DOCKETED	
Docket Number:	23-OPT-02
Project Title:	Darden Clean Energy Project
TN #:	260656
Document Title:	Supplemental Data Response Set 1 - Appendix F SUP DR BIO-3 Updated PV and Gen-tie Biological Resources Management Plan Part 2
Description:	Includes the updated PV and Gen-tie Biological Resources Management Plan, provided in response to SUP DR BIO-3 as Appendix F of Supplemental Response Set 1. (Part 2/2)
Filer:	Megan Knight
Organization:	Rincon Consultants, Inc.
Submitter Role:	Applicant Consultant
Submission Date:	12/13/2024 4:42:12 PM
Docketed Date:	12/13/2024

Appendix F - Redline Part 2

SUP DR BIO-3 Updated PV and Gen-tie Biological Resources Management Plan

Figure 6 Special-Status Species Observations within BSA (Mapbook Page 4)

Figure 7 Special-Status Species Observations within BSA (Mapbook Page 5)

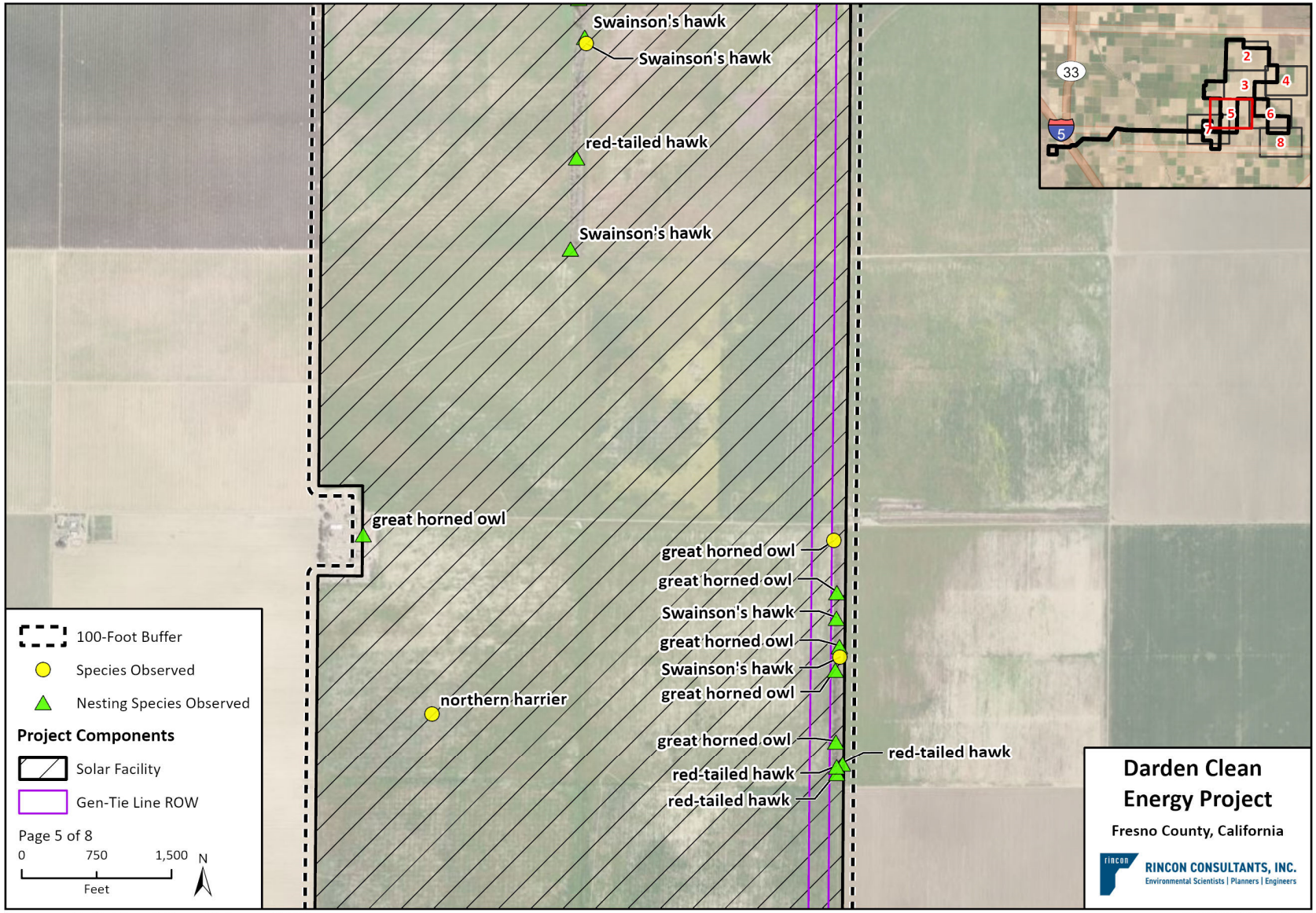

Figure 8 Special-Status Species Observations within BSA (Mapbook Page 6)

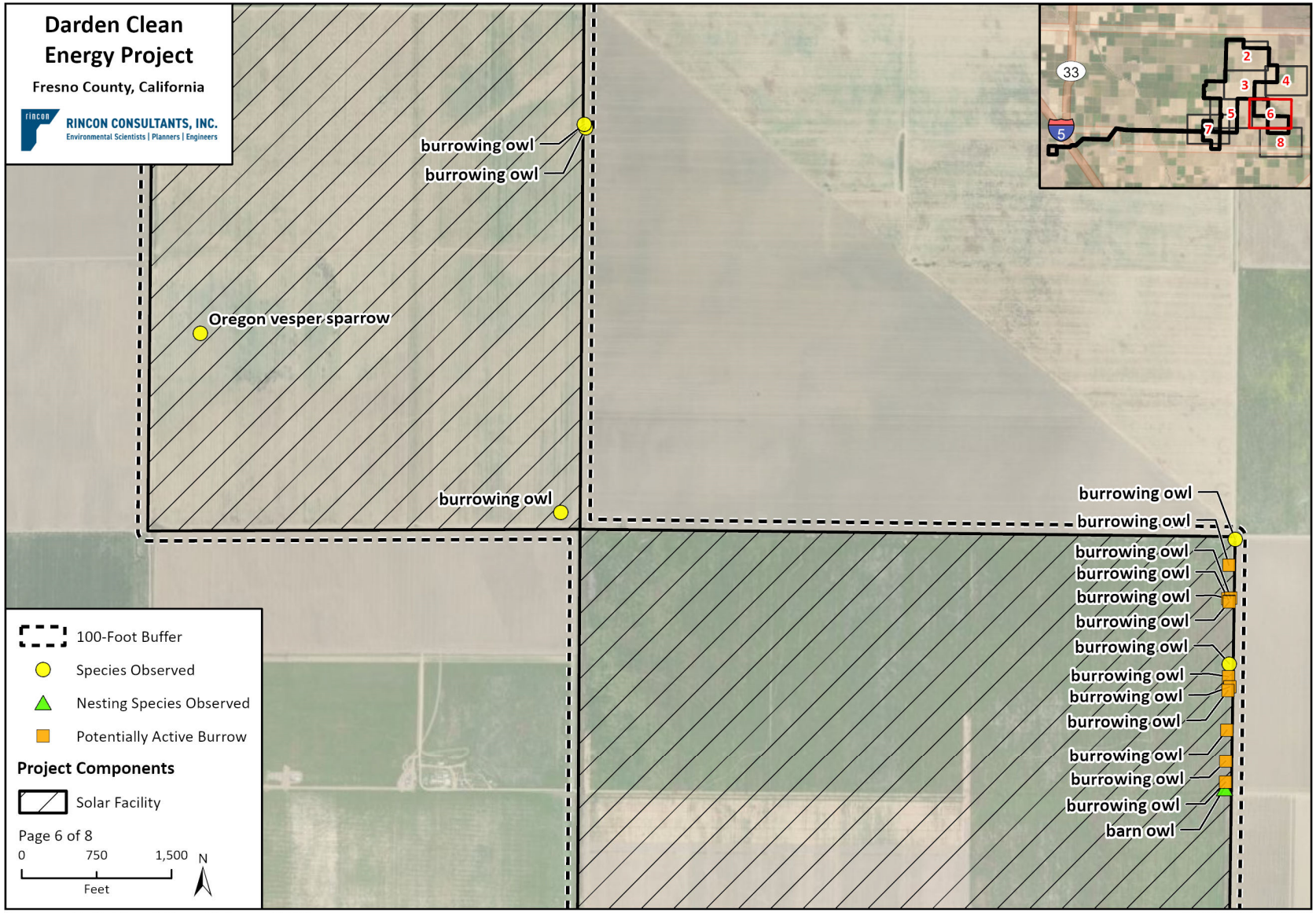

Figure 9 Special-Status Species Observations within BSA (Mapbook Page 7)

