CANYON ROAD SOLAR PROJECT, BIOLOGICAL RESOURCES ASSESSMENT

MERCED COUNTY, CALIFORNIA

AUGUST 2022

Prepared for:

Stephanie Loucas
VP, Development
RPCA Solar 6, LLC
Wildcat Renewables, LLC
Renewable Properties, LLC
879 Sanchez Street
San Francisco, CA 94114

Canyon Road Solar Project
Biological Resources Assessment
Merced County, California

Prepared by:

Lisa Achter
Senior Wildlife Biologist
Phone: 530-217-8952

Reviewed by:

Susan Dewar
Senior Ecologist, Project Manager

KLEINFELDER
2882 Prospect Park Drive, Suite 200
Rancho Cordova, CA 95670

August 2022
Kleinfelder Project No. 20230572.001A

KLEINFELDER
Bright People. Right Solutions.

TABLE OF CONTENTS

SUMMARY

The proposed RPCA Canyon Road Solar Project (Project) is a small-scale utility solar generating and energy storage project located in the city of Los Banos, just west of Interstate 5 in Merced County, California (Figure 1). In June of 2022, Kleinfelder biologist Lisa Achter conducted a desktop review of the vicinity of the Project Area (Figure 2) and performed a field verification survey of the Project Area. The intention of the field verification survey was to identify and characterize existing on-site biological resources and determine the potential for special status species and/or sensitive habitats (as defined by state and federal resource agencies) to occur on the site.

The field survey focused on the approximate 33-acre Project Area, although the entire 318.10-acre parcel was assessed. Based on the results of the desktop review and field verification survey, four special-status wildlife species, including burrowing owl (*Athene cunicularia*), Swainson's hawk (*Buteo swainsoni*), San Joaquin kit fox (*Vulpes macrotis mutica*), and San Joaquin coachwhip (*Masticophis flagellum ruddocki*), and no special-status plant species were determined to have a moderate or higher potential to occur within the Project Area.

This report serves to document the methods and results of the June 2022 biological field survey, describes potential biological resource constraints associated with construction of a solar facility at the site, and provides recommendations to address these constraints.

1 INTRODUCTION

1.1 BACKGROUND AND PROJECT DESCRIPTION

The proposed Canyon Road Solar Project is a small-scale utility solar generating and energy storage project located on approximately 33 acres of a 318.10-acre parcel (APN 088-020-039) in the city of Los Banos, Merced County, California (Figure 2). The Project is located off Canyon Road, just north of Los Banos Reservoir. Wildcat Renewables, LLC has entered into a long-term lease agreement with the property owner (Manuel and Linda Vieira) to facilitate the development of a small-scale, utility solar power generation facility.

The Project will generate a total of 5.0 megawatts (MW) alternating current (AC) (7.5 MW direct current) of clean, reliable solar energy when complete. The Project will interconnect to Pacific Gas and Electric Company's (PG&E's) pre-existing electrical distribution system located on site. The power generated from this facility will be sold to PG&E through a long-term Power Purchase Agreement. Additionally, the Project will be equipped with energy storage technology that will allow onsite renewable energy generation to be stored and dispatched onto the grid when needed.

The Project will utilize approximately 13,905 solar modules and 40 string inverters to convert the sun's energy into usable, AC power. Single-axis tracking technology will be utilized to allow the modules to efficiently track the sun throughout the day and maximize the efficiency of solar collection. The modules will be mounted on a steel racking system, which will be anchored into the ground using driven steel piers. The overall height of the array will be no more than 15-feet tall.

1.2 OBJECTIVES

The purpose of this analysis is to evaluate the Project Area to assess the potential for special-status plant and wildlife species and sensitive natural communities to occur, and the potential effects to these biological resources due to construction and operation of the Project. This assessment provides the methods and results of the field survey, including vegetation communities and land cover types present within the Project Area, special-status plant and wildlife species detected or with potential to occur within the Project Area, the presence of wildlife movement corridors or federally designated Critical Habitat within or adjacent to the Project Area, and any additional focused surveys necessary to further evaluate potential effects to biological resources that could occur within the Project Area. Recommendations to avoid and minimize impacts to these resources are provided in Section 5 of this document.

1.3 PROJECT LOCATION

The approximate 318.10-acre parcel is located just north of Canyon Road, approximately 0.70 mile east of Interstate 5 (Figure 2). The Project Area is surrounded primarily by grazing land and agriculture, but there is a solar facility on the northwestern side of the parcel. The land south of the Project Area is within the San Luis Reservoir State Recreation Area.

The Project Area is located at an elevation of approximately 320-380 feet above mean sea level, and adjacent land uses in the vicinity of the Project Area are primarily agriculture. No structures are located on the parcel; however, a pump station for San Luis Reservoir is located just south of the Project boundary (Figure 2).

The Project Area is situated within Township 11 South, Range 9 East, and Section 1 of the Volta and Ortigalita Peak NW 7.5-minute U.S. Geological Survey (USGS) quadrangles. The corresponding latitude and longitude at the approximate center of the Project Site is 37°00'03" north latitude and 120°55'52" west longitude.

2 REGULATORY SETTING

2.1 FEDERAL

Federal Endangered Species Act (FESA)

The FESA prohibits the taking, possession, sale or transport of endangered species. Pursuant to the requirements of FESA, a federal agency reviewing a project within its jurisdiction must determine whether any federally listed threatened or endangered species could be present in the project site and determine the extent to which the project will have an effect on such species. In addition, federal agencies are required to determine whether the project is likely to jeopardize the continued existence of any species proposed to be listed under FESA or result in the destruction or adverse modification of critical habitat designated for such species (16 USC 1536[3], [4]). Projects that would result in "take" of any federally-listed threatened or endangered species are required to obtain authorization from the National Marine Fisheries Service (NMFS) and/or U.S. Fish and Wildlife Service (USFWS) through either Section 7 (interagency consultation) or section 10(a) (incidental take permit) of FESA, depending on whether the federal government is involved in permitting or funding the project.

Migratory Bird Treaty Act

The Migratory Bird Treaty Act (MBTA) regulates or prohibits taking, killing, possession of, or harm to migratory bird species listed in Title 50 Code of Federal Regulations (CFR) Section 10.13. The MBTA is an international treaty for the conservation and management of bird species that migrate through more than one country, and is enforced in the United States by the USFWS. Hunting of specific migratory game birds is permitted under the regulations listed in Title 50 CFR 20. The MBTA was amended in 1972 to include protection for migratory birds of prey (raptors).

Federal Clean Water Act (Section 404)

The objective of the Clean Water Act (CWA) is to restore and maintain the chemical, physical, and biological integrity of the Nation's waters. Under Section 404 of the CWA, the U.S. Army Corps of Engineers (ACOE) has the authority to regulate activities that could discharge fill or dredge material or otherwise adversely modify wetlands or other waters of the United States. The ACOE implements the federal policy embodied in Executive Order 11990, which, when implemented, is intended to result in no net loss of wetland values or function.

Federal Clean Water Act (Section 401)

The State Water Resources Control Board (SWRCB) has authority over wetlands through Section 401 of the CWA, as well as the Porter-Cologne Act, California Code of Regulations Section 3831(k), and California Wetlands Conservation Policy. The CWA requires that an applicant for a Section 404 permit (to discharge dredged or fill material into waters of the United States) first obtain certification from the appropriate state agency stating that the fill is consistent with the State's water quality standards and criteria. In California, the authority to either grant certification or waive the requirement for permits is delegated by the SWRCB to the nine regional

boards. The Regional Water Quality Control Board (RWQCB) has authority for Section 401 compliance in the Project Area. A request for certification is submitted to the regional board at the same time that an application is filed with the ACOE.

2.2 STATE

California Endangered Species Act (CESA)

Under the CESA, the California Fish and Wildlife Commission (CFWC) has the responsibility of maintaining a list of threatened species and endangered species. California Department of Fish and Wildlife (CDFW) also maintains lists of species of special concern. A Species of Special Concern (SSC) is a species, subspecies, or distinct population of an animal native to California that currently satisfies one or more of the following (not necessarily mutually exclusive) criteria:

- is extirpated from the State or, in the case of birds, in its primary seasonal or breeding role;
- is listed as Federally-, but not State-, threatened or endangered;
- meets the State definition of threatened or endangered but has not formally been listed;
- is experiencing, or formerly experienced, serious (noncyclical) population declines or range retractions (not reversed) that, if continued or resumed, could qualify it for State threatened or endangered status;
- has naturally small populations exhibiting high susceptibility to risk from any factor(s), that if realized, could lead to declines that would qualify it for State threatened or endangered status.

CESA prohibits the take of state-listed animals and plants in most cases, but CDFW may issue incidental take permits under special conditions. Pursuant to the requirements of CESA, a state agency reviewing a project within its jurisdiction must determine whether any state-listed endangered or threatened species could be present on the property and determine whether the project would have a potentially significant impact on such species.

California Fish and Game Code Sections 3503, 3511, 3513, 4150

Fish and Game Code Section 3503 states that it is unlawful to take, possess, or needlessly destroy the nests or eggs of any bird, except as otherwise provided by this code or any regulation made pursuant thereto. Fish and Game Code Section 3503.5 protects all birds-of-prey (raptors) and their eggs and nests. Section 3511 states fully protected birds or parts thereof may not be taken or possessed at any time. Section 3513 states that it is unlawful to take or possess any migratory non-game bird as designated in the Migratory Bird Treaty Act. All nongame mammals, including bats, are protected by California Fish and Game Code 4150.

