space. Dominant vegetation communities include creosote bush-white bursage scrub. Dominant soils within the project area consist of sandy loam. Existing disturbances within the project area include existing access roads and communication equipment.

4.1 Topography, Soils, and Waters

The project area topography slopes from northwest to southeast, being flat in the southern portion of the project area and with gently rolling hills in the central portion of the project area. Elevations range from approximately 2,400 feet (732 meters) to 2,720 feet (830 meters) along Dawn Road.

Five soil types were delineated and mapped within the project area (see **Figure 4)**:

- Cajon loamy sand, 0 to 2 percent slopes (114)
- Cajon sand, 5 to 15 percent slopes (113)
- Hi Vista sandy loam, 2 to 9 percent slopes (147)
- Muroc sandy loam, 2 to 9 percent slopes (150)
- Torriorthents-Rock outcrop complex, very steep (185) (USDA NRCS 2024a)

None of the five delineated soil types are considered hydric, and all are categorized as well-drained, somewhat excessively drained, or excessively drained.

4.2 Vegetation Communities

Figure 5 presents the land cover types and vegetation communities identified within the project area. The following sections discuss land cover types and vegetation communities. **Table 7** presents a summary of the acreage of landcover and vegetation communities. A list of all plant species observed is included as Appendix C.

Table 7: Acreage of Land Use and Vegetation Communities

Vegetation Community / Land Use	Acreage
Gen-Tie Transmission Line Variances	
Allscale Scrub	3.86
Creosote Bush – White Bursage Scrub	34.43
Disturbed/Developed	7.31
Joshua Tree Woodland	9.16
P2 North	
Creosote Bush - White Bursage Scrub	41.18
Creosote Bush Scrub	4.25
Disturbed/Developed	1.46
P2 South	
Creosote Bush - White Bursage Scrub	7.60
Disturbed/Developed	1.55
White Bursage Scrub	0.86
Total	**111.66**

Allscale Scrub - A total of 3.86 acres of Allscale Scrub habitat was mapped in the project area. Allscale Scrub is characterized with allscale (*Atriplex polycarpa*) as the dominant species. This vegetation community also contains four-wing saltbush (*Atriplex canescens*), shadscale saltbush (*Atriplex confertifolia*), and creosote bush (*Larrea tridentata*), with subdominant species that include shortpod mustard (*Hirschfeldia incana*), dove weed (*Croton setiger*), Nevada ephedra (*Ephedra nevadensis*) and western Joshua tree. Shrubs are generally less than 10 feet (3 meters) in height, and understory consists of seasonal annuals. Total shrub cover varies throughout the project area, with increased cover corresponding with greater dominance by creosote bush.

Creosote Bush-White Bursage Series - A total of 83.21 acres of Creosote-White Bursage Series habitat was mapped in the project area. Creosote-White Bursage Series habitat is dominated by a combination of creosote bush and white bursage (*Ambrosia dumosa*), with subdominant species that include Cooper's goldenbush (*Ericameria cooperi*), western Joshua tree, and Nevada ephedra.

This is the most dominant vegetation community within the project area. Shrubs are generally less than 10 feet (3 meters) in height and understory consists of seasonal annuals.

Creosote Bush Scrub - A total of 4.25 acres of Creosote Bush Scrub habitat was mapped within the project area. While similar to Creosote Bush-White Bursage Series, this habitat is entirely dominated by a single species creosote bush. Co-dominant species are similar to those found in Creosote Bush-White Bursage Series, but vary throughout the habitat, and are not in sufficient numbers to be considered a co-dominant vegetation community. Shrubs are generally less than 10 feet (3 meters) in height, and the understory is open to intermittent with seasonal annuals or perennial grasses.

Disturbed/Developed - A total of 10.32 acres of Disturbed/Developed habitat was mapped in the project area. Developed/Disturbed habitat within the project area is composed of areas of bare ground either sparsely or moderately vegetated with a mix of mostly non-native, invasive, annual, weedy plant species with marginal cover of native species; and developed areas consisting of buildings, residences, and their associated parcel footprints, as well as existing solar array facilities. Dominant plant species included shortpod mustard, brome grasses (*Bromus* spp.), Russian thistle (*Salsola tragus*), bristly fiddleneck (*Amsinckia tessellata*), anglestem buckwheat (*Eriogonum angulosum*) and dove weed. Additional disturbed habitat was mapped as large areas of bare ground supporting little to no vegetation that indicate historical or current anthropogenic use (i.e., dirt roads, staging areas, vacant lots, and margins of developed areas). These areas have little to no habitat value to native plant and wildlife species.

Joshua Tree Woodland - A total of 9.16 acres of Joshua Tree Woodland habitat was mapped in the project area. This habitat is characterized by a dense stand of western Joshua trees with little to no other dominant or co-dominant species. Although individual western Joshua trees occur throughout the project area, this habitat is characterized by an exceptionally dense stand of trees. Trees are generally below 46 feet (14 meters) and well-spaced. The understory is generally open to intermittent with perennial grasses and seasonal annuals.

White Bursage Scrub – A total of 0.86 acres of White Bursage Scrub was mapped in the project area. White bursage is the dominant or co-dominant species and may also include four-wing saltbush (*Atriplex canescens*), silver cholla, desert brittlebush (*Encelia farinosa)* (Harris & Leitner 2005), Nevada ephedra, and creosote bush. Shrubs are generally less than 3 feet (1 meter) in height and understory consists of seasonal annuals.

4.3 Hydrology/Jurisdictional Waters

The assessment documented 19 non-wetland ephemeral drainages in the project study area, with no evidence of wetlands (**Figure 6**). The lateral limits of non-wetland drainages ranged from 6 inches to 18 feet in width and were determined by heterogeneity in soils, vegetation, and geomorphology compared to the adjacent uplands. Soils in the ephemeral drainage features were composed of well-drained, coarse textures, such as sandy or gravelly materials with low organic

content. Two hydrologic low spots were identified along Rosamond Boulevard that ranged in width from 125 to 330 linear feet. Soils in the ponded area contained some evidence of cracking but were mostly similar to surrounding upland soils. The total acres of the non-wetland waters contained in the study area summed to 15.17 acres and 21,471 linear feet (6,544 meters). No hydrophytic or native riparian plant species were observed in the study area. **Table 8** details the drainage names and their related acreages, linear feet, and activity comprised in the study area.

Table 8: Potentially Jurisdictional Drainages (Study Area)

Drainage	Activity	Jurisdiction	Acres/Linear Feet
A	Active	RWQCB/CDFW	0.19 acres/1,037 linear feet
B	Active	RWQCB /CDFW	0.26 acres/1,077 linear feet
C	Abandoned	RWQCB /CDFW	0.53 acres/2,101 linear feet
D	Dormant	RWQCB /CDFW	0.56 acres/895 linear feet
E	Active	RWQCB /CDFW	0.06 acres/954 linear feet
F	Active	RWQCB /CDFW	8.1 acres/1,857 linear feet
G	Active	RWQCB /CDFW	3.0 acres/1,169 linear feet
H	Dormant	RWQCB /CDFW	0.04 acres/66 linear feet
I	Dormant	RWQCB /CDFW	0.02 acres/215 linear feet
J	Dormant	RWQCB /CDFW	0.01 acres/61 linear feet
K	Dormant	RWQCB /CDFW	0.01 acres/52 linear feet
L	Active	RWQCB /CDFW	0.05 acres/2,128 linear feet
M	Dormant	RWQCB /CDFW	0.08 acres/541 linear feet
N	Dormant	RWQCB /CDFW	0.22 acres/883 linear feet
O	Active	RWQCB /CDFW	0.30 acres/2,500 linear feet
P	Dormant	RWQCB /CDFW	0.10 acres/688 linear feet
Q	Dormant	RWQCB /CDFW	0.16 acres/530 linear feet
R	Active	RWQCB /CDFW	0.19 acres/2095 linear feet
S	Active	RWQCB /CDFW	1.29 acres/2,622 linear feet
TOTAL		**15.17 acres/21,471 linear feet**	

4.4 Wildlife

Wildlife species directly observed and/or otherwise detected (e.g., scat, bones, tracks, feathers, burrows, etc.) during the assessment were notably diverse and abundant, all of which are common to the region. This included six insects, nine reptiles, 43 birds, and 12 mammals (**Appendix D**). Representative common species observed included but were not limited to western whiptail (*Aspidoscelis tigris*), western side-blotched lizard (*Uta stansburiana elegans*), common raven (*Corvus corax*), Brewer's sparrow (*Spizella breweri*), turkey vulture (*Cathartes aura*), and desert woodrat (*Neotoma lepida*). The number of species detected does not represent the total number of species that may occur on the site or within the project area. Brief, reconnaissance-level

assessments are limited by the seasonal timing and short duration of the survey period as well as the nocturnal, fossorial, and/or migratory habits of many animals.

4.5 Special Status Biological Resources

Some plant and animal taxa are designated with and are managed as having "special status" due to declining populations, vulnerability to habitat change or loss, or because of restricted distributions. Certain special status species have been listed as threatened or endangered by the USFWS and/or by the CDFW and are protected by the FESA, CESA, and California NPPA. Other species have been identified as sensitive or "special status" by the USFWS, CDFW, BLM, or by private conservation organizations, including the CNPS, but have no federal or state legal protection as a threatened or endangered species. Impacts to these species can still be considered significant under CEQA, but will be further evaluated by the CEC during the environmental review process.

The literature review indicated that at least 74 special status biological resources have been reported or are known to occur in the vicinity (defined as a 10-mile [16-kilometer] radius) of the project area (CDFW 2024a; Harris & Leitner 2005; CNPS 2024). There are 29 plants, nine plant communities, seven insects, two amphibians, five reptiles, 14 birds, and eight mammals. **Tables 9, 10, and 11** summarize these species, including their current taxonomy, conservation status, habitat preferences, and occurrence potential.

Table 9: Special Status Plant Species Potential for Occurrence

Scientific Name	Common Name	Status			Habitat (for plants includes elevational range in meters)	Occurrence Probability
		Federal	State	Other		
Allium howellii var. clokeyi	Mt. Pinos onion	None	S2	1B.3	Grows at elevations of 4,265 to 6,100 feet in meadows and seeps, Pinyon/Juniper Woodland, and Great Basin Scrub. Blooms (B): April-June	**Absent** Project area is well below elevation limit for this species. No suitable habitat occurs within the project site. Not found during the surveys.
Astragalus hornii var. hornii	Horn's milk-vetch	None	S1	1B.1, BLM-S	Alkaline sites (often associated w/ lake margins) 60–850 meters (m). Blooms (B): May–September	**Absent** Project area is within the elevation range for this species but lacks alkaline meadow/seep/lake margin habitat, not found during the surveys.
Calochortus striatus	alkali mariposa-lily	None	S2S3	1B.2, BLM:S	Chaparral, chenopod scrub, meadows and seeps, Mojavean Desert scrub, alkaline, mesic. 70-1,595 m. B: April-June	**Present** Found near the gen-tie line alignment. Observed during 2023 surveys.
Camissonia kernensis ssp. *kernensis*	Kern County evening primrose	None	S3	4.3	Granitic gravelly or sandy chaparral, Joshua tree woodland, Pinyon and juniper woodland. 2,130-6,990 m, B: March-May	**Absent** Project area is well below elevation limit for this species. The project site does have suitable gravelly and sandy soils within Joshua tree woodland habitat. Closest recorded occurrence is 20 miles north of the project area. Not observed during surveys.
Canbya candida	white pygmy-poppy	None	S3S4	4.2	Usually on granitic soils (gravelly or sandy) in Joshua tree woodland, Mojave Desert scrub, and pinyon and juniper woodland. 600–1,460 m. B: March–July	**Low** Suitable habitat occurs on site, and site is within the elevation range for this species. Closest recorded occurrence is 8 miles north and south of the project area. Mr. Moorhatch has observed this species north of Isabella Lake. Not observed during surveys.

Scientific Name	Common Name	Status			Habitat (for plants includes elevational range in meters)	Occurrence Probability
		Federal	State	Other		
Chorizanthe parryi var. fernandina	San Fernando Valley spineflower	None	E, S1	1B.1	Coastal scrub (often sandy), valley and foothill grasslands between 150–1,220 m. B: April–July	**Absent** Project area is within the elevation range for this species, but not within the known geographic range of the species. No suitable habitat present on site. Nearest California Natural Diversity Data Base (CNDDB) record is approx. 13 miles south of the project area near Elizabeth Lake. Not observed during surveys.
Chorizanthe parryi var. parryi	Parry's spineflower	None	S2	1B.1	Coastal scrub, chaparral, cismontane woodland, valley and foothill grasslands between 90–1,220 m. B: April-June	**Absent** Project area is within the elevation range, but not within the known geographic range of the species. Habitat not present. Nearest CNDDB record is approx. 30 miles south of the project area near the Prime Desert Woodland Preserve. Not observed during surveys.
Chorizanthe spinosa	Mojave spineflower	None	S4	4.2	Alkaline (mainly) areas, including on playas, within Mojave Desert scrub, chenopod scrub, and Joshua tree woodland. 6–1,300 m. B: March–July	**Low** The project area is within the known elevation range of the species. Marginal suitable habitat occurs within the project area. Found on the Willow Springs Legacy site (7 miles west of the project area). Not observed during surveys.
Cymopterus deserticola	desert cymopterus	None	S2	BLM:S	Joshua tree woodland, Mojavean desert scrub on fine to coarse, loose, sandy soils of flats in old dune areas with well-drained sand. 625-1220 m. B: March-May	**Absent** Project area is within the known range of the species. Habitat not present. Nearest CNDDB record is approx. 24 miles east of the project area within Edwards Airforce Base. Not observed during surveys.
Delphinium recurvatum	recurved larkspur	None	S2	1B.2, BLM:S	Alkaline soils in valley saltbush or chenopod scrub, also valley and foothill grassland, cismontane woodlands. 3–790 m. B: March-June	**Low** Marginal quality habitat (limited) occurs on site. The closest recorded occurrence is 1.6 miles north of the project area. Project is not within the main range of this species. Desert larkspur (*Delphinium parishii*) observed in the area. Not observed during surveys.

Scientific Name	Common Name	Status			Habitat (for plants includes elevational range in meters)	Occurrence Probability
		Federal	State	Other		
Eriastrum rosamondense	Rosamond eriastrum	None	S1?	1B.1	Alkali pool beds w/ interspersed low hummocks in open chenopod scrub, often sandy. 700–720 m. B: April-May	**Absent** No suitable habitat occurs on site. The closest recorded occurrence is 5 miles southwest of the project area. Mr. Moorhatch has observed this species approx. 6.6 miles southeast of the project area. The project area is slightly above the elevation range of the species. Not observed during surveys.
Eriastrum sparsiflorum	few-flowered eriastrum	None	S4	4.3	Open areas often on granitic sand, on desert slopes, pinyon/juniper woodland, yellow-pine forests, sagebrush scrub. 1,075–1,710 m. B: May–September	**Absent** No suitable habitat occurs on site. Site is below elevation range of the species. Not observed during surveys.
Eriastrum tracyi	Tracy's eriastrum	None	S3	3.2	Cismontane woodland, chaparral, and valley and foothill grassland. 315–1,780 m. B: May–July	**Absent** No suitable habitat occurs on site. Site is within the elevation range for this species. *Eriastrum eremicum* & *E. sapphirinum* found on the project area, but this species was not observed during surveys.
Eriophyllum mohavense	Barstow woolly sunflower	None	S2	1B.2, BLM:S	Chenopod scrub, Mojavean desert scrub, and playa areas 500-960 m. B: March-May	**Low** Project area has potential habitat and is within the elevation range for this species but is west of Consortium of California Herbaria (CCH) records for this species. Only *Eriophyllum pringlei* found on the project area. Not observed during surveys.

Scientific Name	Common Name	Status			Habitat (for plants includes elevational range in meters)	Occurrence Probability
		Federal	State	Other		
Eschscholzia minutiflora ssp. twisselmannii	red rock poppy	None	S2	1B.2, BLM:S	Mojavean desert scrub in Volcanic tuff with Larrea, Lycium, Eriogonum, Isomeris, and Hemizonia. 680-1,235 m. B: March-May	**Absent** No suitable habitat occurs on site. Nearest CNDDB record is approx. 24 miles east of the project area within Edwards Airforce Base. Not observed during surveys.
Fritillaria pinetorum	pine fritillary	None	S4	4.3	Chaparral, Lower montane coniferous forest, Pinyon and juniper woodland, Subalpine coniferous forest, Upper montane coniferous forest. 3,300-10,825 m B: May-July	**Absent** No suitable habitat occurs on site. Site is below elevation range of the species. Not observed during surveys.
Gilia interior	inland gilia	None	S4	4.3	Rocky slopes in cismontane woodland, lower montane coniferous forest, and Joshua tree woodland. 700-1,700 m. B: March-May	**Absent** The project area is within the elevation range for this species. Suitable Joshua tree woodland habitat occurs on site. No recorded occurrences within the vicinity of the project area. Not observed during surveys.
Goodmania luteola	golden goodmania	None	S3	4.2	Mojavean Desert scrub, alkaline habitats, including playas, meadows and seeps, and alkaline areas in valley and foothill grassland. 20-2,200m. B: April-August	**Low** Marginal quality habitat occurs on site. The closest recorded occurrence is 8 miles south of the project area. Project is within the range of this species. Not observed during surveys.
Layia heterotricha	pale-yellow layia	None	S2	1B.1, BLM:S	Cismontane woodland, coastal scrub, pinyon and juniper woodland, valley and foothill grassland. 300-1,705m. B: March-June	**Absent** Not a desert species. Project area does not have habitat for this species and is not within the range of this plant. Closest records are in the Mtns.

