

Draft Initial Study/ Mitigated Negative Declaration Putah Creek Energy Farm Use Permit

Parcel 030-200-016
Zone File # 2019-006

Lead Agency



Yolo County Department of Community Services Planning Division

292 West Beamer Street
Woodland, CA, 95695-2598

Technical assistance provided by



September 2019

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Attachment A Biological Resources Assessment

1. Introduction

This proposed Project (Putah Creek Energy Farm) is a request for a Use Permit to construct and operate a 3 megawatt (MW) alternating current (AC) photovoltaic (PV) and energy storage project covering about 19 acres of fenced area of a 31-acre parcel of agricultural land. Adjacent, and to the south of the proposed Project, is the Pacific Gas and Electric (PG&E) Putah Creek Substation. Agricultural uses surround the Project site to the north and west. Dry Creek, which runs along the northern and eastern sides of the Project site's boundary, separates the Project from a residential community in the City of Winters. The Applicant operates the approximately 15-acre solar generation facility on the south side of the Putah Creek substation, which was constructed in 2014 under Use Permit ZF2013-0017.

2. Regulatory Framework

CEQA

The Yolo County Department of Community Services has determined that the Putah Creek Energy Farm Project meets the California Environmental Quality Act (CEQA) Guidelines Section 15378 definition of a project. CEQA Guidelines Section 15378 defines a project as the following:

"Project" means the whole of an action, which has a potential for resulting in either a direct physical change in the environment, or a reasonably foreseeable indirect physical change in the environment.

In accordance with the CEQA (Public Resources Code Sections 21000-21177), this Initial Study has been prepared to identify potentially significant impacts upon the environment resulting from the construction, operation, and maintenance of the Putah Creek Energy Farm Project (hereinafter referred to as the "Project," or "proposed Project"). In accordance with Section 15063 of the State *CEQA Guidelines*, this Initial Study is a preliminary analysis prepared by the Yolo County Department of Community Services as Lead Agency to inform the Lead Agency decision makers, other affected agencies, and the public, of potential environmental impacts associated with the implementation of the Project.

Yolo County

This Project will be reviewed under Yolo County's Small and Medium Solar Energy Systems Ordinance (Section 8-2.1104 of the Yolo County Code). A medium-sized solar energy system is defined as a private, on-site or utility-scale solar energy conversion system consisting of many ground-mounted solar arrays in rows or roof-panels, and associated control or conversion electronics, occupying more than 2.5 acres and no more than 30 acres of land, and that will be used to produce utility power to on-site uses and off-site customers. As allowed by the Ordinance, medium-sized solar energy systems may be installed and operated in all agricultural zones, including the Agricultural Intensive (A-N) Zone (Section 8-2.1104(d)(2)), provided the systems meet setback and other standards described in the Ordinance. Medium-sized solar facilities proposed in the agricultural and open space zones are encouraged to locate on predominantly non-prime lands and on non-Williamson Act contracted land. All medium-sized facilities are required to mitigate for the permanent loss of agricultural land in accordance with the County's Agricultural Conservation Easement Program found in Section 8-2.404 of the County Code. If a medium-sized facility is located on predominantly prime soils, or if it affects more than 2.5 acres of Swainson's hawk foraging habitat, a Minor Use Permit is required.

The Yolo County General Plan includes numerous policies regulating and emphasizing the protection of natural resources and agricultural lands that provide wildlife habitat. The most relevant policy to the proposed Project is Policy CO-2.22. This policy prohibits development within a minimum of 100 feet from the top of banks for all lakes, perennial ponds, rivers, creeks, sloughs, and perennial streams. A larger setback is preferred. The setback will allow for fire and flood protection, a natural riparian corridor (or wetland vegetation), a planned recreational trail where applicable, and vegetated landscape for stormwater to pass through before it enters the water body. Recreational trails and other features established in the setback should be unpaved and located along the outside of the riparian corridors whenever possible to minimize intrusions and maintain the integrity of the riparian habitat. Exceptions to this action include irrigation pumps, roads and bridges, levees, docks, public boat ramps, and similar uses, so long as these uses are sited and operated in a manner that minimizes impacts to aquatic and riparian features.

3. Environmental Checklist Form

1. **Project Title:** Zone File #2019-0006 (Putah Creek Energy Farm)
2. **Lead Agency Name:** Yolo County Department of Community Services
Address: 292 West Beamer Street
Woodland, CA, 95695-2598
3. **Contact Person and Phone Number:** Stephanie Cormier, Principal Planner, Yolo County
stephanie.cormier@yolocounty.org
(530) 666-8041
4. **Project Location:** The Project is located about 0.5 mile northeast of the intersection of State Route (SR) 128 and County Road (CR) 87D, west of and adjacent to the City of Winters
Site Access: Turn north on CR 87D, then turn right on the Project's access road, immediately north of the Putah Creek Substation access road. Entrance to the Project site is to the left prior to reaching the substation.
5. **Project Sponsor:** Putah Creek Solar Farms LLC
PO Box 605
Winters, CA 95894
Name and Address: Dan Martinez
(530) 795-0859
6. **General Plan Designation:** Agriculture (AG)
7. **Zoning:** Agricultural Intensive (A-N)
8. **Project Description Summary:**

The Project is a solar generation and battery storage facility containing certain related facilities and supporting infrastructure. The Project will provide Yolo County with a clean source of renewable energy. It will generate about 3 MWs annually. The developed and fenced area will cover about 19 acres. The Project will be located on a 31-acre parcel of land adjacent to the City of Winters in the unincorporated area of Yolo County. The PV panels will be oriented along a north-south axis, mounted on sets of galvanized steel racking that rotate from east to west to track the sun's path throughout the day. Each panel row will measure approximately 200 feet in total combined length and approximately 6.5 feet in width.

Details of the Project Description are provided in Section 4.
9. **Surrounding Land Uses and Setting:**

The Project site consists almost entirely of walnut orchard, which has been the sole agricultural land use for decades. Other than a negligible amount of annual grassland and ruderal vegetation, the Project site supports no other natural communities or wildlife habitats. The Project would also have no direct impacts to special-status species; however, disturbances from construction of the proposed Project could potentially indirectly impact three special-status species (valley elderberry longhorn beetle, Swainson's hawk, and white-tailed kite) that may inhabit or forage in the adjacent riparian habitat.