California Fish and Game Code Sections 1600-1616

Under Sections 1600-1616 of the California Fish and Game Code, the CDFW regulates activities that would alter the flow, bed, channel, or bank of streams and lakes. The limits of CDFW's jurisdiction are defined in the code as the "… bed, channel or bank of any river, stream, or lake designated by the department in which there is at any time an existing fish or wildlife resource or from which these resources derive benefit ..." (Section

1601). In practice, the CDFW usually marks its jurisdictional limit at the top of the stream or bank, or at the outer edge of the riparian vegetation, whichever is wider.

CDFW Wetlands Protection Regulations

CDFW derives its authority to oversee activities that affect wetlands from state legislation. This authority includes Sections 1600-1616 of the Fish and Game Code (lake and streambed alteration agreements), CESA (protection of state listed species and their habitats - which could include wetlands), and the Keene-Nejedly California Wetlands Preservation Act of 1976 (states a need for an affirmative and sustained public policy program directed at wetlands preservation, restoration, and enhancement). In general, the CDFW asserts authority over wetlands within the state either through review and comment on ACOE Section 404 permits, review and comment on CEQA documents, preservation of state listed species, or through stream and lakebed alteration agreements.

Porter-Cologne Water Quality Control Act

The Porter-Cologne Water Quality Control Act established the SWRCB and each RWQCB as the principal state agencies responsible for the protection of water quality in California. As noted above, the RWQCB has regulatory authority over the Project Area.

The Porter-Cologne Water Quality Control Act provides that, "All discharges of waste into the waters of the State are privileges, not rights." Waters of the State are defined in Section 13050(e) of the Porter-Cologne Water Quality Control Act as "…any surface water or groundwater, including saline waters, within the boundaries of the state." All dischargers are subject to regulation under the Porter Cologne Water Quality Control Act, including both point and nonpoint source dischargers. The RWQCB has the authority to implement water quality protection standards through the issuance of permits for discharges to waters at locations within its jurisdiction. As noted above, the RWQCB is the appointed authority for Section 401 compliance in the Project Area.

California Environmental Quality Act

Although threatened and endangered species are protected by specific federal and state statutes, California Environmental Quality Act (CEQA) Guidelines Section 15380(b) provides that a species not listed on the federal or state list of protected species may be considered rare or endangered if the species can be shown to meet certain criteria. These criteria have been modeled after the definition in FESA and the section of the California Fish and Game Code dealing with rare or endangered plants and animals and allows a public agency to undertake a review to determine if a significant effect on a species that has not yet been listed by either the USFWS or CDFW (i.e., species of concern) would occur. Whether a species is rare, threatened, or endangered can be legally significant because, under CEQA Guidelines Section 15065, an agency must find an impact to be significant if a project would "substantially reduce the number or restrict the range of an endangered, rare, or threatened species." Thus, CEQA provides an agency with the ability to protect a species from a project's potential impacts until the respective government agencies have an opportunity to designate the species as protected, if warranted.

3 METHODS

3.1 DESKTOP REVIEW

Special-status plant and wildlife species present or potentially present within or adjacent to the Project Area were identified through a desktop literature review using the following sources: USFWS Information for Planning and Consultation (IPaC) Trust Resource Report (USFWS 2022a); CDFW California Natural Diversity Database (CNDDB) (CDFW 2022); and the California Native Plant Society (CNPS) Online Inventory of Rare and Endangered Vascular Plants (2022). Additionally, the Natural Resources Conservation Service (NRCS), Web Soil Survey (WSS) was queried to determine soil types that exist within the boundary of the Project Area (USDA 2022) and the National Wetlands Inventory (NWI) was reviewed to assess potentially jurisdictional wetland resources on the site (USFWS 2022b). The CNDDB and CNPS database searches included the 7.5-minute USGS Volta quadrangle and the eight surrounding quadrangles (9-quad search). The IPaC search included the Project Area and a two-mile buffer surrounding the site. Special-status species include those that are considered threatened, endangered, candidate for listing, species of special concern or fully protected by CDFW, or USFWS, or ranked by CNPS. California Rare Plant Rank (CRPR) 1 and 2 plant species were included in the CNPS search. Following a review of these resources, Kleinfelder also reviewed relevant life history information on those species documented as occurring in the region, including habitat type, soils, and elevation preferences.

3.2 DEFINITION OF SPECIAL-STATUS SPECIES

Special-status plant and wildlife species with state and/or federal protections as described under FESA or CESA in Section 2 above are specifically defined below.

3.2.1 SPECIAL-STATUS WILDLIFE SPECIES

Special-status wildlife species include taxa designated as follows:

- Threatened, endangered, or candidate for listing under FESA;
- Threatened, endangered, or rare under the CESA;
- CDFW species of special concern or fully protected species.

3.2.2 SPECIAL-STATUS PLANT SPECIES

Special-status plant species include taxa designated as follows:

- Threatened, endangered, or candidate for listing under the FESA;
- Threatened, endangered, or rare under the CESA;
- Species with CRPRs as described below (CNPS 2021):
    - 1A – Plants presumed extinct in California
    - 1B – Plants considered rare, threatened, or endangered in California and elsewhere
    - 2 – Plants considered rare, threatened, or endangered in California, but more common elsewhere.

3.3 FIELD SURVEYS

A field survey was performed by Kleinfelder biologist Lisa Achter on June 16, 2022, to evaluate botanical and wildlife resources within the Project Area, including habitat suitability for special-status species.

The survey consisted of walking throughout the Project Area to map and characterize vegetation communities and land cover types, collect data on the relative quality of, and potential for existing habitats to support the special-status species identified during the preliminary database and resources review discussed previously, and to identify any other sensitive biological resources present or potentially present within the site. An aerial photograph (Google Earth 2022) and georeferenced mobile map with an overlay of the Project boundary was utilized to map the vegetation communities and record any special-status or sensitive biological resources while in the field. Protocol-level surveys for special-status plant and wildlife species were not conducted during this time. However, any incidental observations of such species were documented during the field survey.

Kleinfelder conducted a constraints-level analysis for potentially jurisdictional wetlands and waters based on current and historic aerial photography signatures and field observations. The analysis was based on criteria provided by the following agencies:

- Waters of the U.S., including wetlands, under the jurisdiction of the ACOE, pursuant to Section 404 of the CWA.
- Wetlands and Waters of the State under the jurisdiction of the Regional Water Quality Control Board, pursuant to Section 401 of the CWA and the Porter-Cologne Water Quality Control Act (Porter-Cologne Act).
- Rivers, streams, or lakes under the jurisdiction of CDFW, pursuant to Section 1602 of the California Fish and Game Code.

4 RESULTS

4.1 BIOLOGICAL SETTING

The biological setting surrounding the Project Area is primarily grazing land and agriculture, but there is a solar facility on the northwestern side of the parcel. The land south of the Project Area is within the San Luis Reservoir State Recreation Area.

4.2 EXISTING HABITATS

The Project Area is composed entirely of non-native annual grasses and forbs that have been extensively grazed. Very little vegetation was present during the field survey, and most of the Project Area was bare ground. A barn and cattle holding area are located along the eastern edge of the Project Area. A discussion of the general characteristics observed within the Project Area during the field survey are presented below.

4.2.1 SOILS

According to the NRCS (USDA 2022), three soil types are present within the Project Area, including: Apollo clay loam, 2 to 8 percent slopes; Apollo clay loam 15 to 30 percent slopes; and Los Banos clay loam 2 to 8 percent slopes (Figure 3).

Apollo clay loam consists of deep, well drained soils formed in material weathered from soft calcareous shale and soft sandstone that occurs on low foothills adjacent to valley floors. Los Banos clay loam consists of very deep, well drained soils on terraces and fan remnants. These soils formed in calcareous gravelly alluvium from mixed rock sources.

4.2.2 VEGETATION COMMUNITIES AND LAND COVER TYPES

One vegetation community and one land cover type, including non-native annual grassland and developed/disturbed areas, were mapped within the Project Area (Figure 4). These are described in more detail below.

Non-Native Annual Grassland (32.14 acres). This single vegetation community was mapped throughout the Project Area. The grasses and forbs had been grazed so heavily that only one species, wild oat (*Avena* sp.) was identifiable (Figure 4, Figure 5).

Developed/Disturbed (0.79 acres). The barn and cattle holding area located along the eastern edge of the Project Area are considered developed/disturbed habitat, as they contain bare ground, fencing, and debris, which provide little habitat that would support special-status or common wildlife or plant species.

4.2.3 Wetlands and Water Features

A small channel feature (0.07 acre) is located in the southwestern portion of the Project Area. This feature appears to sporadically convey runoff or overflow from the adjacent manmade pump station but did not contain any characteristics of wetlands (i.e., hydric soils, hydrophytic vegetation or wetland hydrology). The feature contained bare ground or extremely sparse annual grass cover that had been grazed so heavily it was unidentifiable. The pump station and the Project Area are located on a flat knoll at the highest elevation in the vicinity of the Project Area. The channel appeared to only convey water from the pump station during periods of overflow due to pumping activities or during rain events when the holding pond is already full, apparently resulting in erosion of the soil into a channelized feature caused by the sporadic and sudden high flows. The channel connects to a drainage feature west of the Project Area classified as Riverine in the NWI; however, there is no OHWM within the channel and there is no downstream connection to a traditional navigable waterway. To determine if this feature may fall under the jurisdiction of the ACOE and/or RWQCB as waters of the U.S. and/or waters of the State; a formal wetland delineation would be necessary.