Scientific Name	Common Name	Status			Habitat (for plants includes elevational range in meters)	Occurrence Probability
		Federal	State	Other		
Loeflingia squarrosa var. artemisiarum	sagebrush loeflingia	None	S2	2B.2, BLM:S	Sandy flats and dunes, sandy areas around clay slicks in Great Basin, Sonoran and Mojave Desert scrub. 700-1,615 m. B: April-May	**Present** Found along a dirt access road immediately west of the project area between the project area and State Route 14. Also observed along disturbed access roads associated with Gen-Tie Route Alternatives near Felsite Avenue.
Monardella exilis	Mojave monardella	None	S3	4.2	Sandy soils in chenopod scrub, Great Basin scrub, Joshua tree woodland, lower montane coniferous forest, Mojavean Desert scrub, pinyon and juniper woodland. 600-2050 m. B: April-September	**Present** Found on sandy soils within the western portion of the project area, west of State Route 14.
Monardella linoides ssp. oblonga	Tehachapi monardella	None	S2	1B.3, BLM:S	Lower and upper montane coniferous forest, pinyon and juniper woodland. 1,430-2,655 m., B: May-August	**Absent** No suitable habitat. Closest recorded occurrence is over 8 miles to the northwest. Site is not within the range of the species. Not observed during surveys.
Nemacladus secundiflorus var. robbinsii	Robbins' nemacladus	None	S2	1B.2	Clearings/openings in chaparral, valley and foothill grasslands. 350-1,700 m. B: April-June	**Absent** No suitable habitat. Closest recorded occurrence is 25 miles to the west. Site is not within the range of the species. Not observed during surveys.
Opuntia basilaris var. brachyclada	short-joint beavertail	None	S3	1B.2; BLM:S	A somewhat "cold-adapted" form of the common beavertail cactus. Found in chaparral, Joshua tree woodland, Mojavean desert scrub, and pinyon and juniper woodland. 425-1,800 m. B: April-August	**Absent** Only the common nominate race (*Opuntia basilaris var. basilaris*) was found on the project area. The project area is within the elevation range of the subspecies. Not observed during surveys.

Scientific Name	Common Name	Status			Habitat (for plants includes elevational range in meters)	Occurrence Probability
		Federal	State	Other		
Perideridia pringlei	adobe yampah	None	S4	4.3	Chaparral, cismontane woodland, coastal scrub, pinyon and juniper woodland. 300-1,800 m. B: April-July	**Absent** Although the site is within the elevation range for this species, there is no suitable habitat. No recorded occurrence within the vicinity of the project area. Not observed during surveys.
Puccinellia simplex	California alkali grass	None	S2	1B.2, BLM:S	Vernal pools, chenopod scrub, meadows and seeps, valley and foothill grasslands often on alkaline flats, lake margins, or areas that are vernally mesic 2-930 m. B: March-May	**Absent** No suitable habitat. Nearest CNDDB record is from approx. 8 miles southeast of the project area on the eastern margin of Rosamond dry lake. Halophytic phase saltbush scrub and clay pan habitat not present in project area. Not observed during surveys.
Saltugilia latimeri	Latimer's woodland-gilia	None	S3	1B.2, BLM:S	Grows on granitic or sandy soils in rocky areas, washes, in chaparral, Mojavean desert scrub, and pinyon and juniper woodland, 400-1,900 m. B: March-June	**Absent** Not a desert species. No CCH records in the greater project area; most records are from much farther south starting on the north edge of the Transverse ranges and continuing farther south. Closest CNDDB record is from almost 10 miles north of the project area, on the southern foothills of the Tehachapi Mtns. Not observed during surveys.
Senna covesii	Cove's cassia	None	S3	2B.2	Dry sandy slopes and washes in Sonoran desert scrub, 225-1,295 m. B: March-August	**Absent** Not a true Mojave Desert species (especially not the western Mojave). Project area is not within the currently known range of this species. Not observed during surveys.
Syntrichopappus lemmonii	Lemmon's syntrichopappus	None	S4	4.3	Chaparral, coastal scrub, Joshua tree woodland, pinyon and juniper woodland, sometimes on gravelly or sandy soils. 500-1830 m. B: April-May	**Absent** No suitable habitat. No recorded occurrence within the vicinity of the project area. Closest recorded occurrence is 12 miles northwest of the project area. Not observed during surveys.

Scientific Name	Common Name	Status			Habitat (for plants includes elevational range in meters)	Occurrence Probability
		Federal	State	Other		
Yucca brevifolia	western Joshua tree	None	SCT	None	Mojavean desert scrub, Joshua tree woodland, desert flats, slopes 400-2,300 m. B: March-May	**Present** Observed within the project area.

KEY:

Definitions of occurrence probability:

Present: Observed on the site by WSP biologists or recorded on site by other qualified biologists.

Low: Site is within the known range of the species but habitat on the site is rarely occupied by the species.

Absent: No suitable habitat is present, and site is not within the vicinity of any known recorded occurrences.

State designation:

SCT= Candidate Species

State rankings are a reflection of the overall condition of an element throughout its California range. The number after the decimal point (if any) represents a threat designation attached to the rank:

S2 = Imperiled. 6-20 EOs OR 1,000-3,000 individuals OR 2,000-10,000 acres
- **S2.1** = very threatened
- **S2.2** = threatened
- **S2.3** = no current threats known

S3 = Vulnerable. 21-80 EOs OR 3,000-10,000 individuals OR 10,000-50,000 acres
- **S3.1** = very threatened
- **S3.2** = threatened
- **S3.3** = no current threats known

S4 = Apparently Secure. Uncommon but not rare in the state; some cause for long-term concern.

California Native Plant Society (CNPS) designations:

Primary Categories

LIST 1B: Plants Rare, Threatened, or Endangered in California and Elsewhere

LIST 2B: Plants Rare, Threatened, or Endangered in California, But More Common Elsewhere

LIST 4: Plants of Limited Distribution - A Watch List

Subdivisions within Categories

0.1: Seriously threatened in California

0.2: Moderately threatened in California

0.3: Not very threatened in California

Table 10: Special Status Vegetation Community Potential for Occurrence

Community	Status	Habitat	Occurrence Probability
Southern Cottonwood Willow Riparian Forest	F: None C: S3.2	This vegetation community is on floodplains, low-gradient rivers, perennial or seasonally intermittent streams, springs, lower canyons of desert mountains, on alluvial fans, and in valleys with adequate subsurface water.	**Absent** Not present on or adjacent to the project area.
Southern Mixed Riparian Forest	F: None C: S2.1	Comprised of winter-deciduous trees that require water near the soil surface. Willow cottonwood (*Populus sp.*) and western sycamore (*Platanus racemosa*) form a dense medium height woodland or forest in moist canyons and drainage bottoms.	**Absent** Not present on or adjacent to the project area.
Southern Riparian Forest	F: None C: S4	Essentially a "broader brush" version of Southern Mixed Riparian Forest. Can include oaks in some cases.	**Absent** Not present on or adjacent to the project area.
Southern Riparian Scrub	F: None C: S3.2	This is an early seral type of riparian woodland on loose, sandy, or fine gravelly alluvium deposited near stream channels during flood flows. May be dominated by several willow species (and mule fat) with some emergent cottonwoods or sycamores.	**Absent** Not present on or adjacent to the project area.
Southern Sycamore Alder Riparian Woodland	F: None C: S4	Often grows along very rocky streambeds subject to seasonally high intensity flooding. Alders increase in abundance on more perennial streams, while sycamores favor more intermittent hydrographs. A tall, open, broadleafed, winter-deciduous streamside woodland dominated by *Platanus racemosa* (and often also *Alnus rhombifolia*). These stands seldom form closed canopy forests, and even may appear as trees scattered in a shrubby thicket of sclerophyllous and deciduous species.	**Absent** Not present on or adjacent to the project area.
Southern Willow Scrub	F: None C: S2.1	Essentially very similar to Southern Riparian Scrub, though may require repeated flooding to prevent succession to Southern Cottonwood-Sycamore Riparian Forest.	**Absent** Not present on or adjacent to the project area.
Valley Needlegrass Grassland	F: None C: S3.1	This vegetation community on valley floors and is dominated by needle grass (*Stipa sp.*).	**Absent** Not observed during surveys
Valley Oak Woodland	F: None C: S2.1	An open, grassy-understory savanna rather than a closed woodland. *Quercus lobata* is usually the only tree present. On deep, well-drained alluvial soils, usually in valley bottoms, apparently with more moisture in summer than in Blue Oak Woodland.	**Absent** Not present on or adjacent to the project area.

Community	Status	Habitat	Occurrence Probability
Wildflower Fields	F: None C: S2.2	This vegetation community consists of open areas, usually in grasslands, which under the favorable rainfall conditions are dominated by native annual wildflower species.	**Absent** Areas within creosote scrub and Joshua tree showed characteristics of wildflower fields but would not be classified strictly as a wildflower field.

KEY :

Definitions of occurrence probability:

Absent: A focused study failed to detect the species, or no suitable habitat is present.

Federal designation: = F

State designation: = C

State rankings are a reflection of the overall condition of an element throughout its California range. The number after the decimal point (if any) represents a threat designation attached to the rank:

S2 = Imperiled. 6-20 EOs OR 1,000-3,000 individuals OR 2,000-10,000 acres
- **S2.2** = threatened
- **S2.3** = no current threats known

S3 = Vulnerable. 21-80 EOs OR 3,000-10,000 individuals OR 10,000-50,000 acres
- **S3.1** = very threatened
- **S3.2** = threatened

S4 = Apparently Secure. Uncommon but not rare in the state; some cause for long-term concern.

S5 = Secure. Common, widespread, and abundant in the state.

SH = All known California sites are historical, not extant

Table 11: Special Status Wildlife

Scientific Name	Common Name	Status			Habitat	Occurrence Probability
		Federal	State	Other		
Invertebrates						
Bombus crotchii	Crotch's bumble bee	None	S2 PE	Not Applicable (N/A)	Open grassland & scrub habitats. Occurs primarily in California, in coastal slope areas, western desert, great valley, and adjacent foothills.	**Present** Crotch's bumble bee observed foraging on site. No hives were observed.
Branchinecta lynchi	vernal pool fairy shrimp	T	S3	N/A	Found only in ephemeral freshwater habitats, in a wide range of vernal pools, and have life histories adapted to the environmental conditions of these habitats. Can be found in extremely small or marginal vernal pools to very large pools. The time to maturity and reproduction is temperature dependent, but in general averages 18.0 days and 39.7 days, respectively.	**Absent** No vernal pool habitat present on or adjacent to the project area. Project area is not within the mapped range of this species as shown on the USFWS website. No ponded areas were identified within the vicinity of the project area.

Scientific Name	Common Name	Status			Habitat	Occurrence Probability
		Federal	State	Other		
Euphilotes glaucon comstocki	Comstock's blue butterfly	None	S2	N/A	Currently known from the Piute Mtns., Greenhorn Mtns., and historically from the Tehachapi Mtns. *Eriogonum umbellatum* is the host plant.	**Absent** Site is below the preferred elevation range of this ssp. Host plant not present in project area.
Speyeria egleis tehachapina	Tehachapi Mountain silverspot butterfly	None	S2	N/A	High elevations of the Tehachapi and possibly the Piute Mtns.	**Absent** Project area is not within the known range (geographic and elevation) for this subspecies.
Helminthoglypta concolor	White fir shoulderband	None	S1S2	N/A	Known only (endemic) from the Tehachapi Mountains. Found beneath logs and bark in white fir forest.	**Absent** Project area is not in the range of the species and does not have habitat for this species.
Helminthoglypta fontiphila	Soledad shoulderband	None	S1	N/A	Known from Little Rock Creek Canyon on north side of the San Gabriel Mtns., to Soledad Cyn. Near Santa Clarita, Big Rock Creek, Elizabeth Lake Cyn. Most often in riparian habitats, but also rock piles and debris.	**Absent** Project area is not in the known range of this species and lacks suitable habitat.
Helminthoglypta greggi	Mohave shoulderband	None	S2	N/A	Found in rock outcroppings, rockslides, talus areas, and in clusters of rocks partially embedded in the soil.	**Absent** Know to occur at Willow Springs Butte north of Rosemond Blvd, approximately 1.4 miles north of the gen-tie line alignment. No suitable habitat occurs within the project area.
Amphibians and Reptiles						
Ensatina eschscholtzii croceater	yellow-blotched ensatina	None	S3	WL	Found in evergreen and deciduous forests under rocks, logs, and other surface debris. Shaded north-facing areas seem to be favored, especially near creeks or streams.	**Absent** Project area has no suitable habitat for this species. This is not a desert species. Mr. Moorhatch has observed this species north of Gorman, California.
Rana boylii pop. 6	foothill yellow-legged frog – south coast distinct population segment (DPS)	E	E	BLM:S	Frequents rocky streams and rivers with rocky substrate and open, sunny banks in forests, chaparral, and woodlands. Sometimes found in isolated pools, vegetated backwaters, and deep, shaded, spring-fed pools.	**Absent** Project area is not within the historic or current known range for this species or DPS. No suitable habitat occurs within the project area.

Scientific Name	Common Name	Status			Habitat	Occurrence Probability
		Federal	State	Other		
Anniella pulchra	northern legless lizard	None	S2S3	SSC	Occurs in moist warm loose soil with plant cover, including sparsely vegetated areas of beach dunes, chaparral, pine-oak woodlands, desert scrub, sandy washes, and stream terraces with sycamores, cottonwoods, or oaks.	**Low** Closest recorded occurrence is 5 miles west of the project area. Suitable habitat occurs on site.
Charina umbratica	southern rubber boa	None	T	S2	Inhabits oak-conifer and mixed-conifer forests at elevations between roughly 5,000 to 8,200 feet, where rocks and logs or other debris provide shelter.	**Absent** Project area does not have habitat and is below the elevation range of this species. This is not a Mojave Desert species. Nearest records are in the Tehachapi Mtns.
Emys marmorata	western pond turtle	PT	S3	SSC	This aquatic turtle lives in streams, ponds, lakes, and permanent and ephemeral wetlands. Pond turtles spend most of their lives in water, but they also require terrestrial habitats for nesting.	**Absent** Project area does not have any habitat for this species.
Gopherus agassizii	desert tortoise	FT	ST, S2S3	N/A	Prefers Joshua tree, desert wash & scrub, especially creosote bush habitats; but in most desert habitats. Large wildflower blooms preferred. Burrows & nests require friable soil.	**Low** Suitable habitat present. Closest recorded occurrence is within 2 miles of the project area. Not observed during protocol surveys.
Phrynosoma blainvillii	coast horned lizard	None	S4	SSC BLM:S	Found in grasslands, coniferous forests, woodlands, and chaparral, with open areas and patches of loose soil	**Low** This species is typically associated with more coastal habitat but can co-occur with the desert horned lizard.
Birds						
Agelaius tricolor	tri-colored blackbird	MBTA	ST	BLM:S	Nests in wetland cattails and bulrushes. Forages in open areas and agricultural fields.	**Absent** No suitable breeding habitat occurs on site. Not seen during surveys. Closest recorded occurrence is over 8 miles southeast of the project area.
Aquila chrysaetos	golden eagle	MBTA	S3, WL, FP, FGC	WL, BLM:S	Mountainous/hilly areas with cliffs and open fields required for habitat. Jackrabbits are primary food source.	**Moderate** No nesting habitat on site. Could potentially nest on rocky peaks in the general area and forage on site.

Scientific Name	Common Name	Status			Habitat	Occurrence Probability
		Federal	State	Other		
Athene cunicularia	burrowing owl	MBTA	SC, S3, FGC	SSC. BLM:S	Open, dry grasslands, deserts & scrublands with low-growing vegetation. Depends on burrowing mammals.	**Present** Burrowing owls observed in the vicinity of the project area. Suitable foraging habitat occurs on site.
Asio flammeus	short-eared owl	MBTA	S2	SSC	Found in open country and grasslands. Breeds in northern Canada and Alaska.	**Low** No grasslands occur on site. Closest recorded occurrence is over 11 miles to the southeast.
Asio otus	long-eared owl	MBTA	S3?	SSC	Roost in dense vegetation and forage in open grasslands or shrublands; also in open coniferous or deciduous woodlands.	**Moderate** Previously identified within the vicinity of the project area. Suitable foraging habitat occurs, no evidence of nesting.
Buteo regalis	ferruginous hawk	MBTA	S3S4	WL	An uncommon winter resident and migrant at lower elevations and open grasslands in the Modoc Plateau, Central Valley, and Coast Ranges. Fairly common winter resident of grasslands and agricultural areas in southwestern California. Does not breed in the state.	**Low** Not observed during any of the protocol-level surveys. This species is only present during migration and winter in the greater project area.
Buteo swainsoni	Swainson's hawk	MBTA	SE, S3, FGC	BLM:S	Open plains, grasslands, dry grasslands. Migrates through Mojave Desert.	**Present** Observed foraging on site. One nest observed within the vicinity of the project area (7 miles to the west).
Charadrius alexandrinus nivosus	western snowy plover	FT MBTA	S3	SSC	Open areas in which vegetation is absent or sparse, including coastal sand beaches and shores of salt or soda lakes.	**Absent** No suitable habitat within the project area. Closest recorded occurrence is more than 6 miles southeast of the project site.
Charadrius montanus	mountain plover	MBTA	S2	SSC BLM:S	Nest on bare ground in early spring (April in Colorado and Wyoming). Prefers grasslands and mountain meadows.	**Absent** Portions of project area are adjacent to fallow fields (roadside) but are not expected to impact these areas. Closest recorded occurrence is 2 miles south of the project area.

Scientific Name	Common Name	Status			Habitat	Occurrence Probability
		Federal	State	Other		
Circus hudsonius	northern harrier	MBTA	S3	SSC	Usually forages low over open habitats, including fields, grasslands, marshes, etc.	**Present** Observed foraging on site near the gen-tie transmission route alternatives north of Dawn Road. No nesting activity observed.
Eremophila alpestris actia	California horned lark	MBTA	S4	WL	Favors open habitats such as fields, grasslands, playas and salt flats, desert areas.	**Moderate** More common in coastal and cismontane southern California. Could be present in area during migration or winter.
Falco columbarius	merlin	MBTA	S3S4	WL	Winters in open country, shrubland, forests, parks, grassland and prairies. Breeds in northern Canada and Alaska.	**High** Suitable wintering habitat is present. Does not nest on site or breed in southern California. Closest recorded occurrence is immediately adjacent to the project area.
Falco mexicanus	prairie falcon	MBTA	S2	WL	Breeding sites located on cliffs, but forages far afield.	**High** Suitable foraging habitat is within the vicinity of the project area. Does not nest on site. Closest recorded occurrence is within 1.5 miles south of the project area.
Gymnogyps californianus	California condor	FE, MBTA	SE, FGC	N/A	Forages widely for carrion. Ledges and cliffs are used as roost and nest sites.	**Low** Known to occur in the mountains west of the project. But no suitable nesting habitat on site.
Haliaeetus leucocephalus	bald eagle	Delisted	E, S3	FP	Bald eagles are most widespread during winter, where they can be found along coasts, rivers, lakes, and reservoirs in many states.	**Absent** Would only be expected as a "flyover" in winter. No aquatic foraging habitat in the project area.
Lanius ludovicianus	loggerhead shrike	MBTA	SSC, S4, FGC	SSC	Found in open habitats with widely spaced vegetation.	**Present** Suitable habitat occurs on site. Known to occur (observed) within the project area.
Plegadis chihi	white-faced ibis	MBTA	S3S4	WL	Breeds in freshwater marshes. Forages in areas of very shallow water: marshes, pastures, irrigated fields, sometimes damp meadows.	**Low** Only expected (seasonally) in possible flooded fields adjacent to Rosamond Blvd. Not observed during surveys.

