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WILLOW ROCK ENERGY STORAGE PROJECT

BIOLOGICAL RESOURCES ASSESSMENT REPORT

WILLOW SPRINGS, KERN COUNTY, CALIFORNIA

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1.0 INTRODUCTION

WSP USA Environment & Infrastructure Inc. (WSP) was contracted by GEM A-CAES LLC (GEM, the Applicant) to prepare a Biological Resources Assessment Report (BRAR) at the site of the proposed Willow Rock Energy Storage (WRESC) in the unincorporated community of Ansel, Kern County, California, to support the preparation of the California Energy Commission's (CEC) Application for Certification. This BRAR provides the background, methods, results, and a discussion of the special status biological resources that are known to occur in vicinity of the project. All figures referenced in this report are provided in Appendix A attached to this report.

WSP was tasked with conducting a literature review, conducting an onsite reconnaissance-level biological resource survey and sensitive species habitat assessment. Following the habitat assessment, WSP was also tasked with conducting protocol-level surveys for Mohave ground squirrel (*Xerospermophilus mohavensis*), Crotch's bumble bee (*Bombus Crotchii*), burrowing owl (*Athene cunicularia*), desert tortoise (*Gopherus agassizii*), Swainson's hawk (*Buteo swainsoni*), and rare plants. In addition, a western Joshua tree census and a jurisdictional delineation were also completed. Stand-alone technical documents were prepared for each survey type and are summarized in this BRAR.

1.1 Project Location and Topography

The WRESC will be located on private property in and around the rural community of Ansel, just north of State Route (SR) 138, south of SR 58, east of Highway 14, and west of Edwards Air Force Base (**Figure 1**). The WRESC site includes two additional workspaces and one optional workspace. A generation-tie (gen-tie) line will connect the energy storage facility to the Southern California Edison (SCE) Whirlwind Substation along existing road ROWs, including Dawn Road, Mojave Tropico Road, Felsite Avenue, W 65th Street, and Rosamond Boulevard. The gen-tie line will also include several variances connecting the WRESC to the Dawn Road ROW.

The WRESC will be located on the 7.5-minute Soledad Mountain, California, U.S. Geological Survey (USGS) topographic quadrangle (topo quad). The gen-tie line route and variances are on the Soledad Mountain, Rosamond, Fairmont Butte, and Little Buttes topo quads. The project site is located within portions of Sections 31, 32, and 33 of Township 10 North and Range 12 West; portions of Sections 36 of Township 10 North and Range 13 West; portions of Sections 1, 2, 11, 14, 15, 16, 17, and 18 of Township 9 North and Range 13 West; portions of Sections 13, 14, 15, 16, 17, and 18 of Township 9 North and Range 14 West; and portions of Sections 13, 14, and 23 of Township 9 North and Range 15 West (**Figure 2**).

Topography in the project site slopes from northwest to southeast with flat areas in the southern portions and gently rolling hills in the central portion of the project site. Elevations range from approximately 2,400 feet (732 meters) in the southeast corner of the gen-tie line at the corner of Rosamond Boulevard and 65th Street W to 2,720 feet (830 meters) along Dawn Road, just south of an existing water tank facility (**Figure 3**).

1.2 Project Description

The proposed project includes the development of an energy storage facility (approximately 88 acres) and approximately 19 miles (287 acres) of electrical gen-tie line right-of-way (ROW) connecting to the existing SCE Whirlwind Substation. The total area, including the energy storage facility, gen-tie lines, and their corridor (125-foot buffer), is approximately 375 acres and will be herein collectively referred to as the "project site" unless otherwise specified. In general, GEM proposes to construct and operate a 500-megawatt (MW) advanced compressed air energy storage (A-CAES) facility deploying proprietary A-CAES technology. The site will be designed to store 500 MW for up to 14 hours and deliver up to 4,000 megawatt hours (MWh) over an 8-hour period when discharging.

2.0 REGULATORY FRAMEWORK

2.1 Federal

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 is 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 site 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. For a list of avian species protected under the MBTA, please refer to (Federal Register: General Provisions; Revised List of Migratory Birds).

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 **(NEPA)** (42 U.S.C. 4321-4347, 1982) as Amended – Portions of the project site could fall under the jurisdiction of a federal agency (i.e., U.S. Army Corps of Engineers [USACE]). NEPA 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/of 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 U.S.C. 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" (WUS). The USACE has created a series of nationwide permits that authorize certain activities within WUS, 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.

Burau 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.

2.2 State of California

***California Endangered Species Act* (CESA)** – This legislation 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**) – The basic goal of CEQA is to retain a high-quality environment now and in the future. The specific goals are for California's public agencies to:

- Identify the significant environmental effects of their actions; and, either
- Avoid those significant environmental effects, where feasible; or
- Mitigate those significant environmental effects, where feasible.

CEQA applies to "projects" proposed to be undertaken or requiring approval by State and/or local governmental agencies. 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:

- 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 (EIR) if it finds "significant" impacts.

While there is no ironclad definition of "significance," Article 5 of the CEQA Guidelines provides criteria to lead agencies for determining whether a project may have significant effects.

The purpose of an EIR is to provide State and local agencies and the public with detailed information on the potentially significant environmental effects that a proposed project is likely to have and to provide ways that those effects may be minimized and indicate alternatives to the project.

CEC Significance Criteria for Application for Certification – The CEC significance criteria for Application for Certification closely mirrors CEQA significance criteria. Significant biological impacts resulting from the proposed project were assessed for the following criteria:

- Endangered, Threatened, Candidate, Sensitive, or Special Status Species
- Sensitive Natural Communities
- Protected Drainage Features and Wetlands
- Native Wildlife Corridors or Wildlife Nursery Sites
- Tree Preservation Policy or Ordinance
- Adopted Habitat Conservation Plan, Natural Community Conservation Plan
- Threaten to Eliminate a Plant or Animal Community

Section 2081 of the State Fish and Game Code – Under Section 2081 of the California Fish and Game Code, 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 State Fish and Game Code 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.

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.

Natural Community Conservation Planning (NCCP) Program – An NCCP, 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 planning 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 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 provides an avenue for fostering economic growth by allowing approved development in areas with lower conservation value. The project site is not in a proposed NCCP.

Western Joshua Tree Preservation Act (WJTCA) – The WJTCA, enacted in July 2023, is designed to safeguard the western Joshua tree (*Yucca brevifolia*) 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 mitigation 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.

3.0 METHODS

3.1 Literature Review and Records Search

Prior to the field surveys, a literature search was conducted to identify special status biological resources known from the vicinity of the project site. 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 Site.

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

- California Natural Diversity Data Base (CNDDB) RareFind 5 (CDFW 2024a) included the following topo quads: Cummings Mountain, Tehachapi South, Monolith, Mojave, Sanborn, Liebre twins, Tylerhorse Canyon, Willow Springs, Soledad Mountain, Bissell, Neenach School, Fairmont Butte, Little Buttes, Rosamond, Rosamond Lake, Burnt Peak, Lake Hughes, Del Sur, Lancaster West, and Lancaster East
- Special Animals List (CDFW 2024b)
- California Native Plant Society's (CNPS) Inventory of Rare, Threatened, and Endangered Plants of California (CNPS 2024)
- United States Department of Agriculture (USDA), Natural Resources Conservation Service (NRCS). 2023a. Web Soil Survey
- USGS 7.5' *Soledad Mountain, Rosamond, Fairmont Butte,* and *Little Buttes* Quadrangles (USGS 1973, 1996, 2018, 2021)
- iNaturalist
- Aerial photographs
- Pertinent documents from the WSP library and project files (e.g., other biological surveys from the general vicinity) and the collective knowledge of WSP biologists.

Scientific nomenclature for this document follows standard reference sources: for plant communities, A Manual of California Vegetation, 2nd. Ed. (Sawyer et. al. 2009); for flora, Jepson eFlora (2024) and the USDA NRCS PLANTS Database (2023b); for amphibians, reptiles, and mammals, CDFW (2016); and for birds, California Bird Records Committee (2023).

3.2 Biological Resources Assessment

In order to understand the biological resources present or potentially present within the Project Site, WSP's biologist performed a standard reconnaissance-level survey, as well as protocol-level surveys, within accessible portions of the project site for Swainson's hawk, desert tortoise, burrowing owl, and sensitive plants, as well as a Western Joshua Tree Census. Protocol surveys were also conducted for Crotch's bumble bee and Mohave ground squirrel surveys, as well as a jurisdictional delineation within selective portions and accessible areas within the project site. During the reconnaissance-level surveys, suitable habitat areas were identified for future protocol-level surveys for threatened and endangered plant and wildlife species as well as surveys to determine the limits of jurisdictional WUS and waters of the State (WSC). All biological surveys and resource assessments were performed according to current protocols and guidelines for biological surveys and reporting, with a few exceptions. **Table 1** defines the characteristics of the biological surveys conducted. The results of each of these surveys are described below in Section 4.0.

Table 1: Biological Surveys Conducted

Survey	Survey Target or Purpose	Date	Biologists	Project Site [a] Parameters	Gen-Tie Line Alignment Project Site [b] Parameters
Reconnaissance Surveys					
Reconnaissance Survey	Biological Survey	March 28, 2023, through October 6, 2023	Scott Crawford, Nathan Moorhatch, Marshall Paymard	Project site and 1,000-foot buffer	Gen-tie line alignment and 500-foot buffer
Reconnaissance Survey	Vegetation Mapping	March 28, 2023, through October 6, 2023	Scott Crawford, Nathan Moorhatch, Marshall Paymard	Project site and 1,000-foot buffer	Gen-tie line alignment and 500-foot buffer
Protocol-Level Surveys					
Protocol-Level Survey	Swainson's Hawk	March 28, 30, 31, April 3, 5, 19, 24, 26, May 9, 10, 12, 22, 23, June 8, 2023	Nathan Moorhatch, Dale Hameister, Melanie Bukovac, Phil Clevinger, Scott Crawford, Emily Urquidi, and Alegria Garcia,	Project site and 0.5-mile buffer	Gen-tie line alignment and a half-mile buffer

Survey	Survey Target or Purpose	Date	Biologists	Project Site [a] Parameters	Gen-Tie Line Alignment Project Site [b] Parameters
Protocol-Level Survey	Burrowing Owl	April 18, 19, 25, 26, 27, May 10, 11, 23, June 7, 21, 22, 23, and July 5, 26 2023	Nathan Moorhatch, Melanie Bukovac, Phil Clevinger, Scott Crawford, Emily Urquidi, Tim Chumley, John Green, Ciara Shirey, Alex Kerr, Kyralai Duppel, and Liz Diaz,	Project site and 500-foot buffer	Gen-tie line alignment and 500-foot buffer
Protocol-Level Survey	Rare Plants	April 18, 19, 25, 26, 27, May 10, 11, 23, June 7, 21, 22, 23, and July 5, 26 2023	Nathan Moorhatch, Melanie Bukovac, Phil Clevinger, Scott Crawford, Emily Urquidi, Tim Chumley, John Green, Ciara Shirey, Alex Kerr, Kyralai Duppel, and Liz Diaz,	Project site and 500-foot buffer	Gen-tie line alignment and 500-foot buffer
Protocol-Level Survey	Desert Tortoise	April 18, 19, 25, 26, 27, May 10, 11, 23, June 7, 21, 22, 23, and July 5, 26 2023	Nathan Moorhatch, Melanie Bukovac, Phil Clevinger, Scott Crawford, Emily Urquidi, Tim Chumley, John Green, Ciara Shirey, Alex Kerr, Kyralai Duppel, and Liz Diaz	Project site and 500-foot buffer	Gen-tie line alignment and 500-foot buffer
Protocol-Level Survey	Crotch's Bumble Bee	April 25, 26, May 10, June 8, 2023	Nathan Moorhatch, Melanie Bukovac, Phil Clevinger, Scott Crawford, Emily Urquidi,	Project site only	Gen-tie line alignment only
Protocol-Level Survey	Mohave Ground Squirrel	Between March 15th and July 15th, 2023	Steven Chen, Corey Chan, Dalton Stanfield, and Kyle Tabor	Project site only	Gen-tie line alignment only
Preliminary Hydrological Delineation	Jurisdictional Waters	October 3, 4, 5, and 6, 2023	Scott Crawford, Marshall Paymard	Project site only	Gen-tie line alignment only

Note(s): All biological surveys were conducted by WSP and Aardvark Biological Services, LLC (WSP 2023a–g; Aardvark 2023).
[a] Project site includes the WRESC and associated workspace areas.
[b] Gen-tie line alignment includes the Preferred Gen-Tie Route and variances

3.2.1 Reconnaissance-Level Surveys

Vegetation Mapping. Vegetation mapping was conducted to determine the vegetation communities and habitat suitability for special status and listed species within and near the project site. Mapping was completed following the National Vegetation Classification System per the Manual of California Vegetation (MCV), Second Edition (Sawyer et al. 2009). Biologist drove accessible portions of the project site and accessed areas as needed on foot. Esri ArcGIS Collector 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 MCV, Holland's Preliminary Descriptions of the Terrestrial Natural Communities of California was used (Holland 1986). Onsite 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 2023), 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 site 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.

Biological Survey. The field assessment was conducted between March 28 and October 6, 2023 by WSP Senior Wildlife Biologists Nathan Moorhatch, Scott Crawford, and Marshall Paymard. Onsite suitable habitat was assessed based on the presence of constituent habitat elements (e.g., soils, vegetation, and topography) characteristic of the potentially occurring special status biological resources identified during the literature review.

The project site (where accessible) were assessed on foot to record pertinent field data and current site conditions. Adjacent undeveloped areas within a 1,000-foot (305-meter) buffer of the project site and a 500-foot (152-meter) buffer along the gen-tie line alignment that were unfenced and unsigned (i.e., not posted with "No Trespassing" and/or "Private Property") were also assessed. Inaccessible areas were scanned for suitable habitat for sensitive plant and wildlife species with binoculars. All onsite flora and fauna observed or otherwise detected (e.g., vocalizations, presence of scat, tracks, and/or bones) during the assessment were recorded in field notes and are included in Appendices C and D. General weather and site conditions were also recorded at the beginning and end of the survey. Temperatures and wind speeds were recorded with a handheld Kestrel 2000 anemometer. Percent cloud cover was visually estimated.

The purpose of the biological surveys was to determine the potential for special status plant and wildlife species to occur within the project site and immediately surrounding area (within 1,000 feet [305 meters] of the WRESC site and 500 feet [152 meters] of the gen-tie line alignment). The

potential to occur within the project site was based on two specific metrics: the sensitive species key habitat components and the distance from known recorded occurrences. Federally and state-listed threatened and endangered plant and wildlife species that have a potential to occur, required protocol-level surveys to determine presence/absence. Other non-listed sensitive species, such as burrowing owl, will require surveys if they have a moderate to high potential to occur within the project site. **Table 8,** below, lists the potential for occurrence of the sensitive plant and wildlife species identified during the literature review. Species identified as occurring within the project site, were previously recorded to occur and are not a result of the protocol-level surveys. Species with a high potential to occur were previously recorded in similar habitat in region (typically within 3 miles [4.8 kilometers]) by qualified biologists and habitat on the site is a type often utilized by the species and the site is within the known range of the species. Species with a moderate potential to occur do not have reported sightings in surrounding region, but the project site is within the known range of the species, and similar habitat occurs within the project site. Species with a low potential to occur have a recorded occurrence within the vicinity of the project site, but the key habitat components for this species are lacking. A species is considered absent, if there are no recorded occurrences within the vicinity of the project and there is no suitable habitat is present.

Jurisdictional Wetland Delineation. Field surveys were conducted by WSP Senior Biologists Scott Crawford and Marshall Paymard on October 3, 4, 5, and 6, 2023. All drainage features within the project site identified during the literature review (National Wetland Inventory [NWI] and National Hydrography Dataset [NHD] Data) as potentially jurisdictional features were walked to determine if the flows associated with the study area meet the minimum criteria to be considered jurisdictional by the USACE, CDFW and the Regional Water Quality Control Board (RWQCB). Visual observations of vegetation types, changes in hydrology, soil, and culvert locations were used to locate areas for evaluation.

USACE-regulated WUS, including wetlands, and RWQCB WSC were delineated according to the methods outlined in A Field Guide to the Identification of the Ordinary High-Water Mark (OHWM) in the Arid West Region of the Western United States (USACE 2008a). The extent of WUS was determined based on indicators of an OHWM. The OHWM width was measured at points wherever clear changes in width occurred.

Potential federally regulated wetlands were identified based on the Wetlands Delineation Manual (USACE 1987) and Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Arid West Region (USACE 2008b). Additional data were recorded to determine if an area fulfilled the wetland criteria parameters. Three criteria must be fulfilled to classify an area as a wetland under the jurisdiction of the USACE: 1) a predominance of hydrophytic vegetation, 2) the presence of hydric soils, and 3) the presence of wetland hydrology.

RWQCB jurisdictional areas identified as WSC were determined by measuring the lateral extent of the OHWM indicators. OHWM was indicated by shelving, changes in sediment texture, and changes in vegetation.

CDFW jurisdictional streambed was defined from measuring the lateral extent of the top of banks, extending to the dripline of associated riparian vegetation, if present.

Surveys began at the upstream portion of the features and continued downstream to determine if flows met the regulatory agency minimum criteria to be considered jurisdictional. If absent, the drainage feature was labeled as non-jurisdictional. If present, the drainage features was considered jurisdictional. The delineator stopped periodically if there was any change in vegetation, soils, or hydrology. Were jurisdictional features were present, soil pits were dug to identified the presence of hydric soils. Data were collected utilizing the Esri Field Maps Application and soils color was identified by using the standard Munsell color chart.

3.2.2 Protocol-Level Surveys

Swainson's Hawk Survey. Swainson's hawk observations appear in literature review records detailing multiyear Swainson's hawk nesting activity within 10 miles of the project site. Therefore, surveys were conducted with a 0.5-mile (805-meter) buffer of the project site. Following CDFW protocols, the optional nest identification survey was conducted within 0.5 mile (805-meter) of the project site. **Table 2** presents the Swainson's hawk survey period dates. Nest surveys were completed on March 28, 30, and 31, 2023 as part of Survey Period I. Survey Periods II, III, and IV require three separate surveys for each period. The project site was covered in one to two days, based on the number of biologists and area covered. These individual survey days are represented by a different gray shaded area below.