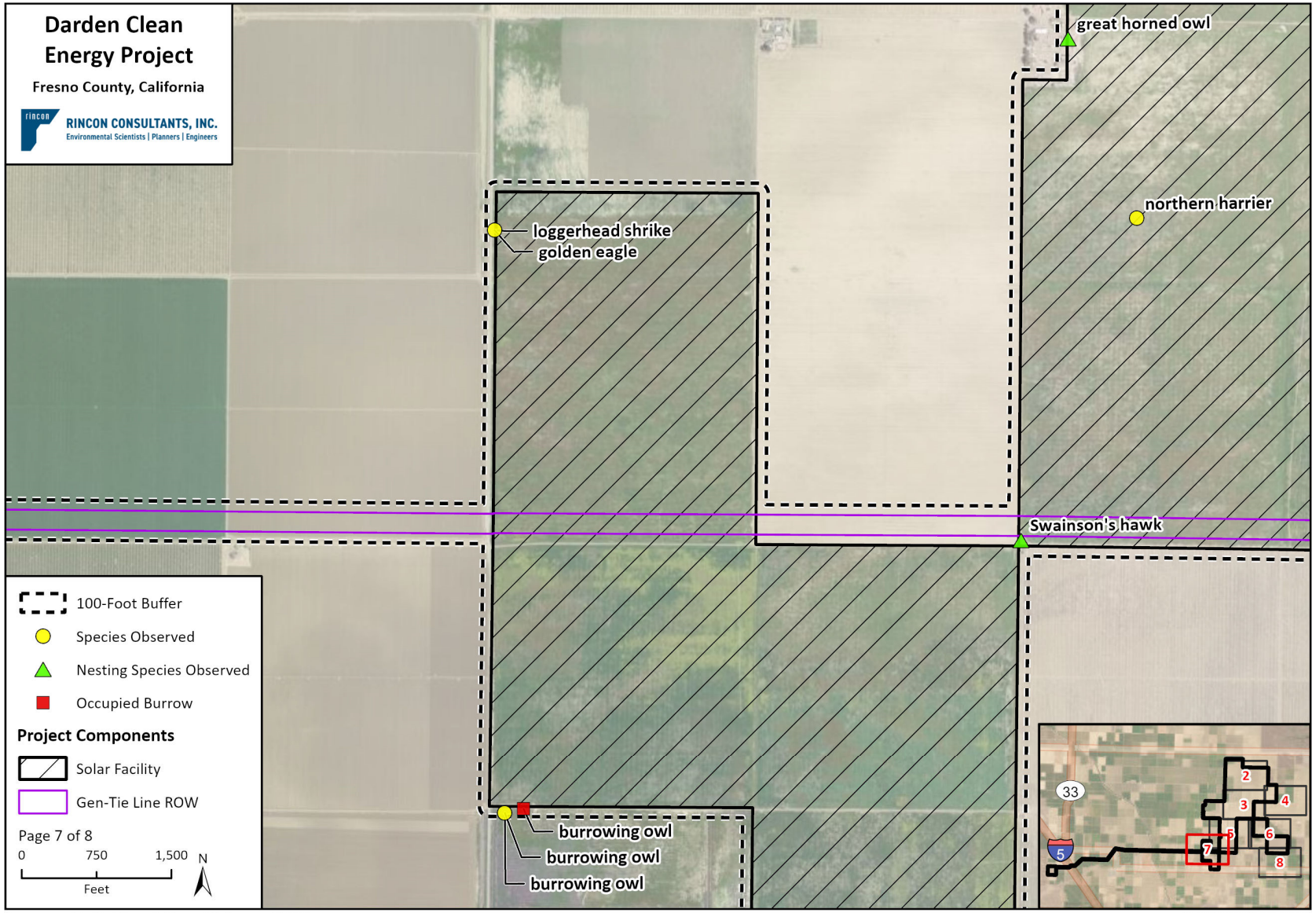

Figure 10 Special-Status Species Observations within BSA (Mapbook Page 8)

3 Management Strategy

3.1 Pre-construction Surveys

3.1.1 American Badger Surveys

Preconstruction surveys shall be conducted by a Qualified Biologist for the presence of American badger prior to commencement of construction activities in all areas with potential to support this species. This survey shall be conducted no more than 30 days prior to ground disturbing activities without prior agency approval. The surveys can be staggered to match the different construction phases and locations to reduce the need to re-survey any given area. The surveys shall be conducted in areas of suitable habitat for the species. Surveys shall conform to industry standards for American badger.

If work is halted in a given area for 30 days or greater, pre-construction surveys will be repeated in work areas that are not fully cleared of vegetation following the initial pre-construction survey until all vegetation is cleared. Once vegetation is cleared and construction is ongoing, no additional surveys will be needed as monitoring will be conducted during on-going activities.

Where special-status species habitat (e.g., burrows/dens) are known to occur and there is a potential for significant impacts, a Qualified Biologist will monitor construction activities to ensure that impacts to special-status species are avoided and minimized (as described in Section 3.2 *Construction Monitoring*).

3.1.2 Nesting Bird Surveys

If construction is scheduled to commence during the non-breeding season (September 1 to January 31), no pre-construction surveys or additional measures for nesting birds or other raptors shall be required. Prior to ground disturbing and vegetation removal activities that are initiated during the breeding season (February 1 to August 31), a Qualified ~~Wildlife~~ Biologist shall conduct preconstruction surveys of all potential nesting habitats within the Project area. The raptor survey shall focus on potential nest sites (e.g., owl boxes, large trees, windrows, and shrubs) within 500 feet of the site for common raptors. Nesting bird surveys shall be conducted within 14 days of the start of ground-disturbing or vegetation removal activities. Surveys need not be conducted for the entire Project area at one time and may be conducted in phases consistent with construction activity schedules. If helicopter activities occur during the breeding season, preconstruction surveys along the gen-tie corridor shall be repeated within 14 days of the start of helicopter activities. Specific survey requirements for Swainson's Hawk are discussed in the Swainson's Hawk Conservation Strategy (Rincon 2023b). Specific survey requirements for burrowing owl are discussed in the Burrowing Owl Management Plan (Rincon 2024b).

The surveying biologist shall be qualified to determine the status and stage of nesting by migratory birds and all locally breeding raptor species without causing intrusive disturbance.

3.2 Construction Monitoring

The PV arrays and gen-tie Project components are sited entirely on former agricultural land that is regularly disked, with some portions of the gen-tie within active orchards. As a result, these areas

do not provide habitat for the majority of special-status species with potential to occur on the Project site. Pre-construction surveys and the implementation of no-work buffers (as described in Section 3.3 Avoidance Buffers) would result in 100% avoidance of impacts to special-status species; therefore, monitoring will be limited to spot checks. Qualified ~~b~~Biologists will conduct weekly sweeps of the work area, inspect avoidance buffers, confirm that ground disturbance activities and impacts occur within designated limits, watch for special-status species within the work area, and confirm appropriate avoidance and minimization measures are implemented.

The ~~q~~Qualified ~~b~~Biologist's monitoring responsibilities will also include monitoring active nests and burrows/dens to determine if the recommended buffer is effective during active work in proximity to the nest or burrow/den. The nest and burrows/dens will be visited weekly at a minimum, but frequency will vary depending on Project activity and location. Nests and burrows/dens will be monitored until a final outcome is determined (e.g., the nest or burrow/den becomes inactive, the young have fledged, the young are no longer being fed by the parents, the young have left the area, and the young will no longer be impacted by the Project), or for the duration of Project activities in proximity to the nest or burrow/den (based on the species-specific buffer), whichever occurs first. At a minimum, the following information will be documented for each burrow/den or nest:

- Date nest or burrow/den first observed/detected
- Species
- Status (e.g., nest building, incubating, brooding, young rearing, unoccupied)
- Distance of the nest to Project activities
- Type of Project activity occurring within the vicinity of the nest or burrow/den
- Recommended buffer size including modifications to buffer size

3.2.1 Helicopter Monitoring

Full-time monitoring shall be conducted during helicopter activities associated with the Project, including along the gen-tie. The helicopter landing zone (HLZ) will be swept daily for biological resources by onsite biological monitors and in compliance with all Project mitigation measures. All sensitive resource areas will be appropriately marked, and all personnel will be made aware of any sensitive biological resources areas to avoid.

If any fully protected (FP) avian species (i.e., golden eagles, condors, or white-tailed kite) are detected in Project-related helicopter use areas, avoidance buffers shall be established until they have left the area. If FP species move such that the helicopter activities are within the avoidance buffers, helicopter work in the area shall be halted until the FP species have left the area. A Qualified Biologist will have the authority to stop all activities, if needed to avoid impacts to FP avian species. Specific avoidance buffers for FP species and active nests are included in Section 3.3.3 *Helicopter Buffers* below.

3.3 Avoidance Buffers

3.3.1 American Badger

If potential American badger dens are observed at any point during pre-construction surveys or construction and avoidance is feasible, buffer distances of 50 feet for occupied dens and 250-foot, no-disturbance buffers for natal dens shall be established by the Qualified Biologist prior to construction activities.

If avoidance of the potential American badger dens is not feasible, the following measures are recommended to minimize potential adverse effects to the American badger:

- If a Qualified Biologist determines that potential dens are inactive, the biologist shall excavate the dens by hand with a shovel and collapse them to prevent American badgers from re-using them during construction.
- If the Qualified Biologist determines that potential dens may be active, the biologist shall conduct remote camera monitoring of the den for a period of three consecutive days to confirm occupancy status. If the Qualified Biologist determines that a den is an active natal den, avoidance buffers of 250 feet shall be established to demarcate no-work areas that shall be maintained until the den is no longer an active natal den. Dens that are determined to be non-natal or are active outside of the breeding season shall implement passive eviction procedures through the installation of one-way doors, and the use of remote camera monitoring to document no activity for 3 consecutive days. Dens that are determined to be unoccupied or have become inactive following passive eviction or at the end of breeding season shall be hand-excavated with a shovel and collapsed to prevent reuse during construction.

3.3.2 Nesting Birds

Buffers shall be determined by the Qualified Biologist and be established based on the species and nest location, to allow for known species' behavior and environmental factors (e.g., line of sight to nest) when establishing avoidance buffers. Standard buffers are typically 200 to 500 feet for common raptors and 30 to 50 feet for most common passerines but may be larger if necessary to prevent disturbance of nesting activity, based on species sensitivity. No access into buffer areas shall be allowed until a Qualified Biologist has determined that the nestlings have fledged and are no longer reliant on the nest or the nest has become otherwise inactive (e.g., depredation). Encroachment into the buffer for common species may occur at the discretion of a Qualified Biologist and with the appropriate biological monitoring to ensure no disruption of nesting activity; however, for State-listed or FP species, CDFW shall be consulted for approval of buffer encroachment or reduction. Specific buffers for Swainson's hawk and burrowing owl are discussed in the Swainson's Hawk Conservation Strategy (Rincon 2023b) and Burrowing Owl Management Plan (Rincon 2024b), respectively.