4.3 SPECIAL-STATUS WILDLIFE SPECIES WITH POTENTIAL TO OCCUR IN THE PROJECT AREA

Results of the CNDDB and IPaC searches indicated 30 special-status wildlife species known to occur within the two-mile/nine quad search radius of the Project Area (CDFW 2022; USFWS 2022). Of these, four have a moderate potential to occur. The remaining 26 special-status wildlife species are not expected to occur or have a low potential to occur within the Project Area due to a lack of suitable habitat, or the site is outside of the species' known range. As such, these 26 species were removed from further consideration. The four species with a moderate or greater potential to occur are described in more detail below.

San Joaquin coachwhip, a CDFW Species of Special Concern (SSC), occurs in open, dry, treeless areas with little or no cover, including valley grassland and saltbush scrub. It avoids dense vegetation where it cannot move quickly, including mixed oak chaparral woodland, and takes refuge in rodent burrows, under shaded vegetation, and under surface objects. Suitable habitat for this species is present within and adjacent to the Project Area, and there are documented occurrences within one mile of the site.

Burrowing owl, a CDFW SSC, utilizes abandoned ground squirrel burrows in open habitats, grasslands, and disturbed areas, typically on levees, mounds or areas where there are unobstructed views of possible predators such as raptors or foxes. Prey items include insects, small mammals, reptiles and amphibians. Suitable habitat for this species is present within and adjacent to the Project Area, and there are documented occurrences of this species within 4.5 miles of the Project Area.

Swainson's hawk, a state threatened species, spends the breeding season in the Central Valley of California and is commonly found in agricultural areas or open grasslands containing solitary trees for nesting. The diet consists of insects, small mammals and reptiles. Suitable foraging habitat for this species occurs within the Project Area during part of the year, and suitable nest trees are located along the eastern edge of the Project Area. There are several documented occurrences in the vicinity of the Project Area.

San Joaquin kit fox, a federally endangered and state threatened species, occurs in grasslands and agricultural areas along the edges of the San Joaquin Valley. It uses dens created by other mammals, as well as larger pipes and culverts for cover. It is primarily a nocturnal species and feeds on small mammals, birds and reptiles. No suitably sized dens for this species were observed within the Project Area during the field survey; however, the Project Area is located within suitable habitat, potentially suitable dens occur adjacent to the Project Area, and there are several documented occurrences within 5 miles of the Project Area.

A list of special-status wildlife species with potential to occur in the vicinity of the Project Area is included in Appendix A.

4.4 Special-Status Plant Species with Potential to Occur in the Project Area

Results of the IPaC, CNDDB and CNPS searches indicated 21 special-status plant species known to occur within the two-mile/nine quad search radius of the Project Area (CNPS 2022). None of these species are expected to occur within or adjacent to the Project Area due to a lack of suitable habitat, a lack of occurrences in the vicinity of the Project Area, or the Project Area is outside of the species' known range, therefore, these 21 special-status plant species are not discussed further in this document.

A list of plant species with potential to occur in the vicinity of the Project Area is included in Appendix B.

4.5 Critical Habitat

Critical habitat is a term defined and used in the federal Endangered Species Act to specify geographic areas that contain features essential to the conservation of an endangered or threatened species, and that may require special management and protection. Critical habitat may also include areas that are not currently occupied by the species but will be needed for its recovery.

The Project Area does not fall within or adjacent to Critical Habitat limits for any special-status wildlife or plant species.

4.6 WILDLIFE CORRIDORS AND HABITAT LINKAGES

Wildlife corridors are linear features that connect large patches of natural open space and provide avenues for the migration of animals. Habitat linkages are small patches that join larger blocks of habitat and help reduce the adverse effects of habitat fragmentation; they may be continuous habitat or discrete habitat islands that function as stepping-stones for wildlife dispersal.

The Project Area is not recognized as an important wildlife corridor by any regional or state agency or jurisdiction and is not considered critical to the ecological functioning of adjoining open space areas. It likely supports local movement patterns and provides food and cover resources for common wildlife species. Temporary effects due to noise and increased human activity during project activities would not interfere with these local movement patterns over time or affect the ability of these species to forage or reproduce.

4.7 COMMON WILDLIFE AND PLANT SPECIES

Five common wildlife species, American kestrel (*Falco sparverius*), killdeer (*Charadrius vociferus*), American crow (*Corvus brachyrhynchos*), turkey vulture (*Cathartes aura*), and western kingbird (*Tyrannus verticalis*) were observed during the field survey.

Common wildlife species adapted to life in proximity to human activity, such as coyote (*Canis latrans*), are likely to move through the Project Area on a regular basis to find food and cover. Several common native and non-native bird species are likely to use the Project Area for nesting and/or foraging, as there is suitable habitat available throughout the Project Area for at least part of the year (Figure 5). Four cows were observed grazing on the site.

5 RECOMMENDATIONS

This section addresses potential constraints to approval of the proposed Project as a result of the presence of sensitive biological resources and potential impacts to such resources that would result from project activities. Recommendations to address potential biological resource constraints are described below.

BIO-1: Preconstruction Nesting Bird Survey. All native birds in California are protected by the federal Migratory Bird Treaty Act (MBTA), and Section 3503.5 of the California Fish and Game Code specifically protects raptors. Ground disturbance**,** noise, or removal of vegetation that would result in destruction of active bird nests or disruption of breeding/nesting activity could be a violation of the MBTA and the California Fish and Game Code, as well as a significant impact under CEQA.

Kleinfelder recommends a nesting bird survey be performed by a qualified biologist no earlier than one week prior to any construction during the nesting season (March 1 – August 31) to determine if any native birds are nesting on or near the site (including a 250-foot buffer for raptors). If any active nests are observed during surveys, a suitable avoidance buffer from the nests should be determined by the qualified biologist based on species, location, and extent and type of planned construction activity. These nests would be avoided until the chicks have fledged and the nests are no longer active, as determined by the qualified biologist. Kleinfelder also recommends removing any suitable nesting habitat (i.e., trees and vegetation) outside of the bird breeding season to avoid impacts to nesting birds.

BIO-2: Trash Receptacles. Impacts to special-status species due to increased predation from construction activities could be considered a significant impact in the context of CEQA. All trash and waste items generated by construction

or crew activities should be properly contained in a covered trash receptacle and removed from the Project Site daily. This includes biodegradable items, such as apple cores and banana peels, that attract predators such as raccoons and American crows that could prey upon sensitive wildlife species

BIO-3: Common Wildlife Awareness. All Project personnel will visually check for animals in any pipes, culverts, or other open-ended materials and equipment stored on site for one or more overnight periods prior to moving, burying, or capping to ensure that no animals are present within the materials and equipment. To prevent accidental entrapment of wildlife during construction, all excavated holes, ditches, or trenches greater than six (6) inches deep will be covered at the end of each workday by suitable materials that cannot be displaced, or escape ramps will be placed in excavations. After opening and before filling, such holes, ditches, and trenches will be thoroughly inspected for trapped animals.

BIO-4: San Joaquin Kit Fox. Approximately 60 days prior to the construction start date, early evaluation surveys should be performed by a qualified biologist to determine the potential for presence of San Joaquin kit fox on the site. These surveys would follow the *U.S. Fish and Wildlife Service San Joaquin Kit Fox Survey Protocol for the Northern Range*, prepared by the Sacramento Fish and Wildlife Office (June 1999). The results of the survey would then be submitted to USFWS for review and guidance regarding potential project effects to this species.

BIO-5: San Joaquin Coachwhip. Prior to the start of construction on the day construction begins, a qualified biologist will perform a survey of the Project Area to ensure no San Joaquin coachwhips are present on the site. Should any coachwhips be detected during the survey or during Project construction, they will not be handled or harassed and will be allowed to move off the site on their own. A 30-foot no work buffer will be enacted around the species until they move offsite on their own.

BIO-6: Worker Environmental Awareness Training. A qualified biologist will conduct an environmental education program for all persons working on the Project prior to the onset of construction. A discussion of the biology and general behavior of any sensitive species which may be in the area, how they may be encountered within the work area, and procedures to follow when they are encountered will be included in the training. The status of CESA-listed species, including legal protection, penalties for violations, and Project-specific protective measures will also be discussed. Interpretation shall be provided for non-English speaking workers, and the same instruction shall be provided for any new workers prior to on-site Project activity. Copies of the training will be maintained at the worksite with the Project supervisor, and a handout containing this information will be distributed for workers to carry on-site. Upon completion of the program, employees shall sign an affidavit stating they attended the program and understand all protective measures.