Relation to Project	Land Use	Zoning	General Plan Designation
Project Site	Agricultural (orchard)	Agricultural Intensive (A-N)	Agriculture (AG)
North	Agricultural and Residential	Agricultural Intensive (A-N)	Agriculture (AG)
South	Solar Farm and Agricultural (SR 128 and orchards)	Agricultural Intensive (A-N)	Agriculture (AG)
East	City of Winters (residential)	City of Winters	City of Winters
West	Agricultural (orchards)	Agricultural Intensive (A-N)	Agriculture (AG)

10. Other Public Agencies Whose Approval is Required:

Approval from other public agencies is not required.

11. Have California Native American tribes traditionally affiliated with the project area requested consultation pursuant to Public Resources Code section 21080.3.1? If so, is there a plan for consultation?

On February 12, 2019, the County sent an invitation for early consultation on the decision to undertake the Project to tribes requesting notification in Yolo County. This notification, prepared in accordance with AB 52, was sent via email and addressed to the following individuals and tribes:

- Burnam Lowell, Sr., Tribal Historic Preservation Officer, Yocha Dehe Wintun Nation
- Charlie Wright, Chairman, Cortina Rancheria Band of Wintun Indians of California
- Randy Yonemura, Cultural Committee Chair, Lone Band of Miwok Indians
- Antonio Ruiz Jr., Cultural Resources Officer, Wilton Rancheria
- Michael Mirelez, Cultural Resource Coordinator, Torres Martinez Desert Cahuilla Indians

In response to the invitation, the County received an email from Antonio Ruiz, Wilton Rancheria, on February 14, 2019, stating the only concern the Tribe has with the Project is during ground disturbing activities, including in areas of existing or prior development, where there exists a possibility that Native America artifacts and/or human remains may be uncovered. They requested that the Applicant should immediately stop construction if artifacts or remains were discovered and notify Wilton Rancheria and the appropriate federal and State agencies, citing that such provisions are stated in the Archaeological Resources Protection Act (ARPA) [16 USC 469], Native American Graves Protection and Repatriation Act (NAGPRA) [25 USC 3001-30013], Health and Safety Code Section 7050.5, and Public Resources Code Section 5097.9 *et al.* Mr. Ruiz requested that the County also consult with Yocha Dehe who may have additional information about the Project area.

The Yocha Dehe Wintun Nation also responded with a letter, dated February 25, 2019, indicating that the Tribe has concerns that the Project could impact known cultural resources, and requested that the cultural resource study for the Project, along with detailed Project information, including ground disturbance and landscaping plans, be sent to the Yocha Dehe Cultural Resources Department.

Environmental Factors Potentially Affected

The environmental factors checked below would be potentially affected by this project, involving at least one impact that is a “Potentially Significant Impact” and requiring implementation of mitigation as indicated by the checklist on the following pages.

- | | | |
|--|--|--|
| <input type="checkbox"/> Aesthetics | <input checked="" type="checkbox"/> Agriculture & Forestry Resources | <input type="checkbox"/> Air Quality |
| <input checked="" type="checkbox"/> Biological Resources | <input checked="" type="checkbox"/> Cultural Resources | <input type="checkbox"/> Energy |
| <input type="checkbox"/> Geology/Soils | <input type="checkbox"/> Greenhouse Gas Emissions | <input type="checkbox"/> Hazards & Hazardous Materials |
| <input type="checkbox"/> Hydrology/Water Quality | <input type="checkbox"/> Land Use/Planning | <input type="checkbox"/> Mineral Resources |
| <input type="checkbox"/> Noise | <input type="checkbox"/> Population/Housing | <input type="checkbox"/> Public Services |
| <input type="checkbox"/> Recreation | <input type="checkbox"/> Transportation | <input checked="" type="checkbox"/> Tribal Cultural Resources |
| <input type="checkbox"/> Utilities/Service Systems | <input type="checkbox"/> Wildfire | <input checked="" type="checkbox"/> Mandatory Findings of Significance |

Environmental Determination

On the basis of this initial evaluation:

- ☐ I find that the proposed Project COULD NOT have a significant effect on the environment, and a **NEGATIVE DECLARATION** will be prepared.
- ☒ I find that although the proposed Project could have a significant effect on the environment, there will not be a significant effect in this case because revisions in the project have been made by or agreed to by the project proponent. A **MITIGATED NEGATIVE DECLARATION** will be prepared.
- ☐ I find that the proposed Project MAY have a significant effect on the environment, and an **ENVIRONMENTAL IMPACT REPORT** is required.
- ☐ I find that the proposed Project MAY have a “potentially significant impact” or “potentially significant unless mitigated” impact on the environment, but at least one effect 1) has been adequately analyzed in an earlier document pursuant to applicable legal standards, and 2) has been addressed by mitigation measures based on the earlier analysis as described on attached sheets. An **ENVIRONMENTAL IMPACT REPORT** is required, but it must analyze only the effects that remain to be addressed.
- ☐ I find that although the proposed Project could have a significant effect on the environment, because all potentially significant effects (a) have been analyzed adequately in an earlier EIR or NEGATIVE DECLARATION pursuant to applicable standards, and (b) have been avoided or mitigated pursuant to that earlier EIR or NEGATIVE DECLARATION, including revisions or mitigation measures that are imposed upon the proposed Project, nothing further is required.

Planner's Signature

Date

Stephanie Cormier
Planner

4. Detailed Project Description

4.1 Introduction

The Project is a solar generation and battery storage facility containing related facilities and supporting infrastructure. The facility would generate 3 MW AC and would cover about 19 acres. The Project would be located on a 31-acre parcel of land in the unincorporated area of Yolo County, adjacent to the City of Winters (see Figure 1; all figures are located at the end of each section). The Project area is located on flat agricultural land bordered by agricultural land to the north and west, and a residential housing development to the east. Dry Creek forms the eastern boundary between the Project and the residential development and acts as a buffer between the two. Putah Creek Substation is adjacent to the Project on the south. In addition, there is a PV facility (Putah Creek Solar Facility) to the south of the Substation that is operated by the Applicant (Figure 2). The nearest residents are located approximately 150 feet north of the nearest solar panels at Array-4 and at Array-2, and 155 feet south of the solar panels at Array-1 (Figure 3).