3.3.3 Helicopter Buffers

Specific buffers for helicopter activities will be established for avian species and their nests and adjusted at the discretion of the Qualified Biologist. Table 2 below describes general buffers for avian species and their nests during helicopter activities, to be adjusted at the discretion of the Qualified Biologist.

Table 2 Helicopter Avoidance Buffer Guidelines

Species	Vertical and Horizontal Buffer Distance (feet)*
Swainson's Hawk	1,320
Fully Protected Avian Species	1,320
Special-status Raptors**	500
Common Raptors	300
Special-status Passerines	300
Common Passerines	200

* These distances are applicable to small helicopters, which typically cause a downdraft of 15 to 18 miles per hour at up to 150 feet, operating in nest vicinity for up to 3 minutes once or twice per day, with a minimum of 4 hours between helicopter activities. Buffers will be re-evaluated and adjusted for larger helicopters or longer work periods.

**Helicopter Use Buffers for burrowing owl are discussed~~ing~~ in the Burrowing Owl Management Plan (Rincon 2024b).

3.4 Qualified Biologist

The Qualified Biologist will have relevant experience with the taxa and species in the Central Valley and San Joaquin Valley for which pre-construction surveys, monitoring, or other support is required during Project construction. The Qualified Biologist role may be satisfied by one or more individuals depending on qualifications and experience with one or more species and taxa.

3.5 Worker Environmental Awareness Program

All personnel that enter the Project area shall attend a Worker Environmental Awareness Program (WEAP) developed by the Qualified Biologist or authorized designee. New personnel shall receive WEAP training on the first day of work and prior to commencing work on the site.

- The program shall include information on the life history of the San Joaquin kit fox, Swainson's hawk, burrowing owl, American badger, San Joaquin coachwhip, and nesting birds as well as other wildlife and plant species that may be encountered during construction activities.
- The program shall also discuss the legal protection status of each species, the definition of "take" under the Federal Endangered Species Act and California Endangered Species Act, measures the Project proponent is implementing to protect the species, reporting requirements, specific measures that each worker shall employ to avoid take of wildlife species, and penalties for violation of the Federal Endangered Species Act or California Endangered Species Act.
- The program shall include the contact information for the Project's environmental compliance manager.
- The program shall provide information on how and where to bring injured animals for treatment in the case any animals are injured the Project area.
- An acknowledgement form signed by each worker indicating that WEAP training has been completed shall be kept on record.
- A copy of the training transcript and/or training video, as well as a list of the names of all personnel who attended the WEAP training and copies of the signed acknowledgement forms will be made available upon agency request.

3.6 General Avoidance and Minimization Measures

The following general avoidance and minimization measures shall be implemented:

- Designation of a 15 mile per hour speed limit in all construction areas.
- All vehicles and equipment shall be parked on pavement, existing roads, and previously disturbed areas, and clearing of vegetation for vehicle access shall be avoided to the greatest extent feasible.
- The number of access routes, number and size of staging areas, and the total area of the activity shall be limited to the minimum necessary to achieve the goal of the Project.
- Designation of equipment washout and fueling areas to be located within the limits of grading at a minimum of 100 feet from any sensitive resources as identified by a Qualified Biologist.
- Washout areas shall be designed to fully contain polluted water and materials for subsequent removal from the site.
- Drip pans shall be placed under all stationary vehicles and mechanical equipment that have leaking or discharging lubricants or other fluid.
- All carrion shall be removed from the Project site prior to and during construction.
- All trash, including carrion, shall be placed in sealed containers and shall be removed from the Project site a minimum of once per week.
- No pets are permitted on the Project site during construction.
- All pipes or other construction materials or supplies shall be covered or capped in storage or laydown areas. No pipes or tubing shall be left open either temporarily or permanently, except during use or installation. Any construction pipe, culvert, or other hollow materials shall be inspected for wildlife before it is moved, buried, or capped.
- Project-related excavations shall be secured to prevent wildlife entry and entrapment. Holes and trenches shall be backfilled, securely covered, or fenced. Excavations that cannot be fully secured shall incorporate wildlife ramp or other means to allow trapped animals to escape. At the end of each work day, a biological monitor shall ensure that excavations have been secured or provided with appropriate means for wildlife escape.
- All helicopter activities shall occur within the typical construction hours Monday through Friday 6:00 a.m. to 7:00 p.m.

3.7 Reporting

During construction, monthly reports will be prepared to document compliance with all applicable measures and conditions The reports will summarize the results of surveys and biological monitoring and will document non-compliance events and the corrective actions taken to address those events. Reports will document any instances of sensitive resources being impacted as a result of Project activity. The record of compliance and documentation of impacts to biological resources will be the metrices by which the success of mitigation will be evaluated and documented in the compliance reports.

4 References

Fresno, County of. 2000. General Plan Update. Draft Environmental Impact Report.

Rincon Consultants, Inc. 2023a. Darden Clean Energy Project California Energy Commission Application, Section 5.12 Biological Resources. October 2023.

_____. 2023b. Darden Clean Energy Project Swainson's Hawk Conservation Strategy. October 2023.

_____. 2023c. Darden Clean Energy Project Biological Resources Assessment. October 2023.

_____. 2024a. Darden Clean Energy Project Utility Switchyard ~~and Alternate Green Hydrogen Site~~ Biological Resources Management Plan. ~~April~~ December 2024.

_____. 2024b. Darden Clean Energy Project Burrowing Owl Management Plan. ~~May~~ December 2024.

Appendix F - Clean

SUP DR BIO-3 Updated PV and Gen-tie Biological Resources Management Plan

Darden Clean Energy Project

PV and Gen-Tie Biological Resources Management Plan

prepared for

IP Darden I, LLC and Affiliates
c/o Intersect Power, LLC
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December 2024

RINCON CONSULTANTS, INC. SINCE 1994

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Figures

1 Introduction

Rincon has prepared this Photovoltaic Array (PV) and Generation intertie line (Gen-tie) Biological Resources Management Plan on behalf of IP Darden I, LLC and Affiliates (Project Owner), for the Darden Clean Energy (Project), in unincorporated Fresno County, California. This plan has been prepared at the request of the California Energy Commission (CEC) and incorporates relevant information from Section 5.12 *Biological Resources* of the CEC Application (Rincon 2023a). The purpose of the plan is to outline the biological resources mitigation, monitoring, and reporting procedures that shall be implemented during construction of the PV arrays, battery energy storage system (BESS), and gen-tie components of the Project.

Additional biological resources management plans for the Project include:

- **Utility Switchyard Biological Resources Management Plan.** This plan outlines the biological resources mitigation, monitoring, and reporting procedures that shall be implemented during construction of the utility switchyard component of the Project (Rincon 2024a).
- **Burrowing Owl Management Plan.** This plan outlines the biological resources mitigation, monitoring, and reporting procedures that shall be implemented for all components of the Project as they relate to burrowing owl (*Athene cunicularia*) during the pre-construction, construction, and operations and maintenance phases (Rincon 2024b).
- **Swainson's Hawk Conservation Strategy.** This conservation strategy addresses potential effects to Swainson's hawk (*Buteo swainsoni*) nesting and foraging habitat on the Project during construction, operations, and maintenance (O&M) phases (Rincon 2023b).
- **Operations and Maintenance Biological Resources Management Plan.** This plan will outline the biological resources mitigation, monitoring, and reporting procedures that shall be implemented for all components of the Project during the O&M phase.

1.1 Project Description

The overall Project consists of the construction, operation, and eventual repowering or decommissioning of a 1,150 megawatt (MW) solar PV facility, an up to 4,600 megawatt-hour (MWh) battery energy storage system (BESS), a 34.5-500 kilovolt (kV) grid substation, a 15-mile 500 kV gen-tie line, a 500 kV utility switchyard along the Pacific Gas and Electric Company (PG&E) Los Banos-Midway #2 500 kV transmission line, and appurtenances. This plan is specific to construction of the PV arrays, BESS, substation , and gen-tie portions of the Project.

Construction of the Project is anticipated to take between 18 and 36 months to complete and the Project would be operational by 2028.

The Project would operate for approximately 35 years, at which time Project facilities would be either repowered or decommissioned. Following decommissioning, the Project site would be restored and reclaimed to the extent practicable to pre-construction conditions consistent with site lease agreements.

1.2 Project Location

The Project site is located in an agricultural area of unincorporated Fresno County south of the community of Cantua Creek (Figure 1). The proposed PV solar facility, BESS, and substation would be located on approximately 9,100 acres of land owned by Westlands Water District, between South Sonoma Avenue to the west and South Butte Avenue to the east (Figure 2). The proposed gen-tie line (approximately 10 to 15 miles) would span west from the intersection of South Sonoma Avenue and West Harlan Avenue to immediately west of Interstate 5, where it would connect to the new utility switchyard (Figure 2).

Land cover types include fallow lands, tilled and disked fields containing ruderal vegetation, orchards, and other active farming on the Project site. In this plan, non-active agriculture fields prior to vegetation growth are referred to as “fallow”, and as “disked” if evidence of disking was present. Surrounding properties include fallow and agricultural lands. The Project’s gen-tie line spans privately-owned land on the western portion of the Project site with land-cover types including active agriculture (primarily orchards) and fallow fields. The California Aqueduct bisects the gen-tie parcels, running generally north-south. Compacted dirt and paved roads border and separate each land-cover type.

This plan is applicable only to the PV arrays, BESS, substation, and gen-tie portions of the Project site.