Scientific Name	Common Name	Status			Habitat	Occurrence Probability
		Federal	State	Other		
Toxostoma lecontei	Le Conte's thrasher	MBTA	S3, FGC	SSC BLM:S BCC	Desert: open washes, scrub; commonly nests in a dense, spiny shrub or cactus.	**Present** Suitable habitat occurs on site. Known to occur (observed) within the project area.
Vireo bellii pusillus	least Bell's vireo	E	E, S3	N/A	A riparian species, least Bell's vireos depend on dense, low-growing thickets of willows, mule fat, mugwort, and California wild rose for nesting. Vireos inhabit areas where an overstory of taller willows, cottonwoods, and sycamores is also present.	**Absent** No riparian foraging or nesting habitat present in project area.
Mammals						
Corynorhinus townsendii	Townsend's big-eared bat	None	S2	SSC BLM:S	Coniferous forests, mixed forests, deserts, native prairies, riparian communities, active agricultural areas, and coastal habitat. Roosts in caves, with population centers occurring in areas dominated by exposed, cavity-forming rock and/or historic mining districts. They prefer open roosting areas in large rooms and do not tuck themselves into cracks and crevices like many bat species.	**High** May forage within the project area, but no suitable roost sites occur on the project area. Closest recorded roost site is within 1 mile south of the project area
Lasiurus cinereus	hoary bat	None	S4	N/A	Open habitats with access to trees for cover/roosting, forages over open areas or habitat edges. Roosts in dense foliage of trees, requires access to water.	**Absent** Project area does not have drinking water resources, roosting habitat is limited. Not common in the Mojave Desert.
Neotamias speciosus speciosus	lodgepole chipmunk	None	S2	N/A	This species lives in subalpine coniferous forests consisting primarily of several species of pines (Lodgepole, Jeffrey, Ponderosa, and Sugar) and firs (Douglas, white, and red).	**Absent** No habitat in project area and is not in the range (geographic, elevation) of the species.

Scientific Name	Common Name	Status			Habitat	Occurrence Probability
		Federal	State	Other		
Onychomys torridus tularensis	Tulare grasshopper mouse	None	S1S2	SSC, BLM:S	Historical range included the southern San Joaquin Valley and adjacent foothills and valleys. Current range includes the western margin of the Tulare Basin, including western Kern County; Carrizo Plain Natural Area; along the Cuyama Valley side of the Caliente Mountains, in San Luis Obispo County; and the Ciervo-Panoche Region, in Fresno and San Benito Counties	**Absent** Project area is not within the known geographic range of this subspecies.
Perognathus inornatus	San Joaquin pocket mouse	None	S2S3	BLM:S	Occurs in annual grasslands, desert scrub, and Joshua tree woodlands.	**Moderate** Suitable habitat is present, closest recorded occurrence is 2.5 miles west of the project area. Project is at the eastern edge of the range for this species.
Perognathus alticola inexpectatus	Tehachapi pocket mouse	None	S1S2	SSC	Found in annual grasslands, pinyon and juniper woodland, Joshua tree woodland, Jeffrey pine forest, and sagebrush and rabbitbrush scrub, at elevations of 3,500-6,000 feet.	**Absent** Project area below known elevational range of species. Closest recorded occurrence is 2 miles north of the project area. Project is at the eastern edge of the range for this species.
Taxidea taxus	American badger	None	S3	SSC	Grasslands, parklands, rangelands, agricultural areas, generally treeless areas with loose soils and ample (rodent) prey. But also found in forests, meadows, marshes, brushy areas, deserts, and montane meadows	**Present (Assumed)** Suitable habitat is present. Known to occur less than 1 mile north of the project area. Within the known range of the species.
Xerospermophilus mohavensis	Mojave ground squirrel	None	ST	BLM:S	Suitable habitat is sandy and gravelly soils. Burrows found at the base of shrubs.	**Low** Suitable habitat occurs on site. Closest recorded occurrence is 3 miles south of the project. On the western edge of the known range of the species. Current trapping effort has not found this species in the project area.

KEY:

Definitions of occurrence probability:

Present: Observed on the site by WSP biologists or recorded on site by other qualified biologists.

High: Observed in similar habitat in region by qualified biologists, or habitat on the site is a type often utilized by the species and the site is within the known range of the species.

Moderate: Reported sightings in surrounding region, or site is within the known range of the species and habitat on the site is a type occasionally used by the species.

Low: Site is within the known range of the species but habitat on the site is rarely occupied by the species.

Absent: A focused study failed to detect the species, or no suitable habitat is present.

Unknown: Distribution and habitat use has not been clearly determined.

Federal designation = F

E = endangered

T = threatened

P = proposed for listing (either E or T)

State designation = C

E = endangered

T = threatened

P = proposed for listing (either E or T)

SSC = Species of Special Concern

WL = Watch List

FP = Fully Protected

CDFW state rankings are a reflection of the overall condition of an element throughout its California range. The number after the decimal point represents a threat designation attached to the rank:

S1 = Critically Imperiled. Less than (<) 6 EOs OR < 1,000 individuals OR < 2,000 acres

- **S1.1** = very threatened
- **S1.2** = threatened
- **S1.3** = no current threats known

S2 = Imperiled. 6-20 EOs OR 1,000-3,000 individuals OR 2,000-10,000 acres

- **S2.1** = very threatened
- **S2.2** = threatened
- **S2.3** = no current threats known

S3 = Vulnerable. 21-80 EOs OR 3,000-10,000 individuals OR 10,000-50,000 acres

- **S3.1** = very threatened
- **S3.2** = threatened
- **S3.3** = no current threats known

S4 = Apparently Secure. Uncommon but not rare in the state; some cause for long-term concern.

S5 = Secure. Common, widespread, and abundant in the state.

SH = All known California sites are historical, not extant.

BLM Designation

S= Sensitive

4.6 Special Status Species

WSP biologists performed seasonally timed botanical surveys within accessible areas within the project area plus a 500-foot (152-meter) buffer. Due to certain topographic limitations (e.g., steep or treacherous areas, where safety was a concern) or private property issues, not all areas could be observed directly. Surveying of inaccessible areas occurred to the extent possible from a safe vantage point using binoculars and other methods/equipment, as appropriate. Weather conditions included above average rainfall, which resulted in a "super bloom" event.

4.6.1 Special Status Plants

The following 30 special status special status plants were identified as potentially occurring within the project area:

- Mt. Pinos onion (*Allium howellii* var. *clokeyi*)
- Horn's milk-vetch (*Astragalus hornii* var. *hornii*)
- Alkali mariposa lily (*Calochortus striatus*)
- Kern County evening primrose (*Camissonia kernesis ssp. kernensis*)
- white pygmy-poppy (*Canbya candida*)
- San Fernando Valley spineflower (*Chorizanthe parryi* var. *fernandina*)
- Parry's spineflower (*Chorizanthe parryi var. parryi)*
- Mojave spineflower (*Chorizanthe spinosa*)
- desert cymopterus (*Cymopterus deserticola*)
- recurved larkspur (*Delphinium recurvatum*)
- Rosamond eriastrum (*Eriastrum rosamondense*)
- few-flowered eriastrum (*Eriastrum sparsiflorum*)
- Tracy's eriastrum (*Eriastrum tracyi*)
- Barstow woolly sunflower (*Eriophyllum mohavense*)
- Red rock poppy (*Eschscholzia minutiflora ssp. twisselmannii*)
- pine fritillary (*Fritillaria pinetorum)*
- inland gilia (*Gilia interior*)
- golden goodmania (*Goodmania luteola*)
- pale-yellow layia (*Layia heterotricha*)
- sagebrush loeflingia (*Loeflingia squarrosa var. artemisiarum*)
- Mojave monardella (*Monardella exilis*)
- Tehachapi monardella *(Monardella linoides* ssp. *blonga*)
- Robbins' nemacladus (*Nemacladus secundiflorus var. robbinsii*)
- short-joint beavertail (*Opuntia basilaris* var. *brachyclada*)
- adobe yampah (*Perideridia pringlei*)
- California alkali grass (*Puccinellia simplex)*
- Latimer's woodland-gilia (*Saltugilia latimeri*)
- Cove's cassia (*Senna covesii*)
- Lemmon's syntrichopappus (*Syntrichopappus lemmonii)*
- western Joshua tree (*Yucca brevifolia*)

Following a literature review and review of the habitat assessment of the existing site conditions, the following 17 species are considered to be absent from the project area due to a number of factors such as lack of suitable habitat, the project area being outside of the known elevation range, or there being no close recorded occurrences. The following species are not discussed further in this document:

- Mt. Pinos onion
- Horn's milk-vetch
- Kern County evening primrose
- San Fernando Valley spineflower
- desert cymopterus
- Rosamond eriastrum
- few-flowered eriastrum
- Tracy's eriastrum
- pine fritillary
- inland gilia
- pale-yellow layia
- Tehachapi monardella
- Robbins' nemacladus
- short-joint beavertail
- adobe yampah
- California alkali grass
- Latimer's woodland gilia
- Lemmon's syntrichopappus

Nine special status plants had some potential to occur within the project area based on either the presence of suitable habitat or the close proximity to a known recorded occurrence:

- alkali mariposa lily
- white pygmy poppy
- Mojave spineflower
- recurved larkspur
- Barstow woolly sunflower
- golden goodmania
- sagebrush loeflingia
- Mojave monardella
- western Joshua tree

Alkali mariposa lily is designated as a CNPS List 1B.2 species, but it is not a federally or state-listed threatened or endangered species. This species is typically found in alkaline/mesic soils in chaparral, chenopod scrub, meadows and seeps, and Mojavean Desert scrub from 70 to 1,959 meters (230 to 6,430 feet). Suitable Mojavean Desert scrub is present within the project area. Several individuals of alkali mariposa lily were identified during the 2023 sensitive plant protocol surveys, but no individuals were identified within the survey area. As a result, this species is present within the project area.

White pygmy poppy is designated as a CNPS List 4.2 species but is not a federally or state-listed threatened or endangered species. This species blooms from March to July and is associated with granitic soils (gravelly or sandy) in Joshua tree woodland, Mojave Desert scrub, and pinyon and juniper woodland from 600 to 1,460 meters (1,968 to 4,790 feet). White pygmy poppy is not known to occur within the vicinity of the project area, and it was not observed during the protocol-level surveys. For these reasons, this species is considered absent from the project and will not be discussed further in the document.

Mojave spineflower is designated as a CNPS List 4.2 species but is not a federally or state-listed threatened or endangered species. This species blooms March to July and mainly occurs in alkaline areas within Mojave Desert scrub, chenopod scrub, Joshua tree woodlands, and on playas from 630 to 1,500 meters (2,066 to 4,265 feet). Suitable alkaline habitat occurs within the western portion of the project area. Although this species is known to occur within the vicinity, it was not observed during the protocol-level surveys. Therefore, this species is considered absent from the project and will not be discussed further in the document.

Recurved larkspur is designated as a CNPS List 1B.2 species but is not a federally or state-listed threatened or endangered species. This species blooms between March and June, occurring on alkaline soils in valley saltbush and/or chenopod scrub, valley and foothill grassland, and cismontane woodlands from 3 to 1,525 meters (10 to 5,000 feet). Suitable chenopod scrub habitat is present within the project area; however, no individuals were observed during protocol-level surveys. For these reasons, recurved larkspur is considered to be absent from the project area and will not be discussed further in the document.

Barstow woolly sunflower is designated as a CNPS List 1B.2 species but it is not a federally or state-listed threatened or endangered species. This species blooms from March to May and is typically found in chenopod scrub, Mojavean desert scrub, and playa areas between 500 and 960 meters (1,640 to 3,150 feet). Marginal suitable Mojavean desert scrub is present within the project area; however, no Barstow woolly sunflower was observed during protocol-level surveys. As a result, this species is considered to be absent from the project area and therefore will not be discussed further in the document.

Golden goodmania is designated as a CNPS List 4.2 species but is not a federally or state-listed threatened or endangered species. This species blooms from April to August and is typically associated with alkaline soils in Mojavean desert scrub, valley and foothill grassland, playas, meadows, and seeps within an elevation range between 20 and 2,200 meters (65 and 7,220 feet) above mean sea level. Suitable Mojavean Desert scrub habitat is present within the project area, but golden goodmania was not observed during protocol-level surveys and is thus considered to be absent from the project area and will not be discussed further in the document.

Sagebrush loeflingia is designated as a CNPS List 2B.2 species but is not a federally or state-listed threatened or endangered species. It is associated with sandy areas around clay slicks in Great Basin, Sonoran, and Mojave Desert scrub from 700 to 1,615 meters (2,300 to 5,300 feet) in elevation. Suitably sandy areas and Mojave Desert scrub occur throughout portions of the project area. A small population of sagebrush loeflingia was identified within the 2024 survey areas (**Figure 9)** along a dirt access road on the west side of the project area north of Dawn Road between two parallel unnamed dirt roads approximately 305 meters (1,000 feet) east of State Route 14. Another population was identified within a disturbed access road west of Tropico Road and south of Felsite Avenue. For these reasons, this species is present in the project area.

Mojave monardella is designated as a CNPS List 4.2 species but is not a federally or state-listed threatened or endangered species. This species blooms April to September and is typically found in sandy soils in chenopod scrub, Great Basin scrub, Joshua tree woodland, lower montane coniferous forest, Mojavean Desert scrub, and pinyon and juniper woodland from 600 to 2,050 meters (1,968 to 6,725 feet). Suitable chenopod scrub, Joshua tree woodland, and Mojavean Desert scrub habitats occur, and this species was observed to be scattered throughout the project area in areas with suitably sandy soils (**Figure 9**). As a result, this species was found to be present on the project area.

Western Joshua tree is a State Candidate Threatened species but is not federally listed as threatened or endangered species. This species is primarily associated with creosote-white bursage scrub, saltbush scrub, California matchweed, and rubber rabbitbrush vegetation communities. A total of 253 Western Joshua trees were documented in the survey area during the 2024 census. Of the 253 documented Western Joshua trees, 24 were identified as dead and 229 as live. The most prevalent height class was Class B, with 122 individuals recorded in this class; followed by Class A, with 114 individuals recorded; and Class C, with recorded 17 individuals. This species is considered present within the project area. Refer to the Western Joshua Tree Census Report (WSP 2024g) for detailed results of the census.

4.6.2 Special Status Vegetation Communities

Based on the literature review, nine separate special status vegetation communities were identified as potentially occurring within the project area, including Southern Cottonwood Willow Riparian Forest, Southern Mixed Riparian Forest, Southern Riparian Forest, Southern Riparian Scrub, Southern Sycamore Alder Riparian Woodland, Southern Willow Scrub, Valley Needlegrass Grassland, Valley Oak Woodland, and Wildflower Fields (**Table 9**). These vegetation communities were not observed within the project area and therefore will not be impacted by the proposed development. No further discussion is necessary in the document for impacts to special status vegetation communities.

4.6.3 Special Status Invertebrates

Seven special status invertebrates species were identified as previously recorded within the vicinity of a project: Crotch's bumble bee (*Bombus crotchii*), vernal pool fairy shrimp (*Branchinecta lynchi*), Comstock's blue butterfly (*Euphilotes glaucon comstock*), Tehachapi Mountain silverspot butterfly (*Speyeria egleis tehachapina*), whitefir shoulderband (*Helminthoglypta concolor*), Soledad shoulderband (*Helminthoglypta fontiphila*), and Mohave shoulderband (*Helminthoglypta greggi*). Six of these species do not have any potential to occur and are considered absent and not discussed further in the document. The one invertebrate species identified as present within the project area is Crotch's bumble bee.

Crotch's Bumble Bee. The Crotch's bumble bee is native to California, where it establishes hives in various cavities and forages on a number of different annual flower species. It inhabits

grasslands and shrublands and requires a hotter and drier environment than other bumble bee species. This species establishes hives underground and overwinters in soil or under leaf litter/debris. Nectar sources for this species include plants from the following floristic families: Fabaceae, Apocynaceae, Asteraceae, Lamiaceae, Boraginaceae, and Hydrophyllaceae. Genera include *Antirrhinum*, *Asclepias*, *Chaenactis*, *Clarkia*, *Dendromecon*, *Eschscholzia*, *Eriogonum*, *Lupinus*, *Medicago*, *Phacelia*, and *Salvia*. The queen flight period for this species occurs from February to March. Once the queen selects the hive location, the active colony is detectable between April and August. These bees require flowering plants for the entire activity period to be considered suitable for an active hive.

It is a short-tongued species and prefers certain flowering plant species as a food source. These plants include milkweeds, dusty maidens, lupines, medics, phacelias, sages, clarkias, poppies, and wild buckwheat. The species occurs in California and is found in the Mediterranean, Pacific Coast, western desert, and adjacent foothills throughout most of the state's southwestern region. The Central Valley historically once served as the primary population center for the species. Today the Crotch's bumble bee is absent from much of its historic range, with a relative species abundance decline of approximately 98 percent over the last decade.