The flat topography with no natural shading obstacles results in an abundant availability of sunshine on an annual basis. The Project site has one existing man-made shading obstacle, a high-voltage utility tower, guiding 115-kV (kilovolt) power cables from Putah Creek Substation to the northeast, toward Davis. Another transmission line runs through the parcel, parallel to the 115-kV line. The PV panels would be oriented along a north-south axis, mounted on sets of galvanized steel racking that rotate from east to west to track the sun's path throughout the day (Figure 3). Each panel row would measure approximately 200 feet in total combined length and approximately 6.5 feet in width. A minimum open space of 13 to 15 feet is required between rows to reduce shadowing effects. In addition, the panel rows would be set back 45 feet from each side of the existing transmission lines that cross the Project site. The panels would be supported by inverters, a grid interconnection pad, and a telecommunication system.

PV panels would be made of either a poly crystalline or thin-film amorphous silicon material covered by a glass panel. All PV panels are dark in color, are non-reflective, and are designed to be highly absorptive of all light that strikes the surface. The panels would be electrically connected to adjacent panels to form panel "strings." Multiple "strings" would be connected to each other via underground wiring. Trenching for underground wiring would mostly be two feet deep; however, in some areas it may need to be as much as three feet deep. A single concrete pad would be installed to serve as the PG&E Grid Interconnection Pad, which would be approximately 40 feet by 20 feet.

The battery energy storage system would be housed in small, sealed containers on the PG&E Grid Interconnection Pad. The battery containers would include hazardous waste containment in the case of a spill of battery fluids. The batteries would be connected to the system via underground electrical wires and are entirely silent during their operation.

No more than 19 acres of existing farmland would be converted for the Project, which would remain for at least a period of 25 to 30 years. The remainder of the parcel would be undisturbed, and those portions of the existing walnut orchard not needing to be removed for the Project, would remain in production and provide visual screening. The parcel's flat land surface would require minimal grading to allow for installation of the proposed solar generation Project. Access to the Project would be provided from CR 87D, with interior access provided by a 30-foot wide perimeter road, maintained to facilitate onsite circulation. In addition, internal roadways, approximately 20 to 30 feet in width would be provided within the array footprint. Dry Creek and its riparian habitat and features would not be disturbed by construction or operation of the Project.

4.2 Project Objectives

The Project would provide renewable solar energy during periods of high demand to the citizens of Winters as well as the greater Yolo County area. In addition, the Project's battery storage component would provide peak load shaving for the local region in the early evenings. The Applicant, Putah Creek Solar Farms LLC (PCSF LLC), has reached out to local potential consumers of the energy including the Valley Clean Energy Alliance (VCE) — the Community Choice Aggregation (CCA) serving the cities of Woodland and Davis and the unincorporated areas of Yolo County as an alternative energy provider to PG&E — to discuss procurement of the energy produced at the facility. VCE is looking to procure energy produced in Yolo County by Yolo County-based developers with the intention of keeping the Project investment and associated property and sales tax revenues in Yolo County.

The proposed Project is consistent with the objectives detailed in the 2030 Countywide General Plan. Principal 9, Objective 9.6, calls for increased capacity and reliance on renewable energy resources as a means of securing the health, safety, and prosperity of Yolo County communities against the adverse effects of climate change.

In addition, the Project would assist the State of California in complying with its renewable energy policies. Such as:

- Senate Bill 100 (SB 100), which calls for 100 percent of all electricity sold in California to be generated from renewable sources by the year 2045.
- Assembly Bill 32 (AB 32) which calls for greenhouse gas (GHG) reduction strategies that include a reduction mandate to 1990 levels by 2020.
- Executive Order B-30-15 which established a new interim statewide GHG emission reduction target to reduce GHG emissions to 40 percent below 1990 levels by 2030, to ensure California meets its target of reducing greenhouse gas emissions to 80 percent below 1990 levels by 2050.

The Project represents an additional clean source of electrical power that would supplement energy currently supplied by the existing power grid, thereby reducing the potential for power shortages to occur and decreasing demands on the capabilities of the existing distribution system as well as offsetting supplies from fossil fuel generating sources.

4.3 Project Construction

Construction of the Project is expected to generate an average of one equipment delivery per day (with an estimated four peak deliveries on any one day) along with an additional eight to ten workers commuting to the site on a daily basis. Construction is expected to take approximately three months, with crews typically working five, 10-hour days per week. Pile-driving activities would be limited to the hours of 8:00 A.M. to 5:00 P.M. on weekdays, and the duration of the total pile-driving construction activities is expected to be three weeks.

Equipment Staging Areas

Construction of the Project would require temporary staging and storage areas for materials and equipment during the construction process. Materials staging and storage would be located within the developed portion of the Project site. This area may be covered with panels at the conclusion of the construction phase.

4.4 Operation and Maintenance

Putah Creek Solar Farms LLC or its affiliates would maintain a maintenance and monitoring office within Yolo County to address security and maintenance issues at the site.

Upon completion of the Project, the solar panels would operate during daylight hours seven days per week, 365 days per year when there is sufficient sunlight. The site would be monitored remotely by an entity subcontracted to PCSF LLC. A 6-foot-high chain-link fence, with one foot of 3-strand concertina wire along the top, would be installed around the entire perimeter and act as the first line of security for the site. Infrared security cameras, motion detectors, and/or other technology would also be installed to allow for 24/7 live monitoring of the site. A security patrol would be contracted with to provide additional security. Should the security system detect the presence of unauthorized personnel, a security representative would be dispatched, and local authorities notified, as appropriate.

A small-scale inverter/distributor transformer would be located within the solar panel fields in the Project area. The inverter equipment identified for the Project generates low noise emissions (less than 65 dBA at the source). This equipment would be constructed on a level concrete building pad, with non-flammable materials (i.e., concrete, steel).

Daily maintenance of the facilities would consist of approximately two part-time workers performing visual inspections and minor repairs up to once daily. Larger repairs and washing of the panels may require 10 to 15 employees on an intermittent basis. It is anticipated that the solar panels would be washed approximately twice per year to remove dust particles and other buildup on the face of the panels to ensure optimum efficiency. It is estimated that 50,000 gallons of water per year (0.15 acre-feet/year) would be used to wash the panels. This water would be sourced from a well owned by the landowner or purchased from the City of Winters. Very little maintenance is expected overall, because the panels are largely self-sufficient.

Vegetation and agricultural products on or around the boundary of the site would be maintained to reduce the fire hazard of these combustible materials. Vegetative matter presenting a fire risk would be limited in height or removed.