Figure 1 Regional Location Map

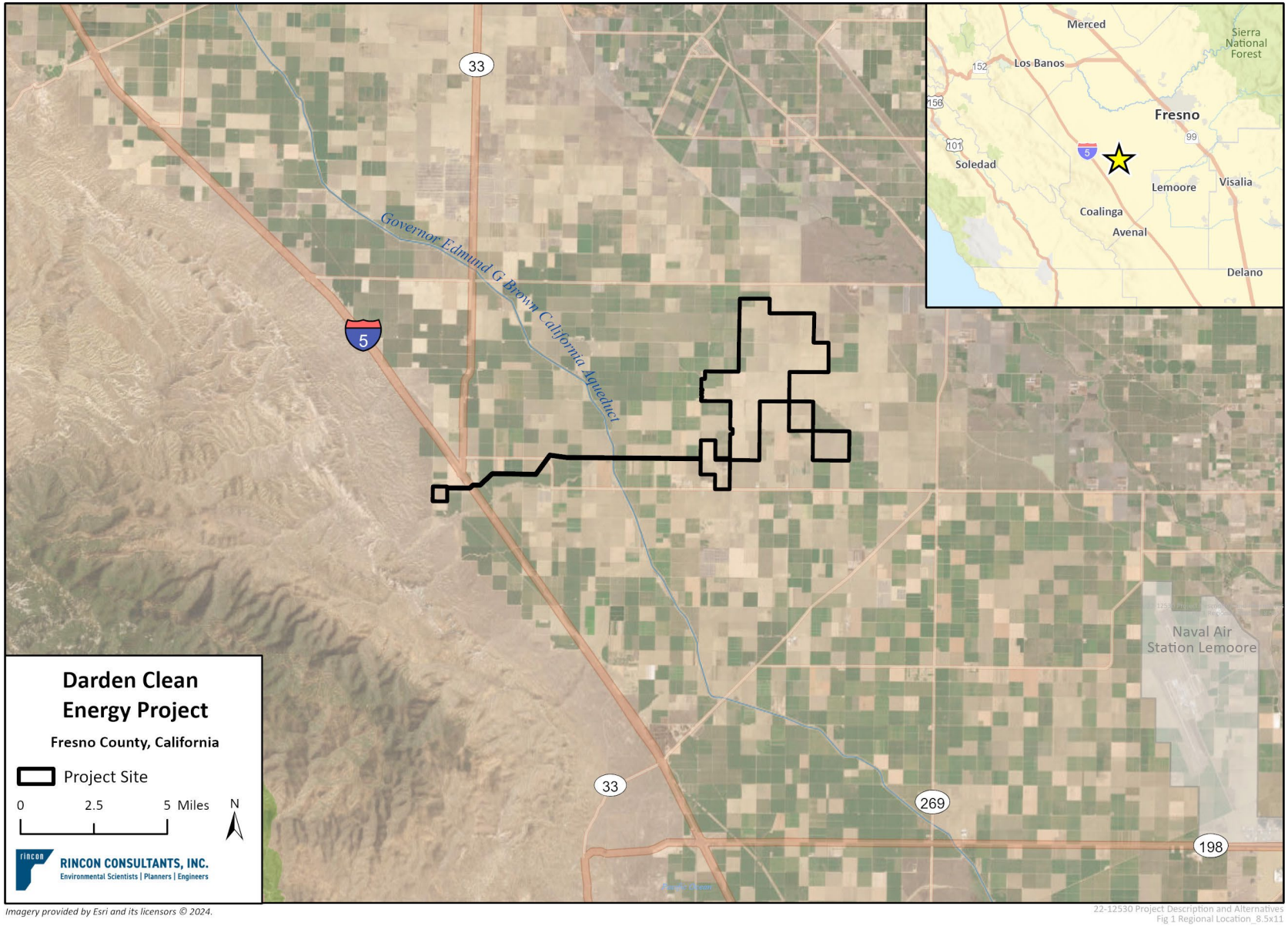
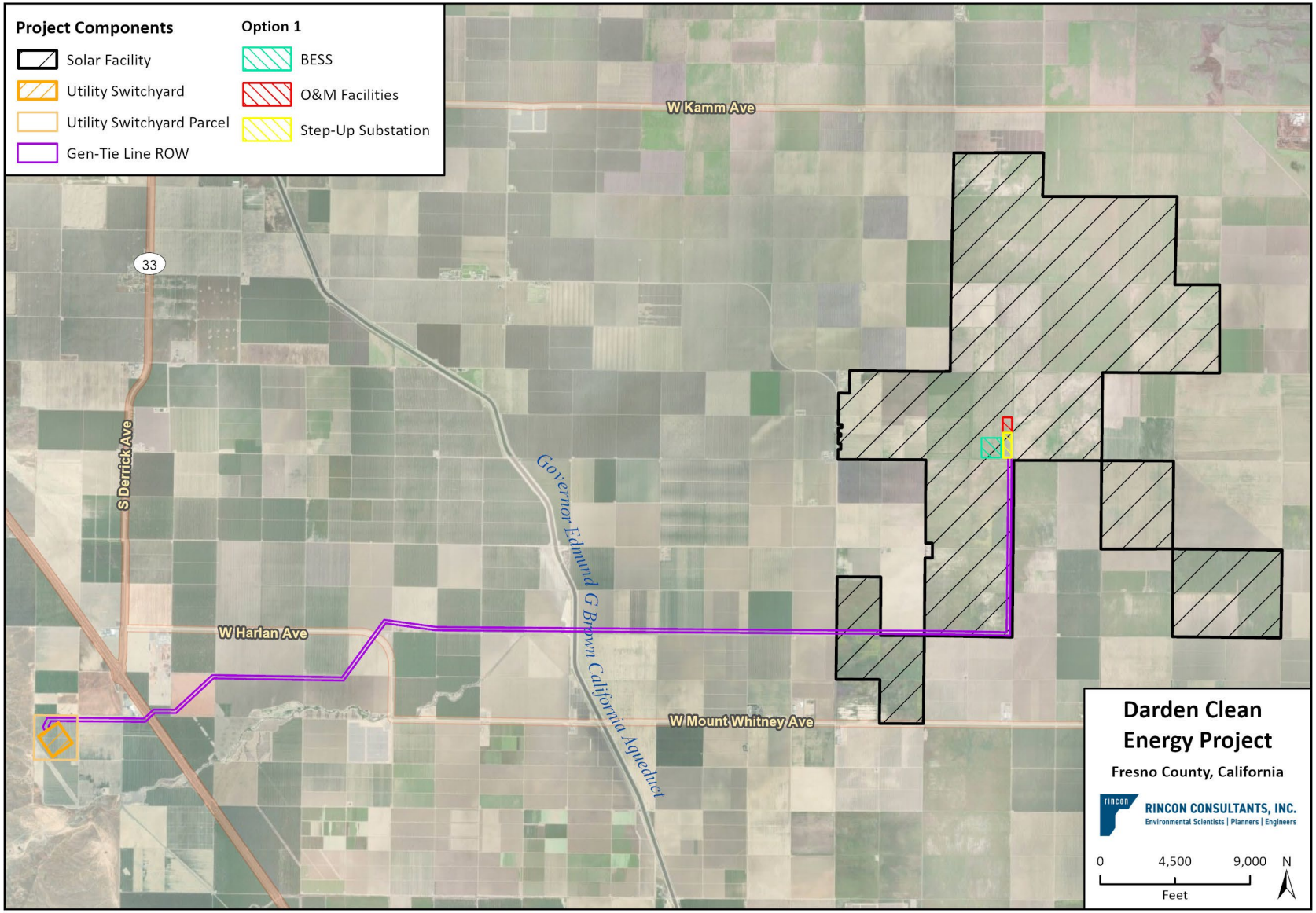


Figure 2 Project Map



2 Existing Conditions

2.1 General Site Conditions

2.1.1 Topography and Geography

The Project site is located in unincorporated Fresno County in the San Joaquin Valley. The San Joaquin Valley is bounded by the Sacramento – San Joaquin River Delta to the north, the Diablo Mountain Range to the west, the Sierra Nevada Mountains to the east, and the Tehachapi Range to the south. The region is primarily composed of agricultural land dating back to as early as the 1940s, and cattle grazing land, with areas of residential and industrial development primarily concentrated near Fresno. Vegetation occurring in the San Joaquin Valley mostly consist of annual/ruderal grassland, pasture, cropland, valley-foothill riparian, vernal pool, alkali scrub, and orchard-vineyard (Fresno County 2000). The Project's Biological Study Area (BSA), the approximately 9,500-acre Project site encompassing all proposed Project components and a general 100-ft buffer, is relatively flat, with elevations ranging from approximately 186 to 644 feet above mean sea level, increasing in elevation from the east to the west and southwest towards the Diablo Range. Geography in the vicinity of the BSA includes agriculture with a few small scattered rural residential areas and small solar facilities.

2.1.2 Vegetation and Other Land Cover

During biological surveys in 2022 and 2023, the BSA was dominated by active and seasonally managed non-active agricultural fields. Most of the non-active parcels were grown over with mustard (*Brassica nigra*), then were disked in May. Plant species observed included black mustard (*Brassica nigra*), bread wheat (*Triticum aestivum),* great valley phacelia (*Phacelia ciliata)* and field bindweed (*Convolvulus arvensis*). Larger trees were generally restricted to windrows or situated around structures and included red gum eucalyptus (*Eucalyptus camaldulensis*), arroyo willow (*Salix lasiolepis*), Fremont cottonwood (*Populus fremontii*) and local agricultural trees including olive, almond, and various fruit.

The Project site is otherwise comprised completely of lands that have been retired from agricultural cultivation or are orchards. No crop fields such as alfalfa, wheat, or other grain field occur within the BSA or within the surrounding landscape. The Project site occurs within a region that has limited water availability due to the critically overdrafted groundwater subbasin. As a result, the region is dominated by retired agricultural lands that are disked or no longer in production.