Focused surveys for this species were focused on suitable nectar sources identified and mapped within the project area, which included large stands of tansy-leaf phacelia (*Phacelia tanacertifolia*). No Crotch's bumble bee queens were identified during the March Queen Surveys. This was likely due to the extended cool winter conditions through the months of February and March. Two Queen Crotch's bumble bees were identified on April 9, 2024 and one worker was identified on May 7, 2024 during the Crotch's bumble bee protocol surveys. A single queen was incidentally identified during a burrowing owl survey conducted on April 3 and four Crotch's bumble bee workers were also incidentally identified on April 24, 2024 during an additional burrowing owl survey. All three Crotch's bumble bee queens were detected foraging on tansy-leafed phacelia (Phacelia tanacetifolia) and slowly moving from one clump of flowers to the next during the protocol surveys. For a detailed discussion, please see the Willow Rock Energy Storage Center Project Desert Tortoise Focused Survey 2024 Addendum (WSP 2024b).

The Queen Crotch's bumble bees were only observed in the Phacelia patches and only foraging behavior was observed. No hives were identified.

4.6.4 Special Status Amphibians

Although there are two amphibian species that potentially occur within the project area—yellow-blotched Ensatina (*Ensatina eschscholtzii croceater*) and foothill yellow-legged frog (*Rana boylii*)—there is no suitable aquatic habitat on site or within the project vicinity. For these reasons, no special status amphibians are considered to have any potential to occur on the project area and these species are not discussed further in the document.

4.6.5 Special Status Reptiles

Five reptile species potentially occur within the project area: northern legless lizard (*Anniella pulchra*), southern rubber boa (*Charina umbratica*), western ponded turtle (*Emy marmorata*), desert tortoise (*Gopherus agassizii*), and coast horned lizard (*Phrynosoma blainvillii*). Southern rubber boa and western pond turtle do not have any suitable habitat within the project area and are not discussed further in the document.

Northern legless lizard is commonly found in moist warm loose soil with plant cover, including sparsely vegetated areas of beach dunes, chaparral, pine-oak woodlands, desert scrub, sandy washes, and stream terraces with sycamores, cottonwoods, or oaks. The closest recorded occurrence of this species to the project area is approximately 6 miles (9.6 kilometers) to the west. Although marginally suitable habitat occurs within some portions of the project area, the project area is outside of this species' known range. This species was not observed during any of the field work completed in 2024 but is considered to have a low potential of occurrence as suitable habitat is present on site, and the species has been reported from the vicinity.

Desert tortoise habitat consists of Joshua tree, desert wash and scrub, and especially creosote bush. Large wildflower blooms are preferred, as they provide food for the desert tortoise following winter brumation. Tortoise burrows and nests require friable soil. Suitable desert tortoise habitat is present throughout the project area. As a result, a protocol-level focused survey for desert tortoise was conducted by WSP in 2024. No live desert tortoises or any definitive desert tortoise sign was observed on site or within the buffer area during the survey. No desert tortoise burrows, scat, carcasses, tracks, drinking depressions, or courtship rings were observed. Based on information provided by USFWS, this species is not known to occur within the vicinity of the project area. As a result, desert tortoise is considered to be absent from the project area and will not be discussed further in the document.

Coast horned lizards are found in grasslands, coniferous forests, woodlands, and chaparral, with open areas and patches of loose soil. Suitable habitat does not occur within the project area. This species does overlap with the desert horned lizard. Since these species were not observed during any of the focus surveys completed for the project, it is considered to be absent from the project area and will not be discussed further in the document.

4.6.6 Special Status Birds

Fifteen avian species were identified as potentially occurring within the project area and include tri-colored blackbird (*Agelaius tricolor*), golden eagle (*Aquila chrysaetos*), burrowing owl, short-eared owl (*Asio flammeus*), long-eared owl (*Asio otus*), ferruginous hawk (*Buteo regalis*), Swainson's hawk, western snowy plover (*Charadrius alexandrinus nivosus*), mountain plover (*Charadrius montanus*), merlin (*Falco columbarius*), prairie falcon (*Falco mexicanus*), California condor (*Gymnogyps californianus*), loggerhead shrike (*Lanius ludovicianus*), white-faced ibis (*Plegadis chihi*), and LeConte's thrasher (*Toxostoma lecontei*). Six of these species do not have

suitable habitat within the project area and are considered absent from the project and therefore are not discussed further in the document: tri-colored blackbird, western snowy plover, mountain plover, bald eagle, least Bell's vireo, and white-faced ibis.

Golden eagle is state-listed as a fully protected species and is also protected under the federal MBTA. This species is commonly found in mountainous and hilly areas with cliffs and open fields required for habitat. Jackrabbits are primary food source. Potential of occurrence is moderate. Suitable foraging habitat occurs throughout the project area; however, no suitable nesting habitat occurs within the project area. Potentially suitable nesting habitat occurs east of and outside of the project area. This species was not observed during any of the protocol-level surveys in 2024 and is therefore considered absent from the project and will not be discussed further in the document.

Burrowing owl is currently a state species of special concern (SSC) and is also protected under the federal MBTA. This species occurs in a variety of habitats that include agricultural land, fallow fields, and sparsely vegetated areas that allow for visibility of both prey and predators. The burrowing owl feeds on arthropods and small mammals, lizards, amphibians, and birds. Mammal burrows or natural cavities are required for nesting and for shelter during variable weather conditions.

During the 2024 protocol surveys for burrowing owl, a pair of burrowing owls were identified in an off-site area on June 6, 2024, during Survey Pass 3. These owls were observed foraging in the 500-foot buffer area approximately 200 feet from the northern boundary of the additional workspace area P2 North, in an inaccessible area. Additionally, suitable burrows were also observed within binoculars in the same buffer area. No burrowing owl sign or indication of borrowing owl use was recorded at the suitable burrows, all of which were natural burrows. Due to the species' presence in suitable habitat within the vicinity of the project area and availability of suitable burrows on site, the burrowing owl has potential to forage and nest on or adjacent to the project area at any time in the future.

Short-eared owl is an SSC and is also protected under the federal MBTA. This species is found in open country and grasslands. It breeds in northern Canada and Alaska. This species was not identified during any of the protocol-level surveys completed for the project area. Due to a lack of suitable habitat and lack of observation, this species is considered absent from the project area and will not be discussed further in the document.

Long-eared owl is currently an SSC and is also protected under the federal MBTA. This species occurs in riparian habitat, live oak thickets, and dense stands of trees. This species utilizes old corvid, hawk, heron, and squirrel nests in trees with a dense canopy. Potential for long-eared owl to nest within the project area is low, given the likelihood of competition for nesting sites and proximity of available nest trees to development. This species has a high potential to occur within the project area for foraging.

Swainson's hawk is a state-listed endangered species that occurs in open plains, grasslands, dry grasslands and migrates through Mojave Desert. Six Swainson's hawk adults were documented in the survey area during the 2024 focused surveys (**Figure 10**). Swainson's hawk were recorded on March 26, April 4, and April 10, 2024. These individuals were observed flying overhead or perched on rocks and trees.

On June 5, 2024, a pair of Swainson's hawks were documented near the nest reported by WSP during the desert tortoise survey (2024c), which is located off site (**Figure 10**). Nest activity was not monitored during the 2024 protocol surveys, as the nest was not in the survey area. These may be the same pair identified during previous Swainson's hawk surveys. As there was no other recorded nest activity within the survey area, the six identified Swainson's hawks observed during the 2024 protocol surveys may be the same nesting pair foraging within the survey area.

Suitable foraging habitat (creosote bush- and saltbush-dominated vegetation communities) is available over a large portion of the additional project elements; however, nesting opportunities are limited to areas that support suitable nesting trees (e.g., large western Joshua trees) and landscaping and ornamental plantings, often in the form of windrows of the surrounding rural residences. Due to the species' presence in suitable habitat within the vicinity of the project area, Swainson's hawk has a high potential to forage and nest on and/or adjacent to the project area at any time in the future.

Merlin is protected under the federal MBTA. This species winters in open country, shrubland, forests, parks, grassland, and prairies and breeds in northern Canada and Alaska. Since there is no suitable habitat within the project area and this species was not observed during any of the protocol-level surveys, merlin is considered to be absent from the project area and will not be discussed further in the document.

Prairie falcon is protected under the federal MBTA and occurs in desert scrub, rangeland, grasslands, savannahs, and agricultural land. Open terrain is used for foraging, though nest sites are usually located on sheltered cliff ledges. This species may utilize old raven or eagle stick nests on cliffs, bluffs, or rock outcrops for nesting. This species was previously observed within the vicinity of the project area in 2021 perched on telephone poles and flying overhead. Due to a lack of suitable nesting habitat within the project area, there is no potential for this species to nest in the project area. However, this species is considered present and will likely forage in the general vicinity.

California condor is a federally and state-listed endangered species. This species forages widely for carrion. Ledges and cliffs are used as roost and nest sites. This species is known to nest in the mountains west of the project area. It has also been known to foraging over long distances in the search for food. This species is not known to occur within the project area and was not observed during any of the protocol-level surveys. Therefore, it is considered absent from the project area and will not be discussed further in the document.

Loggerhead shrike is designated as an SSC and is protected under the federal MBTA. This species occurs in a variety of open habitats with scattered shrubs and availability of perches, including Joshua tree habitats where high densities of this species are known to thrive. Nests are built in densely foliaged shrubs or trees, typically no higher than 50 feet (15 meters) above the ground. Numerous loggerhead shrikes were observed throughout the project area and were generally seen on each of the 2024 surveys (**Figure 10**). Due to the species' presence in suitable, connected habitat, the loggerhead shrike is considered to be present within the project area.

LeConte's thrasher is designated as an SSC and is protected under the federal MBTA. This species occurs in open desert wash and desert scrub, as well as open Joshua tree habitats. Preferred habitat includes areas with scattered shrubs that are used for cover and large, open areas that allow for visibility and ease of foraging. LeConte's thrashers nest in dense, spiny shrubs that include saltbush. Within the project area, multiple detections of this species were found within inaccessible areas during the 2024 surveys within native saltbush scrub and creosote-white bursage series habitat, but were not mapped. Due to the presence of this species' suitable habitat, the LeConte's thrasher is considered to present in the project area.

4.6.7 Special Status Mammals

Eight sensitive mammal species were recorded in the vicinity of project area: Townsend's big-eared bat (*Corynorhinus townsendii*), hoary bat (*Lasiurus cinereus*), lodgepole chipmunk (*Neotamias speciosus speciosus)* Tulare grasshopper mouse (*Onychomys torridus tularensis*), San Joaquin pocket mouse (*Perognathus inornatus*), Tehachapi pocket mouse (*Perognathus alticola inexpectatus*), American badger (*Taxidea taxus*), and Mohave ground squirrel. Although not included on the list of sensitive species identified in the literature review as a potentially occurring species on the site, desert kit fox (*Vulpes macrotis arsipus*) was added to this discussion at the request of CDFW. Four of these species are considered absent and are not discussed further in this document: hoary bat, lodgepole chipmunk, Tulare grasshopper mouse, and Tehachapi pocket mouse.

Townsend's big-eared bat is designated as a CDFW SSC. This species is commonly found in coniferous forests, mixed forests, deserts, native prairies, riparian communities, active agricultural areas, and coastal habitat. The species roosts in caves, with population centers occurring in areas dominated by exposed, cavity-forming rock and historic mining districts. They prefer open roosting areas in large rooms and do not tuck themselves into cracks and crevices like many bat species. There are significant mine areas in the vicinity of the project area. However, the project area does not contain any suitable roosting areas. This species has a high potential for foraging in and around the project area but is not likely to roost in the project area.

San Joaquin pocket mouse is designated as imperiled by the CDFW state listing system. There is no other federal or state protection. This species occurs in annual grasslands, desert scrub, and Joshua tree woodland. The project area is on the eastern edge of the known range of the species.

The closest recorded occurrence of this species is 2.5 miles (4 kilometers) west of the project area. This species was not observed in the project area. Due to the presence of suitable habitat on site and known records from the vicinity, this species is considered to have a moderate potential to occur in the project area.

Tehachapi pocket mouse is designated as an SCC. There is no other federal or state protection. This species is commonly found in annual grasslands, pinyon-juniper woodland, Joshua tree woodland, Jeffrey pine forest, and sagebrush and rabbitbrush scrub at elevations between 3,500 and 6,000 feet (1,067 and 1,829 meters) Since the project area is well below the elevation limits of this species and is outside of the known range, this species is considered absent from the project area and will not be discussed further in the document.

American badger is listed as an SCC. This species can be found in grasslands, parklands, rangelands, agricultural areas, and generally treeless areas with loose soils and ample (rodent) prey. This species can also be found in forests, meadows, marshes, brushy areas, deserts, and montane meadows. A known recorded occurrence of this species was identified within 1 mile of the project area. Suitable habitat occurs throughout the project area and large burrows suitable for this species were documented during the 2024 surveys (WSP 2024d). American badger is a wide-ranging species and may occupy portions of the project area at any time.

Mohave ground squirrel is a state-listed threatened species. Suitable habitat includes desert scrub habitat in sandy and gravelly soils. Burrows are typically found at the base of shrubs. Even though the project area is near the western limits of this species range, suitable habitat occurs within the project area. Therefore, protocol-level surveys were completed within the project area and a separate report was prepared (Dipodomys 2024). Based on the 2024 survey results, no Mohave ground squirrel were observed or otherwise detected during the protocol survey. Therefore, this species is considered absent from the project area and will not be discussed further in this document.

Desert kit fox has no official federal or state protection but is considered a sensitive species by the CDFW. This species typically occurs in open desert habitat ranging from creosote bush scrub to desert sand dunes. Although there are no previous recorded occurrences in CDFW's California Natural Diversity Data Base, this species is known to occur throughout the Mohave desert and is separated by a mountain range from the federally endangered and state-listed threatened subspecies San Joaquin kit fox (*Vulpes macrotis mutica*). Habitat loss is becoming a significant issue for this species. Based on our survey results for other sensitive species, suitable kit fox size burrows and scat were identified within the project area. Therefore, this species is assumed to be present.

4.6.8 Jurisdictional Waters and Wetlands

Based on the field visit, no jurisdictional wetlands were identified and 19 non-wetland ephemeral drainages were documented in the study area (**Figure 6**). The lateral limits of non-wetland drainages ranged from 6 inches to 18 feet in width and were determined by heterogeneity in soils, vegetation, and geomorphology compared to the adjacent uplands. Soils in the ephemeral drainage features were composed of well-drained, coarse textures, such as sandy or gravelly materials with low organic content. Two hydrologic low spots were identified along Rosamond Boulevard that ranged in width from 125 to 330 linear feet. Soils in the ponded area contained some evidence of cracking but were mostly similar to surrounding upland soils. The total acres of the non-wetland waters contained in the study area summed to 15.17 acres and 21,471 linear feet (6,544 meters). No hydrophytic or native riparian plant species were observed in the study area.

No hydrophytic or native riparian plant species were observed in the project area. Soil pits were dug at several locations within each drainage. Soils were considered sandy with no organic streaking and were not considered hydric. The drainage features are mostly unvegetated and described as surface erosion features, as most were no more than a few inches deep.

Conclusions derived from the jurisdictional delineation indicate that the ephemeral waters documented in the study area are likely jurisdictional waters of the state of California regulated by the CDFW and RWQCB. No waters were deemed jurisdictional WOTUS as they were ephemeral waters lacking continuous surface connection to traditional navigable waters or territorial seas. Given the episodic flow regime, well-drained soils, and lack of adjacent riparian habitat, both CDFW streambed and RWQCB jurisdictions coincided across the study area.

4.6.9 Wildlife Corridors

The project area consists primarily of undeveloped land, which can provide opportunity for undisturbed localized wildlife movement. The project area broadly includes areas of sparce to moderately high desert vegetation cover, intermixed with disturbed areas. Existing development within the project area already prevents any regional connectivity between the Tehachapi Mountains to the north and the San Gabriel Mountains to the south. There is a medium priority linkage identified along the west side of State Route 14 (Penrod et al. 2001), the portion of the project that extends into that area is associated with the gen-tie alignment. Therefore, a wildlife movement corridor is considered present within a portion of the project area.

4.6.10 Protected/Conserved Lands

The 2024 survey areas do not contain any USFWS designated critical habitat areas (**Figure 7**). The survey area is between desert tortoise critical habitat to the east (17 miles) and California condor critical habitat to the west (16 miles). A portion of the gen-tie transmission line alternative is within land owned by the California State Lands Commission (**Figure 8**). If the gen-tie transmission line alternative occurs within property owned by the California State Lands Commission, a right-of-

way agreement or similar coordination with the California State Lands Commission will be required.

5.0 DISCUSSION AND RECOMMENDATIONS

The sensitive biological resources that are present or have a high potential to occur within the project area include alkali mariposa lily, sagebrush loeflingia, Mojave monardella, western Joshua tree, Crotch's bumble bee, desert tortoise, burrowing owl, Swainson's hawk, merlin, prairie falcon, logger headed shrike, LeConte's thrasher, Townsend's big-eared bat, American badger, desert kit fox, jurisdictional drainage features, and a wildlife corridor.

The primary area where direct project-related impacts to sensitive biological resources may occur is in the vicinity of the P2 North and P2 South project areas. Most of this portion of the project area is located within undisturbed natural habitat. The gen-tie line alignment is generally located within areas associated with existing paved and unpaved dirt access roads. Due to the disturbed nature of this area, project-related potential impacts to sensitive biological resources in this area are not likely to occur.

Potential direct impacts associated with the proposed project development include the initial vegetation removal and ground disturbance during initial grading. Potential indirect impacts from dust, noise, and vibration are possible anywhere along the gen-tie alignment but primarily in the undeveloped WRESC portion of the project area. The following is a discussion of the project-related impacts to each sensitive biological resource, including general and specific recommendations for avoidance and minimization measures to reduce the level of impact to a less than significant level.

5.1 Special Status Plants

There are no federally or state-listed threatened or endangered plant species identified within the project area. This section will discuss the significance of impacts associated with alkali mariposa lily, sagebrush loeflingia, Mojave monardella, and western Joshua tree.

Alkali mariposa lily is a CNPS list 1.B2 plant, and potential impacts to this species include approximately 20 individual plants identified along Rosamond Boulevard. Impacts to CNPS list 1.B2 plants are generally not considered significant, unless the size of the population lost during construction results in reducing the population to a less than self-sustaining level. We recommend avoiding the plant, if feasible, since the plant's location is within the project area. If this population of alkali mariposa lily cannot be avoided, we recommend notifying the CDFW prior to any grading activity to provide them the opportunity to collect seed and/or relocate the plants. For a detailed discussion, please see the Willow Rock Energy Storage Center Sensitive Plant Species Surveys Report 2024 Addendum (WSP 2024f).