Table 2: Swainson's Hawk Survey Dates for WRESC Site

Survey Date	Survey Period I	Survey Period II	Survey Period III	Survey Period IV
March 28, 2021	X	--	--	--
March 30, 2023	X	--	--	--
March 31, 2023	X	--	--	--
April 3, 2023	--	X	--	--
April 5, 2023	--	X	--	--
April 19, 2023	--	X	--	--
April 24, 2023	--	X	--	--
April 26, 2023	--	X	--	--
May 9, 2023	--	--	X	
May 10, 2023	--	--	X	
May 12, 2023	--	--	X	

Survey Date	Survey Period I	Survey Period II	Survey Period III	Survey Period IV
May 22, 2023	--	--	X	
May 23, 2023	--	--	X	
June 8, 2023	--	--		X
June 20, 2023	--	--		X
June 26, 2023	--	--		X

Source: WSP 2023e
Notes:
--= Survey not performed
X= Survey performed

The survey methods generally followed the latest accepted CDFW Swainson's hawk protocol specifically referencing Kern County (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).
- Survey Period II: Surveys targeting initial occupancy of traditional nest territories and nesting behaviors.
- Survey Period III: Direct monitoring of known/identified active nests to confirm incubation.
- Survey Period IV: Direct monitoring of known/identified active nests to confirm young rearing.

Burrowing Owl Survey. Since suitable burrowing owl habitat was observed onsite and the species is known to occur in the area, a focused burrowing owl survey became required per CDFW guidelines. No surveys were conducted within five days following a rain event. **Table 3** presents the survey dates and during the burrowing owl survey.

Table 3: Burrowing Owl Survey Dates and Personnel for WRESC Site

Dates	Pass	Field Personnel
April 18, 2023	1	Scott Crawford, Melanie Bukovac
April 19, 2023	1	Scott Crawford, Melanie Bukovac, Emily Urquidi, Phil Clevinger
April 25, 2023	1	Nathan Moorhatch, Scott Crawford, Liz Diaz, and Kyralai Duppel
April 26, 2023	1	Nathan Moorhatch, Scott Crawford, Melanie Bukovac, Liz Diaz, and Kyralai Duppel, Alexa Kerr

Dates	Pass	Field Personnel
April 27, 2023	1	Nathan Moorhatch, Scott Crawford, Melanie Bukovac, Liz Diaz, and Kyralai Duppel, Alexa Kerr
May 10, 2023	2	Melanie Bukovac, Scott Crawford, Nathan Moorhatch, Ciarra Shirey, and Phil Clevinger
May 11, 2023	2	Melanie Bukovac, Scott Crawford, Nathan Moorhatch, Ciara Shirey
May 23, 2023	2	Melanie Bukovac, Nathan Moorhatch
June 7, 2023	3	Nathan Moorhatch
June 21, 2023	3	Nathan Moorhatch, John Green,
June 22, 2023	3	Nathan Moorhatch, John Green, Melanie Bukovac, Scott Crawford
June 23, 2023	3	Nathan Moorhatch, John Green, Melanie Bukovac, Scott Crawford
July 5, 2023	4	Nathan Moorhatch, Tim Chumley
July 27, 2023	4	Nathan Moorhatch

Source: WSP 2023d

The survey methods followed the latest accepted CDFW burrowing owl protocol, with a few exceptions. The applied methods were in alignment with the most recently acceptable protocols (CDFW 2012). CDFW protocol stipulates those four visits constitute a complete suite of focused burrowing owl surveys (Survey Pass 1 through 4), with the first occurring between February 15 and April 15 and the remaining three to occur at least three weeks apart so that the last occurs between June 15 and July 15. However, during the 2023 protocol surveys, there was a prolonged winter rain season. This required a variance to the standard. Changes to the protocol include conducting the first survey after the April 15 deadline under Survey Pass 1. The first day available to complete the initial first pass of the protocol survey was April 18, which was three days beyond the survey window (February 15 to April 15). Secondly, the spacing of some of the surveys was within the 3-week minimum spacing. This was discussed and approved by CDFW during surveys. The four surveys were conducted within the peak breeding season based on weather conditions. Therefore, the confidence level that these surveys accurately captured burrowing owl presence/ absence is high.

WSP biologists walked a maximum of 100-foot (30-meter)-wide belt transects within the project site to provide 100 percent visual coverage within the project site. While walking the transects, biologists specifically searched for burrowing owl, burrowing owl sign (i.e., pellets, whitewash,

feathers, tracks, nest decorations) and 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. 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 site, while subsequent survey passes focused only on areas known to have suitable burrows that resulted from survey pass 1, which also served as the burrow survey.

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 includes 100 percent cover of the project site and are terrestrial in nature (**Figure 3**). Although typical desert tortoise surveys are typically walked at an average of 1 and 2 miles per hour (mph), the average pace of the surveys was reduced to 0.5 mph to accommodate both sensitive plants and burrowing owl burrows 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. **Table 4** presents survey dates and personnel.

Table 4: Desert Tortoise Survey Dates and Personnel

Survey Date	Survey Personnel
April 18, 2023	Scott Crawford, Melanie Bukovac
April 25, 2023	Nathan Moorhatch, Scott Crawford, Liz Diaz, Kyralai Duppel
April 26, 2023	Nathan Moorhatch, Scott Crawford, Liz Diaz, Kyralai Duppel, Alexa Kerr, Melanie Bukovac
April 27, 2023	Nathan Moorhatch, Scott Crawford, Liz Diaz, Kyralai Duppel, Alexa Kerr, Melanie Bukovac
May 9, 2023	Nathan Moorhatch
May 10, 2023	Melanie Bukovac, Scott Crawford, Nathan Moorhatch, Ciara Shirey, Phil Clevinger
May 11, 2023	Melanie Bukovac, Scott Crawford, Nathan Moorhatch, Ciara Shirey
May 12, 2023	Nathan Moorhatch
May 23, 2023	Melanie Bukovac, Nathan Moorhatch
June 20, 2023	Nathan Moorhatch

Survey Date	Survey Personnel
June 21, 2023	Nathan Moorhatch, John Green
June 22, 2023	Nathan Moorhatch, John Green, Melanie Bukovac, Scott Crawford
June 23, 2023	Nathan Moorhatch, John Green, Melanie Bukovac, Scott Crawford
June 27, 2023	Nathan Moorhatch

Source: WSP 2023c

Developed areas within the project site 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 site 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.

Rare Plant Survey. Rare plant survey methods were based on the following resources: 1) *Protocols for Surveying and Evaluating Impacts to Special-status Native Plant Populations and Natural Communities* (CDFW 2018), 2) *Guidelines for Conducting and Reporting Botanical Inventories for Federally Listed, Proposed and Candidate Plants* (USFWS 2000), and 3) *General Rare Plant Survey Guidelines* (Cypher 2002). Surveys were conducted by walking 30-foot- (10-meter-) wide parallel transects throughout the entire project site and gen-tie line ROW. Due to the relatively flat nature of the project site and surrounding areas, nearly all accessible areas were observed directly. **Table 5** presents the survey dates and during the Rare Plant Survey.

Table 5: Rare Plant Survey Dates and Personnel for WRESC Site

Date	Field Personnel
April 18, 2023	Scott Crawford, Melanie Bukovac
April 25, 2023	Nathan Moorhatch, Scott Crawford, Liz Diaz, Kyralai Duppel
April 26, 2023	Nathan Moorhatch, Scott Crawford, Liz Diaz, Kyralai Duppel, Alexa Kerr, Melanie Bukovac
April 27, 2023	Nathan Moorhatch, Scott Crawford, Liz Diaz, Kyralai Duppel, Alexa Kerr, Melanie Bukovac
May 9, 2023	Nathan Moorhatch
May 10, 2023	Melanie Bukovac, Scott Crawford, Nathan Moorhatch, Ciara Shirey, Phil Clevinger
May 11, 2023	Melanie Bukovac, Scott Crawford, Nathan Moorhatch, Ciara Shirey
May 12, 2023	Nathan Moorhatch
May 23, 2023	Melanie Bukovac, Nathan Moorhatch
June 20, 2023	Nathan Moorhatch

June 21, 2023	Nathan Moorhatch, John Green
June 22, 2023	Nathan Moorhatch, John Green, Melanie Bukovac, Scott Crawford
June 23, 2023	Nathan Moorhatch, John Green, Melanie Bukovac, Scott Crawford
June 27, 2023	Nathan Moorhatch

Source: WSP 2023a

Plants were identified to species or subspecies level and recorded in the field notes of the biologists. For species that were not easily identifiable, a sample of each was collected and later identified at an offsite location. Species not identified offsite were taken to Andy Sanders, Herbarium Collection Manager at the University of California, Riverside, for further identification/ confirmation. Taxonomy of plant species identified within the project site was based on *The Jepson Manual* (Hickman 1993) and *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.).

Due to the dense nature of the western Joshua trees and the recently passed Western Joshua Tree Conservation Act, a subsequent Western Joshua Tree Census Survey was completed between November 20 and December 1, 2023, 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 previously identified western Joshua tree was remapped and additional data specified in the Census Protocol was collected. The Joshua Tree Census is included as a separate stan-alone report.

Crotch's Bumble Bee. A memo was submitted to Larry Bonner, a CDFW representative, in March 2023 regarding the survey protocols recommended for the project. The memo was reviewed and approved prior to conducting Crotch's bumble bee surveys. The protocol survey for Crotch's bumble bee was loosely based on the protocol used on the High-Speed Rail Project (as provided by CDFW).

Habitat was assessed for the Crotch's bumble bee by WSP senior biologist Nathan Moorhatch, Scott Crawford, and staff biologists Melanie Bukovac, Phil Clevinger, and Emily Urquidi during the rare plant surveys conducted in early April (between April 6 and April 18, 2023). The habitat assessment included visually inspecting and noting all areas of the site for components of Crotch's bumble bee habitat and known nectar sources. All patches of suitable habitat were mapped using a global positioning system (GPS) unit. Individual points were taken at each individual nectar source. Once all nectar source data was collected, a larger polygon of suitable habitat was drawn to identify suitable habitat areas to cover during the protocol surveys.

Crotch's bumble bee surveys were complete during the peak nectar blooming period (March 1 through June 30). Surveys were delayed for the 2023 surveys due to the long winter season (rain, cool weather, and windy conditions) and started at the beginning of the blooming season, based

on periodic site visits in late March and early April. A total of three surveys were completed by Moorhatch and Bukovac, spaced at least two to three weeks apart (weather dependent). Surveys were anticipated to occur in March, April, and May but were postponed due to weather conditions and occurred in April, May, and June (change in protocol was discussed and approved by Mr. Bonner).

Surveys were completed by walking transects within suitable habitat areas at a pace of approximately 0.5 mph and covering no more than 3 acres within an hour. A tally was kept of all identified bumble bees. Survey personnel, dates, times, and weather conditions are presented in **Table 6,** below.

Table 6: Crotch's Bumble Bee Survey Dates and Personnel for WRESC Site

Date (2023)	Surveyor(s)	Time	% Cloud Cover, Wind Speed	Temperature (degrees Fahrenheit)	Crotch's Bumble Bee Observed?
Habitat Assessment April 6–18	Nathan Moorhatch Melanie Bukovac Scott Crawford Phil Clevinger Emily Urquidi	Full days	Clear (0%), winds 0-5 mph	35-88°F	No
Focused Survey 1 April 25–26	Nathan Moorhatch Melanie Bukovac	0600–1000	Clear (0%), winds 0-5 mph	41-79°F	Yes [a]
Focused Survey 2 May 10	Nathan Moorhatch Melanie Bukovac	0600–1000	Clear (0%), winds 0-8 mph	51-74°F	No
Focused Survey 3 June 8	Nathan Moorhatch Melanie Bukovac	0600–1000	Clear (0%), winds 0-6 mph	54-82°F	No

Note: [a] Observed by Melanie Bukovac, confirmed by Nathan Moorhatch.

Mohave Ground Squirrel. Protocol surveys for Mohave ground squirrel were conducted using the Mohave Ground Squirrel Survey Guidelines (CDFG 2010), 10 X 10 grid design or 4 x 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 for, 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. Five camera stations per grid were deployed and placed randomly throughout the grid, as confirmation camera trapping. Additional camera stations were deployed in areas where trapping did not occur due to parcel size and the presence of railroad tracks. These camera stations attempted to capture evidence of any dispersing individuals from natal habitat into the project sites. Dispersal periods are believed to occur early in the 4-to-12-week post-emergence interval observed in this species, late May to early June, (Harris & Leitner 2005).

3.2.3 Jurisdictional Waters and Wetlands

Aerial photography was reviewed prior to conducting the assessment (2019 imagery). The photographs, along with NWI and NHD data, were used to locate and inspect any potential natural drainage features and water bodies that may be considered under the jurisdiction of the USACE, RWQCB, and/or CDFW. Field surveys were conducted by WSP Senior Biologist Scott Crawford on October 3 and 4, 2023, within the project site, including a 500-foot (152-meter) survey buffer, herein referred to as the jurisdictional delineation "study area." All portions of the project site identified during the literature review as potentially supporting jurisdictional features were walked to determine if the flows associated with the study area meet the minimum criteria to be considered jurisdictional by the USACE, RWQCB, and CDFW. Visual observations of vegetation types, changes in hydrology, soil, and culvert locations were used to locate areas for evaluation. Soil pits were dug in areas with potential wetland features, which include hydrophytic vegetation, wetland hydrology indicators, or hydric soils. Drainage features that met the minimum criteria to be considered jurisdictional by any of the three regulatory permitting agencies was mapped using sub-meter GPS units.

3.2.4 Wildlife Corridors

The ability of the project site to act as a wildlife corridor was assessed. 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 (1) allowing animals to move between remaining habitats. Wildlife movement usually fall 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 (foraging for food or water, defending territories, searching for mates, breeding areas, or cover). Aerial photographs, topographic maps, and documents such as missing linkages (2001), were used to analyze the project for use as a wildlife corridor.

4.0 RESULTS

The project site consist of largely undeveloped, natural open space. Dominant vegetation communities include creosote bush-white bursage scrub and allscale scrub. Soils are extremely rocky with very little loose soil present. Existing disturbances within the project site included existing access roads and communication equipment.

4.1 Topography, Soils and Waters

The project site's topography slopes from northwest to southeast from flat in the southern portion of the project site with gently rolling hills in the central portion of the project site. Elevations range from approximately 2,400 feet (732 meters) in the southeast corner of the gen-tie line at the corner of Rosamond Boulevard and 65th Street W to 2,720 feet (830 meters) along Dawn Road, just south of an existing water tank facility.

In the project site, 29 soil types were delineated and mapped (see **Figure 4)**, listed below:

- Adelanto coarse sandy loam, 2 to 5 percent slopes
- Adelanto loamy sand, 2 to 5 percent slopes
- Arizo gravelly loamy sand, 0 to 5 percent slopes
- Arujo sandy loam, 9 to 15 percent slopes
- Cajon loamy sand, 0 to 2 percent slopes
- Cajon loamy sand, 0 to 5 percent slopes Cajon loamy sand, 2 to 9 percent slopes
- Cajon loamy sand, loamy substratum, 0 to 2 percent slopes
- Cajon sand, 5 to 15 percent slopes
- DeStazo sandy loam, 0 to 2 percent slopes
- Garlock loamy sand, 2 to 9 percent slopes
- Hesperia fine sandy loam, 0 to 2 percent slopes
- Hesperia fine sandy loam, 2 to 5 percent slopes
- Hesperia loam, 0 to 2 percent slopes
- Hesperia loamy fine sand, 0 to 2 percent slopes
- Hesperia loamy fine sand, 0 to 2 percent slopes, hummocky
- Hi Vista sandy loam, 2 to 9 percent slopes
- Mohave coarse sandy loam, 2 to 5 percent slopes
- Muroc sandy loam, 2 to 9 percent slopes
- Porterville cobbly clay, 5 to 9 percent slopes
- Rock land
- Rock outcrop
- Rosamond clay loam
- Rosamond fine sandy loam
- Rosamond loam
- Rosamond loamy fine sand, hummocky
- Rosamond loamy fine sand, slightly saline
- Rosamond silty clay loam
- Rosamond silty clay loam, saline-alkali
- Torriorthents-Rock outcrop complex, very steep (USDA 2023a)

None of the soils listed above are considered hydric, and all are categorized as well-drained, somewhat excessively drained, or excessively drained.

4.2 Hydrology/Jurisdictional Waters

A review of the NWI and NHD resulted in numerous water bodies, within a 1,000-foot (305-meter) buffer around the project site and a 500-foot (152-meter) buffer around the gen-tie line alignment. Although the preliminary field survey did not reveal any wetlands or WUS, approximately 12 drainage features that bisect the project site were identified during the desk-top analysis. All 12 drainage features were surveyed to identify if they met the minimum requirements to be considered wetlands, WUS, or WSC. Seven features had observable hydrologic indicators such as shelving, sedimentation, cracked soil surfaces with drainage patterns. Since all features identified within the project site are classified as ephemeral, there is no USACE jurisdiction. Also, there were no drainage features within the WRESC site. A single drainage feature crossing the P-2 South additional workspace area. Despite the ephemeral status of local drainages within the additional workspace and gen-tie alignment, the applicant has agreed to avoid, to the extent feasible, all drainage features. 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 WUS would be less than significant, However, impacts to the drainage features is not anticipated at this time.

4.3 Vegetation Communities

Figure 5 presents the land cover types and vegetation communities identified within the project site. The following sections discuss land cover types and vegetation communities survey. **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
Allscale Scrub	567.50
Cheesebush Scrub	114.49
Creosote Bush – White Bursage Scrub	1,364.21
Creosote Bush Scrub	149.81
Disturbed/Developed	1,058.75
Joshua Tree Woodland	74.66
Needleleaf Rabbitbrush Scrub	77.08
Non-Native Grassland and Forbes	151.49

Rubber Rabbitbrush Scrub	119.35
Tamarisk Thickets	2.21
White Bursage Scrub	79.69
Total	**3,759.25**

Source: WSP (2023)

Allscale Scrub

A total of 567.50 acres of Allscale Scrub habitat was mapped in the project site. 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 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 site with increased cover corresponding with greater dominance by creosote bush.