The Project site was also visited January through March 2024. At that time, all Project areas within the PV Development Footprint, O&M facilities, Step-Up Substation, and BESS consisted of non-active agriculture (recently disked bare ground) with an isolated row of eucalyptus within the PV Development Footprint. These areas are tilled/disked several times per year and alternate between bare ground and varying levels of invasive weed growth between tilling/disking for weed control. Additionally, these areas are subject to a non-irrigation covenant that prohibits current and future irrigated agricultural use. During that same period, the gen-tie corridor consisted of a mix of non-active agriculture as well as active agriculture with crops including tomatoes, onions, corn, and almond and pistachio orchards.

2.2 Sensitive Biological Resources

The sensitive biological resources that are present or have potential to occur within the PV arrays or gen-tie line areas are outlined in Table 1 (Rincon 2023c). Special-status species observed during the surveys are depicted on Figure 3 through Figure 7.

Table 1 Special-Status Wildlife Species Documented as Present or with the Potential to Occur in the BSA of the PV Arrays or Gen-Tie Line

Common Name	Scientific Name	Agency Status (Federal/State/Other)	Potential to Occur within the PV Arrays or Gen-tie[1]
Birds			
tricolored blackbird	*Agelaius tricolor*	–/ST/SSC	Low Potential (foraging), No Potential (nesting)
golden eagle	*Aquila chrysaetos*	–/–/FP	High Potential (foraging), No Potential (nesting)
burrowing owl	*Athene cunicularia*	–/SC/SSC	Present (nesting, foraging)
ferruginous hawk	*Buteo regalis*	–/–/WL	High Potential (winter migrant) No Potential (nesting)
Swainson's hawk	*Buteo swainsoni*	–/ST/–	Present (nesting, foraging)
northern harrier	*Circus hudsonius*	–/–/SSC	High Potential (foraging), No Potential (nesting)
mountain plover	*Choradrius montanus*	–/–/SSC	High Potential (winter migrant) No Potential (nesting)
white-tailed kite	*Elanus luecurus*	–/–/FP	High Potential (foraging), Low Potential (nesting)
California horned lark	*Eremophila alpestris actia*	–/–/WL	Present (foraging, nesting)
prairie falcon	*Falco mexicanus*	–/–/WL	High Potential (foraging), No Potential (nesting)
California condor	*Gymnogyps californianus*	FE/SE/–	Low Potential (foraging), No Potential (nesting)
loggerhead shrike	*Lanius ludovicianus*	–/–/SSC	High Potential (foraging), No Potential (nesting)
Oregon vesper sparrow	*Pooecetes framineus affinus*	–/–/SSC	High Potential (winter migrant) No Potential (nesting)
yellow warbler	*Setophaga petechia*	–/–/SSC	High Potential (migration) No Potential (nesting)
yellow-headed blackbird	*Xanthocephalus xanthocephalus*	–/–/SSC	Moderate Potential (nesting, foraging)
Mammals			
American badger	*Taxidea taxus*	–/–/SSC	Present
San Joaquin Kit Fox[2]	*Vulpes macrotis mutica*	FE/ST/--	Low Potential

[1]Avian species observed foraging on the Project site or passing through during their migration during biological resources surveys, but which have either no or low potential to nest on the Project site: golden eagle, ferruginous hawk, northern harrier, mountain plover, white-tailed kite, prairie falcon, loggerhead shrike, Oregon vesper sparrow, and yellow warbler.

[2]Management strategies for San Joaquin kit fox are provided in the Utility Switchyard Biological Resources Management Plan (Rincon 2024a) since the species is not expected to occur within the PV Development Footprint.

FE = Federally Endangered, SE = State Endangered, ST = State Threatened, SC = State Candidate for Listing under California Endangered Species Act, FP = CDFW Fully Protected, SSC = CDFW Species of Special Concern, WL = CDFW Watch List

Source: California Natural Diversity Database (CNDDB) (Fresno County), May 2021

Figure 3 Special-Status Species Observations within BSA (Mapbook Page 1)

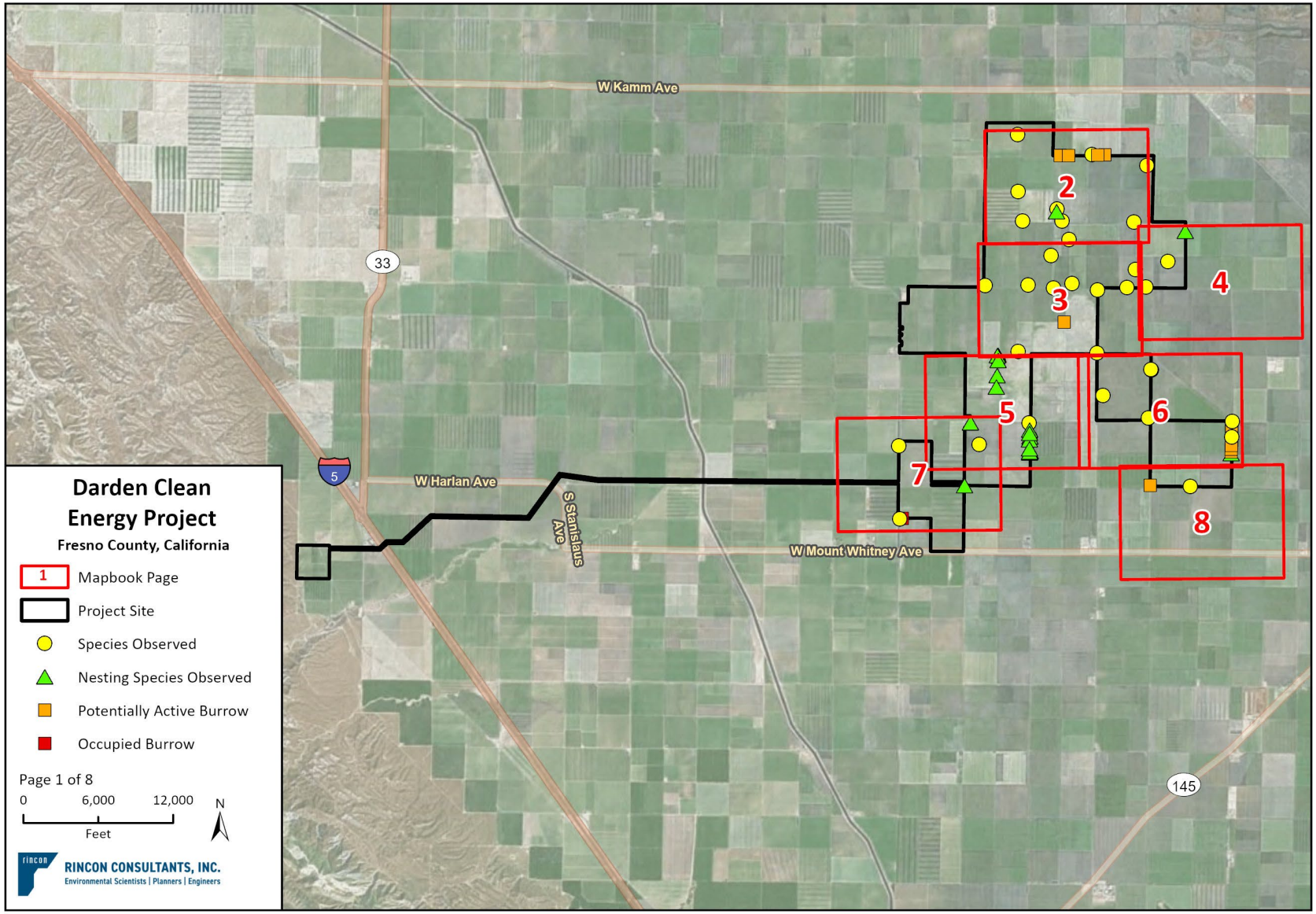


Figure 4 Special-Status Species Observations within BSA (Mapbook Page 2)