6 REFERENCES CITED

16 U.S.C. 703–712. Migratory Bird Treaty Act, as amended.

CDFW (California Department of Fish and Wildlife). 2022. California Natural Diversity Database (CNDDB). Rarefind, Version 5 (Commercial Subscription). 2022. Accessed June 2022. Sacramento, California. https://map.dfg.ca.gov/rarefind/Login.aspx?ReturnUrl=%2frarefind%2fview%2fRareFind.aspx.

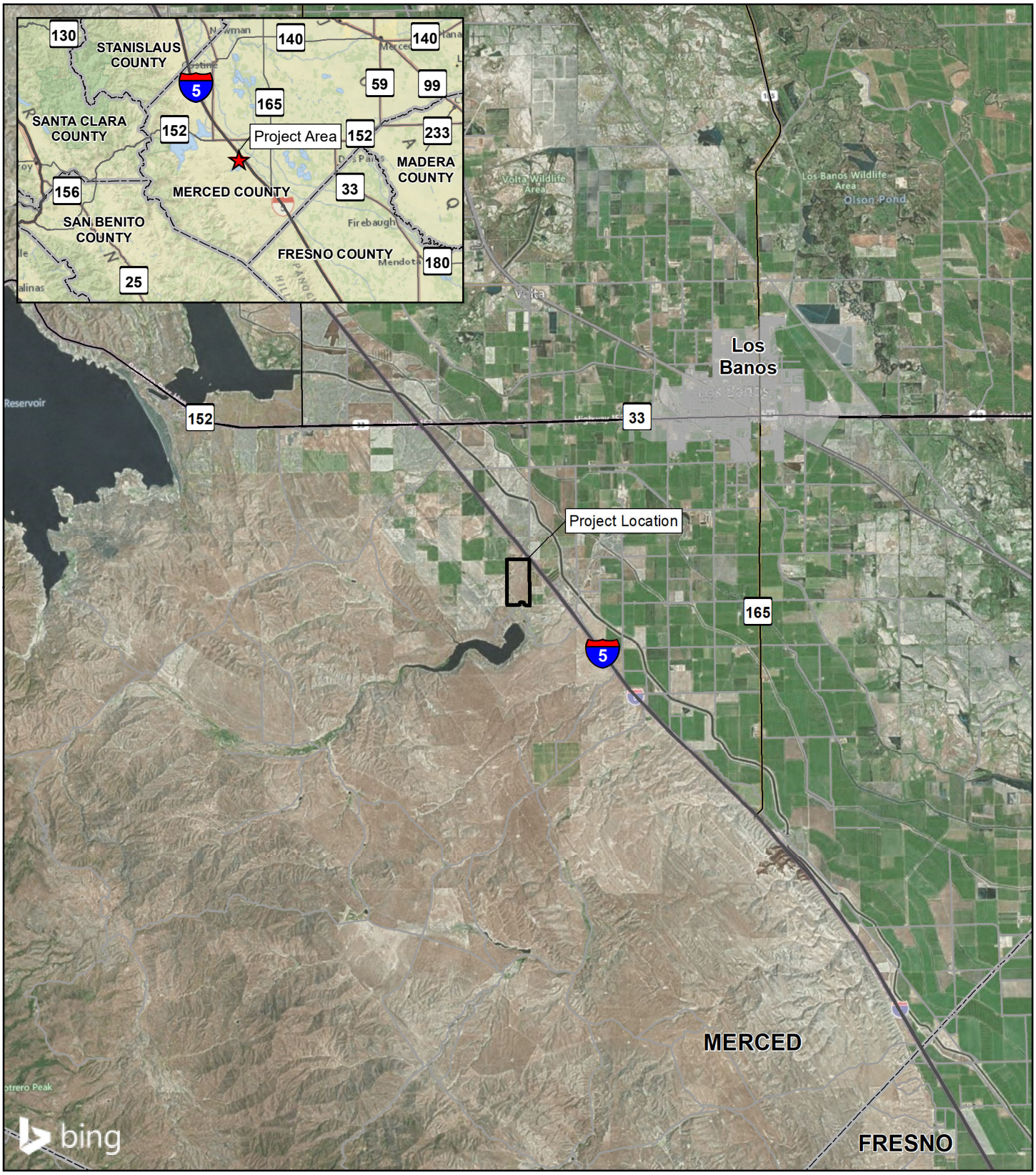
California Native Plant Society (CNPS), Rare Plant Program. 2022. Inventory of Rare and Endangered Plants of California (online edition, v9-01 0.0). Website https://www.rareplants.cnps.org [Accessed January 2022].

Google Earth V 7.3.4.8573 (64-bit). 2022. Grass Valley, California. 37°00'03" N and 120°55'52" W. Eye alt 3,462 feet. March 24, 2022. Accessed June 2022. Digital Globe 2022. http://www.earth.google.com.

USDA (United States Department of Agriculture). 2022. Natural Resources Conservation Service (NRCS). Web Soil Survey. Accessed June 2022. http://websoilsurvey.sc.egov.usda.gov/ App/HomePage.htm.

USFWS (U.S. Fish and Wildlife Service). 2022a. Information for Planning and Consultation (IPaC). Accessed June 2022. https://ecos.fws.gov/ipac/.

USFWS (U.S. Fish and Wildlife Service). 2022b. May 2022. National Wetlands Inventory website. U.S. Department of the Interior, Fish and Wildlife Service, Washington, D.C.



Source: Bing Maps

0 1.5 3 Miles

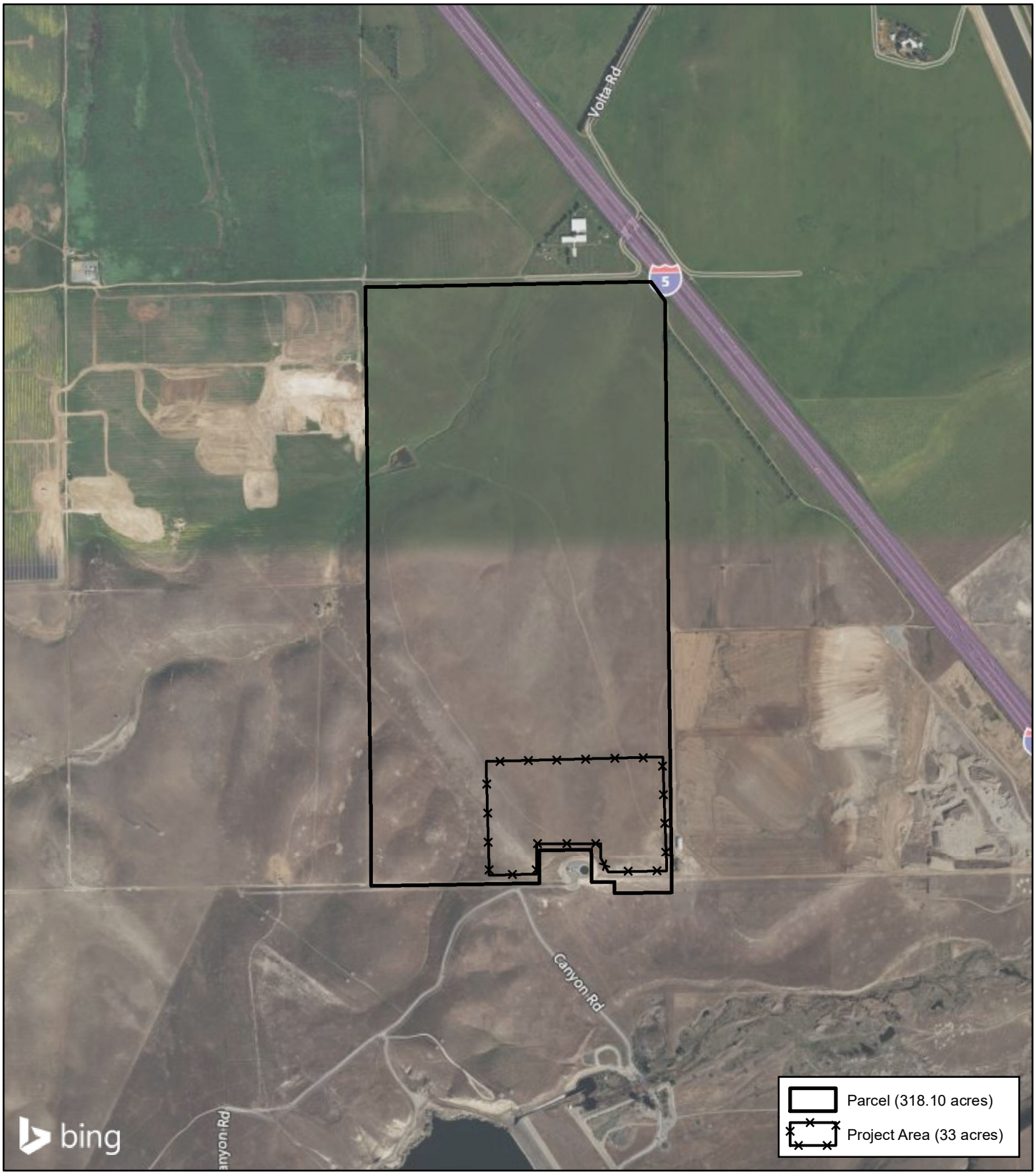
0 2.5 5 Kilometers

N

Scale 1:190,080
1 in = 3 miles

Figure 1. Regional Vicinity
Canyon Road Solar Project
Merced County, California
Biological Resources Assessment

KLEINFELDER
Bright People. Right Solutions.