Project Design Features

The rotating racking on which the PV panels would be installed reduce potential environmental impacts by eliminating the need for concrete in the racking as well as increasing the efficiency of the panels to generate electricity. A combination of galvanized I-beam or tubular steel posts and channel steel would be used for the racking system. The I-beams/tubular steel posts would be driven into the soil, using a pile/vibratory/rotary driving technique similar to that used to install freeway guardrails. This racking system allows for a smaller Project footprint at ground level by using 6-inch cylindrical steel supports instead of 18- to 24-inch concrete cylinders. In addition, there would be no concrete deliveries for the purposes of racking, and there would be no concrete to dispose of upon decommissioning, reducing the need for concrete deliveries and concrete disposal, respectively.

The racking is designed to rotate to follow the position of the sun throughout the day, increasing system energy production by approximately 30 percent. The racking also allows the footprint of the panels to occupy one-third less area. This design would also result in available habitat for plants and animals within the Project footprint.

4.5 Project Schedule

Project construction is expected to take approximately three months total to complete. Construction is planned to begin in March 2020, subsequent to completing a CEQA review, receiving all necessary permits, and meeting preconstruction CEQA conditions.

Construction of the Project is expected to be completed in June 2020 and the Commercial Operation Date is expected to be in June 2020, or shortly thereafter.

4.6 Facility Closure

The planned life of the generation facility is 25 to 30 years. However, if the generation facility were still economically viable, it could be operated longer. It is also possible that the facility could become economically noncompetitive earlier than 30 years, forcing early decommissioning. Whenever the facility is closed, the closure procedure will follow an approved plan, as described below.

The removal of the facility from service, or decommissioning, may range from “mothballing” to the removal of all equipment and appurtenant facilities, depending on conditions at the time. Because the conditions that would affect the decommissioning decision are largely unknown at this time, these conditions shall be presented to the Yolo County Department of Community Services, Planning Division, when more information is available and the timing for decommissioning is more imminent.

To ensure that public health and safety and the environment are protected during decommissioning, a decommissioning plan will be submitted to the Planning Division for approval prior to decommissioning. In general, the decommissioning plan for the facility will attempt to maximize the recycling of all facility components. Unused chemicals will be sold back to the suppliers or other purchasers or users. All equipment containing chemicals will be drained and shut down to ensure public health and safety and to protect the environment. All nonhazardous wastes will be collected and disposed of in appropriate landfills or waste collection facilities. All hazardous wastes will be disposed of according to all applicable regulation. The site will be secured 24 hours per day during the decommissioning activities. Upon completion of decommissioning, the site will be restored to agricultural use.

4.7 Applicant Proposed Measures

The Applicant has proposed the following Applicant Proposed Measures (APMs) be added to the Project description to further reduce any potential environmental impacts to aesthetics, air quality/GHG, geology/soils, noise, public services, and transportation.

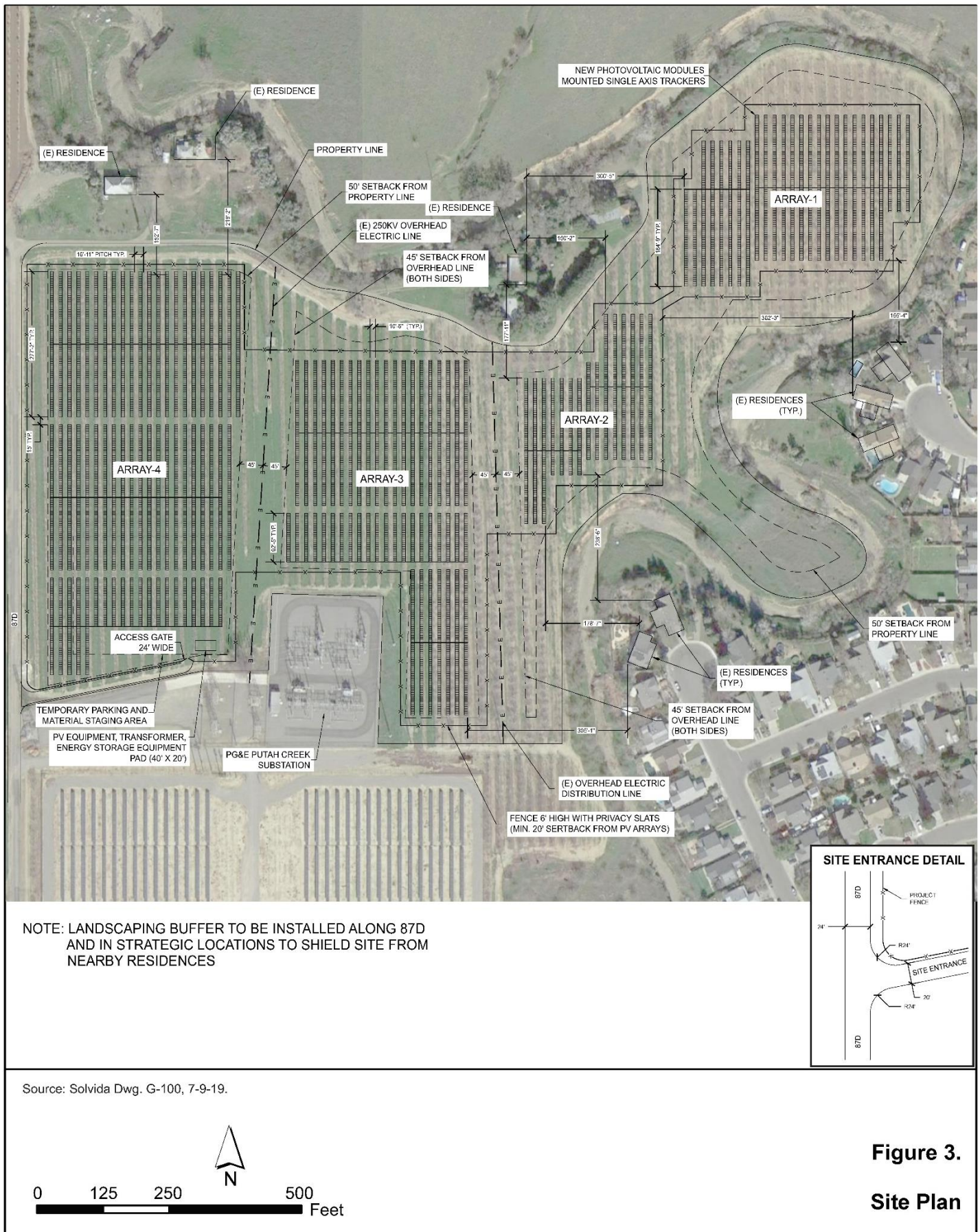
The committed APMs associated with the proposed Project are summarized below, and described in detail in Section 5, the Environmental Checklist (Environmental Setting and Environmental Impacts).