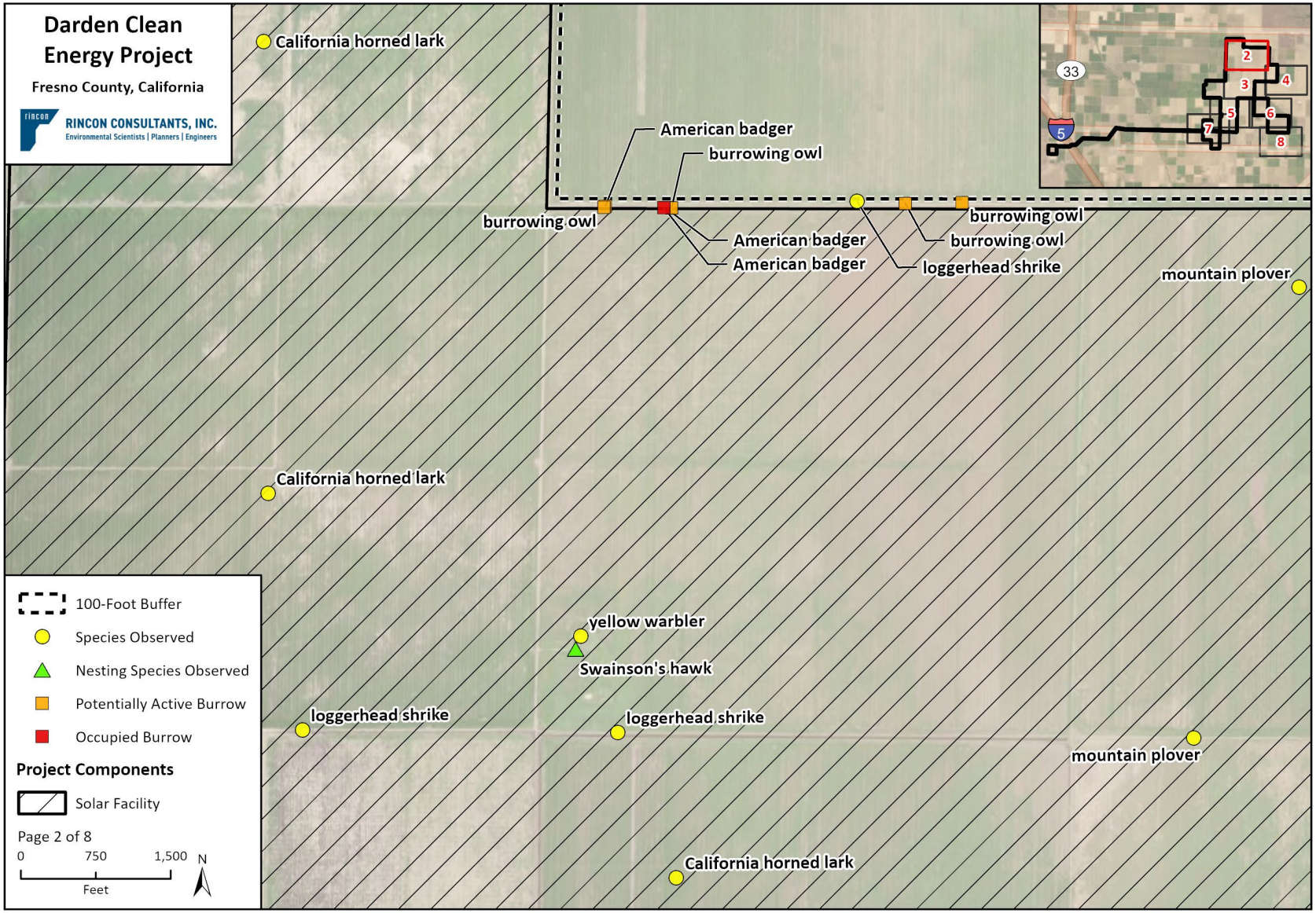
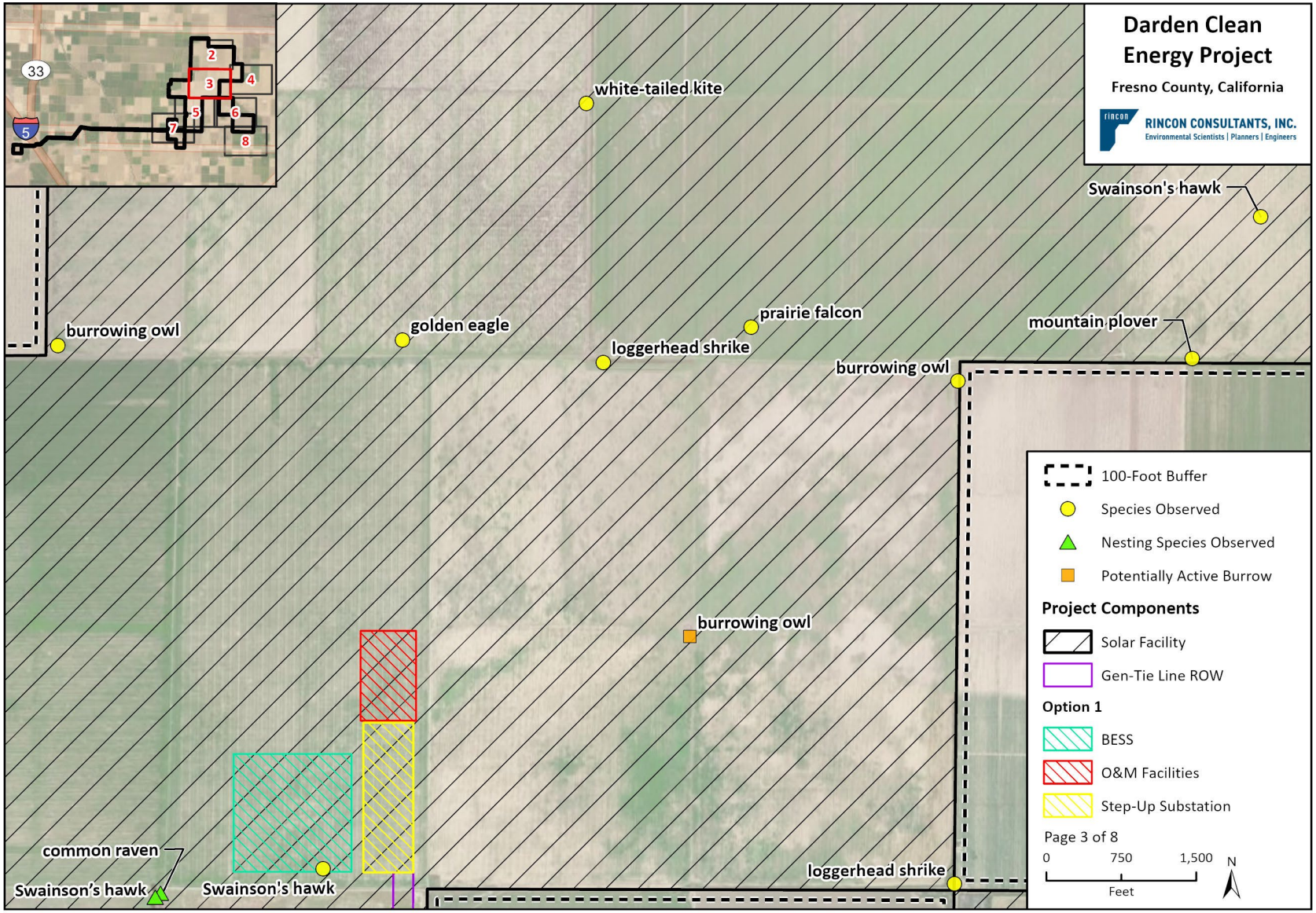


Figure 5 Special-Status Species Observations within BSA (Mapbook Page 3)



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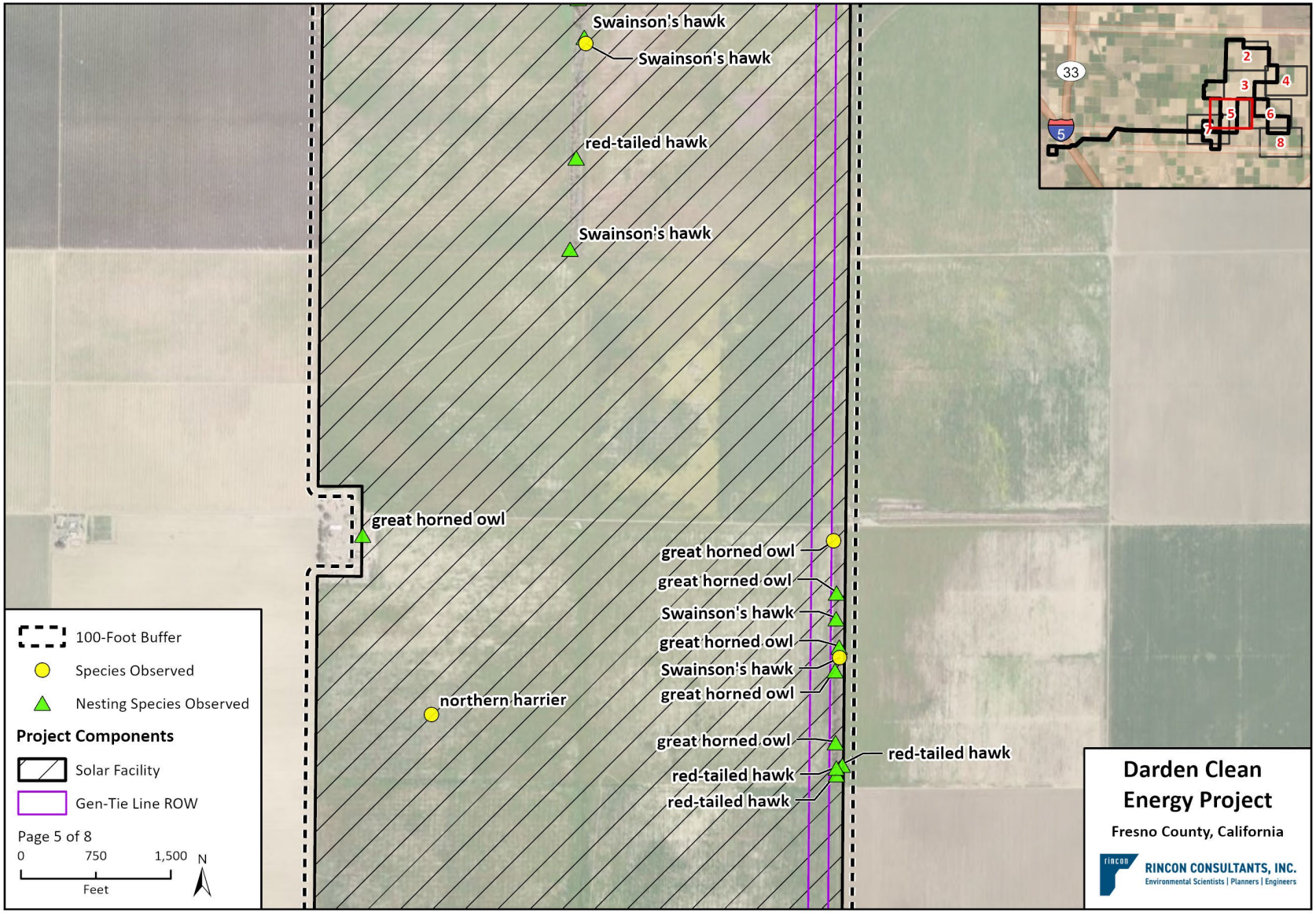