Cheesebush Scrub

A total of 114.49 acres of Cheesebush Scrub habitat was mapped in the project site. Cheesebush (*Ambrosia salsola*) is the dominant species as is characterized as a low-growing, small grayish-green leafed shrub commonly found in desert areas. Other species identified in this vegetation community include California matchweed (*Gutierrezia californica*) and rubber rabbitbrush (*Ericameria nauseosa*). Additionally, this vegetation community exhibits low overall cover and large gaps between shrubs. Shrubs are generally less than 6.5 feet (2 meters) in height and understory is generally sparse, but when present typically consists of a variety of seasonal annuals.

Creosote Bush-White Bursage Series

A total of 1,364.21 acres of Creosote-White Bursage Series habitat was mapped in the project site. 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 (*Ephedra nevadensis*). This is the most dominant vegetation community within the project site. Shrubs are generally less than 10 feet (3 meters) in height and understory consists of seasonal annuals.

Creosote Bush Scrub

A total of 149.81 acres of Creosote Bush Scrub habitat was mapped within the project site. Similar to Creosote Bush-White Bursage Series; however, 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 1,058.75 acres of Disturbed/Developed habitat was mapped in the project site. Developed/Disturbed habitat within the project site 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; developed areas consist 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 74.66 acres of Joshua Tree Woodland habitat was mapped in the project site. Western Joshua Tree Woodland 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 site, 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.

Needleleaf Rabbitbrush Scrub

A total of 77.08 acres of Needleleaf Rabbitbrush Scrub was mapped in the Project site. This vegetation community is dominated by needleleaf rabbitbrush (*Ericameria teretifolia*). Subdominant species include silver cholla (*Cylindropuntia acanthocarpa*), Nevada ephedra, California buckwheat (*Eriogonum fasciculatum*), and Dorr's sage (*Salvia dorrii*). Typical canopy is less than 6.5 feet (2 meters) and is generally sparsely covered. Shrubs are generally less than 6.5 feet (2 meters) in height and understory is open to intermittent and grassy.

Non-Native Grassland and Forbs

Although not a classic vegetation community under the vegetation classification system, this vegetation community consists of non-native grasses and forbs and is usually the result of a recent disturbance that has just started a natural vegetation process. A total of 151.49 acres of non-native grassland and forbs habitat was mapped within the project site. Emergent shrubs may be present, but are usually sparse and do not have enough individuals to be characterized as a separate vegetation community.

Rubber Rabbitbrush Scrub

A total of 119.35 acres of Rubber Rabbitbrush Scrub habitat was mapped in the project site. Rubber rabbitbrush is dominant or co-dominant in the shrub canopy with big sagebrush (*Artemisia tridentata*), Nevada ephedra, and California buckwheat, scalebroom (*Lepidospartum squamatum*). Emergent trees may be present at low cover, including western Joshua tree. Shrubs are generally less than 10 feet (3 meters) in height and the understory is sparse and grassy.

Tamarisk Thickets

A total of 2.21 acres of Tamarisk Thicket habitat was mapped in the project site. Tamarisk (*Tamarix ramosissima*) is dominant or co-dominant species and may occur along native species such as cottonwood (*Populus fremontii*) or willow species (*Salix* spp.). Shrubs are generally less than 26 feet (8 meters) in height and the understory is sparse. This vegetation community is commonly associated with arroyo margins, lake margins, ditches, washes, rivers, and often artificially created watercourses.

White Bursage Scrub

A total of 79.69 acres of White Bursage Scrub was mapped in the project site. 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.

4.4 Wildlife

Wildlife directly observed and/or detected otherwise (e.g., scat, bones, tracks, feathers, burrows, etc.) during the assessment was notably diverse and abundant, all of which are common to the region. This included four insects, seven reptiles, 23 birds, and 12 mammals (Appendix D). Representative common species observed included but were not limited to: western whiptail (*Aspidoscelis tigris*), side-blotched lizard (*Uta stansburiana*), 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 site. 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. Approximately 78 bird nests were detected on or adjacent to the site during the assessment. A total of 29 burrows were identified and mapped that are likely associated with medium-large mammals, but also provide suitable habitat for burrowing owl.

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 Native Plant Protection Act. 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 not been federally or state-listed as threatened or endangered. Impacts to these species can still be considered significant under CEQA.

The literature review indicated that at least 92 special status biological resources have been reported or are known to occur in the vicinity (defined as a 10-mile [16 kilometers] radius) of the project site (CDFW 2024a) (Harris & Leitner 2005) (CNPS 2024). There are 47 plants, nine plant communities, seven insects, two amphibians, five reptiles, 14 birds, and eight mammals. **Tables 8, 9, and 10** summarize these species, including their current taxonomy, conservation status, habitat preferences, and occurrence potential.

Table 8: Special Status Plant Species Potential for Occurrence

Scientific Name	Common Name	Status [a]			Habitat (for plants includes elevational range in meters)	Occurrence Probability [b]
		Fed-eral	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 site is too low in elevation and lacks these vegetation communities.
Astragalus hornii var. hornii	Horn's milk-vetch	None	S1	1B.1	Alkaline sites (often associated w lake margins) 60–850 meters (m). Blooms (B): May–September	Absent Project site lacks alkaline meadow/seep/lake margin habitat, not found during the surveys.
Astragalus preussii var. laxiflorus	Lancaster milkvetch	None	S1	1B.1	Saltbush scrub with low sandy hummocks, playa edges, alkali pans. B: March–May	Low Site lacks the alkaline habitat where WSP biologists have observed this species in the past but is within the known range of the species.
Ayenia compacta	California ayenia	None	S3	2B.3	Mojavean & Sonoran Desert scrub, rocky. 150–1095 m. B: March–April	Absent Project site is not within the known range of this species. Little to no rocky habitat onsite.

Scientific Name	Common Name	Status [a]			Habitat (for plants includes elevational range in meters)	Occurrence Probability [b]
		Fed-eral	State	Other		
Calochortus clavatus var. gracilis	slender mariposa lily	None	S2S3	1B.2	Grows in chaparral, coastal scrub, valley and foothill grassland between 320–1,000 m. B: March–June	Absent Project site not within the known range of this species, habitat not present. Mr. Moorhatch has observed this species approx. 29 miles south of the Project site off Soledad Cyn. Rd.
Calochortus palmeri var. palmeri	Palmer's mariposa-lily	None	S2	1B.2	Grows in chaparral, lower montane coniferous forest, meadows and seeps between 710–2,390 m. B: April–July	Absent Project site not within the known range of this species, habitat not present. Mr. Moorhatch has observed this species in the San Jacinto Mtns.
Calochortus striatus	alkali mariposa-lily	None	S2S3	1B.2	Chaparral, chenopod scrub, meadows and seeps, Mojavean Desert scrub, alkaline, mesic. 70–1595 m. B: April–June	Present Found along Rosamond Blvd as part of the gen-tie line alignment.
Calystegia peirsonii	Peirson's morning-glory	None	S4	4.2	Found in a variety of habitats: chaparral, chenopod scrub, cismontane woodland, coastal scrub, lower montane coniferous forest, and valley and foothill grassland. 30–1,500 m. B: April–June	Absent The closest recorded occurrence is over 10 miles to the south. No suitable habitat onsite.
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 onsite and site is within the elevation range for this species. Closest recorded occurrence is 8 miles north and south of the project site. Mr. Moorhatch has observed this species north of Isabella Lake.

Scientific Name	Common Name	Status [a]			Habitat (for plants includes elevational range in meters)	Occurrence Probability [b]
		Fed-eral	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 site is not within the known range of the species. Habitat not present. Nearest CNDDB record is approx. 13 miles south of the project site near Elizabeth Lake.
Horizonte parryi var. parry	Parry's spineflower	None	S2	1B.1	Openings (sandy/rocky) coastal scrub, chaparral, cismontane woodland, valley and foothill grasslands 275–1,220 m. B: April–June	Absent Habitat not present. Project site is not within the currently known range of the species. Mr. Moorhatch has observed this species in coastal sage- and Riversidean alluvial fan sage scrub habitats well south of the Project site.
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 Marginal suitable habitat occurs on the current Project site. Found on the Willow Springs Legacy site (no longer part of the current project).
Cryptantha clokeyi	Clokey's cryptantha	None	S3	1B.2	Mojavean and Sonoran Desert scrub, usually in granitic areas, sometimes rocky or sandy. 75–1525 m. B: April–June	Moderate Marginal quality habitat occurs onsite. The closest recorded occurrence is 8 miles south of the project site and is within the range of this species.
Cymopterus deserticola	desert cymopterus	None	S2	1B.2	Sandy soils in Mojavean desert scrub and Joshua tree woodland. 630–1,500 m. B: March–May	Low Suitable habitat present, but only the common Mojave Desert parsley (*Lomatium mohavense*) found on the Project site.
Delphinium recurvatum	recurved larkspur	None	S2?	1B.2	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 onsite. The closest recorded occurrence is 1.6 miles north of the project site. Project is not within the main range of this species. Desert larkspur (*Delphinium parishii*) observed in the area.

Scientific Name	Common Name	Status [a]			Habitat (for plants includes elevational range in meters)	Occurrence Probability [b]
		Fed-eral	State	Other		
Diplacus pictus	calico monkeyflower	None	S2	1B.2	Granitic soils (sometimes in disturbed areas) in cismontane and broadleafed upland forest. 100–1,430 m. B: March–May	Absent Project site not within the known range of the species (mostly southeastern edge of San Joaquin valley). Not found during the surveys.
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 onsite. The closest recorded occurrence is 5 miles southwest of the project site. Mr. Moorhatch has observed this species approx. 6.6 miles southeast of the project site. The Project site is slightly above the elevation range of the species.
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 onsite. Site is below elevation range of the species.
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 onsite. *Eriastrum eremicum* & *E. sapphirinum* found on the project site.
Eriophyllum mohavense	Barstow woolly sunflower	None	S2	1B.2	Chenopod scrub, Mojavean desert scrub, and playa areas 500–960 m. B: March–May	Low Project site 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 site.
Eschscholzia lemmonii ssp. kernensis	Tejon poppy	None	S2	1B.1	Chenopod scrub and valley and foothill grasslands between 160–1,000 m. B: (February)–May	Absent Project site is east of the southern San Joaquin Valley range of this species. *E. californica* & *E. minutiflora* found on the project site.

Scientific Name	Common Name	Status [a]			Habitat (for plants includes elevational range in meters)	Occurrence Probability [b]
		Fed-eral	State	Other		
Eschscholzia minutiflora ssp. twisselmannii	Red Rock poppy	None	S2	1B.2	Grows on volcanic tuff deposits in Mojavean desert scrub between 680–1,230 m. B: March–May	Absent Nearest CNDDB record is mapped 11.5 miles east of project site on Edwards Air Force Base and is mapped as a "best guess" and is from 1977. CCH and INaturalist records are all over 27 miles north/northeast of the project site.
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 No suitable habitat occurs onsite. No recorded occurrences within the vicinity of the project site.
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 onsite. The closest recorded occurrence is 8 miles south of the project site. Project is within the range of this species.
Lasthenia glabrata ssp. coulteri	Coulter's goldfields	None	S2	1B.1	Marshes, swamps, playas, and vernal pools. 1–1,220m. B: April–August	Absent Habitat not present in project site. Site is not within the range of this species.
Layia heterotricha	pale-yellow layia	None	S2	1B.1	Cismontane woodland, coastal scrub, pinyon and juniper woodland, valley and foothill grassland. 300–1,705m. B: March–June	Absent Not a desert species. Project site does not have habitat for this species, and is not within the range of this plant. Closest records are in the Mtns.
Leptosiphon serrulatus	Madera leptosiphon	None	S3	1B.2	Cismontane woodland and lower montane coniferous forest,. 300 –1,300m. B: April– May	Absent Not a desert species. Project site does not have habitat for this species and is not within the range of this plant. Closest records are over 13 miles northwest of the project site in the Tehachapi Mtns.

Scientific Name	Common Name	Status [a]			Habitat (for plants includes elevational range in meters)	Occurrence Probability [b]
		Fed-eral	State	Other		
Loeflingia squarrosa var. artemisiarum	sagebrush loeflingia	None	S2	2B.2	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 site, between the project site and SR 14.
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 site.
Monardella linoides ssp. anemonoides	southern Sierra monardella	None	S2	1B.3	Lower montane coniferous forest, cismontane woodland, chaparral. 670–2,450 m. B: May–August	Absent No suitable habitat. No recorded occurrences within the vicinity of the project site.
Monardella linoides ssp. oblonga	Tehachapi monardella	None	S2	1B.3	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.
Muhlenbergia utilis	aparejo grass	None	S2S3	2B.2	Grows in chaparral, cismontane woodland, coastal scrub, meadows and seeps, marshes and swamps 25–2,325 m., B: March–October	Absent No suitable habitat. Closest CNDDB record is approx. 8.75 miles northwest of the project site in a seep area in the foothills of the Tehachapi Mtns.
Navarretia fossalis	spreading navarretia	T	S2	1B.1	Often a vernal pool associate, but grows in wet areas in chenopod scrub, playas, marshes and swamps 30–655 m. B: April–June	Absent No suitable habitat. No vernal pools or similar habitat on the project site.

Scientific Name	Common Name	Status [a]			Habitat (for plants includes elevational range in meters)	Occurrence Probability [b]
		Fed-eral	State	Other		
Navarretia peninsularis	Baja navarretia	None	S2	1B.2	Openings in chaparral, lower montane coniferous forest, pinyon and juniper, meadows and seeps between 1,500–2,300 m. B: May–August	Absent No suitable habitat and the project site is below the elevation range where this species grows.
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.
Opuntia basilaris var. brachyclada	short-joint beavertail	None	S3	1B.2	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 site.
Opuntia basalaris var. treleasei	Bakersfield cactus	FE	SE	1B.1	Gravelly or sandy areas in chenopod scrub, cismontane woodland, valley and foothill grassland. 100–1450 m. B: April–May	Absent No suitable habitat. Closest recorded occurrence is 25 miles to the northwest. Site is not within the range of the species.
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 No suitable habitat. No recorded occurrence within the vicinity of the project site.
Puccinellia simplex	California alkali grass	None	S2	1B.2	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 site on the eastern margin of Rosamond dry lake. Halophytic phase saltbush scrub and clay pan habitat not present in project site.

Scientific Name	Common Name	Status [a]			Habitat (for plants includes elevational range in meters)	Occurrence Probability [b]
		Fed-eral	State	Other		
Saltugilia latimeri	Latimer's woodland-gilia	None	S3	1B.2	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 site, most records are from much further south starting on the north edge of the Transverse ranges and continuing further south. Closest CNDDB record is from almost 10 miles north of the project site, on the southern foothills of the Tehachapi Mtns.
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 site is not within the currently known range of this species.
Sidalcea neomexicana	Salt Spring checkerbloom	None	S2	2B.2	Alkaline/mesic areas in chaparral, coastal scrub, lower montane coniferous forest, Mojavean desert scrub, and on playas 15–1,530 m. B: March–June	Absent Habitat lacking on project site. Apart from a few desert edge CCH records, mostly known from coastal and cismontane areas.
Streptanthus campestris	southern jewelflower	None	S3	1B.3	Favors rocky areas in chaparral, lower montane coniferous forest, and pinyon and juniper woodland 900–2,300 m. B: (April) May–July	Absent Project site is below the preferred elevation range of this species. Habitat not present.
Symphyotrichum greatae	Greata's aster	None	S2	1B.3	Mesic habitats in broadleaved upland forest, chaparral, cismontane woodland, lower montane coniferous forest, and riparian woodlands 300–2,010 m.	Absent Mr. Moorhatch has observed this species in the southern San Gabriel Mtns. (riparian canyon) north of La Crescenta. No similar habitat exists in the project site.
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 site.

Scientific Name	Common Name	Status [a]			Habitat (for plants includes elevational range in meters)	Occurrence Probability [b]
		Federal	State	Other		
Viola pinetorum ssp. grisea	grey-leaved violet	None	S3	1B.2	Grows in meadows and seeps in subalpine coniferous forest and upper montane coniferous forest 1,500–3,400 m. B: April–July	Absent No habitat in the project site, and the project is well below the elevation range of this species.
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 throughout the project site.

KEY:

Definitions of occurrence probability:

Occurs: Observed on the site by WSP biologists or recorded onsite 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: No suitable habitat is present, and site is not within the vicinity of any known recorded occurrences.

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

Federal designation: = F

E -endangered

T – threatened

C – Candidate for listing (E or T)

State designation: = C

E – endangered

T - threatened

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:

S1 = Critically Imperiled. Less than (<) 6 Element Occurrences (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

SX = Presumed extinct

California Native Plant Society (CNPS) designations:

Primary Categories

LIST 1A: Plants Presumed Extirpated in California and Either Rare or Extinct Elsewhere
LIST 1B: Plants Rare, Threatened, or Endangered in California and Elsewhere
LIST 2A: Plants Presumed Extirpated in California, But Common Elsewhere
LIST 2B: Plants Rare, Threatened, or Endangered in California, But More Common Elsewhere
LIST 3: Plants About Which More Information is Needed - A Review List
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 9: 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 w adequate subsurface water.	Absent Not present on or adjacent to the project site.
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 site.
Southern Riparian Forest	F: None C: S4	Essentially a “broader brush” version of the previous community. Can include oaks in some cases.	Absent Not present on or adjacent to the project site.
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 site.
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 site.

Community	Status	Habitat	Occurrence Probability
Southern Willow Scrub	F: None C: S2.1	Essentially very similar to Southern Riparian Scrub (discussed above), though may require repeated flooding to prevent succession to Southern Cottonwood-Sycamore Riparian Forest.	Absent Not present on or adjacent to the project site.
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 site.
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:

Occurs: Observed on the site by WSP biologists or recorded onsite 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

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:

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

Table 10: Special Status Wildlife

Scientific Name	Common Name	Status [a]			Habitat	Occurrence Probability [b]
		Federal	State	Other		
Invertebrates						
Bombus Crotchii	Crotch's bumble bee	None	CPE S1S2	Not applic-able (N/A)	Open grassland & scrub habitats. Occurs primarily in California, in coastal slope areas, western desert, great valley, and adjacent foothills.	Present One Crotch's bumble bee observed foraging onsite. 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 site. Project site is not within the mapped range of this species as shown on the USFWS website.
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 site.
Speyeria egleis tehachapina	Tehachapi Mountain silverspot butterfly	None	S2	N/A	High elevations of the Tehachapi and possibly the Piute Mtns.	Absent Project site is not within the known range (geographic and elevation) for this subspecies.