Sagebrush loeflingia, previously a CNPS list 2.B2, within the project area is limited to the western edge of the P-2 North additional workspace. This plant's subspecies, or variety, *Loeflingia*

squarrosa var. *artemisiarum* is no longer recognized in the scientific community. It is unclear if this species is currently considered a CNPS list 2.B2 as it is currently named. Until there is a more definite stance on the status of this plant, we recommend avoiding the plant, if feasible. The plant's location within the project area is along the western buffer area and may not be part of the overall project impact. If this population of sagebrush loeflingia cannot be avoided, we recommend notifying the CDFW prior to any grading activity to provide them the opportunity to collect seed and/or relocate the plants. For a detailed discussion, please see the Willow Rock Energy Storage Center Sensitive Plant Species Surveys Report 2024 Addendum (WSP 2024f).

Mohave monardella is present within the project area, and it is common throughout the sandy areas in the western portion of the P2 North additional workspace. This species is listed as a CNPS 4.2 plant. The loss of any CNPS list 4.2 plants are generally not considered significant, unless the size of the population lost during construction results in reducing the population to a less than self-sustaining level. We recommend notifying the CDFW prior to any grading activity to provide them the opportunity to collect seed and/or relocate the plants. For a detailed discussion, please see the Willow Rock Energy Storage Center Sensitive Plant Species Surveys Report 2024 Addendum (WSP 2024f).

Western Joshua tree is currently a candidate species for listing under CESA. Since impacts are proposed for this species, compliance with the requirements for an Incidental Take Permit (ITP) apply. Outside the CEC's preemptive siting authority, there are currently two ways to obtain an ITP for this species, the standard ITP direction through CDFW or participation in the WJTCA. The submission of a WJTCA ITP application form, along with all necessary attachments outlined in the application, is required. Following the submission of the application, CDFW staff will assess the application and reach out to the permittee for any necessary clarifications or site visits. Since the project will be permitted through the CEC, the CEC will be issuing a final decision on all state-law matters and will include avoidance and mitigation measures developed in the siting process. During the agency consultation, CDFW staff will assess the application information and work collaboratively with the CEC. WJTCA ITPs do not have statutory deadlines; however, the CEC commits to processing their certification as promptly as possible. For a detailed discussion, please see the Willow Rock Energy Storage Center Joshua Tree Census Report 2024 Addendum (WSP 2024g).

5.2 Special Status Wildlife

There is one federally listed endangered and one federally listed threatened wildlife species identified as potentially occurring within the project area: California condor and desert tortoise. The project area also supports one state endangered species (Swainson's hawk), one state candidate threatened species (Crotch's bumble bee), six state SSCs (burrowing owl, prairie falcon, logger headed shrike, LeConte's thrasher, Townsend's big-eared bat, American badger), and two species that are generally on a watch list (merlin and desert kit fox).

California Condor is federally endangered. The literature review indicated no FESA-listed species within the 10-mile (16-kilometer) radius except for the California condor. However, no California condor were observed during the biological reconnaissance surveys. The California condor has a low potential for occurrence with limited foraging habitat located approximately 8 miles (12.9 kilometers) northwest of the project area. Designated critical habitat is approximately 6 miles (9.7 kilometers) northwest of the Whirlwind Substation and 19 miles west of the WRESC site. This species may fly over the project area in search of prey. The key prey for this species (large mammals, including but not limited to, deer, cattle, and pigs) is not present within the project area. A biological monitor will be present on-site during vegetation removal activities to eliminate the potential for take of this species. However, incidental take of this species is not anticipated during construction. Therefore, an ITP is not required.

Desert tortoise is a federally threatened species. Desert tortoise was not identified within the project area during protocol-level surveys and is currently considered absent from the project area. However, suitable habitat remains within the project area, and the closest recorded occurrence of desert tortoise is within 3 miles of the project site. Out of an abundance of caution, a perimeter fence should be installed to reduce the likelihood of desert tortoise entering the project. Pre-construction clearance surveys will be required prior to any vegetation removal and ground disturbance activities. If any desert tortoise or tortoise sign is identified within the project area during pre-construction surveys, an ITP will be required from USFWS. If an ITP is required, compensatory mitigation will be required, as well as the preparation of a Raven Management Plan, but these are not anticipated at this time. For a detailed discussion, please see the Willow Rock Energy Storage Center Project Desert Tortoise Focused Survey 2024 Addendum (WSP 2024c).

Crotch's bumble bee was observed nectaring within the project area, but no active hives were found. It is common for queen bumble bees to search for suitable hive locations once they emerge from hibernation (usually in February and March). Crotch's bumble bees were identified during the 2024 flight season. Although queen bees were identified during the protocol-level surveys, it is the opinion of WSP that no established hives occur on site. Individuals were observed foraging within the project area and likely searching for a suitable hive location. Since this species is a candidate for listing as a state threatened species, it is treated as if it was listed until a decision has been made on the listing status. For a detailed discussion, please see the Willow Rock Energy Storage Center Project Results of Crotch's Bumble Bee Surveys 2024 Addendum (WSP 2024b).

Swainson's hawk are known to have an active nest 7 miles west of the project site. Since the project area is not within 5 miles of the nest, no mitigation measures are required for foraging habitat impacts. The incremental loss of foraging habitat associated with the proposed project is not considered significant, since the project area is surrounded by undeveloped desert scrub habitat in all directions and the majority of the gen-tie transmission line alignment alternatives are associated with previous disturbance along existing road rights-of-way. However, there is a potential for impacts to foraging Swainson's hawk during construction activities. For a detailed

discussion, please see the Willow Rock Energy Storage Center Swainson's Hawk Focused Survey 2024 Addendum (WSP 2024e).

Burrowing owl will require a pre-construction take avoidance survey per guidelines specified in the S*taff Report on Burrowing Owl Mitigation* (CDFG 2012) within 14 days of initiating initial ground disturbance and/or construction activities. In addition, within 24 hours of initiating initial ground disturbance and/or construction activities, a final pre-construction take avoidance survey will be required. Surveys shall include areas within the project footprint and a surrounding 500-foot (150-meter) buffer. For a detailed discussion, please see the Willow Rock Energy Storage Center Project Draft Results of Burrowing Owl Focused Survey 2024 Addendum (WSP 2024d).

Golden eagle is a fully protected species, and there is no incidental take conveyance. Therefore, we recommend a pre-construction clearance survey prior to initial vegetation removal and ground disturbance. We recommend conducting clearance surveys within 30 days of the start of construction and again following the WEAP training at project kick-off. A biological monitor will be called to the project area if any golden eagles are sighted within the vicinity during construction. Golden eagles will be monitored during construction activities until they have left the area.

Long-eared owl, logger headed shrike, LeConte's thrasher, Townsend's big-eared bat, and American badger, **prairie falcon, and desert kit fox** do not have direct state or federal legal protection under the FESA or CESA. The potential incremental loss of individuals over time could be considered a significant impact if the species were to fall to a less than self-sustaining level. Therefore, we recommend a biological monitor be present during all initial vegetation removal. In addition, under consultation with CDFW, a Resource Management Plan will be prepared, and will include separate sections for these species, if necessary. The plan will include details associated with pre-construction clearance surveys, a WEAP, and biological monitoring and reporting. This plan will be reviewed and approved by CDFW staff before implementation.

The MBTA protects migratory birds during the nesting season, and the pre-construction clearance surveys discussed above will also be required to avoid impacts to nesting birds protected under the MBTA. Other appropriately timed pre-construction surveys by a qualified biologist should always precede direct and indirect impacts in areas where potential special status biological resources or nesting bird habitat is present. Depending on the habitat, these surveys will vary in timing, but in no case would they be done more than 30 days prior to vegetation removal or ground disturbance. We recommend pre-construction clearance surveys be completed by experienced senior biologists who have experience with all the sensitive species present on site, so the pre-construction clearance surveys can be completed at the same time.

5.3 Jurisdictional Drainages

All drainage features within the project area are considered ephemeral, and the USACE no longer takes jurisdiction over these features. There is a single drainage feature (Drainage R) that flows across the P-2 South additional workspace area. The remaining drainage features are located along the gen-tie alignment. Based on current project designs, all drainage features will be avoided. If construction must impact a drainage, the project will adopt best management practices and apply to applicable agencies, including the CDFW and RWQCB. With appropriate mitigation measures, temporary and permanent adverse impacts to wetlands and WOTUS would be less than significant. However, impacts to the drainage features are not anticipated at this time. For a detailed discussion, please see the Willow Rock Energy Storage Center Delineation of Jurisdictional Waters (WSP 2024h).

5.4 Wildlife Corridors

The portion of the project area that is associated with the medium priority wildlife corridor is along the proposed gen-tie alignment. The installation of the metal gen-tie poles will not create a barrier for wildlife movement. Also, the project area is surrounded by undeveloped lands. The only barriers to wildlife movement within the vicinity of the project area is State Route 14. To reduce impacts to wildlife species that may be utilizing the project area for daily travel paths or dispersal, all open trenches or holes should be completely covered at night. Covers should be buried around the edges of the trenches or holes so smaller wildlife species cannot crawl under the covering. If feasible, escape ramps should be installed within larger trenches or holes. Covers should be removed periodically and inspected to ensure that no wildlife species are trapped. No other mitigation measures are required for impacts to wildlife corridors.

5.4.1 Stormwater and Process Water Discharge

The project area will be developed so that no industrial stormwater is discharged off site. Non-industrial natural stormwater (sheet flow) from the upland areas to the south of the project area will be diverted around the site where it will continue to flow to its current pre-construction locations. Industrial stormwater will be retained on site for use as makeup water; therefore, there will be no floodplain or stormwater runoff impacts from WRESC operations.

The Applicant will construct a surface reservoir utilizing earthen berms. The surface reservoir will be equipped with an engineering liner and a floating cover to minimize water loss due to percolation or evaporation. The project is expected to generate non-potable recharge quality water. The surplus water will either be stored in the surface compensation reservoir or injected into the local aquifer for recharge. As a result of not discharging water off site, the project will not adversely impact water quality that supports sensitive habitats and species.

5.4.2 Noise and Light from Plant Operations

Portions of the project area are adjacent to agricultural and undeveloped land uses. These existing conditions result in minimal sources of noise emissions. Operation of the project will produce some noise. The project consists of five 100-megawatt power blocks. Each power block will contain a motor-driven air compressor drivetrain, heat exchangers, and an air turbine generator and their ancillary equipment. Such equipment is not known to cause off-site ground vibration nor airborne low-frequency noise during normal operations.

The project area is currently undeveloped. Sources of light come from rural residents, nearby communities, and numerous red safety lights related to wind turbines along the horizon to the east. The project's operations will introduce new light sources into the existing nighttime environment, such as facility lighting for safety and security purposes. The project's outside lighting will include a combination of pole-mounted LED lighting and wall-mounted fixtures. The Applicant will apply best practices to minimize the effects of obtrusive exterior lighting. These practices include shielding light fixtures directed downward and scheduling controls.

Based on the project's equipment and the limited application of outdoor lighting and best practices, noise and light impacts from the project's operations will have a less than significant impact on special status wildlife.

5.4.3 Potential for Collision and Electrocution Hazard to Wildlife

The project will include multiple structures that range in height from 12 meters (39 feet) to 30 meters (98 feet tall). The tallest structure is the low-pressure exhaust stack at 30 meters (98 feet) above land surface. The structure, as well as a new 230-kilovolt gen-tie line could potentially result in bird collisions. Most collisions involve nocturnal migrants flying at night in inclement weather and low-visibility conditions. The collisions typically occur when migrating birds collide with tall, guyed television or radio gen-tie towers (Kerlinger 2000). Migratory birds generally fly at an altitude that would avoid ground structures, except when crossing over topographic features or when inclement weather forces the birds closer to the ground. Based on the WRESC's design and location, the project's operations are likely to result in less than significant impacts from potential collisions.

Bird collisions with electric conducting wires occur when birds are unable to see the lines, especially during fog or rain events. Factors that affect the risk of collision include weather conditions, behavior of the species of bird, and design and location of the line.

Electrocutions occur when a bird simultaneously contacts two conductors of different phases or contacts a conductor and a ground. This happens most frequently when a bird attempts to perch on a structure with insufficient clearance between these components. On a 230-kilovolt gen-tie line, all clearances between conductors or between conductors and ground are sufficient to protect even the largest birds according to the Avian Power Line Interaction Committee (APLIC

2006). As such, operation of the project will not result in adverse impacts to wildlife from electrocution.

5.4.4 Cumulative Effects

Cumulative effects on biological resources because of past, present, and reasonably foreseeable future actions, in combination with the project, could potentially result from loss of habitat and habitat disturbance and degradation. A cumulative impact refers to a project's incremental effect together with other closely related past, present, and reasonably foreseeable future projects whose impacts may compound or increase the incremental effect of the project (Public Resources Code Section 21083; 14 California Code of Regulations 15064[h], 15065[c], 15130, and 15355). Given the lack of project development in the vicinity of the project and with implementation of the avoidance, minimization, and mitigation measures, potential cumulative impacts from the project are expected to be less than significant.

6.0 CONCLUSION

Based on the potential project impacts, the only direct mitigation measure required to reduce project-related impacts to a less than significant level is the mitigation for the Western Joshua tree. All other species will be avoided by implementation of a Resource Management Plan, which will provide a complete description of avoidance and minimization measures necessary to reduce impact levels to a less than significant level. The following measures will be required as either mitigation measures or best management practices.

6.1 Biological Resources Management Plan

The Biological Resources Management Plan will be prepared prior to construction that outlines how the Applicant will implement the mitigation and protection measures developed specifically for the project through consultation with the CDFW. The plan will include optimum construction windows for vegetation removal and soils disturbance. If construction must occur within those windows, then additional monitoring measures will be included. The plan will also have species-specific sections to identify measures that may be appropriate from some species, but not all.

6.2 Pre-Construction Surveys

Prior to the onset of work, a qualified biologist shall conduct a pre-construction survey for sensitive biological resources within and near the project area. Should special status species be found, then measures recommended by the qualified biologist shall be incorporated into the project to reduce the likelihood of species impacts.

6.3 Biological Monitoring

A qualified biologist shall monitor and be present on site during all clearing, grubbing, vegetation removal, leveling, grading, and/or other ground-disturbing activities to monitor work and ensure conservation measures are appropriately implemented. A qualified biologist will also monitor

during construction activities on or near sensitive communities and special status species identified.

6.3.1 Best Management Practices

- For jurisdictional drainages, the Applicant will adhere to all avoidance and minimization mitigation measures required by the local agencies. For areas with unavoidable impacts, the Applicant will obtain the appropriate permits prior to any work.
- Best management practices to address erosion and excess sedimentation shall be incorporated into the project plans.
- Work shall be limited to the construction footprint, as outlined in the project plans. Access routes, staging areas, and the total footprint of disturbance shall be the minimum number/size necessary to complete the project and will be selected/placed to avoid impacts to sensitive habitat/resources.
- Sensitive resources will be marked and protected by temporary fencing (e.g., orange plastic fencing, silt fencing, signage) or other acceptable method. Work limits will be clearly marked in the field and confirmed by the project biologist/biological monitor prior to the start of operations. All staked/fenced boundaries will be maintained in good repair throughout construction. GEM A-CAES LLC will consult with state and local agencies to generate conservation measures for the western Joshua tree.
- Where applicable, weed-free products shall be used to minimize the accidental spread of exotic plants. All construction equipment used for the WRESC project shall be clean and free of soil and plant material before arrival on site and before leaving the work area to prevent the spread of invasive plants.
- All storage and staging areas should be placed on existing developed or disturbed locations to the greatest extent feasible (e.g., paved, or bare ground surfaces) that have been reviewed and approved by the project biologist and project archaeologist.
- All areas used for stockpiling shall be kept free from trash and other waste. No project-related items shall be stored outside approved staging areas at any time.
- All contractor equipment and vehicles shall be inspected for leaks immediately prior to the start of construction and regularly thereafter until the equipment and/or vehicles are removed from project premises. Any leaks shall be properly contained, or the equipment/vehicle(s) repaired, and if failing repair, removed off site.
- Unless authorized by regulatory authority, project activities, particularly those involving cleaning or fueling or motorized equipment, will occur greater than 100 feet from jurisdictional waters or potentially jurisdictional waters. Contaminated water, sludge, spill

residue, or other hazardous compounds will be disposed of outside project boundaries at a lawfully authorized destination.

- Dust impacts shall be minimized by implementing appropriate measures that will reduce/control emissions generated by the project. Water shall be applied (e.g., using a water truck) at sufficient quantities to prevent airborne dust from leaving the project area.
- Any areas of excavation (e.g., pits, trenches, drilling holes) shall be covered overnight or during periods of inactivity. Routes of escape from excavated pits and trenches shall also be installed for wildlife that could potentially become entrapped (e.g., wood planks, sticks, or equivalent with dimensions of roughly 2-inch-thick by 6-inch-wide, and earthen ramps/slopes). These locations will be regularly inspected over the course of the project and immediately prior to filling. Should any entrapped wildlife be discovered, then work shall be suspended at the excavation site until the animal can be safely relocated by the biological monitor or project biologist.

6.3.2 Worker Environmental Awareness Plan

A qualified biologist shall present a WEAP on western Joshua tree, burrowing owl, Crotch's bumble bee, Swainson's hawk, and other listed/special status species found within the project area to all project employees prior to the start of construction and before new employees begin work on site. Materials discussed in the program will include, at a minimum, the following topics: (1) species description, general behavior, and ecology; (2) distribution and occurrence near the project area; (3) species' sensitivity to human activities; (4) legal protection; (5) penalties for violation of state and federal laws; (6) reporting requirements; and (7) project conservation measures. The biological monitor shall document the names, dates, and affiliations of those persons who attend

6.3.3 Weed Abatement

During construction, there is a possibility of spreading non-native invasive weedy species into the adjacent natural areas. A weed abatement plan will be prepared to identify best management practices related to weed removal and minimization efforts. This includes but is not limited to vehicle washing, seed removal from boots and clothes, and equipment cleaning.