Source: Bing Maps

0 600 1,200 Feet

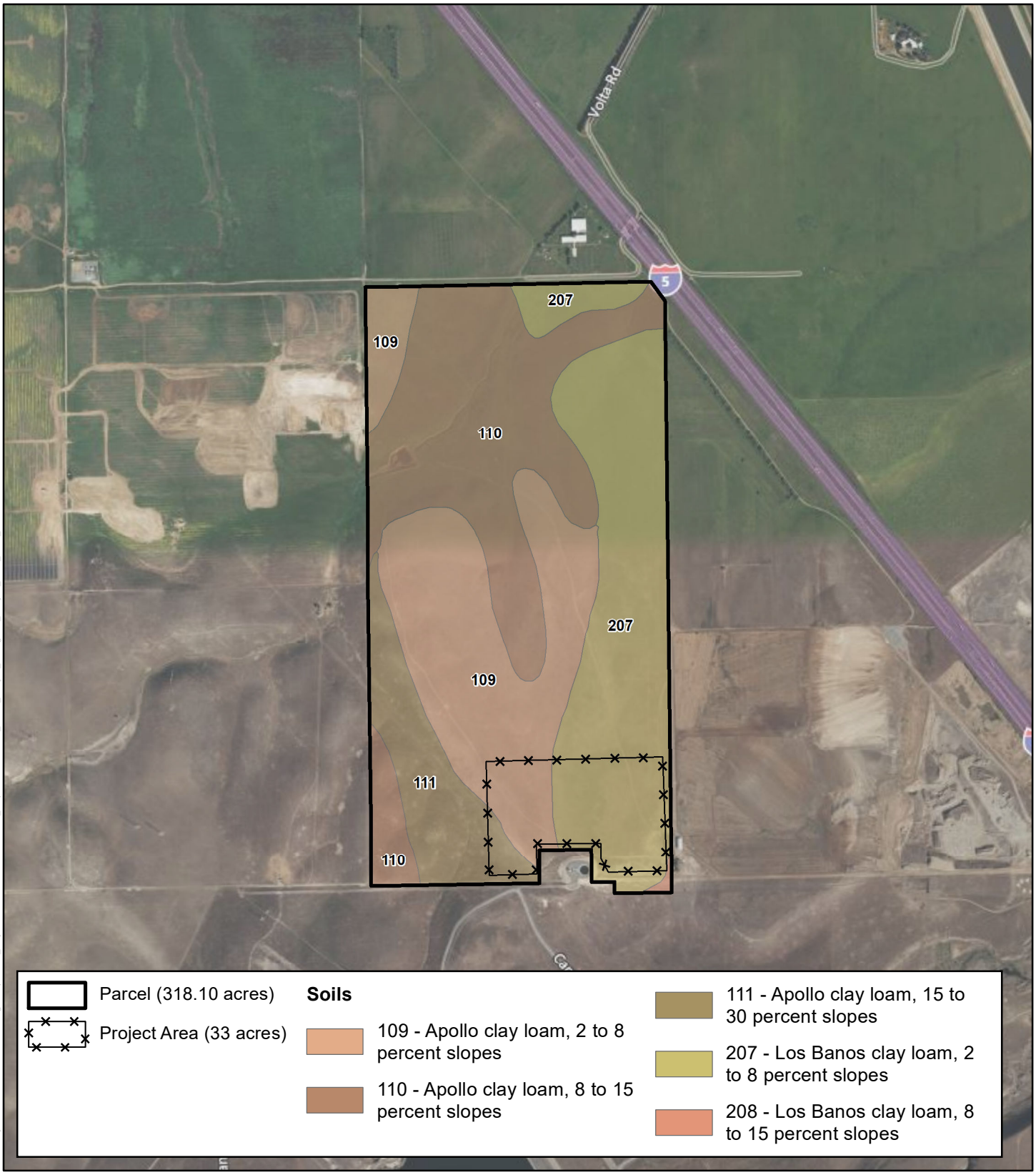
0 200 400 Meters

N

Scale 1:14,400
1 Inch = 1,200 Feet

Figure 2. Project Location
Canyon Road Solar Project
Merced County, California
Biological Resources Assessment

KLEINFELDER
Bright People. Right Solutions.



Source: gSSURGO (October 2021)

0 600 1,200 Feet

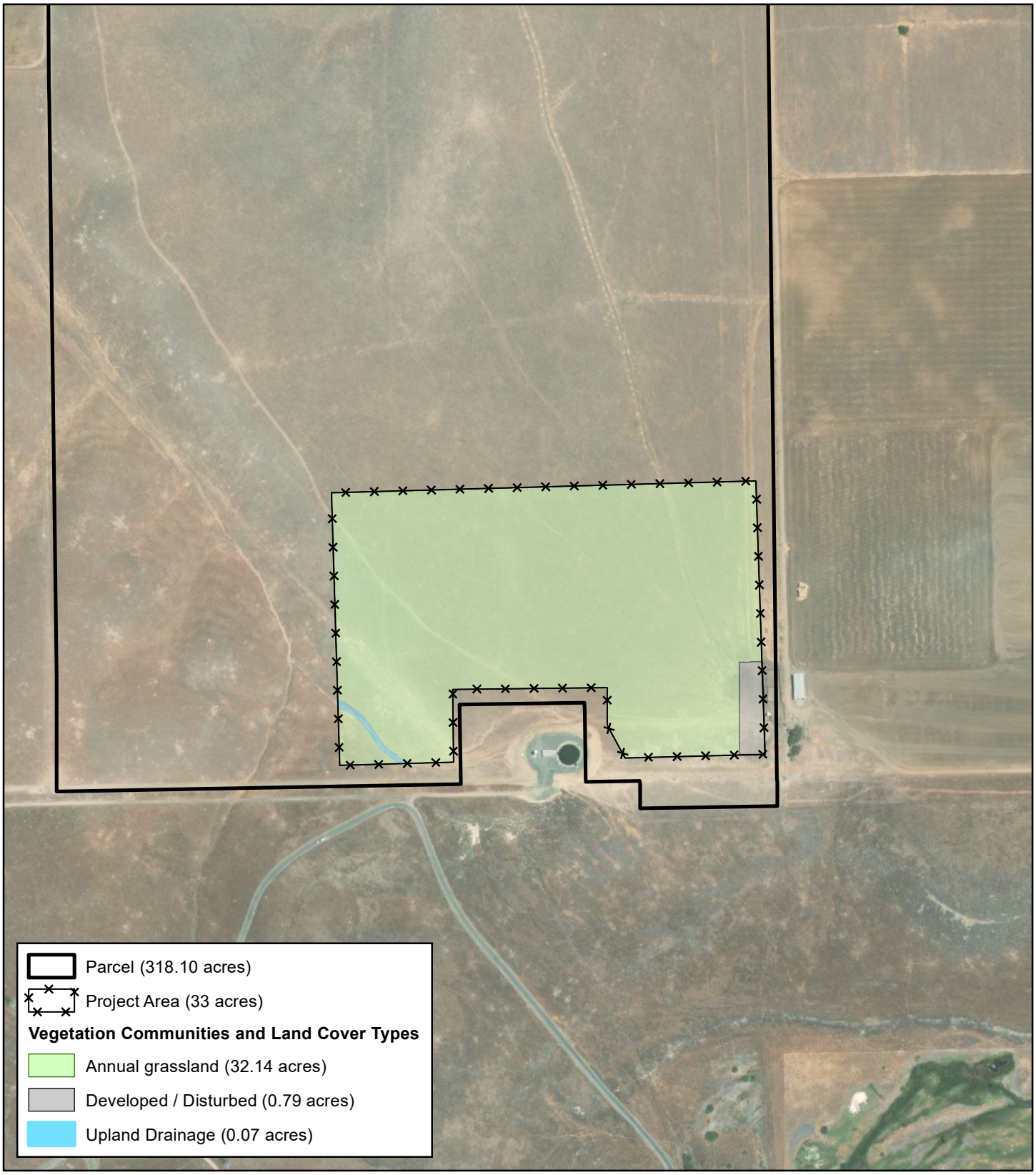
0 200 400 Meters

N

Scale 1:14,400

Figure 3. Soils
Canyon Road Solar Project
Merced County, California
Biological Resources Assessment

KLEINFELDER
Bright People. Right Solutions.



Source: Bing Maps

0 250 500 Feet

0 75 150 Meters

N

Scale 1:6,000
1 Inch = 500 Feet

Figure 4. Vegetation Communities and Land Cover Types
Canyon Road Solar Project
Merced County, California
Biological Resources Assessment

KLEINFELDER
Bright People. Right Solutions.

Photo 1. Looking across northern portion of Project area

Photo 2. Looking at barn and trees along eastern edge of Project area

Photo 3. Looking east through middle of Project Area

Photo 4. Suitably sized burrow for burrowing owl

Figure 5. Photos
Canyon Road Solar Project
Merced County, California
Biological Resources Assessment

KLEINFELDER
Bright People. Right Solutions.

Appendix A
Special-Status Wildlife Species with Known or Potential Occurrence in the Vicinity of the RPCA Canyon Road Solar Project in Merced County, California.