Scientific Name	Common Name	Status [a]			Habitat	Occurrence Probability [b]
		Federal	State	Other		
Helminthoglypta concolor	whitefir shoulderband	None	S1S2	N/A	Known only (endemic) from the Tehachapi Mountains. Found beneath logs and bark in white fir forest.	Absent Project site 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 site 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 site.
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 site has not suitable habitat for this species. This is not a desert species. Mr. Moorhatch has observed this species north of Gorman, California.

Scientific Name	Common Name	Status [a]			Habitat	Occurrence Probability [b]
		Federal	State	Other		
Rana boylii pop. 6	foothill yellow-legged frog – south coast distinct population segment (DPS)	E	E	N/A	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 site is not within the historic or current known range for this species or DPS. No suitable habitat occurs within the project site.
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 site. Suitable habitat occurs onsite.
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 site 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 site does not have any habitat for this species.

Scientific Name	Common Name	Status [a]			Habitat	Occurrence Probability [b]
		Federal	State	Other		
Gopherus agassizii	desert tortoise	FT	ST, S2S3	MSHCP/ NCCP	Prefers Joshua tree, desert wash & scrub, especially creosote bush habitats; but in most desert habitats. Large wildflower blooms preferred. Burrows & nests require friable soil.	High Suitable habitat present. Closest recorded occurrence is within 2 miles of the project site.
Phrynosoma blainvillii	coast horned lizard	None	S4	SSC	Found 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.
Birds						
Agelaius tricolor	Tri-colored blackbird	MBTA	ST	None	Nests in wetland cattails and bulrushes. Forages in open areas and agricultural fields.	Absent No Suitable breeding habitat occurs onsite. Not seen during surveys. Closest recorded occurrence is over 8 miles southeast of the project site.
Aquila chrysaetos	golden eagle	MBTA	S3, WL, FP, FGC	MSHCP/ NCCP	Mountainous/hilly areas with cliffs and open fields required for habitat. Jackrabbits are primary food source.	Moderate No nesting habitat onsite. Could potentially nest on rocky peaks in the general area and forage onsite.

Scientific Name	Common Name	Status [a]			Habitat	Occurrence Probability [b]
		Federal	State	Other		
Athene cunicularia	burrowing owl	MBTA	SC, S3, FGC	SSC	Open, dry grasslands, deserts & scrublands with low-growing vegetation. Depends on burrowing mammals.	High Burrowing owls observed in the vicinity of the project site. Suitable foraging habitat occurs onsite.
Asio flammeus	short-eared owl	MBTA	S2	SSC	Found in open country and grasslands. Breeds in northern Canada and Alaska.	Low No grasslands occur onsite. 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 open coniferous or deciduous woodlands.	Moderate Previously identified within the vicinity of the project site. 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 the surveys. This species is only present during migration and winter in the greater project site.
Buteo swainsoni	Swainson's hawk	MBTA	SE, S3, FGC	MSHCP/ NCCP	Open plains, grasslands, dry grasslands. Migrates through Mojave Desert.	Present Observed foraging onsite. One nest observed within the vicinity of the project site.

Scientific Name	Common Name	Status [a]			Habitat	Occurrence Probability [b]
		Federal	State	Other		
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 site. Closest recorded occurrence is more than 6 miles southeast of the projects site.
Charadrius montanus	mountain plover	MBTA, BLM-S	S2	SSC	Nest on bare ground in early spring (April in Colorado and Wyoming). Prefers grasslands and mountain meadows.	Absent Portions of project site are adjacent to fallow fields (roadside), but are not expected to impact these areas. Closest recorded occurrence is 2 miles south of the project site.
Circus hudsonius	northern harrier	MBTA	S3	SSC	Usually forages low over open habitats, including fields, grasslands, marshes, etc.	Low Not seen during surveys. More likely in migration or winter.
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 onsite or breed in southern California. Closest recorded occurrence is immediately adjacent to the project site.

Scientific Name	Common Name	Status [a]			Habitat	Occurrence Probability [b]
		Federal	State	Other		
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 site. Does not nest onsite. Closest recorded occurrence is within 1.5 miles south of the project site.
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 onsite.
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 site.
Lanius ludovicianus	loggerhead shrike	MBTA	SSC, S4, FGC	MSHCP/ NCCP	Found in open habitats with widely spaced vegetation.	Present Suitable habitat occurs onsite. Known to occur (observed) within the project site.
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.
Toxostoma lecontei	Le Conte's thrasher	MBTA	S3, FGC	MSHCP /NCCP	Desert: open washes, scrub; commonly nests in a dense, spiny shrub or cactus.	Present Suitable habitat occurs onsite. Known to occur (observed) within the project site.

Scientific Name	Common Name	Status [a]			Habitat	Occurrence Probability [b]
		Federal	State	Other		
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 site.
Mammals						
Corynorhinus townsendii	Townsend's big-eared bat	None	S2	SSC	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 site, but no suitable roost sites occur on the project site. Closest recorded within 1 mile south of the project site
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 site does not have drinking water resources, roosting habitat 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 site. Site is not range (geographic, elevation) of the species.

Scientific Name	Common Name	Status [a]			Habitat	Occurrence Probability [b]
		Federal	State	Other		
Onychomys torridus tularensis	Tulare grasshopper mouse	None	S1S2	SSC	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, San Luis Obispo County; and the Ciervo-Panoche Region, in Fresno and San Benito counties	Absent Project site is not within the known geographic range of this subspecies.
Perognathus inornatus	San Joaquin pocket mouse	None	S2S3		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 site. 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 3,500–6,000 feet.	Absent Project site below known elevational range of species. Closest recorded occurrence is 2 miles north of the project site. 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 site. Within the known range of the species.

Scientific Name	Common Name	Status [a]			Habitat	Occurrence Probability [b]
		Federal	State	Other		
Xerospermophilus mohavensis	Mojave ground squirrel	None	ST	MSHCP/ NCCP	Suitable habitat is sandy and gravelly soils. Burrows found at the base of shrubs.	Moderate Suitable Habitat occurs onsite. 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 site.

KEY:

Definitions of occurrence probability:

Occurs: Observed on the site by WSP biologists or recorded onsite 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

Western Bat Working Group designations:

H = High: Species which are imperiled or are at high risk of imperilment based on available information on distribution, status, ecology and known threats.

M: = Medium: Species which warrant a medium level of concern and need closer evaluation, more research, and conservation actions of both the species and possible threats. A lack of meaningful information is a major obstacle in adequately assessing these species' status and should be considered a threat.

L: = Low: Species for which most of the existing data support stable populations, and for which the potential for major changes in status in the near future is considered unlikely. There may be localized concerns, but the overall status of the species is believed to be secure. Conservation actions would still apply for these bats, but limited resources are best used on High and Medium status species.

P: = Periphery: This designation indicates a species on the edge of its range, for which no other designation has been determined.

4.6 Special Status Species

WSP biologists performed seasonally timed botanical surveys within accessible areas within the project site 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, used binoculars and other methods/equipment, as appropriate. Weather conditions included above average rainfall and resulted in a "super bloom" event.

4.6.1 Special Status Plants

A total of 47 special status special status plants were identified as potentially occurring within the project site, listed below:

- Mt. Pinos onion (*Allium howellii* var. *clokeyi*)
- Horn's milk-vetch (*Astragalus hornii* var. *hornii*)
- Lancaster milkvetch (*Astragalus preussii* var. *laxiflorus*)
- California ayenia (*Ayenia compacta*)
- slender mariposa lily (C*alochortus clavat*us var. *graciliis*)
- Palmer's mariposa lily (*Calochortus palmer*i var. *p*almeri)
- Alkali mariposa lily (*Calochortus striatus*)
- Peirson's morning-glory (*Calystegia peirsonii*)
- white pygmy-poppy (*Canbya candida*)
- San Fernando Valley spineflower (*Chorizanthe parryi* var. *fernandina*)
- Parry's spineflower (*Chorizanthe parryi* var. *parryi*)
- Mojave spineflower (*Chorizanthe spinosa*)
- Clokey's cryptantha (*Cryptantha clokeyi*)
- desert cymopterus (*Cymopterus deserticola*)
- recurved larkspur (*Delphinium recurvatum*)
- calico monkeyflower *(Diplacus pictus*)
- Rosamond eriastrum (*Eriastrum rosamondense*)
- few-flowered eriastrum (*Eriastrum sparsiflorum*)
- Tracy's eriastrum (*Eriastrum tracyi*)
- Barstow woolly sunflower (*Eriophyllum mohavense*)
- Tejon poppy (*Eschscholzia lemmonii* ssp. *kernensis*)
- Red Rock poppy (*Eschscholzia minutiflora* ssp. *twisselmannIi*)

- inland gilia (*Gilia interior*)
- golden goodmania (*Goodmania luteola*)
- Coulter's goldfields (*Lasthenia glabrata* ssp. c*oulteri*)
- pale-yellow layia (*Layia heterotricha*)
- madera leptosiphon *(Leptosiphon serrulatus*),
- sagebrush loeflingia (*Loeflingia squarrosa var. artemisiarum*),
- Mojave monardella (*Monardella exilis*),
- southern Sierra monardella (*Monardella linoides ssp. anemonoides*),
- Tehachapi monardella *(Monardella linoides* ssp. *blonga*),
- Aparejo grass *(Muhlenbergia utilis*),
- spreading navarretia (*Navarretia fossalis*),
- Baja navarretia (*Navarretia peninsularis*),
- Robbins' nemacladus (*Nemacladus secundiflorus var. robbinsii*),
- short-joint beavertail (*Opuntia basilaris* var. *brachyclada*),
- Bakersfield cactus (*Opuntia basalaris var. treleasei*),
- adobe yampah (*Perideridia pringlei*),
- California alkali grass (*Puccinellia simplex),*
- Latimer's woodland-gilia (*Saltugilia latimeri*),
- Cove's cassia (*Senna covesii*)
  Salt Spring checkerbloom (*Sidalcea neomexicana),*
- southern jewelflower (*Streptanthus campestris),*
- Greata's aster (*Symphyotrichum greatae*),
- Lemmon's syntrichopappus (*Syntrichopappus lemmonii),*
- grey-leaved violet (*Viola pinetorum* ssp. g*risea*)
- western Joshua tree (*Yucca brevifolia*) (WSP 2023a)

Following a review of the literature review and habitat assessment of the existing site conditions, the following 27 species are considered to be absent from the project site due to a number of factors such as lack of suitable habitat, outside of the known elevation range, or no close recorded occurrences. These species, listed below, are not discussed further in this document:

- Mt. Pinos onion
- Horn's milk-vetch
- California ayenia
- slender mariposa lily
- Palmer's mariposa lily
- Alkali mariposa lily
- Peirson's morning-glory
- San Fernando Valley spineflower
- Parry's spineflower
- calico monkeyflower
- Rosamond eriastrum
- few-flowered eriastrum
- Tracy's eriastrum
- Tejon poppy
- Red Rock poppy
- inland gilia
- Coulter's goldfields
- pale-yellow layia
- madera leptosiphon
- southern Sierra monardella

- Tehachapi monardella
- Aparejo grass
- spreading navarretia
- Baja navarretia
- Robbins' nemacladus
- short-joint beavertail
- grey-leaved violet

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

- Lancaster milkvetch,
- alkali mariposa lily,
- white pygmy poppy,
- Mojave spineflower,
- Clokey's cryptantha,
- desert cymopterus,
- recurved larkspur,
- Bartow woolly sunflower,
- sagebrush loeflingia,
- golden goodmania,
- Mojave monardella
- western Joshua tree.

Lancaster milkvetch is designated as a CNPS List 1B.1 species, but it is not a federal or state-listed threatened or endangered species. This species blooms from March to May and is typically found in saltbush scrub containing low sandy hummocks, playa edges, and alkali pans. It occurs in a narrow elevation limit between 700 and 780 meters (2,230 and 2,580 feet). Marginal saltbush scrub is present within the project site; however no Lancaster milkvetch was observed during protocol-level surveys. As a result, this species is considered to be absent from the project site and therefore will not be discussed further in the document.

Alkali mariposa lily is designated as a CNPS List 1B.2 species, but it is not a federal 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 site. A small population of approximately 20 individual alkali mariposa lily was identified along Rosamond Boulevard at 95th Street. As a result, this species is present along the gen-tie-line alignment.

White pygmy poppy is designated as a CNPS List 4.2 species but is not a federal 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 site, 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 federal 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 site. 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.

Clokey's cryptantha is listed as CNPS list 1B.2 but is not a federal or state-listed threatened or endangered species. This species blooms from March to June and is typically found in Alkaline soils in valley saltbush or chenopod scrub, also valley and foothill grassland, cismontane woodlands. 75 to 1,525 meters (246 to 4,900 feet). Marginally suitable saltbush scrub is present within the project site; however no Clokey's cryptantha was observed during protocol-level surveys. As a result, this species is considered to be absent from the project site and therefore will not be discussed further in the document.

Desert Cymopterus is designated as a CNPS List 1B.2 species but it is not a federal or state-listed threatened or endangered species. This species blooms from March to May and is typically found in sandy soils in Mojavean desert scrub and Joshua tree woodland 700 to 780 meters (2,230 to 2,580 feet). Marginal suitable saltbush scrub is present within the project site; however, no desert cymopterus was observed during protocol-level surveys. As a result, this species is considered to be absent from the project site and therefore will not be discussed further in the document.

Recurved larkspur is designated as a CNPS List 1B.2 species but is not a federal 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 site; however no individuals were observed during protocol-level surveys. For these reasons, recurved larkspur is considered to be absent from the project site 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 federal 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 site; however no Barstow woolly sunflower was observed during protocol-level surveys. As a result, this species is considered to be absent from the project site 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 federal 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 site, but golden goodmania was not observed during protocol-level surveys and is thus considered to be absent from the project site and will not be discussed further in the document.

Sagebrush loeflingia is designated as a CNPS List 2B.2 species but is not a federal 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 site. A small population of approximately 20 individual sagebrush loeflingia was identified along a dirt access road on the west side of the project site north of Dawn Road between two parallel unnamed dirt roads approximately 305 meters (1,000 feet) east of SR 14. For these reasons, this species is present on the project site.

Mojave monardella is designated as a CNPS List 4.2 species but is not a federal 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 site in areas with suitably sandy soils. As a result, this species was found to be present on the project site.

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, and California matchweed, and rubber rabbitbrush vegetation communities. A total of 2,718 Joshua trees were documented within the project site with moderate to high concentrations of this species occurring within both the project site and project site. This species is considered present within the project site.

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 site, 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. This vegetation was not observed within the project site and therefore, will not be impacted by the proposed development.

Southern Cottonwood Willow Riparian Forest occurs 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. The closest recorded occurrence of this community is over 11 miles southwest of the project site. This vegetation community is dominated by Fremont's cottonwood (*Populus fremontii*) and various willow species (*Salix sp*.) and is listed as a S3.2 under the CDFW sensitivity ranking system. This vegetation was not observed within the project site and therefore, will not be impacted by the proposed development.

Southern Mixed Riparian Forest is comprised of winter-deciduous trees that require water near the soil surface. Fremont cottonwood and western sycamore (*Platanus racemosa*) form a dense medium height woodland or forest in moist canyons and drainage bottoms. The closest recorded occurrence of this community is over 18 miles southwest of the project site. This vegetation community is listed as a S2.1 under the CDFW sensitivity ranking system. This vegetation was not observed within the project site and therefore, will not be impacted by the proposed development.

Southern Riparian Forest is essentially a more generalized version of the previous community. Can include various oak tree species in some cases. The closest recorded occurrence of this community is over 13 miles southwest of the project site. This vegetation community is listed as a S4 under the CDFW sensitivity ranking system. This vegetation was not observed within the project site and therefore, will not be impacted by the proposed development.

Southern Riparian Scrub 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 shrub-sized willow species, coyote bush (*Ambrosia psylostachia*), and mule fat (*Baccharis salisifolia*) with some emergent cottonwoods or sycamores. The closest recorded occurrence of this community is over 10 miles southwest of the project site. This vegetation community is listed as a S3.2 under the CDFW sensitivity ranking system. This vegetation was not observed within the project site and therefore, will not be impacted by the proposed development.

Southern Sycamore Alder Riparian Woodland 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. The closest recorded occurrence of this community is over 14 miles southwest of the project site. This vegetation community is listed as a S4 under the CDFW sensitivity ranking system. This vegetation was not observed within the project site and therefore, will not be impacted by the proposed development.

Southern Willow Scrub is essentially very similar to Southern Riparian Scrub (discussed above), although may require repeated flooding to prevent succession to Southern Cottonwood-Sycamore Riparian Forest. The closest recorded occurrence of this community is over 10 miles south of the project site. This vegetation community is listed as a S2.1 under the CDFW sensitivity ranking system. This vegetation was not observed within the project site and therefore, will not be impacted by the proposed development.

Valley Needlegrass Grassland was formerly extensive around the Sacramento, San Joaquin, and Salinas Valleys, as well as the Los Angeles Basin, but is now much reduced. Valley needlegrass grassland usually occurs on fine-textured (often clay) soils that are moist or waterlogged during winter, but very dry in summer (Oberbauer et al. 2008). Valley needlegrass grassland is a mid-height (to 2 feet) grassland dominated by perennial, tussock-forming purple needlegrass (*Nasella*

pulchra) with native and introduced annuals occurring between the perennials, such as salt spring checkerbloom (*Sidalcea neomexican*), blue-eyed grass (*Sisyrinchium bellum*), California poppy (*Eschscholzia eschscholzia*), or California goldfields (*Lasthenia californica*). The closest recorded occurrence of this community is over 8 miles south of the project site. This vegetation community is listed as a S3.1 under the CDFW sensitivity ranking system. This vegetation was not observed within the project site and therefore, will not be impacted by the proposed development.

Valley Oak Woodland is 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. The closest recorded occurrence of this community is over 13 miles southwest of the project site. This vegetation community is listed as a S2.1 under the CDFW sensitivity ranking system. This vegetation was not observed within the project site and therefore, will not be impacted by the proposed development.