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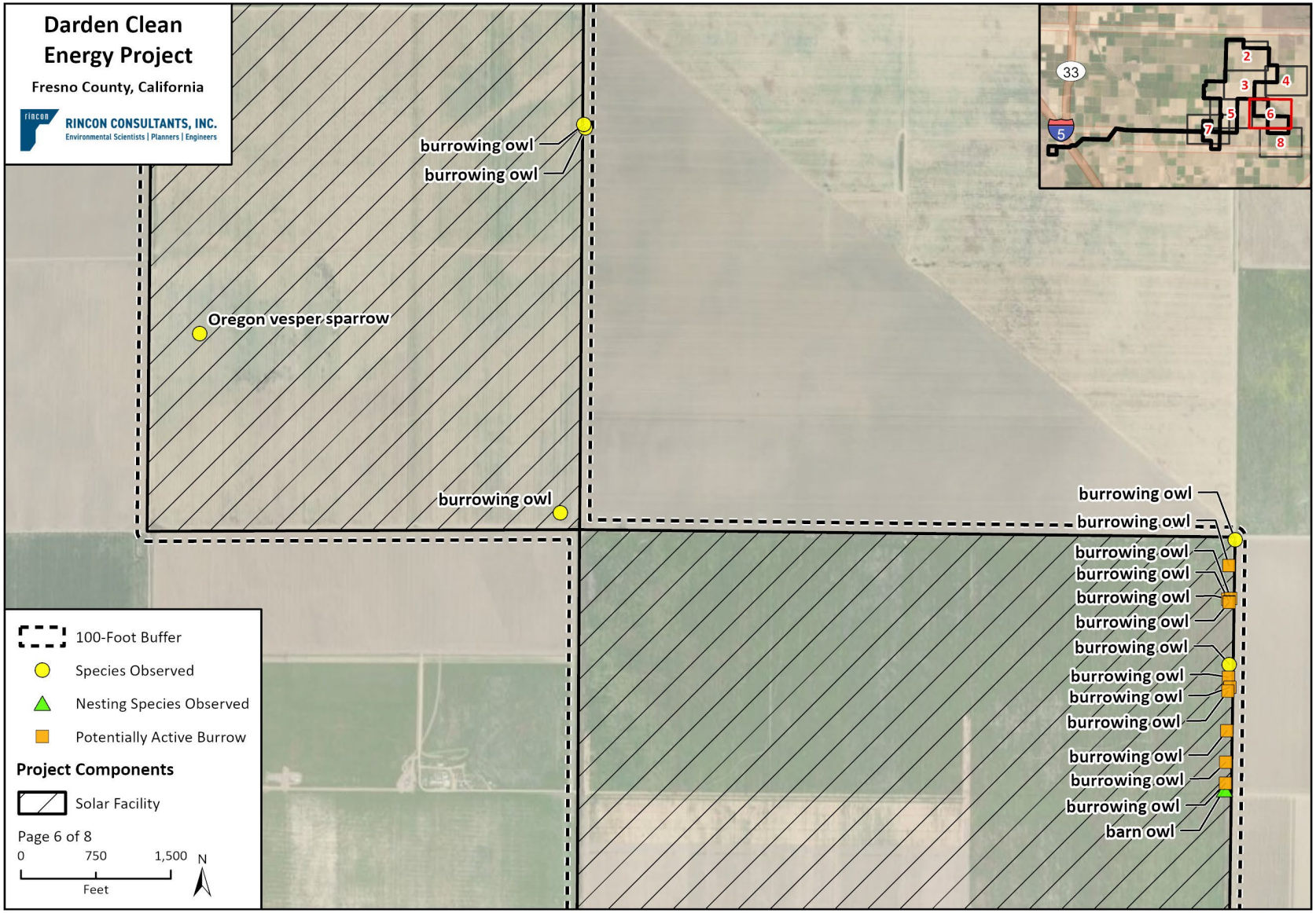

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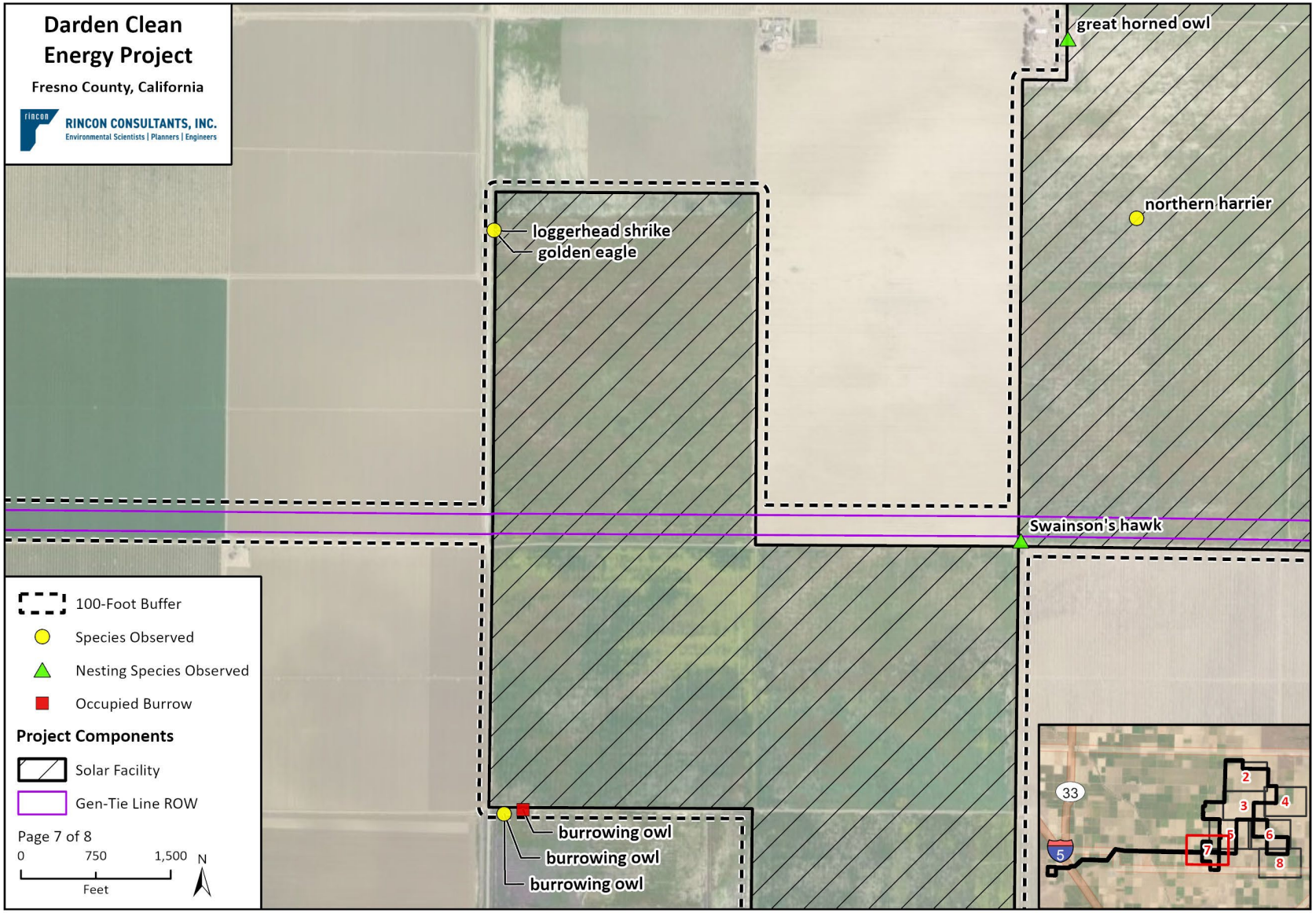

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3.1 Pre-construction Surveys

3.1.1 American Badger Surveys

Preconstruction surveys shall be conducted by a Qualified Biologist for the presence of American badger prior to commencement of construction activities in all areas with potential to support this species. This survey shall be conducted no more than 30 days prior to ground disturbing activities without prior agency approval. The surveys can be staggered to match the different construction phases and locations to reduce the need to re-survey any given area. The surveys shall be conducted in areas of suitable habitat for the species. Surveys shall conform to industry standards for American badger.

If work is halted in a given area for 30 days or greater, pre-construction surveys will be repeated in work areas that are not fully cleared of vegetation following the initial pre-construction survey until all vegetation is cleared. Once vegetation is cleared and construction is ongoing, no additional surveys will be needed as monitoring will be conducted during on-going activities.

Where special-status species habitat (e.g., burrows/dens) are known to occur and there is a potential for significant impacts, a Qualified Biologist will monitor construction activities to ensure that impacts to special-status species are avoided and minimized (as described in Section 3.2 *Construction Monitoring*).

3.1.2 Nesting Bird Surveys

If construction is scheduled to commence during the non-breeding season (September 1 to January 31), no pre-construction surveys or additional measures for nesting birds or other raptors shall be required. Prior to ground disturbing and vegetation removal activities that are initiated during the breeding season (February 1 to August 31), a Qualified Biologist shall conduct preconstruction surveys of all potential nesting habitats within the Project area. The raptor survey shall focus on potential nest sites (e.g., owl boxes, large trees, windrows, and shrubs) within 500 feet of the site for common raptors. Nesting bird surveys shall be conducted within 14 days of the start of ground-disturbing or vegetation removal activities. Surveys need not be conducted for the entire Project area at one time and may be conducted in phases consistent with construction activity schedules. If helicopter activities occur during the breeding season, preconstruction surveys along the gen-tie corridor shall be repeated within 14 days of the start of helicopter activities. Specific survey requirements for Swainson's Hawk are discussed in the Swainson's Hawk Conservation Strategy (Rincon 2023b). Specific survey requirements for burrowing owl are discussed in the Burrowing Owl Management Plan (Rincon 2024b).

The surveying biologist shall be qualified to determine the status and stage of nesting by migratory birds and all locally breeding raptor species without causing intrusive disturbance.