7.0 REFERENCES

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8.0 LIMITATIONS

This is document has been prepared for the exclusive use of Hydrostor and its Construction Contract(s) in support of the preparation of the CEC's Application for Certification for the Willow Rock Energy Storage Center Project. Any use which a third party makes of this report, or any reliance on or decisions to be made based on it, are the responsibility of such third parties. WSP accepts no responsibility for damages, if any, suffered by any third party as a result of decisions made or actions based on this report.

This report was prepared, based in part, on information obtained from historic information sources. In evaluating the subject site, WSP has relied in good faith on information provided. We accept no responsibility for any deficiency or inaccuracy contained in this report as a result of our reliance on the aforementioned information.

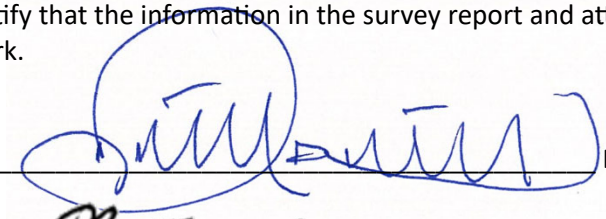
The findings and conclusions documented in this report have been prepared for the specific application to this project and have been developed in a manner consistent with that level of care normally exercised by environmental professionals currently practicing under similar conditions in the jurisdiction.

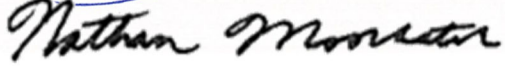
With respect to regulatory compliance issues, regulatory statutes are subject to interpretation. These interpretations may change over time, and should be reviewed.

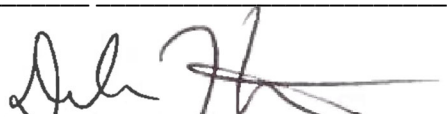
If new information is discovered during future work, the conclusions of this report should be re-evaluated and the report amended as required prior to any reliance upon the information presented herein.

9.0 REPORT CERTIFICATION STATEMENT

We certify that the information in the survey report and attached exhibits fully and accurately represents our work.

Signed:  Date: 08/02/2024

Signed:  Date: 08/02/2024

Signed:  Date: 08/02/2024

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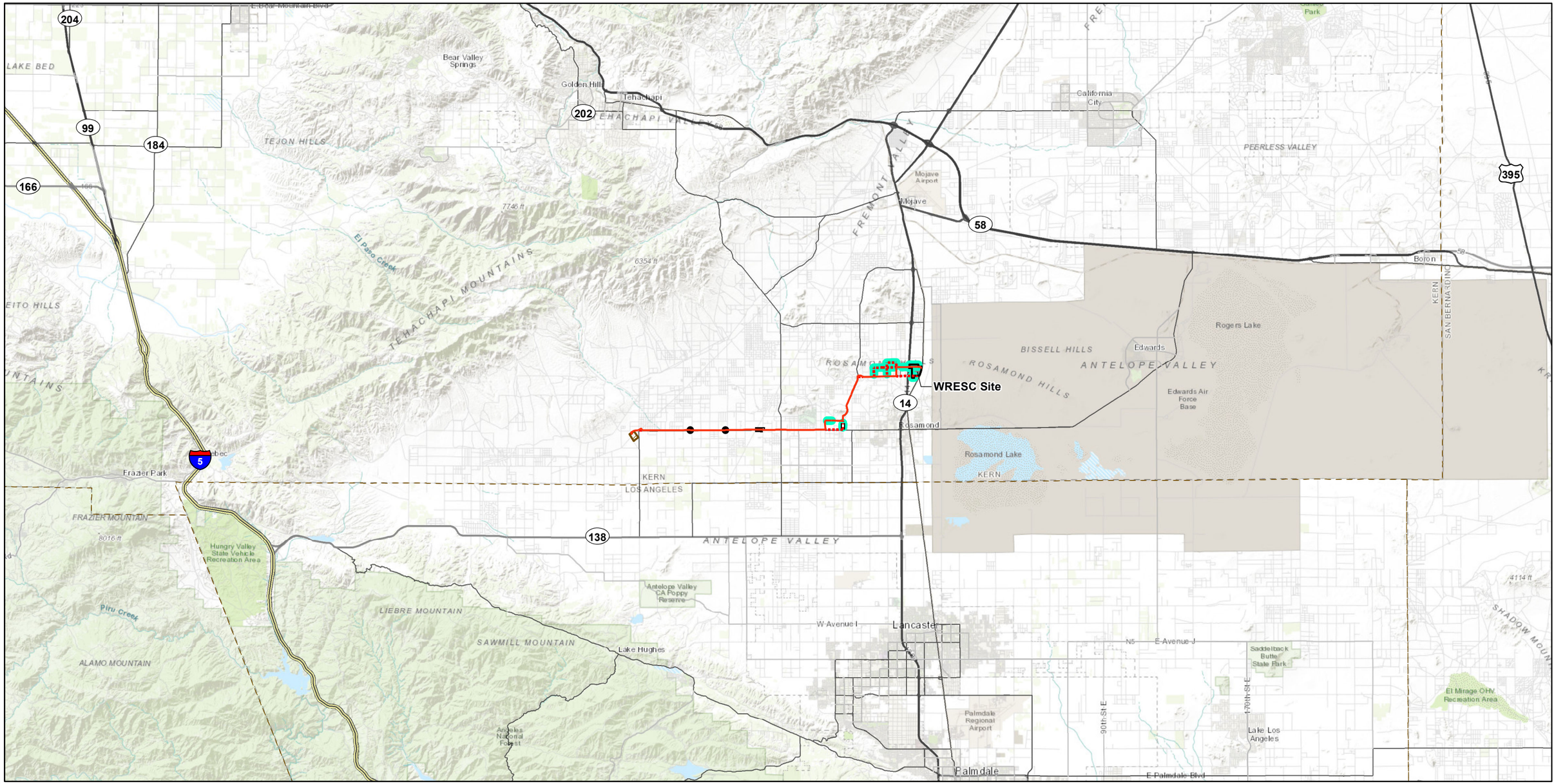
Appendix A Figures



LEGEND

- Freeway
- Major Road
- Secondary Road
- Local Connecting Road
- Important Local Road

Proposed Transmission Line

- Preferred Route, Aboveground
- Preferred Route, Underground
- Route Options 1-6, Aboveground
- Route Options 1-6, Underground

Project Components

- WRESC Site
- Other Project Parcels
- No Right of Entry Areas
- Project Boundary
- 2024 Project Area
- SCE Whirlwind Substation

0 5 10

1:350,000 MILES

REFERENCE(S)

1. COORDINATE SYSTEM: NAD 1983 STATEPLANE CALIFORNIA V FIPS 0405 FEET
2. MAP SERVICE LAYER CREDITS: SOURCES: ESRI, HERE, GARMIN, INTERMAP, INCREMENT P CORP., GEBCO, USGS, FAO, NPS, NRCAN, GEOBASE, IGN, KADASTER NL, ORDNANCE SURVEY, ESRI JAPAN, METI, ESRI CHINA (HONG KONG), (C) OPENSTREETMAP CONTRIBUTORS, AND THE GIS USER COMMUNITY

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APPROVED	VG/LL

PROJECT
WILLOW ROCK ENERGY STORAGE CENTER
JURISDICTIONAL DELINEATION FOCUSED SURVEY

TITLE
REGIONAL LOCATION MAP

PROJECT NO.	PHASE	REV.	FIGURE
31406639.000	01.LBR	1	1

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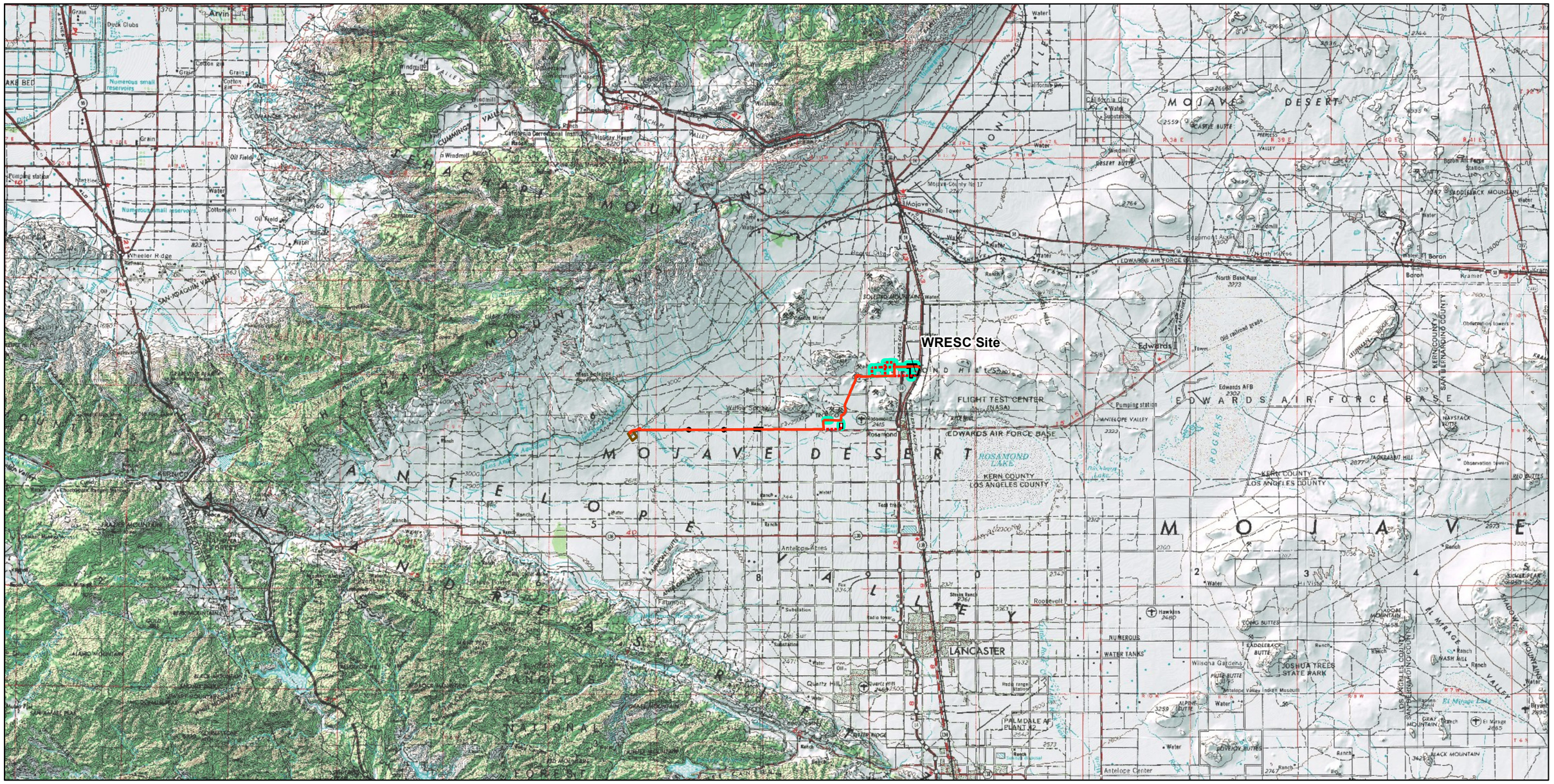
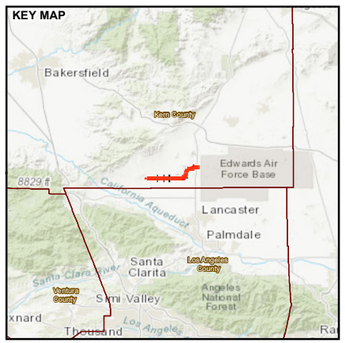


LEGEND

Proposed Transmission Line
- Preferred Route, Aboveground
- Preferred Route, Underground
- Route Options 1-6, Aboveground
- Route Options 1-6, Underground

Project Components
- WRESC Site
- Other Project Parcels
- No Right of Entry Areas
- Project Boundary
- 2024 Project Area
- SCE Whirlwind Substation

KEY MAP



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REFERENCE(S)
1. COORDINATE SYSTEM: NAD 1983 STATEPLANE CALIFORNIA V FIPS 0405 FEET
2. MAP SERVICE LAYER CREDITS: SOURCES: ESRI, HERE, GARMIN, INTERMAP, INCREMENT P CORP., GEBCO, USGS, FAO, NPS, NRCAN, GEOBASE, IGN, KADASTER NL, ORDNANCE SURVEY, ESRI JAPAN, METI, ESRI CHINA (HONG KONG), (C) OPENSTREETMAP CONTRIBUTORS, AND THE GIS USER COMMUNITY
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PROJECT
WILLOW ROCK ENERGY STORAGE CENTER
JURISDICTIONAL DELINEATION FOCUSED SURVEY

TITLE
USGS TOPOGRAPHIC MAP

PROJECT NO.	PHASE	REV.	FIGURE
31406639.000	01.LBR	1	2

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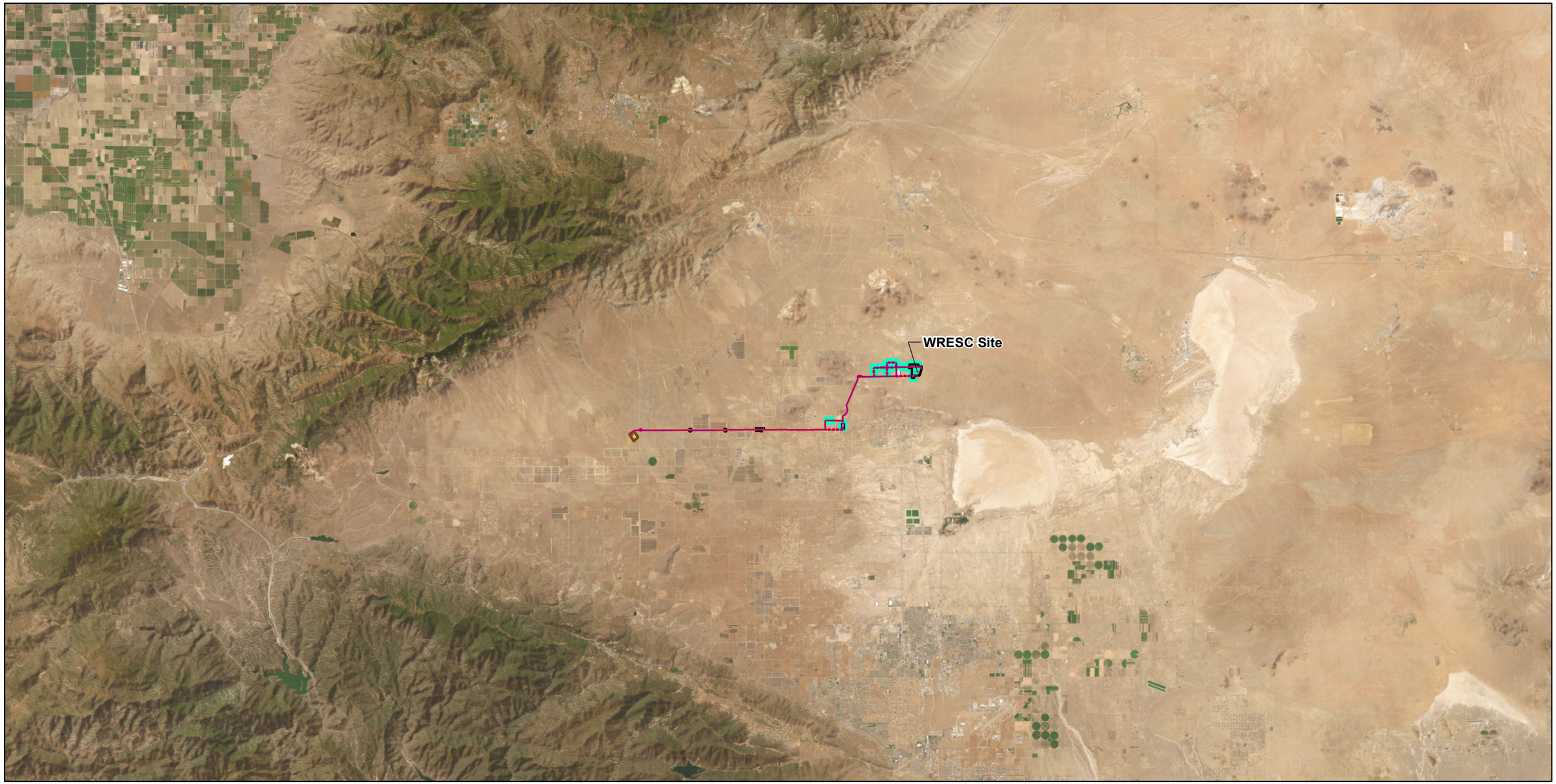
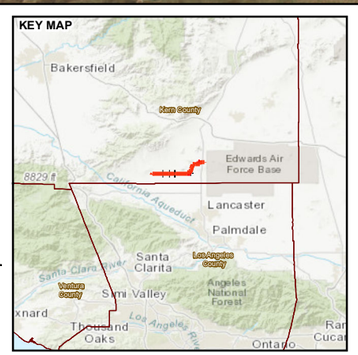


LEGEND

Proposed Transmission Line
- Preferred Route, Aboveground
- Preferred Route, Underground
- Route Options 1-6, Aboveground
- Route Options 1-6, Underground

Project Components
- WRESC Site
- Other Project Parcels
- No Right of Entry Areas
- Project Boundary
- 2024 Project Area
- SCE Whirlwind Substation

KEY MAP



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NOTE(S)
1. PROJECT ROW IS A 62.5 FT BUFFER ON EITHER SIDE OF THE TRANSMISSION LINE.