Wildflower Field is a highly diverse field habitat of mostly native annuals and forbs. This vegetation community consists of herb-dominated conspicuous annual wildflower displays. Dominance varies from site to site and from year to year at a particular site. This vegetation community typically occurs on fairly poor-quality sites (droughty, low in nutrients) associated with grasslands or on oak woodlands on surrounding, more productive sites, and is mostly associated with sandy soils. Plant species commonly found in wildflower fields include California poppy, gilia bicolor (*Gilia leptalea* ssp*. bicolor*), coastal tidy-tips (*Layia platvglossa*), miniature lupine *(Lupinus bicolor*), narrowleaf owl's-clover (*Orthocarpus attenuatus*), and purple owl's clover (*Orthocarpus purpuresens*). This habitat type is commonly found in valleys and foothills of the Californian Floristic Province except the north coast, which is too wet. It is typically found below 2,000 feet in elevation in the northern portion of its range and between 4,000 and 5,000 feet in the southern portion. The closest recorded occurrence of this community is over 8 miles south of the project site. This vegetation community is listed as a S2.2 under the CDFW sensitivity ranking system. This vegetation was not observed within the project site and therefore, will not be impacted by the proposed development.

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 site is Crotch's bumble bee.

Crotch's Bumble Bee. The Crotch's bumble bee is native to California, where it nests 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 nests 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 site, which included large stands of tansy-leaf phacelia (*Phacelia tanacertifolia*). A single Crotch's bumble bee was detected during the first protocol survey. One queen Crotch's bumble bee was identified within the northern portion of the project site. The queen was observed foraging on phacelia flowers and slowly moving from one clump of flowers to the next, making identification easy. This species was only observed within the phacelia patches and only foraging behavior was observed. Although no hives or worker bees were identified, this species is considered present within the project site, but did not establish a hive.

4.6.4 Special Status Amphibians

Although there are two amphibian species that potentially occur within the project site—yellow-blotched Ensatina (*Ensatina eschscholtzii croceater*) and foothill yellow-legged frog (*Rana boylii*)—there is no suitable aquatic habitat onsite or within the project vicinity. For these reasons, no special status amphibians are considered to have any potential to occur on the project site.

4.6.5 Special Status Reptiles

Five reptile species potentially occur within the project site: 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 site 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 site is approximately 6 miles (9.6 kilometers) to the west. Although marginally suitable habitat occurs within some portions of the project site, the project site is outside of this species known range. This species was not observed during any of the field work completed in 2023 but is considered to have a low potential of occurrence as suitable habitat is present onsite and the species has been reported from the vicinity.

Desert tortoise habitat consists of Joshua tree, desert wash & scrub, and especially creosote bush. Large wildflower blooms are preferred, as they provided food for the desert tortoise following winter brumation. Tortoise burrows & nests require friable soil. Suitable desert tortoise habitat is present throughout the project site. As a result, a protocol-level focused survey for desert tortoise was conducted by WSP in 2023. No live desert tortoises or any definitive desert tortoise sign was observed onsite or within the buffer area during the survey. No desert tortoise burrows, scat, carcasses, tracks, drinking depressions or courtship rings were observed. As a result, desert tortoise is considered to be absent from the project site 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 site. 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 site 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 site 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 site and are considered absent from the project and 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/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 site; however, no suitable nesting habitat occurs within the project site. Potentially suitable nesting habitat occurs east of and outside of the

project site. This species was not observed during any of the protocol-level surveys in 2023 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 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 2023 protocol surveys for burrowing owl, a total of twenty-nine (29) unoccupied suitable burrowing owl burrows were identified during the burrow survey. During the protocol-level surveys, no burrowing owls were identified within the project site or 500-foot (152-meter) buffer. Therefore, this species is considered absent from the project site.

However, several incidental observations of burrowing owl were observed within 0.5 mile (805 meters) of the project site. Due to the species' presence in suitable habitat within the vicinity of the project site and availability of suitable burrows onsite, the burrowing owl has a high potential to forage and nest on and/or adjacent to the project site at any time in the future.

Short-eared owl is a 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 site. Due to a lack of suitable habitat and lack of observation, this species is considered absent from the project site and will not be discussed further in the document.

Long-eared owl is currently a 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. One adult long-eared owl was observed on April 9, 2021 (Blackhawk 2021), within a narrow window composed of non-native tamarisk west of the intersection of Rosamond Boulevard and 90th Street West, in the gen-tie line area. Stands of trees offering a dense canopy and unoccupied stick nests suitable for nesting occur irregularly along the southern and eastern portions of the project site; however, these trees are associated with residential development. Additionally, the project site and surrounding areas support a high number of nest competitors such as common ravens, which may also result in increased rates of predation of long-eared owl young. Potential for long-eared owl to nest within the project site 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 site for foraging.

Swainson's hawk The Swainson's hawk is a state threatened species and is also protected under the federal MBTA. This species occurs in open desert, grasslands, agricultural land, and open riparian habitat that contain scattered, large trees or small groves. Nests are constructed using sticks, bark, and leaves, typically placed in trees or large bushes; old stick nests built by common

ravens and other raptors may be utilized by this species. Swainson's hawks in Antelope Valley have also been documented to nest in Joshua trees.

A single female Swainson's hawk was observed during protocol surveys in a medium sized western Joshua tree. It was recorded 1.5 miles north of Rosamond Boulevard between 120th and 125th Street West. This female was observed sitting on a nest and was monitoring throughout the protocol survey until nest completion. The nesting attempt was successful, and two hatchlings successfully fledged the nest. Two other incidental observations of Swainson's hawk were also observed along portions of the gen-tie line alignment. One was located just south of an existing water tank on a rocky outcrop north of Dawn Road and between 20th Street West and 30th Street, West and the second was located south of Rosamond Boulevard and east of 140th Street West. It is possible that these sightings were of the same nesting individual identified as present within the project site, as there were no other signs of nesting activity or behavior in the surrounding area.

Swainson's hawk-suitable nests were generally found throughout the project site. The focused Swainson's hawk surveys resulted in mapping a total of 78 suitable potential nests within the project site, 45 of which occurred within potential gen-tie line project areas, and one observed on the WRESC site. Swainson's hawk only occupied one of those nests. Of the remaining suitable potential nest trees, 56 were occupied by competitors (namely red-tailed hawks [*Buteo jamaicensis*] and common ravens [*Corvus corax*]). The competitors were observed in trees, distribution poles, lattice towers and other structures within the project site.

Based on previous studies (Blackhawk 2021), the same active Swainson's hawk nest was also monitored in 2022 nesting season, but the nest failed for unknown reasons. This nest a native Joshua tree as nesting substrate and native open creosote scrub with Joshua trees intermixed as immediately adjacent foraging habitat. For these reasons, Swainson's hawk is considered to be present within the project site, but only for foraging purposes.

Merlin is protected under the federal MBTA. This species winters in open country, shrubland, forests, parks, grassland and prairies. Breeds in northern Canada and Alaska. Since there is no suitable habitat within the project site and this species was not observed during any of the protocol-level surveys, merlin is considered to be absent from the project site 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 site in 2021 perched on telephone poles and flying overhead. Due to a lack of suitable nesting habitat within the project site, there is no potential for this species to nest in the project site. But this species is considered present and will likely forage in the general vicinity.

California condor is a federal 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 site. 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 site and was not observed during any of the protocol-level surveys, so it is considered absent from the project site and will not be discussed further in the document.

loggerhead shrike The loggerhead shrike is designated as an SSC 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 site and were generally seen on each of the 2023 surveys. Due to the species' presence in suitable, connected habitat, the loggerhead shrike is considered to be present within the project site.

LeConte's thrasher is designated as a SSC 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 site, multiple detections of this species were found during the 2023 surveys within native saltbush scrub and creosote-white bursage series habitat, including in and adjacent to the gen-tie line alignment. Due to the presence of this species' suitable habitat, the LeConte's thrasher is considered to present in the project site.

4.6.7 Special Status Mammals

Eight sensitive mammal species were recorded in the vicinity of project site: 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 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. 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 do. There are significant mine areas in the vicinity of the project site. However, the project site does

not contain any suitable roosting areas. This species has a high potential for foraging in and around the project site but is not likely to roost on the project site.

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 site 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 site. This species was not observed on the project site. Due to the presence of suitable habitat onsite and known records from the vicinity, this species is considered to have a moderate potential to occur on the project site.

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 site is well below the elevation limits of this species and is outside of the know range, this species is considered absent from the project site and will not be discussed further in the document.

American badger is listed as a SCC. This species can be found in 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. A know recorded occurrence of this species was identified within one miles of the project site. Since suitable habitat occurs throughout the project site and large burrows suitable for this species were documented during the 2023 surveys (WSP 2023d). American badger is a wide-ranging species and may occupy portions of the project site for 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 site is near the western limits of this species range, suitable habitat occurs within the project site. Therefore, protocol-level surveys were completed within the project site. Based on the survey results, no Mohave ground squirrel were observed or otherwise detected during the protocol survey. Therefore, this species is considered absent from the project site and will not be discussed further in the 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 CNDDB, 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 a 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, and 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 12 non-wetland ephemeral drainages were documented in the study area. The lateral limits of flows of the non-wetland waters ranged from 1 to 10 feet and was determined by heterogeneity in soils, vegetation, and geomorphology compared to the adjacent uplands. Soils within the ephemeral features were composed of well-drained, coarse textures, such as sandy or gravelly materials with low organic content. The total acres of the non-wetland waters contained within the study area summed to 0.85 acres and 8,945 linear feet (2,726 meters). No hydrophytic or native riparian plant species were observed in the project site. Soil pits were dug as several location 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.

Cottonwood Creek is illustrated in NWI and NHD as coursing through the western portion of the study area. However, field observations indicate that Cottonwood Creek is no longer discernible in those regions; its flow regime has been altered and redirected due to intersections with various elements associated with the construction of the existing wind energy facility sited to the north of the study area.

Conclusions derived from the jurisdictional delineation indicate that the ephemeral waters documented in the study area are likely jurisdictional WSC regulated by the CDFW and RWQCB. No waters were deemed jurisdictional WUS 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 site consists primarily of undeveloped land, which can provide opportunity for undisturbed localized wildlife movement. The project site broadly includes areas of sparce to moderately high desert vegetation cover, intermixed with disturbed areas. Existing development associated with the city of Rosamond, 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 SR 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 gen-tie alignment.

5.0 DISCUSSION AND RECOMMENDATIONS

The presence of sensitive biological resources identified above are discussed in this section regarding the project-related impacts and general recommendations to minimize those impacts to a level that is less than significant. The sensitive biological resources that are present or have a

high potential to occur within the project site following the 2023 field assessment 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 WRESC site. Most of this portion of the project site 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 impacts to sensitive biological resources in this area, are not likely to occur.

Direct impacts associated with the proposed project development include the initial vegetation removal and ground disturbance during initial grading. Indirect impacts from dust, noise, vibration and similar are possible anywhere along the gen-tie alignment, but primarily in the undeveloped WRESC portion of the project site. The following is a discussion of the significance of the project-related impacts to each sensitive biological resources. Also included area 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 site. 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 within the project site is along the gen-tie alignment and pole/tower selection has not been completed. 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. No other mitigation measures will be required for this species.

Sagebrush loeflingia (was previously a CNPS list 2.B2) on the project site is limited to the western edge of the P-1 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 site 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. No other mitigation measures will be required for this species.

Mohave monardella is present within the project site, and it is common throughout the sandy areas in the western portion of the WRESC site. Since 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. No other mitigation measures will be required for this species.

Western Joshua tree is currently a candidate species for listing, and therefore must be treated as a state endangered species, until a final decision has been made. Since impacts are proposed for this species, an Incidental Take Permit (ITP) will need to be acquired from CDFW. 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. It is noteworthy that WJTCA ITPs do not have statutory deadlines; however, CDFW commits to processing applications as promptly as possible.

Based on the western Joshua tree census a total of 2,718 western Joshua trees were identified within the accessible portions of the project site. There are 1,287 class A trees less than 3.3 feet (1 meter) in height, 1,312 Class B trees (3.3 feet [1 meter] or greater but less than 16.4 feet [5 meters] in height), and 119 Class C trees; (16.4 feet [5 meters] or greater in height). An estimated 400 western Joshua trees were identified as potential transplants. This was determined based on trees that were less than 2 meters, immature, and isolated. These trees will need to be assessed by an licensed arborist or similar landscape expert to determine transplant viability. Once the finalized number of trees and authorized size classes are determined for take and transplant are submitted in the application, the CDFW Region will issue an invoice for the requisite mitigation fee. As per Fish and Game Code section 1927.3 (d) and (e), the mitigation fee for each tree size class is specified ($1,000 for each western Joshua tree 16.4 feet [5 meters] or greater in height; $200 for each western Joshua tree 3.3 feet [1 meter] or greater but less than 16.4 feet [5 meters] in height; $150 for each western Joshua tree less than 3.3 feet [1 meter] in height).

The permittee is then responsible for remitting the mitigation fee by check or money order, along with the attached invoice, to the appropriate CDFW Regional office at the provided address. Issuance of a WJTCA ITP is a discretionary permit, necessitating compliance with CEQA. Upon receipt and deposit of the mitigation fee by the CDFW Regional office, the finalization of the ITP can proceed. The permittee will then receive a signed copy of the ITP via email, which will include a detailed description of the project and outlined avoidance and minimization measures aimed at mitigating the project's impact on western Joshua trees.

No additional mitigation measures are anticipated to be required for impacts to these sensitive plant species.

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 site, California condor and desert tortoise. The project site 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 site 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 site. A biological monitor will be present onsite during vegetation removal activities to eliminate the potential for take of this species. But incidental take of this species is not anticipated during construction, and therefore an ITP is not required.

Desert tortoise is a federally threatened species and was not identified within the project site during protocol-level surveys and is currently considered absent from the project site. However, suitable habitat remains within the project site and the closest recorded occurrence of desert tortoise is within 3 miles of the project stie. Out of an abundance of caution, a perimeter fence should be installed to reduce the likelihood of tortoise entering the project. Pre-construction survey will be required prior to any vegetation removal and ground disturbance activities. If any tortoise or tortoise sign is identified within the project site 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 are not anticipated at this time.

Crotch's bumble bee was observed nectaring within the project site, 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). Although a single queen bee was identified during the first protocol-level survey, it is the opinion of WSP that it did not establish a hive onsite. This individual queen was observed foraging within the project site 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. Therefore, any direct project-related impacts to this species will be considered significant and will require an ITP under California Fish and Game Code 2081. To avoid take of this species, all initial vegetation

clearing, must be completed outside of the bumble bee flight season (March to August). This flight season and its duration are also directly affected by weather. In 2023, the flight season was delayed 4 weeks due to an extended rain season.

If construction activities must occur within the flight season, a protocol-level surveys should be completed the season prior to any construction activity. If no Crotch's bumble bee are observed during the protocol-level survey, no compensatory mitigation will be required. However, since suitable foraging habitat was identified within the project site, a pre-construction clearance survey will also be required, prior to any vegetation removal or soil disturbance. The survey will include a 100 percent cover of the entire project site to identify newly established hive locations between the protocol-level surveys and the construction activities.

Also, a biological monitor will be required during vegetation removal throughout the entire flight season to ensure no bumble bees are impacted. If any bumble bee or hive are identified during the pre-construction survey or any subsequent monitoring efforts, then an ITP will be required. The standard compensatory mitigation for impacts to Crotch's bumble bee will be habitat replacement at a 3:1 ratio, although not anticipated at this time.

In addition, under consultation with CDFW, a Resource Management Plan will be prepared and will include a section specifically addressing Crotch's bumble bee. The plan will include details associated with general pre-construction clearance surveys, a Worker Environmental Awareness Program (WEAP), biological monitoring and reporting. This plan will be reviewed and approved by CDFW staff before implementation.

Swainson's hawk An active Swainson's hawk nest occurs approximately 1.5 miles (2.4 kilometers) north of the proposed gen-tie alignment. Typically, mitigation measures for this species are required if impacts occur within 0.5 miles (0.8 kilometers) of the project site. The proposed project will not impact the active nest location, as it is well over 7 miles from the WRESC site. The incremental loss of foraging habitat associated with the proposed project is not considered significant, since the project site is surrounded by undeveloped desert scrub habitat in all directions and the majority of the gen-tie line alignment is associated with previous disturbance along existing road ROWs. However, there is a potential for impacts to foraging Swainson's hawk during construction activities. Therefore, we recommend a biological monitor conduct a pre-construction clearance survey as well as monitor all initial vegetation removal during the nesting season for this species, which is generally from February to August. If a Swainson's hawk constructs a new nest within the project site or within a 0.5-mile (0.8-kilometer) buffer around the project, this would be considered a potentially significant impact and an ITP would be required. The standard compensatory mitigation for impacts to Swainson's hawk will be habitat replacement at a 3:1 ratio, though not anticipated at this time. In addition, under consultation with CDFW, a Resource Management Plan will be prepared, which will include a section on Swainson's hawk.

Burrowing owl will require a pre-construction take avoidance survey per guidelines specified in the Staff 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.

If occupied burrows are found during the take avoidance surveys, a Burrowing Owl Exclusion Plan shall be developed and approved by the CDFW, and shall include the following: burrow excavation procedures, onsite and post-relocation monitoring of occupied burrows, and reporting. A qualified biologist shall be onsite during all ground-disturbing construction activities in potential burrowing owl habitat.

The qualified biologist shall be responsible for implementing and overseeing burrowing owl avoidance and minimization measures. The qualified biologist shall have the authority to stop construction if activities are in violation of avoidance and minimization measures. A qualified biologist possesses a bachelor's degree in wildlife biology or a related field and has demonstrated field experience in the identification and life history of burrowing owl.

If burrowing owls are present during construction, adaptive mitigation measures for temporary impacts may include, but not necessarily be limited to; scheduling the construction during non-breeding periods; avoiding proximal areas of occupied burrows during construction; biological monitoring of occupied burrow sites during construction; passive relocation of non-nesting burrows, and instituting buffer zones and/or "shelter in place" techniques around occupied burrows.

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 construction and then again following the WEAP training at project kick-off. A biological monitor will be called to the project site 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; they are considered potentially significant under CEQA guidelines. The 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, biological monitoring and reporting. This plan will be reviewed and approved by CDFW staff before implementation.