Common Name	Scientific Name	Federal/ State Status[1]	Habitat Associations	Potential to Occur in the Project Area[2]
Invertebrates				
conservancy fairy shrimp	*Branchinecta conservatio*	Endangered/ None	Conservancy fairy shrimp occurs in disjunct locations within Solano, Merced, Tehama, Butte, and Glenn counties. It is found in large, deep vernal pools that occur within annual grassland habitat.	**Not expected to occur.** Suitable aquatic habitat for this species is not present within or adjacent to the Project area.
longhorn fairy shrimp	*Branchinecta longiantenna*	Endangered/ None	Longhorn fairy shrimp are small freshwater crustaceans named for the male's extremely long second antennae. It is known to occur in only five widely separated locations stretching from Contra Costa County in the north to San Luis Obispo County in the south. They are found in clear, freshwater vernal pools, claypan pools or freshwater depressions in sandstone.	**Not expected to occur.** Suitable aquatic habitat for this species is not present within or adjacent to the Project area.
monarch – California overwintering population	*Danaus plexippus*	Candidate Threatened/ None	Monarch adults make massive, multi-generation migrations from August-October, flying south thousands of miles to hibernate along the California coast and in central Mexico. Monarchs stop to feed on flower nectar and to roost together at night. During warm winter days, the butterflies may take moisture and flower nectar. Most mating happens before they journey north in the spring, when females lay single eggs along the way under host plant leaves (*Asclepias* sp.); caterpillars eat flowers and leaves. Overwintering sites along the California coast are important for conservation of this species.	**Not expected to occur.** Suitable host plants for this species are not present within or adjacent to the Project area, and there are no known winter roosts in the vicinity of the Project area.
valley elderberry longhorn beetle	*Desmocerus californicus dimorphus*	Threatened/ None	Valley elderberry longhorn beetle is completely dependent on its host plant, elderberry (*Sambucus* sp.), which occurs in riparian and other woodland communities in California's Central Valley and the associated foothills. Female beetles lay their eggs in crevices on the stems or on the leaves of living elderberry plants. When the eggs hatch, larvae bore into the stems of the plant and the larval stage lasts for one to two years. The fifth instar larvae create emergence holes in the stems and then plug the holes and remain in the stems through pupation. Adults emerge through the holes from late March through June. The short-lived adult beetles forage on leaves and flowers of elderberry shrubs.	**Not expected to occur.** Suitable habitat for this species is not present within the Project area, as there are no elderberry shrubs within the Project area.

Common Name	Scientific Name	Federal/ State Status[1]	Habitat Associations	Potential to Occur in the Project Area[2]
vernal pool fairy shrimp	*Branchinecta lynchi*	Threatened/ None	Vernal pool fairy shrimp is adapted to seasonally inundated aquatic features and occur primarily in vernal pools and seasonal wetlands that fill with water during fall and winter rains, then dry up in spring and summer. Typically, the majority of pools in any vernal pool complex are not inhabited by the species at any one time. Different pools within or between complexes may provide habitat for the fairy shrimp in alternative years, as climatic conditions vary.	**Not expected to occur.** Suitable aquatic habitat for this species is not present within or adjacent to the Project area.
vernal pool tadpole shrimp	*Lepidurus packardi*	Endangered/ None	Vernal pool tadpole shrimp is associated with low-alkalinity, ephemeral freshwater habitats in grasslands, including alkaline pools, clay flats, vernal lakes, vernal pools, vernal swales, and other seasonal wetlands in California. Suitable vernal pools and seasonal swales are generally underlain by hardpan or sandstone.	**Not expected to occur.** Suitable aquatic habitat for this species is not present within or adjacent to the Project area.
Fish				
Delta smelt	*Hypomesus transpacificus*	Threatened/ Endangered	Delta smelt are a euryhaline species. For a large part of their one-year life span, delta smelt live along the freshwater edge of the mixing zone (saltwater-freshwater interface). Shortly before spawning, adults migrate upstream from the brackish-water habitat associated with the mixing zone and disperse widely into river channels and tidally influenced backwater sloughs. They spawn in shallow, fresh or slightly brackish water upstream of the mixing zone.	**Not expected to occur.** Suitable aquatic habitat for this species is not present within or adjacent to the Project area.
steelhead – pop. 11 (Central Valley DPS)	*Oncorhynchus mykiss irideus*	Threatened/ None	Central Valley steelhead spawn downstream of dams on every major tributary within the Sacramento and San Joaquin River systems. Regardless of life history strategy, for the first year or two of life, rainbow trout and steelhead are found in cool, clear, fast-flowing permanent streams and rivers where riffles predominate over pools, there is ample cover from riparian vegetation or undercut banks, and invertebrate life is diverse and abundant.	**Not expected to occur.** Suitable aquatic habitat for this species is not present within or adjacent to the Project area.
Amphibians and Reptiles				
blunt-nosed leopard lizard	*Gambelia sila*	Endangered/ Endangered, FP	Blunt-nosed leopard lizard occurs in semi-arid grasslands, alkali flats, and washes in the San Joaquin Valley and surrounding valleys and foothills. It is a diurnal species that uses mammal dens and burrows for shelter and cover and breeds from May to June.	**Low potential to occur.** Marginal habitat for this species is present within and adjacent to the Project area, and there are no documented occurrences within 5 miles of the Project area.

Common Name	Scientific Name	Federal/ State Status[1]	Habitat Associations	Potential to Occur in the Project Area[2]
California tiger salamander (Central California DPS)	*Ambystoma californiense*	Threatened/ Threatened	California tiger salamander (CTS) may be found in riparian and wet meadow habitats, but is more common in annual grasslands. Temporary or permanent freshwater pools (e.g., vernal pools and wetlands) are required for egg-laying and larval development; however, they appear to be absent in waters containing predatory game fish. CTS spends most of its life cycle underground in adjacent valley oak woodland or grassland habitat, primarily in rodent burrows. Breeding takes place following the first heavy winter rains.	**Low potential to occur.** Marginal habitat for this species is present within and adjacent to the Project area, and there are no documented occurrences within 8 miles of the Project area. No suitable aquatic habitat for species occurs within 1.3 miles of the Project area.
California red-legged frog	*Rana draytonii*	Threatened/ SSC	California red-legged frogs occur in different habitats depending on their life stage, the season, and weather conditions. Breeding habitat includes coastal lagoons, marshes, springs, permanent and semi-permanent natural ponds, and ponded and backwater portions of streams. They can also breed in artificial impoundments including stock ponds, irrigation ponds, and siltation ponds. Creeks and ponds with dense growths of woody riparian vegetation, especially willows (*Salix* spp.) near deep (≥2 to 3 feet), still or slow-moving water are preferred, although the absence of vegetation at an aquatic site does not rule out the possibility of occupancy.	**Not expected to occur.** Suitable aquatic habitat for this species is not present within or adjacent to the Project area.
foothill yellow-legged frog	*Rana boylii*	None/ Threatened, SSC	Foothill yellow-legged frog occurs primarily in streams and rivers with rocky substrates and open, sunny banks in forests, chaparral, and woodland habitats. It is sometimes found in isolated pools, vegetated backwaters, and deep, shaded, spring-fed pools.	**Not expected to occur.** Suitable aquatic habitat for this species is not present within or adjacent to the Project area.
giant gartersnake	*Thamnophis gigas*	Threatened/ Threatened	Giant gartersnake is found in isolated populations restricted to the Central Valley of California. It is found in freshwater marshes, wetlands, irrigation ditches, low gradient streams (absent of predatory fish), and rice fields containing emergent vegetation. Adjacent upland grassland habitat is necessary for cover and aestivation.	**Not expected to occur.** Suitable aquatic habitat for this species is not present within or adjacent to the Project area.
Northern California legless lizard	*Anniella pulchra*	None/SSC	Northern California legless lizard occurs in scattered locations in the San Joaquin Valley, along the southern Sierra Nevada mountains, and on the desert side of the Tehachapi Mountains and part of the San Gabriel Mountains. It prefers moist, warm, loose soil in sparsely vegetated areas of beach dunes, chaparral, pine-oak woodlands, desert scrub, sandy washes, and stream terraces with sycamores, cottonwoods, or oaks. Leaf litter under trees and bushes in sunny areas and dunes, stabilized with bush lupine and mock heather, often indicate suitable habitat.	**Not expected to occur.** Suitable habitat for this species is not present within or adjacent to the Project area.