- **Aesthetics:** Retain some existing orchard trees to provide screening of the Project from CR 87D and adjacent residents.
- **Air Quality:** Construction practices would be implemented to reduce tailpipe and fugitive dust emissions during Project construction.
- **Geology/Soils:** A Stormwater Pollution Prevention Plan (SWPPP) would be prepared to reduce potential soil erosion, and a site-specific geotechnical investigation would be performed to provide final design recommendations.
- **Greenhouse Gas Emissions:** Encourage carpooling and recycling of construction waste.

- **Noise:** Limits construction hours and pile driving hours.
- **Public Services:** Fire protection training would be made available and Fire Prevention Measures will be implemented.
- **Transportation:** Take photographs, or video of CR 87D from SR 128 to the Project site to document the pre- and post-road condition.







5. Environmental Setting and Environmental Impacts

5.1 Aesthetics

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Except as provided in Public Resources Code Section 21099, would the project:				
a) Have a substantial adverse effect on a scenic vista?			<input checked="" type="checkbox"/>	
b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?			<input checked="" type="checkbox"/>	
c) In non-urbanized areas, substantially degrade the existing visual character or quality of public views of the site and its surroundings? (Public views are those that are experienced from publicly accessible vantage point). If the project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality?			<input checked="" type="checkbox"/>	
d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?			<input checked="" type="checkbox"/>	

(Check ☒ if project is located within a viewshed of any Scenic Route listed in the General Plan):

Environmental Setting

Aesthetics, as addressed in the CEQA Guidelines, refers to visual considerations in the physical environment. Aesthetics analysis, or visual resource analysis, is a systematic process to logically assess visible change in the physical environment and the anticipated viewer response to that change. The Aesthetics section of this IS/MND describes the existing landscape character of the Project area, existing views of the Project area from various on-the-ground vantage points, the visual characteristics of the proposed Project, and the landscape changes that would be associated with the construction and operation of the proposed Project, as seen from various vantage points.

The Project site contains an orchard, with views of the site containing walnut trees planted in rows as part of the overall agricultural development of the site. The existing landscape of the Project site and surrounding area is considered to have moderate to low visual quality and consists of a blend of agricultural land, an existing solar field and electrical substation, overhead electrical transmission and distribution lines, and residential development. Within foreground viewshed areas of the Project site, the topography is flat. From residences located to the east and southeast, the Project site is separated by Dry Creek and vegetation bordering this watercourse, which is the dominant visual characteristic from this location. At the southern end of CR 87D, about 0.5 mile from the Project site, SR 128 has been designated a local scenic roadway (Yolo County General Plan, Policy CC-1.13). In July 2019, SR 128 was made eligible to be designated as an official State “Scenic Highway”.¹

¹ <https://a04.asmdc.org/press-releases/20190715-governor-newsom-signs-assemblymember-aguiar-currys-bill-name-state-route-128>

Applicant Proposed Measures

APM AES-1 Visual Screening. The Applicant will retain a sufficient number of existing orchard trees to provide screening of the Project from CR 87D and adjacent residents. At a minimum, at least one row of walnut trees shall remain between CR 87D and the Project site, and between adjacent residents and the Project site.

To the degree practicable, walnut trees that do not need to be removed for the PV panels, associated structures, and/or related facilities, will remain. The Applicant will continue to irrigate and maintain the remaining walnut trees.

Impact Analysis

a) Have a substantial adverse effect on a scenic vista?

Less Than Significant Impact. For purposes of determining significance under CEQA, a “scenic vista” is defined as a viewpoint that provides expansive views of a highly valued landscape for the benefit of the public. As described in Section 5.2, the Project site is zoned for agricultural use and contains a walnut orchard. Views of the site are primarily only available from adjacent agricultural uses to the north and west, an electrical substation and solar facility to the south, residences located immediately north and east/southeast, and from CR 87D to the west. Views of the site cannot be seen from motorists on SR 128, which is approximately 0.5 mile away and obscured by a walnut orchard. The proposed Project site is not considered a scenic vista, because it does not provide sustained high value landscape for the benefit of the public. As agricultural land, the site is zoned to allow for agricultural uses; solar energy development is permitted on agricultural lands under the County’s Solar Energy Systems Ordinance. SR 128 is a designated scenic highway, which does not provide views of the site. An existing solar energy facility and electrical substation are located between SR 128 and the proposed Project site. They obscure any potential view of the site from SR 128 and the transmission line corridor that crosses SR 128. Therefore, existing energy infrastructure is already a primary landscape in the foreground view on SR 128. Less than significant impacts to a designated scenic vista would occur.

b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?

Less Than Significant Impact. Recently, Highway 128 was made eligible to be designated as a State Scenic Highway. SR 128 is also a designated scenic route in the Yolo Countywide General Plan. The southern portion of the Project site is located approximately 2,600 feet north of SR 128. The Project site is not located immediately adjacent to this scenic route—with an existing walnut orchard, electrical substation, and solar power installation separating the proposed Project site from SR 128. Views of the site cannot be seen from motorists on SR 128 due to being obscured by the walnut orchard, PV facility, and the electrical substation. The Project site contains a walnut orchard but does not contain any rock outcroppings or historic structures. However, the Project would require the removal of several walnut trees. As agricultural land, the site is allowable for agricultural uses, such as crop turnaround, and other permitted uses, such as approval of solar energy development. While SR 128, a designated scenic highway, is located a little less than 0.5 mile away, an existing solar energy facility and electrical substation are located between SR 128 and the proposed Project site. Therefore, existing solar energy infrastructure and other energy generation features are already a primary landscape in the foreground view along SR 128. Less than significant impacts to scenic resources within a designated local scenic route would occur.

- c) *In non-urbanized areas, substantially degrade the existing visual character or quality of public views of the site and its surroundings? (Public views are those that are experienced from publicly accessible vantage point.) If the project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality?*

Less Than Significant Impact. For purposes of this analysis, due to the density of adjacent housing to the east/southeast, substantial roadway network serving the site, and adjacent electrical infrastructure development, the Project site is considered to be within an urbanized area. Yolo County has adopted a Small and Medium Solar Facilities Ordinance (Yolo County Code Section 8-2.1104). As provided by the Ordinance, medium-sized solar energy systems can be permitted to be installed and operated in all agricultural zones, including the Agricultural Intensive (A-N) Zone (Section 8-2.1104(d)(2)), provided the systems meet setback and other standards described in the Ordinance. Therefore, the Project is considered consistent with the applicable zoning regulations for the site.