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 that have experience with all the sensitive species present onsite, so the pre-construction clearance surveys can be complete at the same time.

5.3 Jurisdictional Drainages

All drainage features within the project site are considered ephemeral and the USACE no longer takes jurisdiction over these features. There is a single drainage feature that flows across the P-2 south additional workspace area. The remaining drainage features are located along the gen-tie alignment. Due to the relatively small size of the drainage features (1 to 10 feet in width), there should be no issue with relocating a transmission pole/tower a few feet to avoid the drainage features. Regulatory permits under a Waste Discharge Requirement from the RWQCB and a 1602 permit under the California Fish and Game Code from the CDFW may be required, if drainage features cannot be avoided, but are not anticipated at this time as the Applicant has agreed to avoid all drainage features.

5.4 Wildlife Corridors

The portion of the project site 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 site is surrounded by undeveloped lands. The only barriers to wildlife movement within the vicinity of the project site is SR 14 on the west side and the combination of Sierra Highway and the railroad ROW on the east. To reduce impacts to wildlife species that may be utilizing the project site are 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 site will be developed so that no industrial stormwater is discharged offsite. Industrial stormwater will be collected by perimeter culverts and directed to onsite retention ponds to be retained for future site use or evaporated. Non-industrial natural stormwater (sheet flow) from the upland areas to the south of the project site will be diverted around the site where it will continue to flow to its current pre-construction locations. Industrial stormwater will be retained onsite for

use as makeup water; and therefore, there will be no floodplain or stormwater runoff impacts from WRESC operations. The retained industrial stormwater will be treated as necessary prior to re-use.

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 site 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, as described in Section 5.7, Noise. As previously noted, the project consists of five, 100 MW 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 site 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 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 40 to 125 feet tall. The tallest structure is the low-pressure exhaust stack at 125 feet above land surface. The structure, as well as a new 230-kilovolt (kV) 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-kV 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, would mainly 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). 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 include 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.

6.1.1 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.

6.1.2 Pre-Construction Surveys

Prior to 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.

6.1.3 Biological Monitoring

A qualified biologist shall monitor and be present onsite 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.

6.1.4 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.
- BMPs 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 will consult with state and local agencies to generate conservation measures for the 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 onsite 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 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.

6.1.5 Worker Environmental Awareness Plan

A qualified biologist shall present a WEAP on 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 onsite. 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 site, (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 affiliation of those persons who attend

6.1.6 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 close, and equipment cleaning.

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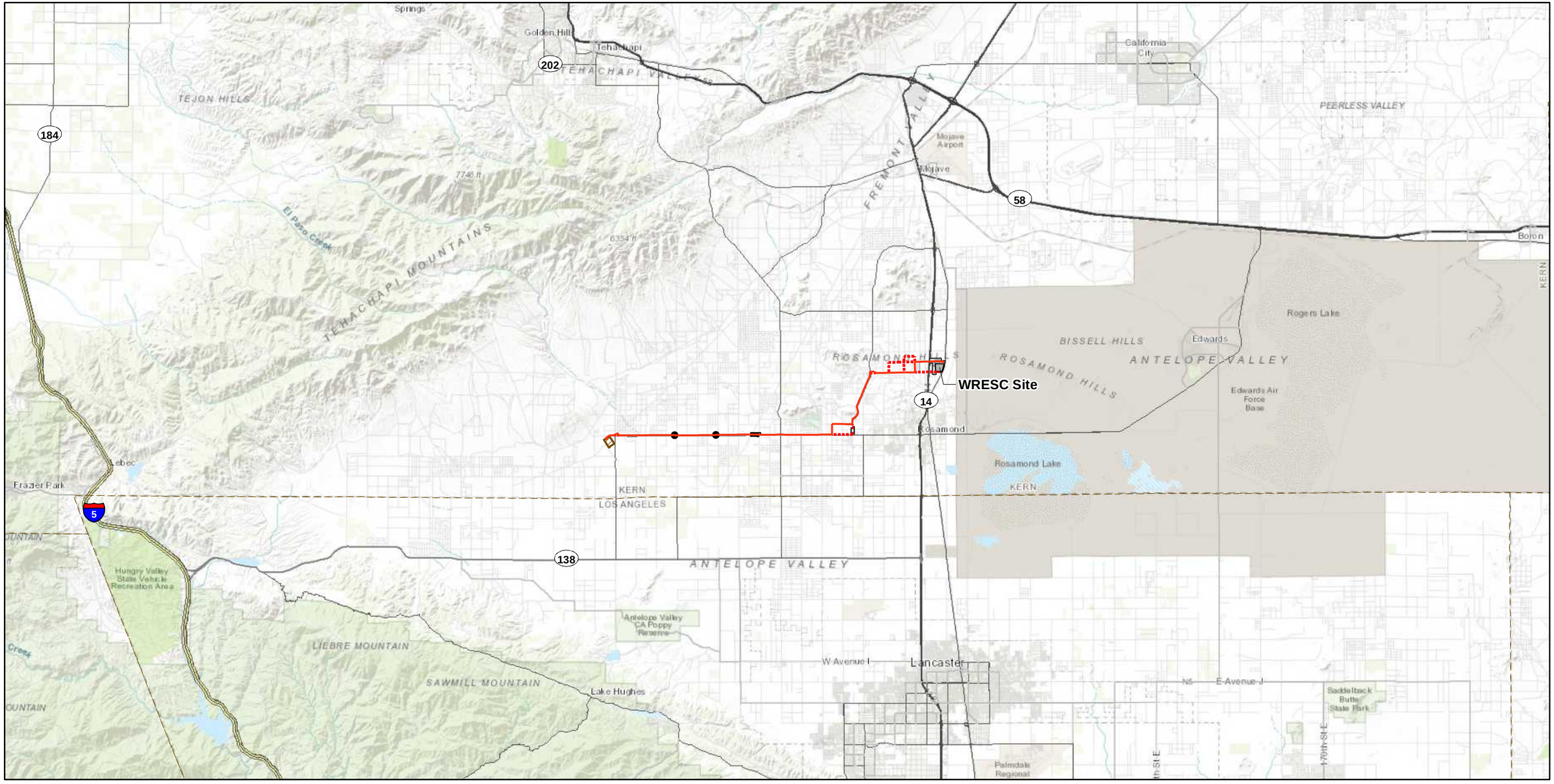
Appendix A
Figures



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
- Project Boundary
- SCE Whirlwind Substation

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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MILES

CLIENT
GEM A-CAES LLC

CONSULTANT
wsp

YYYY-MM-DD	2024-02-29
DESIGNED	MK
PREPARED	MK
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PROJECT
WILLOW ROCK ENERGY STORAGE CENTER
BIOLOGICAL RESOURCES ASSESSMENT

TITLE
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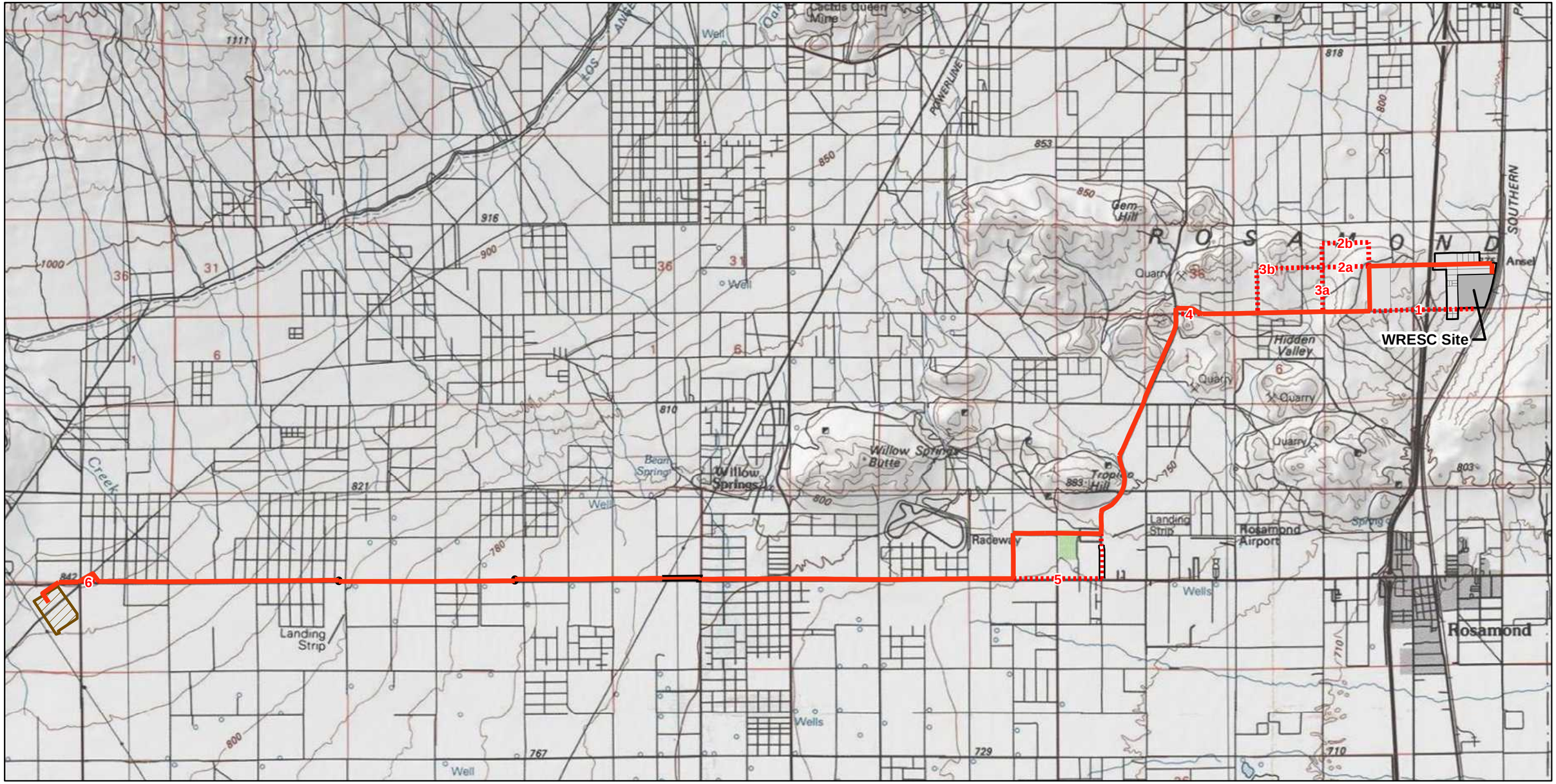


LEGEND

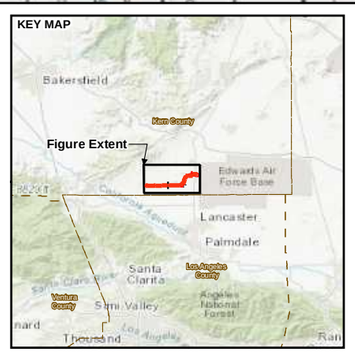
Proposed Transmission Line

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

Project Components

- WRESC Site
- Other Project Parcels
- Project Boundary
- SCE Whirlwind Substation

KEY MAP



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CLIENT
GEM A-CAES LLC

CONSULTANT
wsp

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PREPARED	MK
REVIEWED	SC
APPROVED	SH

PROJECT
WILLOW ROCK ENERGY STORAGE CENTER
BIOLOGICAL RESOURCES ASSESSMENT

TITLE
HISTORIC USGS TOPOGRAPHIC MAP

PROJECT NO.	PHASE	REV.	FIGURE
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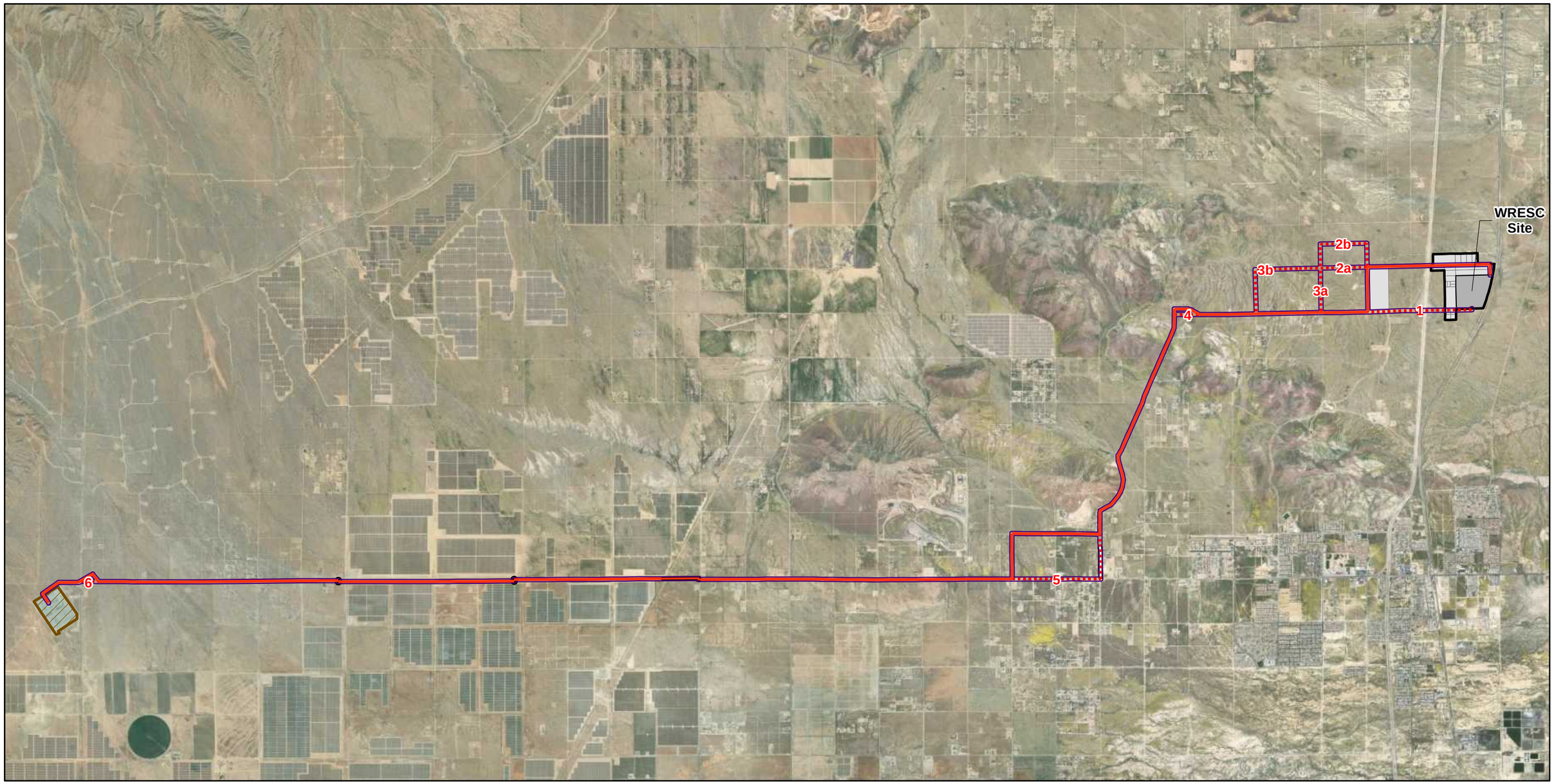


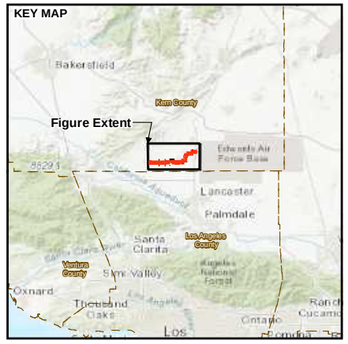
LEGEND

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
- Project Boundary
- SCE Whirlwind Substation

125 ft Buffer Around Transmission Line

KEY MAP



0 1 2
MILES

NOTE(S)
1. PROJECT BOUNDARY IS CALCULATED BASED ON A 125 FT BUFFER AROUND TRANSMISSION LINES AND PROJECT PARCELS.