Common Name	Scientific Name	Federal/ State Status[1]	Habitat Associations	Potential to Occur in the Project Area[2]
San Joaquin coachwhip	*Masticophis flagellum ruddocki*	None/SSC	San Joaquin coachwhip occurs in open, dry, treeless areas with little or no cover, including valley grassland and saltbush scrub. It avoids dense vegetation where it cannot move quickly, including mixed oak chaparral woodland, and takes refuge in rodent burrows, under shaded vegetation, and under surface objects.	**Moderate potential to occur.** Suitable habitat for this species is present within and adjacent to the Project area, and there are documented occurrences within one mile of the site.
western pond turtle	*Emys marmorata*	None/SSC	Western pond turtle is found in rivers, lakes, streams, ponds, wetlands, ephemeral creeks, reservoirs, agricultural ditches, estuaries, and brackish waters. Western pond turtles prefer areas that provide cover from predators, such as vegetation and algae, as well as basking sites for thermoregulation. Adults tend to favor deeper, slow moving water, whereas hatchlings search for slow and shallow water that is slightly warmer. Terrestrial habitats are used for egg laying and wintering and usually consist of burrows in leaves and soil. They are rarely found at altitudes above 1,500 meters (5,000 ft).	**Not expected to occur.** Suitable aquatic habitat for this species is not present within or adjacent to the Project area.
western spadefoot	*Spea hammondii*	None/SSC	Western spadefoot inhabits areas with slightly moist, friable soils in mostly treeless habitats. They are usually absent from narrow canyons and highly mesic habitats, and require rain pools with little to no vegetation for spawning.	**Not expected to occur.** Suitable habitat for this species is not present within or adjacent to the Project area.
Birds				
burrowing owl	*Athene cunicularia*	None/SSC	Burrowing owl utilizes abandoned ground squirrel burrows in open habitats, grasslands, and disturbed areas, typically on levees, mounds or areas where there are unobstructed views of possible predators such as raptors or foxes. Prey items include insects, small mammals, reptiles and amphibians.	**Moderate potential to occur.** Suitable habitat for this species is present within and adjacent to the Project area, and there are documented occurrences of this species within 4.5 miles of the Project area.
golden eagle	*Aquila chrysaetos*	BGEPA/FP	Golden eagle is found in open country, including mountains, foothills, and plains. In the west, they are found over prairie, rangeland, or desert. They are very wide-ranging in winter, and more restricted to areas with good nest sites in summer, which consist of cliff ledges or large trees.	**Low potential to occur.** Although this species could potentially forage in the Project area during certain times of the year, there is no suitable nesting habitat in the vicinity of the Project area.
loggerhead shrike	*Lanius ludovicianus*	None/SSC	Loggerhead shrike is a year-round resident in most areas of California that contain grasslands, open areas, orchards and areas with scattered trees. It feeds on small vertebrates and invertebrates, and impales prey on thorns or barbed wire.	**Low potential to occur.** Although suitable habitat for this species is present within and adjacent to the Project area, there are only two documented occurrences of this species in Merced County, which are located in the San Luis National Wildlife Refuge approximately 14 miles northeast of the Project area.

Common Name	Scientific Name	Federal/ State Status[1]	Habitat Associations	Potential to Occur in the Project Area[2]
northern harrier	*Circus hudsonius*	None/SSC	Northern harrier utilizes marshes, fields, and prairies. It is found in many kinds of open terrain, in both wet and dry habitats where there is good ground cover. It is often found in marshes, especially in nesting season, but sometimes it will nest in dry open fields. It usually hunts by flying low over fields, scanning the ground.	**Not expected to occur.** Suitable habitat for this species is not present within or adjacent to the Project area.
Swainson's hawk	*Buteo swainsoni*	None/ Threatened	Swainson's hawk spends the breeding season in the Central Valley of California and is commonly found in agricultural areas or open grasslands containing solitary trees for nesting. Diet consists of insects, small mammals and reptiles.	**Moderate potential to occur.** Suitable foraging habitat for this species occurs within the Project area during part of the year, and suitable nest trees are located along the eastern edge of the Project area. There are several documented occurrences in the vicinity of the Project area.
tricolored blackbird	*Agelaius tricolor*	None/ Threatened, SSC	Tricolored blackbird is a colonial species found almost exclusively in California. It utilizes wetlands, marshes and agricultural grain fields for foraging and nesting. The tricolored blackbird population has declined significantly in recent years due to habitat loss and harvest of grain fields before young have fledged.	**Not expected to occur.** Suitable habitat for this species is not present within or adjacent to the Project area.
yellow rail	*Coturnicops noveboracensis*	None/ SSC	Yellow rail is highly secretive and its range and abundance is incompletely known because of this. They prefer densely vegetated marshes, and sedge marshes/meadows with moist soil or shallow standing water for breeding. They are very rare, but currently known to winter in a few coastal marshes along the Pacific coast and Suisun Marsh near Fairfield, California.	**Not expected to occur.** Suitable habitat for this species is not present within or adjacent to the Project area.
Mammals				
American badger	*Taxidea taxus*	None/SSC	American badger is most abundant in drier open stages of most shrub, forest and grassland habitats with friable soils. It digs burrows for cover and will reuse burrows occasionally, but may also dig new burrows each night in the summer. Its diet consists of rodents, small mammals, reptiles, insects, birds and carrion.	**Low potential to occur.** Although potentially suitable habitat for this species is present within the Project area, the nearest documented occurrence is over seven miles north of the site, and no burrows of suitable size for this species were documented within the parcel during the field survey.

Common Name	Scientific Name	Federal/ State Status[1]	Habitat Associations	Potential to Occur in the Project Area[2]
Fresno kangaroo rat	*Dipodomys nitratoides exilis*	Endangered/ Endangered	Fresno kangaroo rat is one of three subspecies of San Joaquin kangaroo rats adapted for survival in an arid environment. They dig and shelter in burrows, or use previously existing burrows in relatively light, sandy soils in raised areas. There are usually two to five burrow entrances that slant gently underground, and one or more holes that open from a vertical shaft. Fresno kangaroo rats diet consists primarily of seeds, but they may also eat some types of green herbaceous vegetation and insects. Breeding is probably initiated in winter after the onset of the rainy season and young are born in the burrow, where they remain until they are fully furred and able to move about easily. A variety of predators, including the endangered San Joaquin kit fox, prey upon this species and their burrows are used extensively by the endangered blunt-nosed leopard lizard and other reptiles.	**Not expected to occur.** Although potentially suitable habitat for this species is present within the Project area, there are no documented occurrences of this species in Merced County.
giant kangaroo rat	*Dipodomys ingens*	Endangered/ Endangered	The giant kangaroo rat is the largest of some 20 species of kangaroo rats. Giant kangaroo rats feed primarily on the seeds of grasses and shrubs and are most active during the spring, when these seeds are ripe. The animals remain active year-round, however, feeding at night, primarily for the first two hours after dark. The majority of prime habitat for the giant kangaroo rat is now found only in areas of the Cuyama Valley and Carrizo Plain, but historically, its range included the whole western edge of the San Joaquin Valley.	**Not expected to occur.** Suitable habitat for this species is not present within or adjacent to the Project area.
Nelson's antelope squirrel	*Ammospermophilus nelsoni*		Nelson's antelope squirrels are found in hot deserts that comprise the Lower Sonoran life zone, including arid grasslands and shrub lands. They have been recorded in areas where shrub cover ranges from light to medium density, alkali desert scrub, and annual grassland receiving 6-8 inches or less of annual precipitation. They prefer alkaline, loamy soils from 160 to 3,600 feet in elevation, and depend on kangaroo rat burrows.	**Not expected to occur.** Although potentially suitable habitat for this species is present in the vicinity of the Project area, there are only three documented occurrences of this species in Merced County (along the boundary of Fresno County) which date back to the early 1900's.
San Joaquin kit fox	*Vulpes macrotis mutica*	Endangered/ Threatened	San Joaquin kit fox occurs in grasslands and agricultural areas along the edges of the San Joaquin Valley. It uses dens created by other mammals, as well as larger pipes and culverts for cover. It is primarily a nocturnal species and feeds on small mammals, birds and reptiles.	**Moderate potential to occur.** No suitably sized dens for this species were observed during the field survey; however, suitable habitat occurs within and adjacent to the Project area, and there are several documented occurrences within 5 miles of the Project area.

Common Name	Scientific Name	Federal/ State Status[1]	Habitat Associations	Potential to Occur in the Project Area[2]
western mastiff bat	*Eumops perotis californicus*	None/SSC	Western mastiff bat occurs in many open, semi-arid to arid habitats, including conifer and deciduous woodlands, coastal scrub, annual and perennial grasslands, palm oases, chaparral, desert scrub, and urban areas. Suitable habitat consists of extensive open areas with abundant roost locations provided by crevices in rock outcrops and buildings. When roosting in rock crevices, this species needs vertical faces to drop off to take flight. Catches and feeds on insects in flight.	**Not expected to occur.** Suitable habitat for this species is not present within or adjacent to the Project area.

[1]**Status Legend**

SSC: Species of Special Concern (CDFW)
FP: Fully Protected (CDFW)
BGEPA: Bald and Eagle Protection Act (USFWS)

[2] **Definitions Regarding Potential for Occurrence**

- Not expected to occur – Habitat within and adjacent to the Project site is unsuitable for the species life history requirements (foraging, breeding, cover, range, elevation, hydrology, vegetation community, site history, and/or disturbance regime) There are no documented occurrences of the species in the vicinity of the Project site.
- Low – Few of the habitat components meeting the species requirements are present, and/or the majority of habitat on and adjacent to the Project site is unsuitable or of poor quality. The species is not likely to found within the Project site. Any documented occurrences are farther than likely possible for the species to occur in the Project site.
- Moderate – Some of the habitat components meeting the species requirements are present, and/or only some of the habitat on or adjacent to the Project site is unsuitable. There are documented occurrences in the near vicinity of the Project site and therefore, the species has a moderate probability of being found within the Project site.
- High – All of the habitat components meeting the species requirements are present, and/or most of the habitat on or adjacent to the Project site is highly suitable. There are documented occurrences of the species on or immediately adjacent to the Project site and therefore, the species has a high probability of being found within the Project site.
- Present – Species was observed within the Project site or has been recorded (i.e., CNDDB, or other reports) within the Project site recently.