REFERENCE(S)
1. COORDINATE SYSTEM: NAD 1983 STATEPLANE CALIFORNIA V FIPS 0405 FEET
2. MAP SERVICE LAYER CREDITS: SOURCES: ESRI, HERE, GARMIN, INTERMAP, INCREMENT P CORP., GEBCO, USGS, FAO, NPS, NRCAN, GEOBASE, IGN, KADASTER NL, ORDNANCE SURVEY, ESRI JAPAN, METI, ESRI CHINA (HONG KONG), (C) OPENSTREETMAP CONTRIBUTORS, AND THE GIS USER COMMUNITY
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PROJECT
WILLOW ROCK ENERGY STORAGE CENTER
JURISDICTIONAL DELINEATION FOCUSED SURVEY

CONSULTANT
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APPROVED	VG/LL

TITLE
LOCAL VICINITY MAP

PROJECT NO.	PHASE	REV.	FIGURE
31406639.000	01.LBR	1	3

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM: ANSI B

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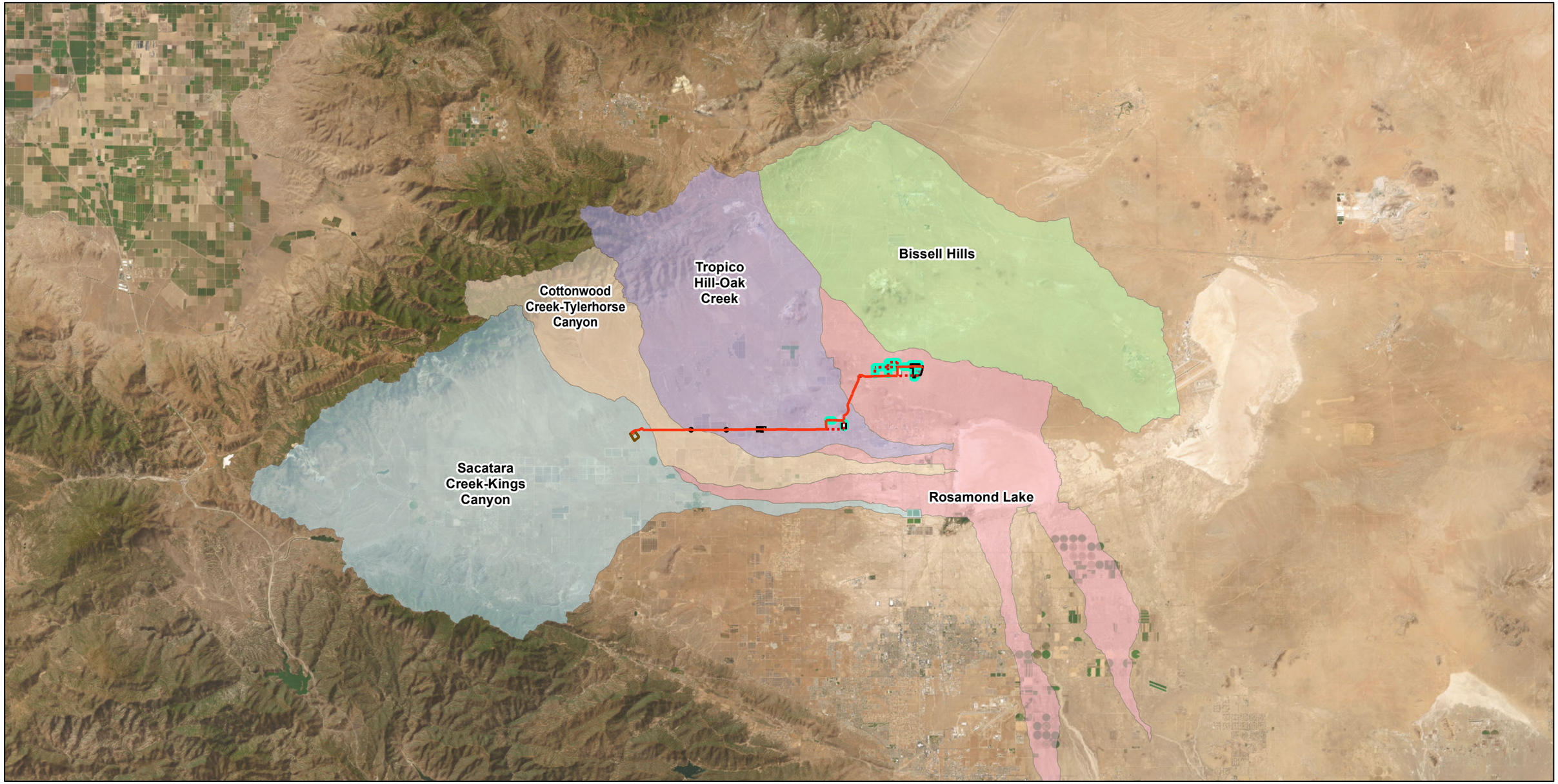
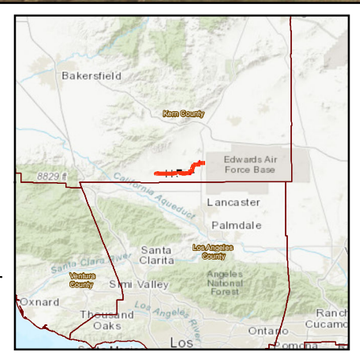


LEGEND

Watershed Boundary (HU-10)
- Bissell Hills
- Cottonwood Creek-Tylerhorse Canyon
- Rosamond Lake
- Sacatara Creek-Kings Canyon
- Tropico Hill-Oak Creek

Proposed Transmission Line
- Preferred Route, Aboveground
- Preferred Route, Underground
- Route Options 1-6, Aboveground
- Route Options 1-6, Underground

Project Components
- WRESC Site
- Other Project Parcels
- No Right of Entry Areas
- Project Boundary
- 2024 Project Area
- SCE Whirlwind Substation



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1:350,000 MILES

REFERENCE(S)
1. WBD - WATERSHED BOUNDARY DATASET
2. COORDINATE SYSTEM: NAD 1983 STATEPLANE CALIFORNIA V FIPS 0405 FEET
2. MAP SERVICE LAYER CREDITS: SOURCES: ESRI, HERE, GARMIN, INTERMAP, INCREMENT P CORP., GEBCO, USGS, FAO, NPS, NRCAN, GEOBASE, IGN, KADASTER NL, ORDNANCE SURVEY, ESRI JAPAN, METI, ESRI CHINA (HONG KONG), (C) OPENSTREETMAP CONTRIBUTORS, AND THE GIS USER COMMUNITY

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PROJECT
WILLOW ROCK ENERGY STORAGE CENTER
JURISDICTIONAL DELINEATION FOCUSED SURVEY

CONSULTANT
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TITLE
HYDROLOGIC UNIT MAP

PROJECT NO.	PHASE	REV.	FIGURE
31406639.000	01.LBR	1	4

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LEGEND

Vegetation Class

- Allscale scrub (ASSC)
- Cheesebush Scrub (CHBS)
- Creosote bush - white bursage scrub (CBWS)
- Creosote bush scrub (CBS)
- Disturbed/Developed (DH-DEV)
- Joshua tree woodland (JTW)
- Needleleaf rabbitbrush scrub (NRS)
- Non-Native (NNGF)
- Non-Native Grassland and Forbes (NNGF)
- Rubber rabbitbrush scrub (RRS)
- Tamarisk Thickets (TTH)
- White Bursage Scrub (WBS)

Proposed Transmission Line

- Preferred Route, Aboveground
- Preferred Route, Underground
- Route Options 1-6, Aboveground
- Route Options 1-6, Underground

Project Components

- Project Site
- Other Project Parcels
- No Right of Entry Areas
- Project Boundary
- 1,000 ft Around Project Parcels
- 2024 Project Area
- SCE Whirlwind Substation

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REFERENCE(S)

1. CADFW - VEGETATION CLASSES
2. COORDINATE SYSTEM: NAD 1983 STATEPLANE CALIFORNIA V FIPS 0405 FEET
3. MAP SERVICE LAYER CREDITS: SOURCES: ESRI, HERE, GARMIN, INTERMAP, INCREMENT P

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PROJECT
WILLOW ROCK ENERGY STORAGE CENTER
JURISDICTIONAL DELINEATION FOCUSED SURVEY

TITLE
VEGETATION AND LAND COVER TYPES

PROJECT NO.	PHASE	REV.	FIGURE
31406639.000	01.LBR	1	5

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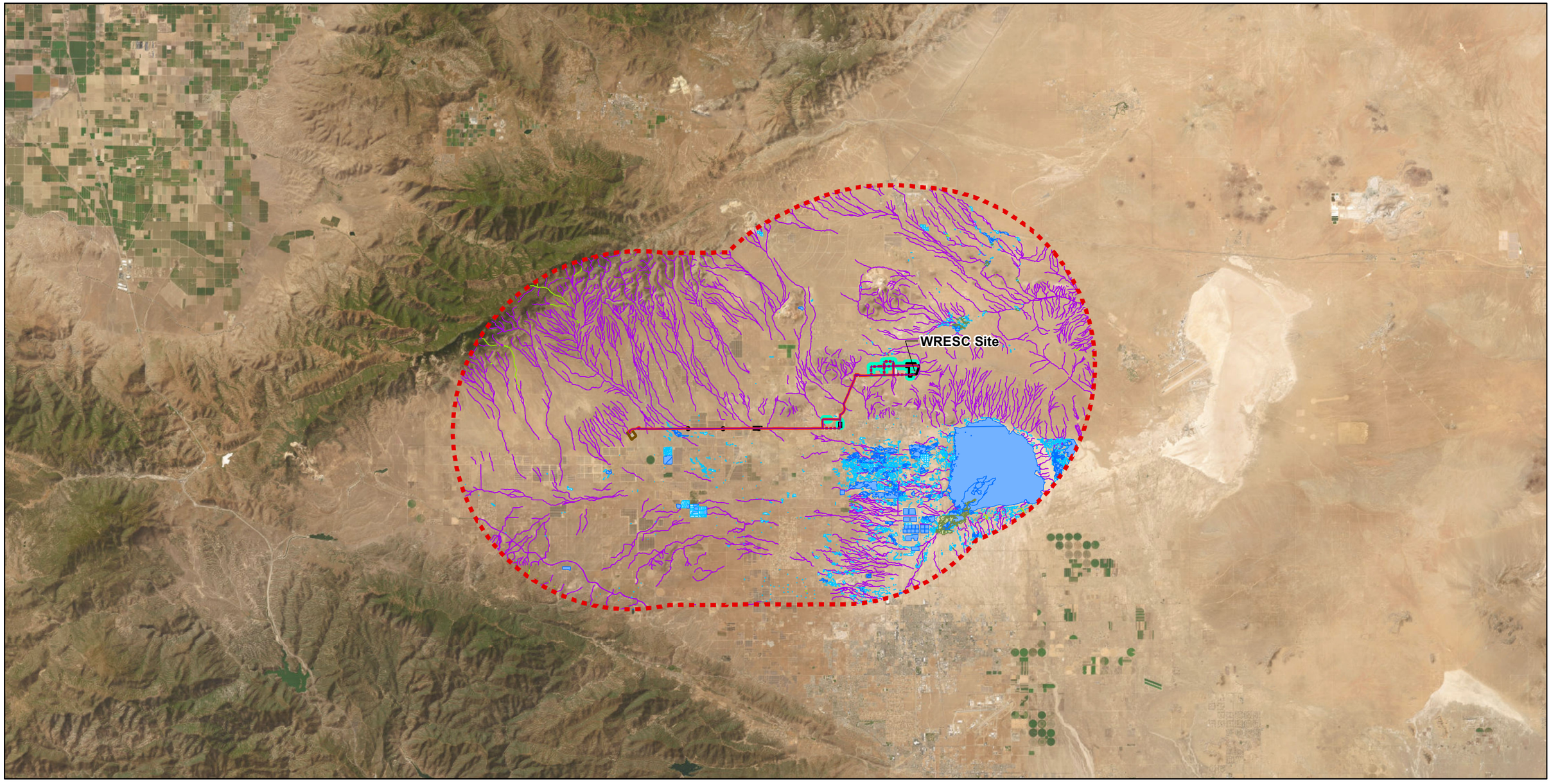


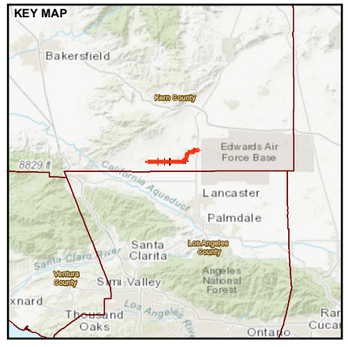
LEGEND

Wetland Type
- Freshwater Emergent Wetland
- Freshwater Forested/Shrub Wetland
- Freshwater Pond
- Lake
- Riverine
- 10 Mile Buffer Around Transmission Line

Proposed Transmission Line
- Preferred Route, Aboveground
- Preferred Route, Underground
- Route Options 1-6, Aboveground
- Route Options 1-6, Underground

Project Components
- WRESC Site
- Other Project Parcels
- No Right of Entry Areas
- Project Boundary
- Project ROW
- 2024 Project Area
- SCE Whirlwind Substation

KEY MAP



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REFERENCE(S)
1. COORDINATE SYSTEM: NAD 1983 STATEPLANE CALIFORNIA V FIPS 0405 FEET
2. MAP SERVICE LAYER CREDITS: SOURCES: ESRI, HERE, GARMIN, INTERMAP, INCREMENT P CORP., GEBCO, USGS, FAO, NPS, NRCAN, GEOBASE, IGN, KADASTER NL, ORDNANCE SURVEY, ESRI JAPAN, METI, ESRI CHINA (HONG KONG), (C) OPENSTREETMAP CONTRIBUTORS, AND THE GIS USER COMMUNITY
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WILLOW ROCK ENERGY STORAGE CENTER
JURISDICTIONAL DELINEATION FOCUSED SURVEY

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TITLE
NATIONAL WETLANDS INVENTORY - 10 MILE BUFFER AROUND TRANSMISSION LINE

PROJECT NO.	PHASE	REV.	FIGURE
31406639.000	01.LBR	1	6

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LEGEND

Soils Map Unit

- Adelanto coarse sandy loam (AcA)
- Adelanto loamy sand (AaB)
- Arizo gravelly loamy sand (AsB)
- Arujo sandy loam (105)
- Cajon loamy sand (114, CaA, CaC)
- Cajon loamy sand, loamy substratum (CbA)
- Cajon sand (113)
- DeStazo sandy loam (125)
- Hesperia fine sandy loam (HkA, HkB)
- Hesperia loam (HnA)
- Hesperia loamy fine sand (HgA)
- Hesperia loamy fine sand, hummocky (HgA2)
- Hi Vista sandy loam (147)
- Mohave coarse sandy loam (MzB)
- Muroc sandy loam (150)
- Porterville cobbly clay (164)
- Rock land (RhF)
- Rock outcrop (170)
- Rosamond clay loam (171)
- Rosamond fine sandy loam (Ro)
- Rosamond loam (Rp)
- Rosamond loamy fine sand, hummocky (Rm2)
- Rosamond loamy fine sand, slightly saline (Rr)
- Rosamond silty clay loam (Rt)
- Rosamond silty clay loam, saline-alkali (Ru)
- Torriorthents-Rock outcrop complex (185)

Proposed Transmission Line

- Preferred Route, Aboveground
- Preferred Route, Underground
- Route Options 1-6, Aboveground
- Route Options 1-6, Underground

Project Components

- WRESC Site
- Other Project Parcels
- No Right of Entry Areas
- Project Boundary
- 2024 Project Area
- SCE Whirlwind Substation
- 500 ft on Either Side of Transmission Line and 1,000 ft Around Project Parcels

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REFERENCE(S)
1. SSURGO - SOILS DATA
2. COORDINATE SYSTEM: NAD 1983 STATEPLANE CALIFORNIA V FIPS 0405 FEET
3. MAP SERVICE LAYER CREDITS: SOURCES: ESRI, HERE, GARMIN, INTERMAP, INCREMENT P

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PROJECT
WILLOW ROCK ENERGY STORAGE CENTER
BIOLOGICAL RESOURCES ASSESSMENT

TITLE
SOILS MAP

PROJECT NO.	PHASE	REV.	FIGURE
31406639.000	01.LBR	1	7

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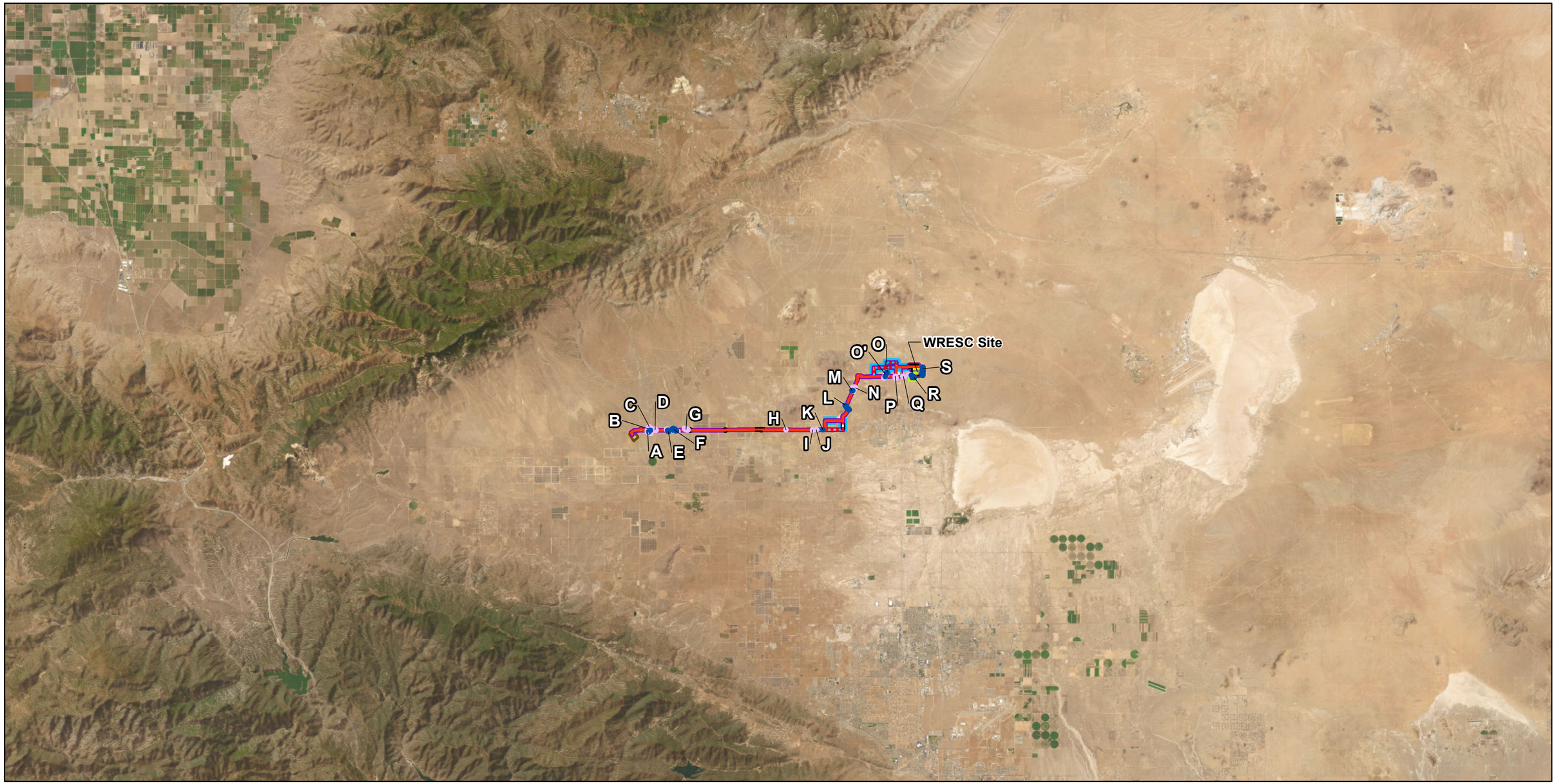