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
SOURCE: ESRI, MAXAR, EARTHSTAR GEOGRAPHICS, AND THE GIS USER COMMUNITY

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WILLOW ROCK ENERGY STORAGE CENTER
BIOLOGICAL RESOURCES ASSESSMENT

CONSULTANT
wsp

YYYY-MM-DD	2024-02-29
DESIGNED	MK
PREPARED	MK
REVIEWED	SC
APPROVED	VG/LL

TITLE
LOCAL VICINITY MAP

PROJECT NO.	PHASE	REV.	FIGURE
31406639.000	01.LBR	0	3

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

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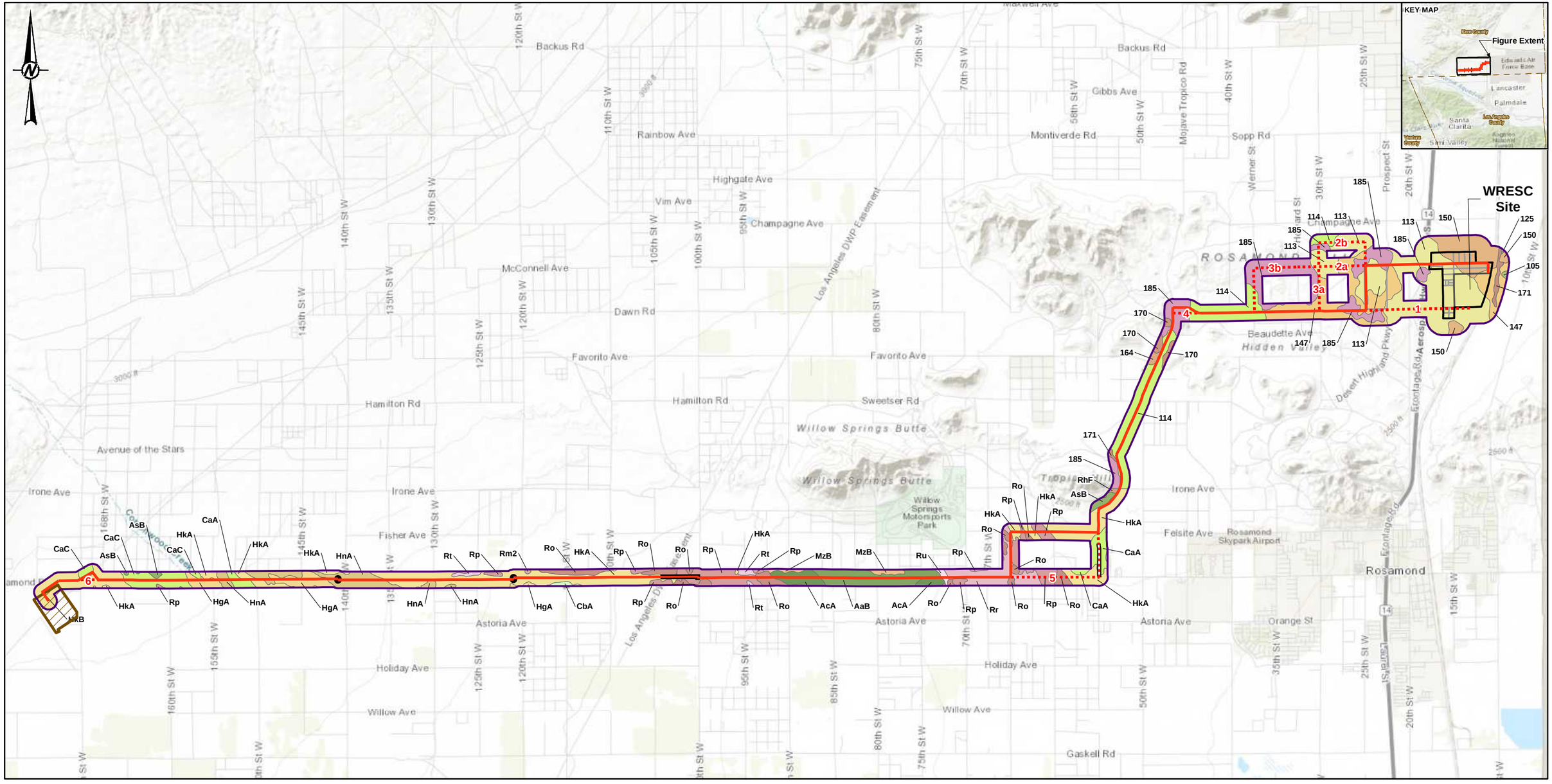

LEGEND

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
- Project Boundary
- SCE Whirlwind Substation
- Project Survey Area

0 1 2 MILES

NOTE(S)

1. STUDY AREA IS CALCULATED BASED ON A 500 FT BUFFER AROUND TRANSMISSION LINES AND A 1000 FT BUFFER AROUND PROJECT PARCELS.

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 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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REVIEWED	SC
APPROVED	VG/LL

PROJECT
WILLOW ROCK ENERGY STORAGE CENTER
BIOLOGICAL RESOURCES ASSESSMENT

TITLE
SOILS MAP

PROJECT NO.	PHASE	REV.	FIGURE
31406639.000	01.LBR	0	4

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

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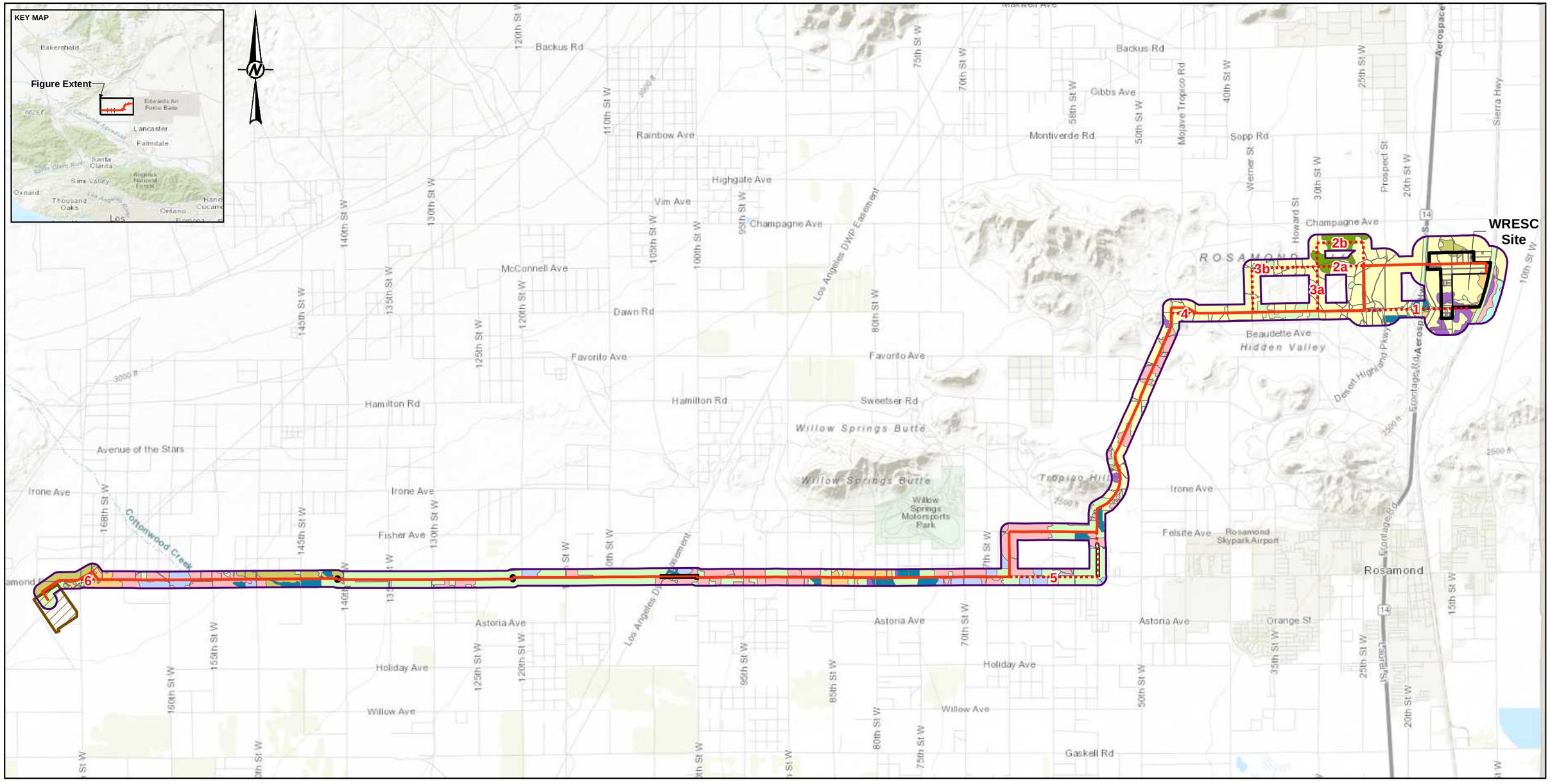
KEY MAP



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
- Project Boundary
- SCE Whirlwind Substation
- Project Survey Area

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)

0 1 2
MILES

NOTE(S)
1. STUDY AREA IS CALCULATED BASED ON A 500 FT BUFFER AROUND TRANSMISSION LINES AND A 1000 FT BUFFER AROUND PROJECT PARCELS.

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 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
BIOLOGICAL RESOURCES ASSESSMENT

TITLE
VEGETATION MAP

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DESIGNED	MK
PREPARED	MK
REVIEWED	SC
APPROVED	VG/LL

PROJECT NO.	PHASE	REV.	FIGURE
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IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM ANSI B

1 in

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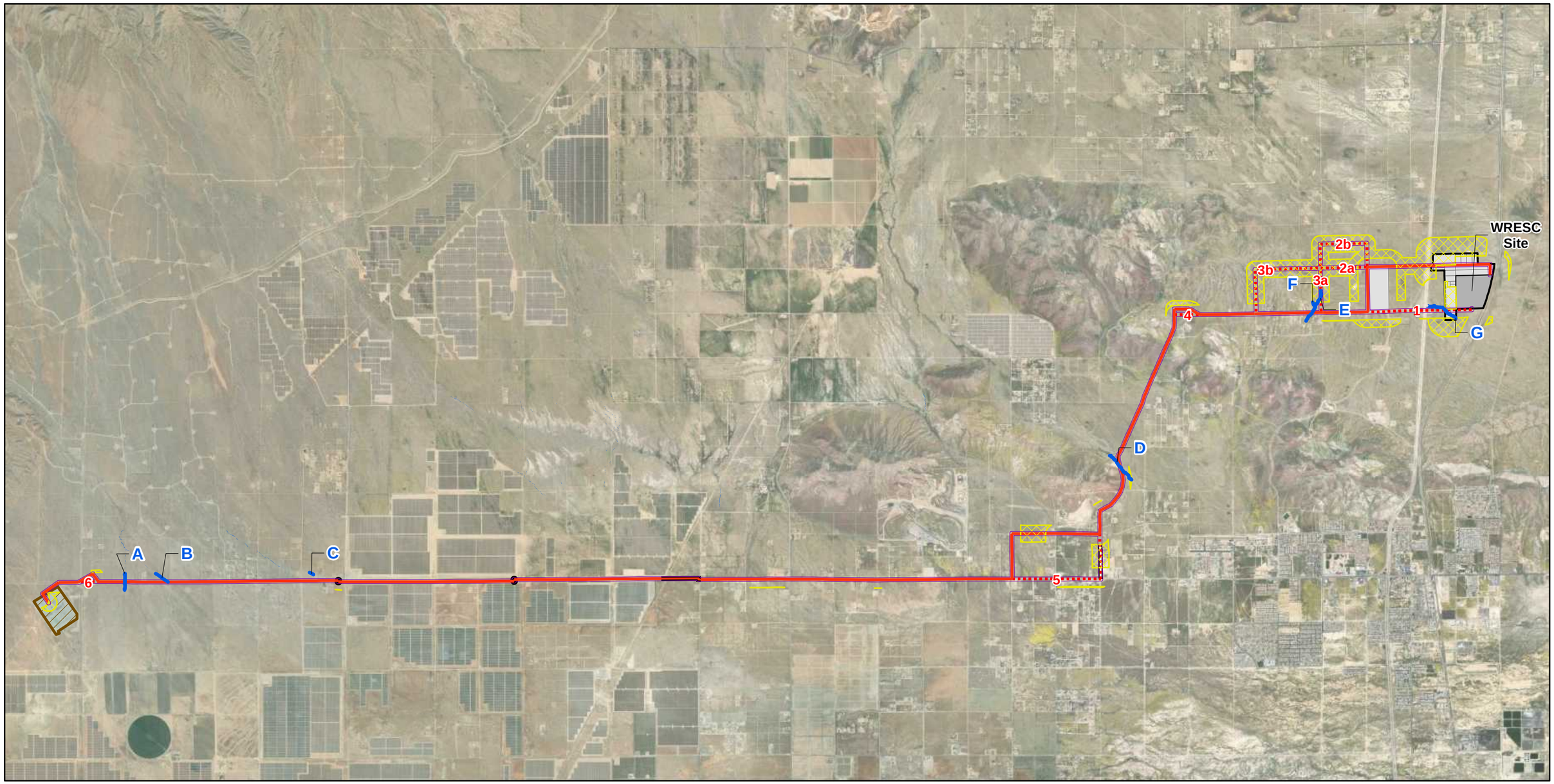


LEGEND

- Jurisdictional Drainages

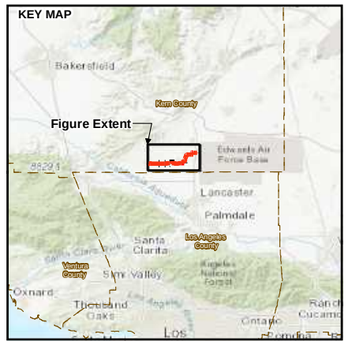
Proposed Transmission Line

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

Project Components

- WRESC Site
- Other Project Parcels
- Project Boundary
- Portions of the Survey Area Not Surveyed
- SCE Whirlwind Substation
- 125 ft Buffer Around Transmission Line

KEY MAP



0 1 2

MILES

NOTE(S)

1. PROJECT BOUNDARY IS CALCULATED BASED ON A 125 FT BUFFER AROUND TRANSMISSION LINES AND PROJECT PARCELS.

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 SOURCE: ESRI, MAXAR, EARTHSTAR GEOGRAPHICS, AND THE GIS USER COMMUNITY

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BIOLOGICAL RESOURCES ASSESSMENT

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DESIGNED	MK
PREPARED	MK
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TITLE
JURISDICTIONAL WATERS

PROJECT NO.	PHASE	REV.	FIGURE
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IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM: ANSI B

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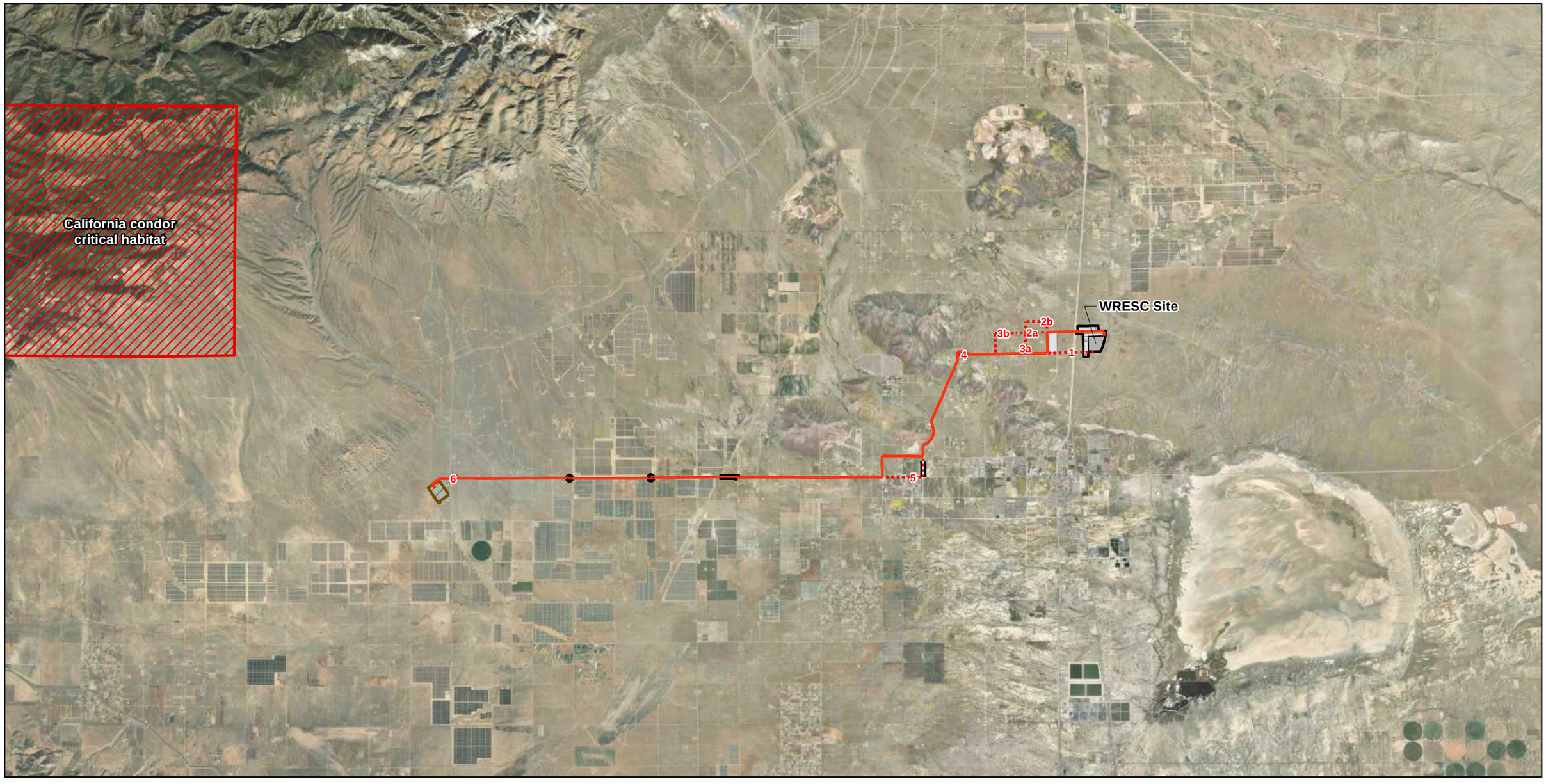


LEGEND

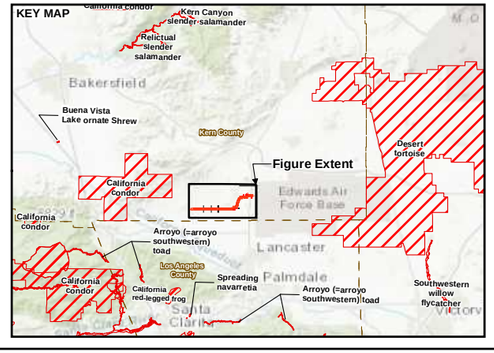
Critical Habitat

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
- Project Boundary
- SCE Whirlwind Substation



0 2 4 MILES

REFERENCE(S)
1. CRITICAL HABITAT FROM THE US FISH & WILDLIFE SERVICE DATA PORTAL, 2023
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
CRITICAL HABITAT

YYYY-MM-DD	2024-02-29
DESIGNED	MK
PREPARED	MK
REVIEWED	SC
APPROVED	VG/LL

PROJECT NO.	PHASE	REV.	FIGURE
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IF THIS MEASUREMENT DOES NOT MATCH WHAT IS SHOWN, THE SHEET SIZE HAS BEEN MODIFIED FROM: ANSI B