Sources:

California Department of Fish and Wildlife (CDFW). 2022. California Natural Diversity Database (CNDDB). Rarefind, Version 5 (Commercial Subscription) dated June 3, 2022. Accessed June 2022. https://apps.wildlife.ca.gov/rarefind/view/RareFind.aspx

United States Fish and Wildlife Service (USFWS). 2022. Information for Planning and Consultation (IPaC). The Environmental Conservation Online System. Accessed June 2022. Grass Valley, California. Website https://ecos.fws.gov/ipac/.

Appendix B
Special-Status Plant Species with Known or Potential Occurrence in the Vicinity of the RPCA Canyon Road Solar Project in Merced County, California.

Scientific Name	Common Name	Status (Federal/State, CRPR)	Life Form/Habitat Associations/ Elevation Range (feet)/Blooming Period/	Potential to Occur in the Project Area
Astragalus tener var. *tener*	alkali milk-vetch	None/None, CRPR 1B.2	Annual herb. Playas, and alkaline vernal pools in valley and foothill grassland (adobe clay), 0-195 feet. Blooms Mar-Jun.	**Not expected to occur.** Suitable habitat for this species is not present within or adjacent to the Project area.
Atriplex cordulata var. *cordulata*	heartscale	None/None, CRPR 1B.2	Annual herb. Saline or alkaline substrates in chenopod scrub, meadows and seeps, and sandy conditions in valley and foothill grassland. Elevation 0-1,700 feet. Blooms Apr-Oct.	**Not expected to occur.** Suitable habitat for this species is not present within or adjacent to the Project area.
Atriplex coronata var. *vallicola*	Lost Hills crownscale	None/None, CRPR 1B.2	Annual herb occurring in alkaline chenopod scrub, valley and foothill grassland, and vernal pools. Elevation 165-2,085 feet. Blooms Apr-Sep.	**Not expected to occur.** Suitable habitat for this species is not present within or adjacent to the Project area.
Atriplex minuscula	lesser saltscale	None/None, CRPR 1B.1	Annual herb. Affinity to sandy alkaline substrates in valley and foothill grassland, playas, and chenopod scrub. Elevation 50–700 feet. Blooms May–Oct	**Not expected to occur.** Suitable habitat for this species is not present within or adjacent to the Project area.
Atriplex persistens	vernal pool smallscale	None/None, CRPR 1B.1	Annual herb. Vernal pools (alkaline). 30-375 feet. Blooms Jun-Oct.	**Not expected to occur.** Suitable habitat for this species is not present within or adjacent to the Project area.
Caulanthus lemmonii	Lemmon's jewelflower	None/None, CRPR 1B.2	Annual herb. Pinyon and juniper woodland, valley and foothill grassland. Elevation 250-5,200 feet. Blooms Feb-May.	**Not expected to occur.** Suitable habitat for this species is not present within or adjacent to the Project area.
Chloropyron molle ssp. *hispidum*	hispid salty bird's-beak	None/None, CRPR 1B.1	Annual herb (hemiparasitic). Occurs in alkaline meadows and seeps, playas, and valley and foothill grassland. Elevation 5- 510 feet. Blooms Jun-Sep.	**Not expected to occur.** Suitable habitat for this species is not present within or adjacent to the Project area.
Delphinium recurvatum	recurved larkspur	None/None, CRPR 1B.2	Perennial herb found in alkaline soils within chenopod scrub, cismontane woodland, and valley and foothill grassland. Elevation 0-2,400 feet. Blooms Mar-Jun.	**Not expected to occur.** Suitable habitat for this species is not present within or adjacent to the Project area.
Eryngium racemosum	Delta button-celery	None/Endangered, CRPR 1B.1	Annual or perennial herb. Found in riparian scrub habitat, usually vernally mesic clay depressions. Elevation 10–100 feet. Blooms Jun–Oct.	**Not expected to occur.** Suitable habitat for this species is not present within or adjacent to the Project area.
Eryngium spinosepalum	spiny-sepaled button-celery	None/None, CRPR 1B.2	Annul/perennial herb. Valley and foothill grassland, vernal pools. 260-3200 feet. Blooms Apr-Jun.	**Not expected to occur.** Suitable habitat for this species is not present within or adjacent to the Project area.

Scientific Name	Common Name	Status (Federal/State, CRPR)	Life Form/Habitat Associations/ Elevation Range (feet)/Blooming Period/	Potential to Occur in the Project Area
Lasthenia chrysantha	alkali-sink goldfields	None/None, CRPR 1B.1	Annual herb. Alkaline vernal pools. 0-655 feet. Blooms Feb-Apr.	**Not expected to occur.** Suitable habitat for this species is not present within or adjacent to the Project area.
Lasthenia glabrata ssp. *coulteri*	Coulter's goldfields	None/None, CRPR 1B.1	Annual herb. Marshes and swamps (coastal salt), playas, vernal pools. 0-4005 feet. Blooms Feb-Jun.	**Not expected to occur.** Suitable habitat for this species is not present within or adjacent to the Project area.
Malacothamnus hallii	Hall's bush-mallow	None/None, CRPR 1B.2	Shrub. Chaparral, coastal scrub. 30-2495 feet. Blooms (Apr)May-Sep(Oct).	**Not expected to occur.** Suitable habitat for this species is not present within or adjacent to the Project area.
Navarretia nigelliformis ssp. *radians*	shining navarretia	None/None, CRPR 1B.2	Annual herb. Valley and foothill grassland vernally mesic, vernal pools. 325-3280 feet. Blooms Apr-Jun.	**Not expected to occur.** Suitable habitat for this species is not present within or adjacent to the Project area.
Navarretia prostrata	prostrate vernal pool navarretia	None/None, CRPR 1B.2	Annual herb. Coastal scrub, meadows and seeps, valley and foothill grassland (alkaline), vernal pools (serpentinite), rocky 5-3970 feet. Blooms Apr-Jun.	**Not expected to occur.** Suitable habitat for this species is not present within or adjacent to the Project area.
Puccinellia simplex	California alkali grass	None/None, CRPR 1B.2	Annual herb. Vernally mesic alkaline substrates (sinks, flats, and lake margins) associated with chenopod scrub, meadows and seeps, and valley and foothill grassland. Elevation 0–3,000 feet. Blooms Mar–May.	**Not expected to occur.** Suitable habitat for this species is not present within or adjacent to the Project area.
Sagittaria sanfordii	Sanford's arrowhead	None/None, CRPR 1B.2	Perennial herb. Marshes and swamps (assorted shallow freshwater). 0-2135 feet. Blooms May-Oct(Nov).	**Not expected to occur.** Suitable habitat for this species is not present within or adjacent to the Project area.
Senecio aphanactis	chaparral ragwort	None/None, CRPR 2B.2	Annual herb. Chaparral, cismontane woodland, coastal scrub (sometimes alkaline). Elevation 45-2,625 feet. Blooms Jan-Apr (May).	**Not expected to occur.** Suitable habitat for this species is not present within or adjacent to the Project area.
Streptanthus insignis ssp. *lyonii*	Arburua Ranch jewelflower	None/None, CRPR 1B.2	Annual herb found in coastal scrub (sometimes serpentinite). Elevation 755-2,805 feet. Blooms Mar-May.	**Not expected to occur.** Suitable habitat for this species is not present within or adjacent to the Project area.
Stuckenia filiformis ssp. *alpina*	northern slender pondweed	None/None, CRPR 2B.2	Perennial herb. Marshes and swamps (assorted shallow freshwater), clay. 980-7055 feet. Blooms May-Jul.	**Not expected to occur.** Suitable habitat for this species is not present within or adjacent to the Project area.
Trichocoronis wrightii var. *wrightii*	Wright's trichocoronis	None/None, CRPR 2B.1	Annual herb. Meadows and seeps, marshes and swamps, riparian forest, vernal pools. Sandy,	**Not expected to occur.** Suitable habitat for this species is not present within or adjacent to the Project area.

Scientific Name	Common Name	Status (Federal/State, CRPR)	Life Form/Habitat Associations/ Elevation Range (feet)/Blooming Period/	Potential to Occur in the Project Area
			exposed soil, roadbanks. 15-1425 feet. Blooms May-Sep.	

Status Legend:
CRPR 1A: Plants Presumed Extirpated in California and Either Rare or Extinct Elsewhere
CRPR 1B: Plants Rare, Threatened, or Endangered in California and Elsewhere
CRPR 2A: Plants Presumed Extirpated in California, But More Common Elsewhere
CRPR 2B: Plants Rare, Threatened, or Endangered in California, But More Common Elsewhere
.1 Seriously threatened in California (over 80% of occurrences threatened / high degree and immediacy of threat)
.2 Moderately threatened in California (20-80% occurrences threatened / moderate degree and immediacy of threat)
.3 Not very threatened in California (<20% of occurrences threatened / low degree and immediacy of threat or no current threats known)

Source:

California Native Plant Society (CNPS), Rare Plant Program. 2022. Rare Plant Inventory (online edition, v9-01 1.5). Website https://www.rareplants.cnps.org [accessed 6 June 2022].