Because the site is located on and adjacent to rural (non-urbanized) lands, the following analysis considers the potential for the Project to degrade the existing visual character or quality of public views of the site and its surroundings. As discussed, existing views of the site are that of a walnut orchard. Views of the site are only available from adjacent agricultural/solar uses, residences located immediately north and east/southeast, and the very end of Valley Oak Drive (in the City of Winters), where the street dead ends. Therefore, the proposed Project is considered to have low visibility and not considered to be an aesthetics focal point from the surrounding area because line-of-sight to the Project from these adjacent viewsheds is blocked by intervening development and vegetation.

The visual character of the site would change due to the installation of PV modules and associated above-ground infrastructure on the property. Because the proposed solar installation would track the sun facing south, due to the relatively low height of each solar module row, the Project would blend with the existing solar facility located directly south. The Project would expand existing views of a solar energy facility, with the primary focus being that of blue or dark colored solar panels. While development of the Project would change the visual character of the Project site, the visual change and contrast is not considered to be a substantial degradation of the existing visual character of the area, primarily due to an adjacent solar energy facility, substation, and transmission infrastructure. A 6-foot-high chain-link fence would be installed around the entire perimeter of the Project site. A row of walnut trees would be left bordering the site and architectural slats would be installed on the perimeter fence in areas along public roads. The continued presence of natural grasses and vegetation along the site perimeter would minimize visual contrast of solar modules. As a result, visual change from the proposed Project at adjacent residential viewsheds to the north, east and southeast, and from CR 87D and SR 128, are considered low or negligible and would not significantly alter existing form, line, color, or texture of the landscape or visual character/quality. Potential impacts are considered less than significant.

- d) *Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?*

Less Than Significant Impact. Low-level lighting is proposed to be installed at strategic locations around the facility. All lighting would be shielded and directed downward to minimize the potential for glare or spillover onto adjacent properties. Additionally, it is expected night lighting would consist of: (a) motion sensor or manual switch lighting for entry lighting to the on-site equipment structures as applicable; and (b) light-sensor or motion-sensor lighting for the main access gate or gates. This would further minimize or avoid any adverse effects on neighboring properties. In regard to potential glare impacts, solar panels are notable for creating reflections or glare observed by drivers. Because the panels would generally face south, this could be a potential impact for motorists along SR 128, if they could be seen. Solar PV modules

and arrays typically do not create significant glare. The PV modules are designed to absorb sunlight and the glass modules that protect the PV surface are typically formulated glass designed to allow sunlight to pass with minimal reflection. While some localized glare could occur to the south, southeast, and southwest (the general direction that panels would face and tilt), any glare is expected to be minor and not extend to SR 128 (2,600 feet away). As shown in Figure 2, the Project site is buffered by an existing solar facility and agricultural lands, which would further decrease the potential for adverse glare to occur on SR 128 motorists or within public areas. To date, no complaints regarding significant glare have been received from the similarly sized solar installation in the immediate area that uses similar technology as the proposed Project. Therefore, potential light and glare impacts are considered to be less than significant.

Aesthetics Impact Conclusions

As noted in the analysis, no potentially significant impacts are identified or anticipated, and no mitigation measures are required. However, although there are no significant impacts, the project includes APM AES-1 to further avoid any aesthetic impacts.

5.2 Agriculture and Forestry Resources

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
In determining whether impacts to agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997) prepared by the California Dept. of Conservation as an optional model to use in assessing impacts on agriculture and farmland. In determining whether impacts to forest resources, including timberland, are significant environmental effects, lead agencies may refer to information compiled by the California Department of Forestry and Fire Protection regarding the state's inventory of forest land, including the Forest and Range Assessment Project and the Forest Legacy Assessment project; and forest carbon measurement methodology provided in Forest Protocols adopted by the California Air Resources Board. Would the project:				
a) Convert Prime Farmland, Unique Farmland or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?		<input checked="" type="checkbox"/>		
b) Conflict with existing zoning for agricultural use or a Williamson Act contract?			<input checked="" type="checkbox"/>	
c) Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g))?				<input checked="" type="checkbox"/>
d) Result in the loss of forest land or conversion of forest land to non-forest use?				<input checked="" type="checkbox"/>
e) Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use?		<input checked="" type="checkbox"/>		

(Check ☒ if project is located in the Important Farmlands Overlay):

Environmental Setting

The proposed Project would disturb approximately 19 acres of a 31-acre parcel of farmland, which contains a walnut orchard. The 19-acre developed area would be fenced and the walnut tress not included in the fenced area would be left standing. The developed area would be located entirely on designated Prime Farmland per the California Department of Conservation (DOC, 2019). None of the proposed activities would occur on land that is enrolled under a Williamson Act Contract (DOC, 2012).

The Project site is zoned by Yolo County as Agricultural Intensive (A-N) (Yolo County, 2019). According to Yolo County's "Small and Medium Solar Energy Systems" Ordinance (Section 8-2.1104), medium-sized

solar facilities are a permissible use in an A-N zone.² Generally, the purpose of this ordinance is to provide for the placement of solar energy systems within the County, while minimizing potential adverse impacts and avoiding public health and safety risks.

Impact Analysis

- a) *Convert Prime Farmland, Unique Farmland or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?*

Less than Significant Impact with Mitigation Incorporated. The proposed solar Project would occupy approximately 19 acres on a 31-acre parcel of farmland that is currently planted as a walnut orchard. Soils on the 31-acre parcel are identified as Tehama loam (TaA), Brentwood silty clay loam (BrA), and Riverwash (Rh). TaA and BrA soils are classified as Prime Farmland, Class I and II (if irrigated), by the National Resources Conservation Service (NRCS, 2018). The developed area would extend across designated Prime Farmland pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency (DOC, 2019). Although the Project would convert approximately 19 acres of Prime Farmland to non-agricultural use, current zoning permits this conversion for a medium-sized solar project upon approval of a Use Permit. A medium-sized solar energy system, as defined by the County's Solar Facilities Ordinance, "shall mean a private on-site or utility-scale solar energy conversion system consisting of many ground-mounted solar arrays in rows or roof-panels, and associated control or conversion electronics, occupying more than 2.5 acres and no more than 30 acres of land, and that will be used to produce utility power to on-site uses and/or off-site customers." Such facilities are permitted in A-N zoned areas, such as the Project site. The Ordinance requires medium-sized facilities to mitigate for the permanent loss of agricultural land in accordance with the County's Code of Ordinances Section 8-2.404 (the Agricultural Conservation and Mitigation Program), which has established a 3:1 mitigation requirement for conversion of Prime Farmland. To ensure consistency with the County's Solar Facilities Ordinance, the Project would implement Mitigation Measure (MM) AG-1, which has been developed to include the requirements of the Agricultural Conservation and Mitigation Program. Following mitigation, impacts to Prime Farmland would be less than significant.