1 in

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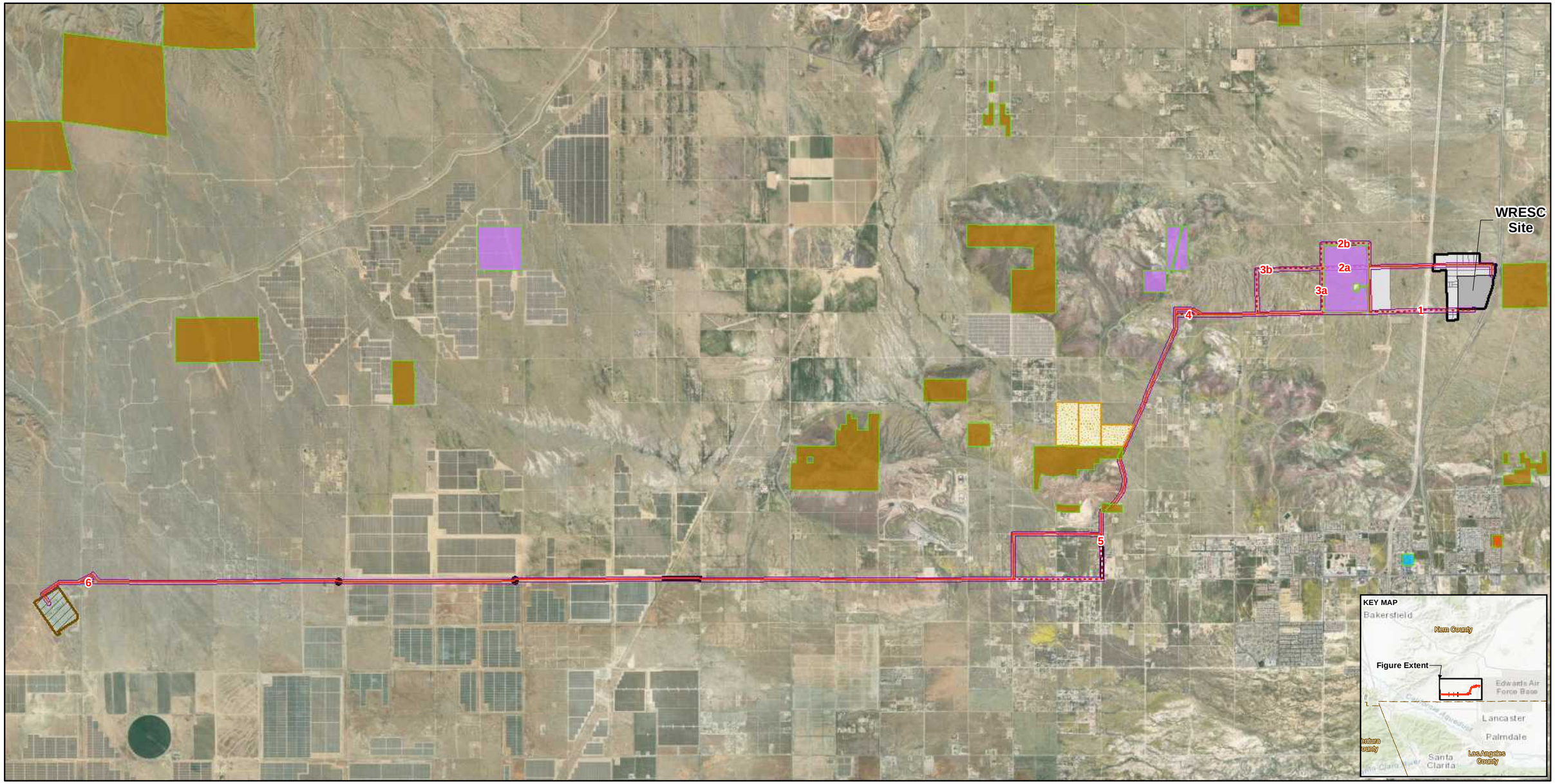

LEGEND

California Conservation Easement - Site Name

- Mojave Desert Land Trust Conservation Easement

California Protected Areas - Owner

- County
- Other State
- Special District
- US Bureau of Land Management

California Protected Area - Access Type

- Open Access

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
- Project Boundary
- SCE Whirlwind Substation
- 125 ft Buffer Around Transmission Line

0 1 2 MILES

NOTE(S)

1. THE PROJECT BOUNDARY IS CALCULATED BASED ON A 125 FT BUFFER AROUND TRANSMISSION LINES AND PROJECT PARCELS.

REFERENCE(S)

1. CRITICAL HABITAT FROM THE US FISH & WILDLIFE SERVICE DATA PORTAL, 2023
2. COORDINATE SYSTEM: NAD 1983 STATEPLANE CALIFORNIA V FIPS 0405 FEET
3. 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
BIOLOGICAL RESOURCES ASSESSMENT

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YYYY-MM-DD	2024-02-29
DESIGNED	MK
PREPARED	MK
REVIEWED	SC
APPROVED	VG/LL

TITLE
PROTECTED/CONSERVED LANDS

PROJECT NO.	PHASE	REV.	FIGURE
31406639.000	01.LBR	0	8

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

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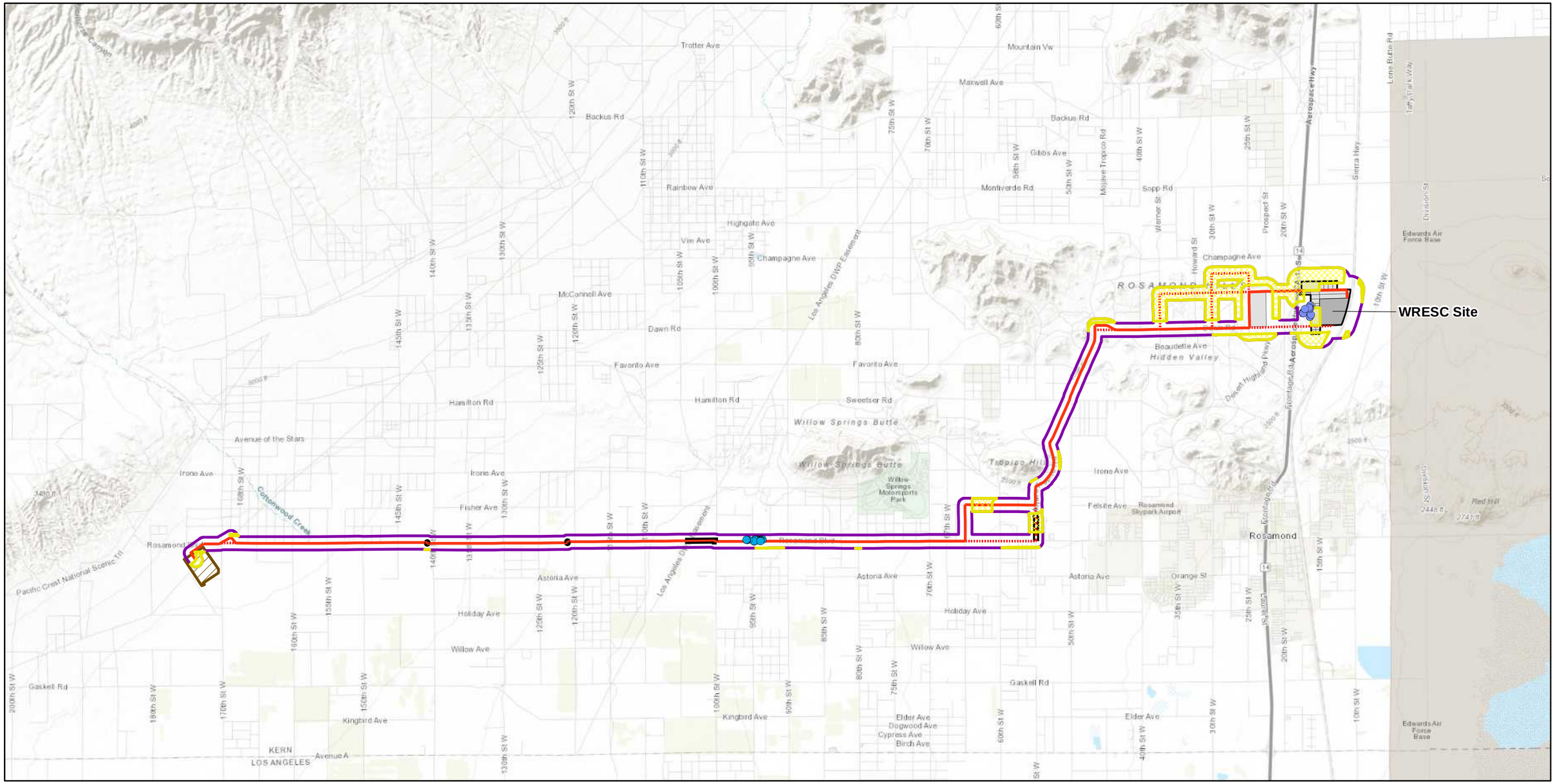
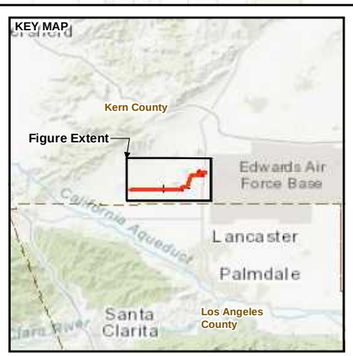


LEGEND

Sensitive Plant Species Common Name
- Alkali Mariposa Lily
- Sagebrush loeflingia

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
- Project Boundary
- Portions of the Survey Area Not Surveyed
- Project Survey Area
- SCE Whirlwind Substation



NOTE(S)
1. STUDY AREA IS CALCULATED BASED ON A 500 FT BUFFER AROUND TRANSMISSION LINES AND A 1000 FT BUFFER AROUND PROJECT PARCELS.

REFERENCE(S)
1. WSP 2022, 2023 - SPECIAL STATUS PLANT OBSERVATION DATA
2. COORDINATE SYSTEM: NAD 1983 STATEPLANE CALIFORNIA V FIPS 0405 FEET
3. 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

0 1 2
MILES

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GEM A-CAES LLC

CONSULTANT
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YYYY-MM-DD	2024-02-29
DESIGNED	MK
PREPARED	MK
REVIEWED	SC
APPROVED	VG/LL

PROJECT
WILLOW ROCK ENERGY STORAGE CENTER
BIOLOGICAL RESOURCES ASSESSMENT

TITLE
SPECIAL STATUS PLANTS

PROJECT NO.	PHASE	REV.	FIGURE
31406639.000	01.LBR	0	9

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

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Loggerhead shrike (2)

Loggerhead shrike (2)

WRESC Site

1

2a

2b

3a

3b

4

5

6

KEY MAP

Figure Extent

Bakersfield

Kern County

Edwards Air Force Base

Lancaster

Palmdale

Los Angeles County

Santa Clarita

Ventura County

Simi Valley

Angeles National Forest

Thousand Oaks

Ontario

LEGEND

Common Name

- Black-tailed Jackrabbit
- Burrowing owl
- Crotch's bumblebee
- Le Conte's Thrasher
- Loggerhead Shrike
- Prairie Falcon
- Swainson's hawk

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
- Project Boundary
- Portions of the Survey Area Not Surveyed
- SCE Whirlwind Substation
- Project Survey Area

0 1 2 MILES

NOTE(S)

1. STUDY AREA IS CALCULATED BASED ON A 100 FT BUFFER AROUND TRANSMISSION LINES AND A 500 FT BUFFER AROUND PROJECT PARCELS.

REFERENCE(S)

1. WSP 2022, 2023 - SPECIAL STATUS WILDLIFE OBSERVATION DATA
2. COORDINATE SYSTEM: NAD 1983 STATEPLANE CALIFORNIA V FIPS 0405 FEET
3. 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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GEM A-CAES LLC

CONSULTANT
wsp

YYYY-MM-DD	2024-02-29
DESIGNED	MK
PREPARED	MK
REVIEWED	SC
APPROVED	VG/LL

PROJECT
WILLOW ROCK ENERGY STORAGE CENTER
BIOLOGICAL RESOURCES ASSESSMENT

TITLE
SPECIAL STATUS WILDLIFE

PROJECT NO.	PHASE	REV.	FIGURE
31406639.000	01.LBR	0	10

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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

Ephedraceae		**Ephedra Family**
Ephedra	*nevadensis*	Nevada ephedra
Apiaceae		**Carrot Family**
Lomatium	*mohavense*	Mojave wild parsely
Asteraceae		**Sunflower Family**
Acamptopappus	*sphaerocephalus*	goldenhead
Ambrosia	*dumosa*	burro weed
Ambrosia	*salsola*	burrobrush
Ericameria	*teretifolia*	green rabbitbrush
Eriophyllum	*pringlei*	Pringle eriophyllum
Lasthenia	*gracilis*	needle goldfields
Layia	*glandulosa*	white layia
Leptosyne	*bigelovii*	bigelow coreopsis
Lessingia	*glandulifera*	valley vinegar weed
Malacothrix	*glabrata*	desert dandelion
Stephanomeria	*exigua*	small wirelettuce
Stephanomeria	*parryi*	Parry's wirelettuce
Tetradymia	*axillaris*	catclaw horsebrush
Tetradymia	*stenolepis*	narrow scaled felt thorn
Xylorhiza	*tortifolia*	Mojave woodyaster
Boraginaceae		**Borage Family**
Amsinckia	*tessellata*	Devil's lettuce
Pectocarya	*sp.*	unknown combseed sp.
Phacelia	*distans*	fern-leaf phacelia
Phacelia	*tanacetifolia*	tansy leafed phacelia
Brassicaceae		**Mustard Family**
Descurainia	*pinnata*	yellow tansy mustard
Lepidium	*fremontii*	desert pepper grass
Sisymbrium	*irio*	London rocket
Cactaceae		**Cactus Family**
Cylindropuntia	*echinocarpa*	silver cholla
Caryophyllaceae		**Pink Family**
Loeflingia	*squarrosa*	spreading loeflingia
Chenopodiaceae		**Goosefoot Family**
Grayia	*spinosa*	hopsage
Krascheninnikovia	*lanata*	winter fat
Cucurbitaceae		**Gourd Family**
Marah	*macrocarpa*	chilicothe
Euphorbiaceae		**Spurge Family**

Flora Compendia

Euphorbia	*albomarginata*	rattlesnake sandmat
Fabaceae		**Legume Family**
Melilotus	*albus*	white sweetclover
Geraniaceae		**Geranium Family**
Erodium	*cicutarium*	red stemmed filaree
Lamiaceae		**Mint Family**
Monardella	*exilis*	Mojave monardella
Loasaceae		**Loasa Family**
Mentzelia	*albicaulis*	white stemmed blazing star
Nyctaginaceae		**Four O'Clock Family**
Mirabilis	*laevis*	desert wishbone bush
Onagraceae		**Evening Primrose Family**
Camissonia	*sp.*	unknown sun cup sp.
Eremothera	*boothii*	Booth's sun cup
Papaveraceae		**Poppy Family**
Eschscholzia	*californica*	California poppy
Eschscholzia	*minutiflora*	pygmy poppy
Polemoniaceae		**Phlox Family**
Allophyllum	*glutinosum*	sticky flase gilia
Eriastrum	*eremicum*	desert woollystar
Eriastrum	*sapphirinum*	sapphire eriastrum
Gilia	*latiflora*	broad flowered gilia
Loeseliastrum	*matthewsii*	desert calico
Polygonaceae		**Buckwheat Family**
Centrostegia	*thurberi*	thurber spiny herb
Chorizanthe	*watsonii*	Watson's spineflower
Eriogonum	*brachyanthum*	yellow buckwheat
Eriogonum	*fasciculatum*	California buckwheat
Eriogonum	*maculatum*	spotted buckwheat
Eriogonum	*mohavense*	western Mojave buckwheat
Eriogonum	*trichopes*	little desert trumpet
Eriogonum	*viridescens*	bright green buckwheat
Rumex	*crispus*	curly dock
Solanaceae		**Nightshade Family**
Lycium	*cooperi*	Cooper's boxthorn
Zygophyllaceae		**Caltrop Family**
Larrea	*tridentata*	creosote bush
Agavaceae		**Agave Family**
Yucca	*brevifolia*	Joshua tree

Flora Compendia

Alliaceae		**Onion Family**
Allium	*fimbriatum*	fringed onion
Poaceae		**Grass Family**
Bromus	*diandrus*	ripgut brome
Bromus	*madritensis*	foxtail brome
Bromus	*tectorum*	downy chess
Schismus	*barbatus*	old han schismus
Stipa	*speciosa*	desert needle grass
Themidaceae		**Brodiaea Family**
Dichelostemma	*capitatum*	blue dicks

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
Crotophytidae		**Collared and Leopard Lizards**
Gambelia	*wislizenii wislizenii*	large-spotted leopard lizard
Phrynosomatidae		**Lizards**
Sceloporus	*magister uniformis*	yellow-backed spiny lizard
Uta	*stansburiana*	side-blotched lizard
Teiidae		**Whiptails**
Aspidoscelis	*tigris*	western whiptail
Colubridae		**Egg-laying snakes**
Arizona	*elegans candida*	Mojave glossy snake
Masticophis	*flagellum piceus*	red coachwhip
Viperidae		**Vipers**
Crotalus	*scutulatus*	Mojave green rattlesnake
Cathartidae		**Vultures**
Cathartes	*aura*	turkey vulture
Accipitridae		**Hawks**
Buteo	*swainsoni*	Swainson's hawk*
Buteo	*jamaicensis*	red-tailed hawk
Falconidae		**Falcons**
Falco	*sparverius*	American kestrel
Falco	*mexicanus*	prairie falcon
Columbidae		**Pigeons/Doves**
Columba	*livia*	rock pigeon
Zenaida	*macroura*	mourning dove
Strigidae		**True Owls**
Athene	*cunicularia*	burrowing owl**
Tyrannidae		**Flycatchers**
Myiarchus	*cinerascens*	ash-throated flycatcher
Tyrannus	*verticalis*	western kingbird
Laniidae		**Shrikes**
Lanius	*ludovicianus*	loggerhead shrike
Corvidae		**Jays/Crows**
Corvus	*corax*	common raven
Alaudidae		**Larks**

* No nests observed on-site
** Incidental Observation, not on-site

Fauna Compendium

Eremophila	*alpestris*	horned lark
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
Parulidae		**New world warblers**
Dendroica	*nigrescens*	black-throated gray warbler
Wilsonia	*pusilla*	Wilson's warbler
Emberizidae		**Warblers, sparrow, etc.**
Spizella	*breweri*	brewer's sparrow
Amphispiza	*belli*	sage sparrow
Fringillidae		**Finches**
Haemorhous	*mexicanus*	house finch
Passeridae		**True sparrows**
Passer	*domesticus*	house sparrow
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	*macrotis arsipus*	desert kit fox
Felidae		**Cats**
Lynx	*rufus*	bobcat
Bovidae		**Bison, Goats, and Sheep**
Ovis	*aries*	domestic sheep