LEGEND

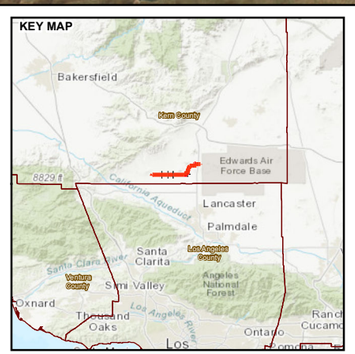
Jurisdictional Drainages
- Mapped in Field
- Delineation as Observed

Proposed Transmission Line
- Preferred Route, Aboveground
- Preferred Route, Underground
- Route Options 1-6, Aboveground
- Route Options 1-6, Underground

Project Components
- WRESC Site
- Other Project Parcels
- No Right of Entry Areas
- Project Boundary
- SCE Whirlwind Substation
- 500 ft Buffer Around Project Parcels and Transmission Line

2024 Project Areas
- Gen-Tie Transmission Line Variances
- P2 North
- P2 South

KEY MAP



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REFERENCE(S)
1. COORDINATE SYSTEM: NAD 1983 STATEPLANE CALIFORNIA V FIPS 0405 FEET
2. MAP SERVICE LAYER CREDITS: SOURCES: ESRI, HERE, GARMIN, INTERMAP, INCREMENT P CORP., GEBCO, USGS, FAO, NPS, NRCAN, GEOBASE, IGN, KADASTER NL, ORDNANCE SURVEY, ESRI JAPAN, METI, ESRI CHINA (HONG KONG), (C) OPENSTREETMAP CONTRIBUTORS, AND THE GIS USER COMMUNITY
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PROJECT
WILLOW ROCK ENERGY STORAGE CENTER
JURISDICTIONAL DELINEATION FOCUSED SURVEY

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TITLE
JURISDICTIONAL WATERS

PROJECT NO.	PHASE	REV.	FIGURE
31406639.000	01.LBR	1	8

IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM: ANSI B

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Appendix B Representative Photographs

Photo 1. Looking north at Allscale Scrub on the northern edge of Rosamond Boulevard.

Photo 2. Looking northwest at Cheesebush Scrub on the northern edge of Rosamond Boulevard.

Photo 3. Looking northeast at Cheesebush Scrub habitat near the intersection of Sierra Highway and Dawn Road.

Photo 4. Looking southwest at Creosote Bush Scrub habitat within the P-2 Additional Workspace Area.

Photo 5. Looking west at a typical Disturbed/Developed area along Rosamond Boulevard between 60th and 65th Street.

Photo 6. Looking east at a typical Needleleaf Rabbitbrush Scrub habitat along the eastern edge Sierra Highway.

Photo 7. Looking southwest at a typical non-native grassland and forbs habitat just south of Rosamond Boulevard and west of Horsethief Trail.

Photo 8. Looking northwest at Rubber Rabbitbrush Scrub habitat along the northern edge of Rosamond Boulevard just west of 76th Street.

Photo 9. Looking northwest at a stand of Tamarisk Thickets along the northern edge of Rosamond Boulevard just west of Tropico Road.

Photo 10. Looking northeast at White Bursage Scrub near the intersection of State Route 14 and Dawn Road.

Appendix C Plant Species Observed

Flora Compendia

GYMNOSPERMS		
Ephedraceae		**Ephedra Family**
Ephedra	*nevadensis*	Nevada ephedra
EUDICOTS		
Apiaceae		**Carrot Family**
Lomatium	*mohavense*	Mojave wild parsely
Asteraceae		**Sunflower Family**
Acamptopappus	*sphaerocephalus* var. *hirtellus*	goldenhead
Ambrosia	*acanthicarpa*	annual burrweed
Ambrosia	*dumosa*	burro weed
Ambrosia	*salsola*	burrobrush
Anisocoma	*acaulis*	scale bud
Calycoseris	*parryi*	yellow tackstem
Chaenactis	*fremontii*	Fremont pincushion
Encelia	*actoni*	Acton encelia
Ericameria	*nauseosa*	rubber rabbitbrush
Ericameria	*teretifolia*	green rabbitbrush
Eriophyllum	*pringlei*	Pringle eriophyllum
Eriophyllum	*wallacei*	Wallace eriophyllum
Gutierrezia	*sarothrae*	matchweed
Helianthus	*annuus*	hairy-eaved sunflower
Lasthenia	*gracilis*	needle goldfields
Layia	*glandulosa*	white layia
Leptosyne	*bigelovii*	Bigelow coreopsis
Lessingia	*glandulifera* var. *glandulifera*	valley vinegar weed
Logfia	*filaginoides*	California cottonrose
Malacothrix	*coulteri*	snake's head
Malacothrix	*glabrata*	desert dandelion
Stephanomeria	*exigua*	small wirelettuce
Stephanomeria	*parryi*	Parry's wirelettuce
Stephanomeria	*pauciflora*	brown plume wirelettuce
Tetradymia	*axillaris* var. *longispina*	catclaw horsebrush
Tetradymia	*stenolepis*	narrow scaled felt thorn
Xylorhiza	*tortifolia*	Mojave woodyaster
Boraginaceae		**Borage Family**
Amsinckia	*tessellata*	Devil's lettuce
Cryptantha	*micrantha*	purple root cryptantha
Cryptantha	*pterocarya*	winged nut forget me not
Pectocarya	*penicillata*	winged pectocarya
Pectocarya	*setosa*	moth combseed
Plagiobothrys	*arizonicus*	Arizona popcorn flower
Brassicaceae		**Mustard Family**
Caulanthus	*lasiophyllus*	California mustard
Descurainia	*pinnata*	yellow tansy mustard
Hirschfeldia	*incana*	short-podded mustard
Lepidium	*fremontii*	desert pepper grass
Sisymbrium	*irio*	London rocket
Sisymbrium	*orientale*	Indian hedge mustard
Cactaceae		**Cactus Family**
Cylindropuntia	*echinocarpa*	silver cholla

Opuntia	*basilaris* var. *basilaris*	beavertail
Caryophyllaceae		**Pink Family**
Eremogone	*macradenia* var. *macradenia*	desert sandwort
Loeflingia	*squarrosa* var. *squarrosa*	spreading loeflingia
Chenopodiaceae		**Goosefoot Family**
Atriplex	*canescens*	hoary saltbush
Atriplex	*confertifolia*	spiny saltbush
Grayia	*spinosa*	hopsage
Krascheninnikovia	*lanata*	winter fat
Salsola	*tragus*	Russian thistle *
Convolvulaceae		**Morning-Glory Family**
Cuscuta	sp.	Unknown dodder species
Cucurbitaceae		**Gourd Family**
Brandegea	*bigelovii*	brandegea
Marah	*macrocarpa*	chilicothe
Euphorbiaceae		**Spurge Family**
Croton	*setiger*	dove weed
Euphorbia	*albomarginata*	rattlesnake sandmat
Euphorbia	*polycarpa*	smallseed sandmat
Stillingia	*linearifolia*	narrow leaved stillingia
Fabaceae		**Legume Family**
Astragalus	*didymocarpus* var. *didymocarpus*	common dwarf milkvetch
Astragalus	*layneae*	Layne's milkvetch
Astragalus	*lentiginosus*	freckled milkvetch
Melilotus	*albus*	white sweetclover
Geraniaceae		**Geranium Family**
Erodium	*cicutarium*	red stemmed filaree
Hydrophyllaceae		**Water-leaf Family**
Phacelia	*distans*	fern-leaf phacelia
Phacelia	*tanacetifolia*	tansy leafed phacelia
Lamiaceae		**Mint Family**
Monardella	*exilis*	Mojave monardella
Salvia	*carduacea*	thistle sage
Salvia	*columbariae*	chia sage
Loasaceae		**Loasa Family**
Mentzelia	*albicaulis*	white stemmed blazing star
Malvaceae		**Mallow Family**
Eremalche	*exilis*	white mallow
Sphaeralcea	*ambigua*	apricot mallow
Namaceae		**Fiddleleaf Family**
Nama	*demissa*	purplemat
Nyctaginaceae		**Four O'Clock Family**
Abronia	*pogonantha*	Mojave sand verbena
Mirabilis	*laevis*	desert wishbone bush
Onagraceae		**Evening Primrose Family**
Camissonia	*campestris* ssp. *campestris*	field sun cup
Chylismia	*claviformis* ssp. *claviformis*	browneyes
Camissonia	*sp.*	unknown sun cup sp.
Eremothera	*boothii* ssp. *desertorum*	Booth's sun cup
Oenothera	*primiveris*	yellow desert evening-primrose
Orobanchaceae		**Broomrape Family**
Castilleja	*exserta* ssp. *venusta*	purple owl's clover
Papaveraceae		**Poppy Family**
Eschscholzia	*californica*	California poppy
Eschscholzia	*minutiflora*	pygmy poppy

Platystemon	*californicus*	cream cups
Polemoniaceae		**Phlox Family**
Allophyllum	*glutinosum*	sticky false gilia
Eriastrum	*densifolium* ssp. *mohavense*	*perennial woollystar*
Eriastrum	*eremicum*	desert woollystar
Eriastrum	*sapphirinum*	sapphire eriastrum
Gilia	*latiflora*	broad flowered gilia
Linanthus	*parryae*	Parry's linanthus
Loeseliastrum	*matthewsii*	desert calico
Loeseliastrum	*schottii*	Schott gilia
Polygonaceae		**Buckwheat Family**
Centrostegia	*thurberi*	Thurber spiny herb
Chorizanthe	*watsonii*	Watson's spineflower
Eriogonum	*brachyanthum*	yellow buckwheat
Eriogonum	*fasciculatum*	California buckwheat
Eriogonum	*gracilimum*	rose and white buckwheat
Eriogonum	*maculatum*	spotted buckwheat
Eriogonum	*mohavense*	western Mojave buckwheat
Eriogonum	*nidularium*	whisk broom
Eriogonum	*plumatella*	flat-topped buckwheat
Eriogonum	*pusillum*	yellow turban
Eriogonum	*trichopes*	little desert trumpet
Eriogonum	*viridescens*	bright green buckwheat
Mucronea	*perfoliata*	perfoliate spineflower
Rumex	*crispus*	curly dock
Solanaceae		**Nightshade Family**
Datura	*wrightii*	Jimson weed
Lycium	*andersonii*	Anderson thornbush
Lycium	*cooperi*	Cooper's boxthorn
Zygophyllaceae		**Caltrop Family**
Larrea	*tridentata*	creosote bush

MONOCOTS		
Agavaceae		**Agave Family**
Yucca	*brevifolia*	Joshua tree
Alliaceae		**Onion Family**
Allium	*fimbriatum*	fringed onion
Liliaceae		**Lily Family**
Calochortus	*striatus*	alkali mariposa lily
Poaceae		**Grass Family**
Aristida	*adscensionis*	three-awn
Bromus	*diandrus*	ripgut brome*
Bromus	*madritensis*	foxtail brome*
Bromus	*tectorum*	downy chess*
Dasyochloa	*pulchella*	low woollygrass
Elymus	*elymoides*	squirrel tail grass
Hilaria	*rigida*	big galleta
Hordeum	*murinum*	foxtail barley
Schismus	*barbatus*	Mediterranean grass
Stipa	*hymenoides*	Indian rice grass
Stipa	*speciosa*	desert needle grass

Appendix D Wildlife Species Observed

Fauna Compendium

Lycaenidae		**Blues and Hairstreaks**
Brephidium	*exilis*	pygmy blue
Tabanidae		**Horse Flies**
Tabanus	*punctifer*	western horse fly
Anthophoridae		**Digger Bees**
Anthophora	*urbana*	digger bees
Apidae		**Honey Bees, Bumble Bees and Allies**
Apis	*mellifera*	western honey bee
Bombus	*vosnesenskii*	yellow-faced bumble bee
Bombus	*crotchii*	Crotch's bumble bee
Crotaphytidae		**Collared and Leopard Lizards**
Gambelia	*wislizenii wislizenii*	long-nosed leopard lizard
Phrynosomatidae		**Lizards**
Callisaurus	*draconoides rhodostictus*	western zebra-tailed lizard
Sceloporus	*magister uniformis*	yellow-backed spiny lizard
Uta	*stansburiana elegans*	western side-blotched lizard
Teiidae		**Whiptails**
Aspidoscelis	*tigris tigris*	Great Basin whiptail
Xantusiidae		**Night Lizards**
Xantusia	*vigilis*	desert night lizard
Colubridae		**Egg-laying snakes**
Pituophis	*catenifer deserticola*	Great Basin gophersnake
Masticophis	*flagellum piceus*	red coachwhip
Viperidae		**Vipers**
Crotalus	*scutulatus scutulatus*	Northern Mojave green rattlesnake
Odontophoridae		**New World Quail**
Callipepla	*californica*	California quail
Cathartidae		**Vultures**
Cathartes	*aura*	turkey vulture
Accipitridae		**Hawks**
Circus	*hudsonius*	northern harrier
Buteo	*swainsoni*	Swainson's hawk*
Buteo	*jamaicensis*	red-tailed hawk
Buteo	*regalis*	ferruginous hawk (5-mile buffer)
Picidae		**Woodpeckers and Allies**
Dryobates	*scalaris*	ladder-backed woodpecker
Falconidae		**Falcons**
Falco	*sparverius*	American kestrel
Falco	*mexicanus*	prairie falcon
Columbidae		**Pigeons/Doves**
Columba	*livia*	rock pigeon
Streptopelia	*decaocto*	Eurasian collared-dove
Zenaida	*macroura*	mourning dove

Fauna Compendium

Cuculidae		**Cuckoos, Roadrunners, and Allies**
Geococcyx	*californianus*	greater roadrunner
Ardeidae		Herons, Bitterns, and Allies
Ardea	*alba*	great egret (5-mile buffer)
Egretta	*thula*	snowy egret (5-mile buffer)
Threskiornithidae		Ibises and Spoonbills
Plegadis	*chihi*	white-faced ibis
Strigidae		**True Owls**
Athene	*cunicularia*	burrowing owl**
Bubo	*viiginianus*	great horned owl (5-mile buffer)
Tyrannidae		**Flycatchers**
Myiarchus	*cinerascens*	ash-throated flycatcher
Tyrannus	*verticalis*	western kingbird
Sayornis	*saya*	Say’s phoebe
Laniidae		**Shrikes**
Lanius	*ludovicianus*	loggerhead shrike
Corvidae		**Jays/Crows**
Corvus	*corax*	common raven
Alaudidae		**Larks**
Eremophila	*alpestris*	horned lark
Hirundinidae		**Swallows**
Hirundo	*rustica*	barn swallow
Polioptilidae		**Gnatcatchers and Gnatwrens**
Polioptila	*caerulea*	blue-gray gnatcatcher
Troglodytidae		**Wrens**
Campylorhynchus	*brunneicapillus*	cactus wren
Mimidae		**Mockingbirds/Thrashers**
Mimus	*polyglottos*	northern mockingbird
Toxostoma	*lecontei*	Le Conte's thrasher
Sturnidae		**Starlings**
Sturnus	*vulgaris*	European starling
Icteridae		**Blackbirds**
Sturnella	*neglecta*	western meadowlark
Euphagus	*cyanocephalus*	Brewer’s blackbird
Icterus	*cucullatus*	hooded oriole
Parulidae		**New world warblers**
Setophaga	*coronata*	yellow-rumped warbler (wintering)
Wilsonia	*pusilla*	Wilson's warbler (migrant)
Emberizidae		**Warblers, sparrow, etc.**
Amphispiza	*bilineata*	black-throated sparrow
Spizella	*breweri*	brewer's sparrow
Zonotrichia	*leucophrys*	white-crowned sparrow (wintering)
Artemisiospiza	*belli canescens*	sage sparrow
Passerculus	*sandwichensis*	savannah sparrow (wintering)
Fringillidae		**Finches**
Haemorhous	*mexicanus*	house finch
Passeridae		**True sparrows**
Passer	*domesticus*	house sparrow

Fauna Compendium

Cardinalidae		**Cardinals and Allies**
Piranga	*rubra*	summer tanager (migrant)
Leporidae		**Hares and Rabbits**
Lepus	*californicus*	black-tailed jackrabbit
Sylvilagus	*audubonii*	desert cottontail
Sciuridae		**Squirrels**
Ammospermophilu	*leucurus*	white-tailed antelope squirrel
Otospermophilus	*beecheyi*	California ground squirrel
Xerospermophilus	*tereticaudus*	round-tailed ground squirrel
Muridae		**Mice, Rats, and Voles**
Neotoma	*lepida*	desert woodrat
Heteromyidae		**Pocket Mice and Kangaroo Rats**
Dipodomys	*merriami*	Merriam's kangaroo rat
Canidae		**Wolves and Foxes**
Canis	*familiaris*	domestic dog
Canis	*latrans*	coyote
Vulpes	*velox*	kit fox
Felidae		**Cats**
Lynx	*rufus*	bobcat
Bovidae		**Bison, Goats, and Sheep**
Ovis	*aries*	domestic sheep

* No nests observed on-site
** in BUOW buffer