- b) *Conflict with existing zoning for agricultural use or a Williamson Act contract?*

Less than Significant Impact. The Project is a permitted use within the A-N zone through the issuance of a Use Permit; the Project site is not enrolled in a Williamson Act contract. Therefore, approval of the Project would not conflict with existing zoning for agricultural uses or with a Williamson Act contract. To minimize potential indirect impacts on adjacent agricultural operations, the Project development would maintain a setback of at least 50 feet from property lines and 100 feet from the top of the bank of Dry Creek. The Project design ensures that impacts to adjacent agricultural uses would be less than significant.

- c) *Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g))?*

No impact. The proposed solar Project would not conflict with existing zoning for, cause rezoning of, or result in the loss or conversion of forest or timberland. There is very little forest in Yolo County and the remoteness of the few forested areas would not be attractive for solar development.

² Available online at: <https://www.yolocounty.org/home/showdocument?id=50634>. Accessed May 7, 2019.

d) Result in the loss of forest land or conversion of forest land to non-forest use?

No Impact. See c) above.

e) Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use?

Less than Significant Impact with Mitigation Incorporated. As identified in a), above, the Project site is designated as Prime Farmland. The site is actively farmed and is currently developed as a walnut orchard. Under the Project, this Farmland would be converted to a solar utility use for a period of 25 to 30 years. Although the site's current A-N zoning permits this conversion for a medium-sized solar Project (upon approval of a Use Permit), mitigation is required to offset the permanent loss of agricultural land in accordance with the requirements of the County's Code of Ordinances Section 8-2.404 (Agricultural Conservation and Mitigation Program). To ensure consistency with the County's Solar Facilities Ordinance, the Project would implement MM AG-1, which has been developed to include the requirements of the Agricultural Conservation and Mitigation Program. Further, construction and operation of the Project would not result in conversion or non-agricultural use of neighboring farmland. Following mitigation, impacts from the conversion of Farmland to non-agricultural use would be less than significant.

Mitigation Measures

MM AG-1 Farmland Conservation Easement. Mitigation for the permanent loss of agricultural land will comply with Yolo County Code Section 8-2.404 (the Agricultural Conservation and Mitigation Program), which requires the acquisition of an agricultural preservation easement at a ratio between 1:1 and 3:1 depending on the location of the easement areas, or payment of an in-lieu fee, as applicable.

Agriculture and Forestry Services Impact Conclusions

The proposed Project would result in the permanent conversion of Prime Farmland to non-agricultural use, resulting in a significant impact that requires mitigation. MM AG-1 would ensure that the Applicant meets the requirements of the County's Agricultural Conservation and Mitigation Program; thereby, reducing the Project's impacts to a less than significant level.

5.3 Air Quality

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Where available, the significance criteria established by the applicable air quality management district or air pollution control district may be relied upon to make the following determinations. Would the project:				
a) Conflict with or obstruct implementation of the applicable air quality plan?			<input checked="" type="checkbox"/>	
b) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard?			<input checked="" type="checkbox"/>	
c) Expose sensitive receptors to substantial pollutant concentrations?			<input checked="" type="checkbox"/>	
d) Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?			<input checked="" type="checkbox"/>	

(Discuss conformity with the South Coast Air Quality Management Plan, if applicable):

Environmental Setting

The Project site is within the Sacramento Valley Air Basin. The Yolo-Solano Air Quality Management District (YSAQMD) regulates air quality conditions within Yolo County. Yolo County is classified as a non-attainment area for several air pollutants, including ozone (O₃) and particulate matter 10 microns or less in diameter (PM₁₀) for both federal and State standards, the partial non-attainment of the federal particulate matter 2.5 (PM_{2.5}), and is classified as a moderate maintenance area for carbon monoxide (CO) by the State.

The YSAQMD sets threshold levels for use in evaluating the significance of criteria air pollutant emissions from project-related mobile and area sources in the Handbook for Assessing and Mitigating Air Quality Impacts (YSAQMD, 2007). The Handbook identifies quantitative and qualitative long-term significance thresholds for use in evaluating the significance of criteria air pollutant emissions from project-related mobile and area sources. These thresholds include:

Reactive Organic Gases (ROG)	10 tons per year (approx. 55 pounds per day)
Oxides of Nitrogen (NO _x)	10 tons per year (approx. 55 pounds per day)
Particulate Matter (PM ₁₀)	80 pounds per day
Carbon Monoxide (CO)	Violation of State ambient air quality standard

Sensitive Receptors

The impact of air emissions on sensitive members of the population is a special concern. Sensitive receptor groups typically include children and infants, pregnant women, the elderly, and the acutely and chronically ill. Yolo County defines sensitive receptors as: residentially designated land uses; hospitals, nursing/convalescent homes, and similar board and care facilities; hotels and lodging; schools and day care centers; and neighborhood parks (General Plan Action CO-A107). Consequently, residences located within

the agriculturally-designated areas of unincorporated Yolo County are not considered sensitive receptors but are nonetheless included in the discussion below.

Recreational land uses are considered moderately sensitive to air pollution. Although exposure periods are generally short, exercise places a high demand on respiratory functions, which can be impaired by air pollution.

A land use survey was conducted to identify sensitive receptors (e.g., schools, hospitals, recreational facilities, local residences) in the general vicinity of the proposed Project. Existing land uses surrounding the Project site consist of residential, solar development, and agriculture. Figure 2 identifies some of the key land uses near the Project site. The nearest sensitive receptor (residentially-designated land uses) to the site is 155 feet south of the solar panels in Array-1, within the City of Winters (Figure 3).

Applicant Proposed Measures

APM AQ-1 Reduce tailpipe emissions. The Applicant will implement the following measures to reduce tailpipe emissions from diesel-powered construction equipment.

- Maximize use of diesel construction equipment meeting CARB's 1996 or newer certification standard for off-road heavy-duty diesel engines
- Use emission control devices at least as effective as the original factory-installed equipment
- Substitute gasoline-powered for diesel-powered equipment when feasible
- The primary contractor shall be responsible to ensure that all construction equipment is properly tuned and maintained prior to and for the duration of onsite operation
- All equipment will use Tier 2 engines if available

APM AQ-2 Fugitive dust control measures. The Applicant will implement the following fugitive dust control measures.