3.2 Construction Monitoring

The PV arrays and gen-tie Project components are sited entirely on former agricultural land that is regularly disked, with some portions of the gen-tie within active orchards. As a result, these areas

do not provide habitat for the majority of special-status species with potential to occur on the Project site. Pre-construction surveys and the implementation of no-work buffers (as described in Section 3.3 Avoidance Buffers) would result in 100% avoidance of impacts to special-status species; therefore, monitoring will be limited to spot checks. Qualified Biologists will conduct weekly sweeps of the work area, inspect avoidance buffers, confirm that ground disturbance activities and impacts occur within designated limits, watch for special-status species within the work area, and confirm appropriate avoidance and minimization measures are implemented.

The Qualified Biologist's monitoring responsibilities will also include monitoring active nests and burrows/dens to determine if the recommended buffer is effective during active work in proximity to the nest or burrow/den. The nest and burrows/dens will be visited weekly at a minimum, but frequency will vary depending on Project activity and location. Nests and burrows/dens will be monitored until a final outcome is determined (e.g., the nest or burrow/den becomes inactive, the young have fledged, the young are no longer being fed by the parents, the young have left the area, and the young will no longer be impacted by the Project), or for the duration of Project activities in proximity to the nest or burrow/den (based on the species-specific buffer), whichever occurs first. At a minimum, the following information will be documented for each burrow/den or nest:

- Date nest or burrow/den first observed/detected
- Species
- Status (e.g., nest building, incubating, brooding, young rearing, unoccupied)
- Distance of the nest to Project activities
- Type of Project activity occurring within the vicinity of the nest or burrow/den
- Recommended buffer size including modifications to buffer size

3.2.1 Helicopter Monitoring

Full-time monitoring shall be conducted during helicopter activities associated with the Project, including along the gen-tie. The helicopter landing zone (HLZ) will be swept daily for biological resources by onsite biological monitors and in compliance with all Project mitigation measures. All sensitive resource areas will be appropriately marked, and all personnel will be made aware of any sensitive biological resources areas to avoid.

If any fully protected (FP) avian species (i.e., golden eagles, condors, or white-tailed kite) are detected in Project-related helicopter use areas, avoidance buffers shall be established until they have left the area. If FP species move such that the helicopter activities are within the avoidance buffers, helicopter work in the area shall be halted until the FP species have left the area. A Qualified Biologist will have the authority to stop all activities, if needed to avoid impacts to FP avian species. Specific avoidance buffers for FP species and active nests are included in Section 3.3.3 *Helicopter Buffers* below.

3.3 Avoidance Buffers

3.3.1 American Badger

If potential American badger dens are observed at any point during pre-construction surveys or construction and avoidance is feasible, buffer distances of 50 feet for occupied dens and 250-foot, no-disturbance buffers for natal dens shall be established by the Qualified Biologist prior to construction activities.

If avoidance of the potential American badger dens is not feasible, the following measures are recommended to minimize potential adverse effects to the American badger:

- If a Qualified Biologist determines that potential dens are inactive, the biologist shall excavate the dens by hand with a shovel and collapse them to prevent American badgers from re-using them during construction.
- If the Qualified Biologist determines that potential dens may be active, the biologist shall conduct remote camera monitoring of the den for a period of three consecutive days to confirm occupancy status. If the Qualified Biologist determines that a den is an active natal den, avoidance buffers of 250 feet shall be established to demarcate no-work areas that shall be maintained until the den is no longer an active natal den. Dens that are determined to be non-natal or are active outside of the breeding season shall implement passive eviction procedures through the installation of one-way doors, and the use of remote camera monitoring to document no activity for 3 consecutive days. Dens that are determined to be unoccupied or have become inactive following passive eviction or at the end of breeding season shall be hand-excavated with a shovel and collapsed to prevent reuse during construction.

3.3.2 Nesting Birds

Buffers shall be determined by the Qualified Biologist and be established based on the species and nest location, to allow for known species' behavior and environmental factors (e.g., line of sight to nest) when establishing avoidance buffers. Standard buffers are typically 200 to 500 feet for common raptors and 30 to 50 feet for most common passerines but may be larger if necessary to prevent disturbance of nesting activity, based on species sensitivity. No access into buffer areas shall be allowed until a Qualified Biologist has determined that the nestlings have fledged and are no longer reliant on the nest or the nest has become otherwise inactive (e.g., depredation). Encroachment into the buffer for common species may occur at the discretion of a Qualified Biologist and with the appropriate biological monitoring to ensure no disruption of nesting activity; however, for State-listed or FP species, CDFW shall be consulted for approval of buffer encroachment or reduction. Specific buffers for Swainson's hawk and burrowing owl are discussed in the Swainson's Hawk Conservation Strategy (Rincon 2023b) and Burrowing Owl Management Plan (Rincon 2024b), respectively.

3.3.3 Helicopter Buffers

Specific buffers for helicopter activities will be established for avian species and their nests and adjusted at the discretion of the Qualified Biologist. Table 2 below describes general buffers for avian species and their nests during helicopter activities, to be adjusted at the discretion of the Qualified Biologist.

Table 2 Helicopter Avoidance Buffer Guidelines

Species	Vertical and Horizontal Buffer Distance (feet)*
Swainson's Hawk	1,320
Fully Protected Avian Species	1,320
Special-status Raptors**	500
Common Raptors	300
Special-status Passerines	300
Common Passerines	200

* These distances are applicable to small helicopters, which typically cause a downdraft of 15 to 18 miles per hour at up to 150 feet, operating in nest vicinity for up to 3 minutes once or twice per day, with a minimum of 4 hours between helicopter activities. Buffers will be re-evaluated and adjusted for larger helicopters or longer work periods.

**Helicopter Use Buffers for burrowing owl are discussed in the Burrowing Owl Management Plan (Rincon 2024b).

3.4 Qualified Biologist

The Qualified Biologist will have relevant experience with the taxa and species in the Central Valley and San Joaquin Valley for which pre-construction surveys, monitoring, or other support is required during Project construction. The Qualified Biologist role may be satisfied by one or more individuals depending on qualifications and experience with one or more species and taxa.

3.5 Worker Environmental Awareness Program

All personnel that enter the Project area shall attend a Worker Environmental Awareness Program (WEAP) developed by the Qualified Biologist or authorized designee. New personnel shall receive WEAP training on the first day of work and prior to commencing work on the site.

- The program shall include information on the life history of the San Joaquin kit fox, Swainson's hawk, burrowing owl, American badger, San Joaquin coachwhip, and nesting birds as well as other wildlife and plant species that may be encountered during construction activities.
- The program shall also discuss the legal protection status of each species, the definition of "take" under the Federal Endangered Species Act and California Endangered Species Act, measures the Project proponent is implementing to protect the species, reporting requirements, specific measures that each worker shall employ to avoid take of wildlife species, and penalties for violation of the Federal Endangered Species Act or California Endangered Species Act.
- The program shall include the contact information for the Project's environmental compliance manager.
- The program shall provide information on how and where to bring injured animals for treatment in the case any animals are injured the Project area.
- An acknowledgement form signed by each worker indicating that WEAP training has been completed shall be kept on record.
- A copy of the training transcript and/or training video, as well as a list of the names of all personnel who attended the WEAP training and copies of the signed acknowledgement forms will be made available upon agency request.

3.6 General Avoidance and Minimization Measures

The following general avoidance and minimization measures shall be implemented:

- Designation of a 15 mile per hour speed limit in all construction areas.
- All vehicles and equipment shall be parked on pavement, existing roads, and previously disturbed areas, and clearing of vegetation for vehicle access shall be avoided to the greatest extent feasible.
- The number of access routes, number and size of staging areas, and the total area of the activity shall be limited to the minimum necessary to achieve the goal of the Project.
- Designation of equipment washout and fueling areas to be located within the limits of grading at a minimum of 100 feet from any sensitive resources as identified by a Qualified Biologist.
- Washout areas shall be designed to fully contain polluted water and materials for subsequent removal from the site.
- Drip pans shall be placed under all stationary vehicles and mechanical equipment that have leaking or discharging lubricants or other fluid.
- All carrion shall be removed from the Project site prior to and during construction.
- All trash, including carrion, shall be placed in sealed containers and shall be removed from the Project site a minimum of once per week.
- No pets are permitted on the Project site during construction.
- All pipes or other construction materials or supplies shall be covered or capped in storage or laydown areas. No pipes or tubing shall be left open either temporarily or permanently, except during use or installation. Any construction pipe, culvert, or other hollow materials shall be inspected for wildlife before it is moved, buried, or capped.
- Project-related excavations shall be secured to prevent wildlife entry and entrapment. Holes and trenches shall be backfilled, securely covered, or fenced. Excavations that cannot be fully secured shall incorporate wildlife ramp or other means to allow trapped animals to escape. At the end of each work day, a biological monitor shall ensure that excavations have been secured or provided with appropriate means for wildlife escape.
- All helicopter activities shall occur within the typical construction hours Monday through Friday 6:00 a.m. to 7:00 p.m.

3.7 Reporting

During construction, monthly reports will be prepared to document compliance with all applicable measures and conditions The reports will summarize the results of surveys and biological monitoring and will document non-compliance events and the corrective actions taken to address those events. Reports will document any instances of sensitive resources being impacted as a result of Project activity. The record of compliance and documentation of impacts to biological resources will be the metrices by which the success of mitigation will be evaluated and documented in the compliance reports.

4 References

Fresno, County of. 2000. General Plan Update. Draft Environmental Impact Report.

Rincon Consultants, Inc. 2023a. Darden Clean Energy Project California Energy Commission Application, Section 5.12 Biological Resources. October 2023.

_____. 2023b. Darden Clean Energy Project Swainson's Hawk Conservation Strategy. October 2023.

_____. 2023c. Darden Clean Energy Project Biological Resources Assessment. October 2023.

_____. 2024a. Darden Clean Energy Project Utility Switchyard Biological Resources Management Plan. December 2024.

_____. 2024b. Darden Clean Energy Project Burrowing Owl Management Plan. December 2024.