- Watering all active construction sites at least twice daily in dry conditions, with the frequency of watering based on the type of operation, soil, and wind exposure
- All disturbed areas, including storage piles, which are not being actively used for construction purposes, shall be effectively stabilized of dust emissions using water or other approved substances
- Prohibit all grading activities during periods of high wind (over 20 miles per hour)
- On-site vehicles limited to a speed that minimizes dust emissions on unpaved roads (15 mph)
- Cover all trucks hauling dirt, sand, or loose materials
- Cover inactive storage piles
- Post a publicly visible sign with the telephone number and person to contact regarding dust complaints. The Applicant, or its contractor, will respond to complaints and take corrective action within 48 hours
- Limit the area under construction at any one time

Impact Analysis

a) Conflict with or obstruct implementation of the applicable air quality plan?

Less than Significant Impact. The Project would not substantially conflict with or obstruct implementation of the YSAQMD Air Quality Attainment Plan (1992), the Sacramento Area Regional Ozone Attainment Plan (1994), or the goals and objectives of the County's General Plan. Construction is a short-term activity that would not affect long-term projections for air quality attainment. In compliance with all applicable YSAQMD rules and regulations, the Project's construction emissions would not cause a violation or substantially contribute to any violations of air quality standards. Solar energy could have a beneficial impact by helping to reduce the County's and the State's reliance on power generation from polluting sources of energy such as natural gas or coal. Additionally, Project operation would displace the need for fossil-fuel fired electricity generation that would reduce criteria pollutant emissions, much of which may be generated within the Sacramento Valley Air Basin. Therefore, the Project's operation would not cause a violation or substantially contribute to any violations of air quality standards, and so would have less than significant impacts.

b) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard?

Less than Significant Impact. The proposed Project would generate temporary emissions during construction. The uncontrolled construction emissions estimate assumes that construction would comply with all applicable YSAQMD regulations and rules pertaining to fugitive dust. To comply with YSAQMD regulations and further reduce construction fugitive dust emissions, the Applicant implements a number of measures into its construction contracts (see APMs above). Table AQ-1 provides a summary of the proposed Project's estimated construction emissions against YSAQMD daily emission thresholds.

Table AQ-1. Estimated Maximum Construction Emissions (lbs/day)

	NOx	VOC	CO	PM ₁₀	PM _{2.5}	SOx
Total Construction Emissions	15.13	2.45	15.10	4.98	0.80	0.04
YSAQMD Significance Thresholds	55	55	N/A	80	N/A	N/A
Exceeds Significance Thresholds?	NO	NO	N/A	NO	N/A	N/A

Source: Aspen, 2019

None of the pollutant emissions during construction exceed YSAQMD emissions significance thresholds. The Yolo-Solano Region is a non-attainment area for State particulate matter (PM₁₀) and ozone standards, the federal ozone standard, and the partial non-attainment of the federal particulate matter 2.5 (PM_{2.5}). However, as shown in Table AQ-1, construction of the proposed Project would generate only small amounts of PM₁₀ and PM_{2.5}. Therefore, no mitigation beyond the best management practices listed earlier and required compliance with applicable YSAQMD rules and regulations is proposed. The proposed Project's construction would not contribute significantly to a cumulatively considerable net increase of any criteria pollutants and would have a less than significant air quality impact.

Daily maintenance of the facilities would consist of approximately two part-time workers performing visual inspections and minor repairs up to once daily. Panel washing events would occur twice per year. The daily emission estimates for these operations and maintenance activities would be substantially less than those provided in Table AQ-1. Therefore, no mitigation beyond the required compliance applicable rules and regulations is proposed. The proposed Project's operation would not contribute

significantly to a cumulatively considerable net increase of any criteria pollutants and would have a less than significant air quality impact.

c) Expose sensitive receptors to substantial pollutant concentrations?

Less Than Significant Impact. The YSAQMD has established Toxic Air Contaminants thresholds where project impacts would occur when (YSAQMD, 2007):

- Probability of contracting cancer for the Maximally Exposed Individual (MEI) equals to 10 in one million or more.
- Ground-level concentrations of non-carcinogenic toxic air contaminants would result in a Hazard Index equal to 1 for the MEI or greater.

The proposed Project's emissions of toxic air pollutants are minimal and would consist primarily of diesel particulate matter emissions during construction. No other toxic air pollutant emissions sources, other than those from the construction employees commuting in gasoline-fueled vehicles, are proposed to be used during Project construction or operation. During construction, on-site equipment and off-site on-road vehicle tailpipe particulate emissions would be dispersed over the 31-acre parcel for on-site equipment, and over the entire travel routes for the on-road vehicles. Considering the low quantity of emissions generated during construction, the temporary nature of construction (three months), and their dispersion over the large Project site and travel routes, temporary construction emissions would not cause any local receptor to incur a cancer risk above 10 in a million or an acute or chronic hazard index of 1 or more. Once operational, diesel particulate matter emissions would be substantially lower than those generated during construction and would only occur briefly during maintenance events. Therefore, the air toxic pollutant impacts from the Project would be less than significant.

d) Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?

Less Than Significant Impact. The YSAQMD has established an offensive odors threshold that states a project may reasonably be expected to have a significant adverse odor impact where it "generates odorous emissions in such quantities as to cause detriment, nuisance, or annoyance to any considerable number of persons or to the public, or which may endanger the comfort, repose, health, or safety of any such person or the public, or which may cause, or have a natural tendency to cause, injury or damage to business or property" (YSAQMD, 2007). Some objectionable odors may be temporarily created during construction-related activities, such as from diesel exhaust. However, these odors would be dispersed over the entire 31-acre parcel and are not expected to significantly affect adjacent residences. Additionally, any such odors would only occur near the source for a short time. Similarly, the Project's operation would not include the use of malodorous substances or activities that would cause significant odors. Therefore, less than significant impacts related to objectionable odors would occur.

Air Quality Impact Conclusions

No potentially significant impacts are identified or anticipated, and no mitigation measures are required. However, although there are no significant impacts, the project includes APM AQ-1 and APM AQ-2 to further avoid any air quality impacts.

5.4 Biological Resources

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project:				
a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?		<input checked="" type="checkbox"/>		
b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?		<input checked="" type="checkbox"/>		
c) Have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?			<input checked="" type="checkbox"/>	
d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?				<input checked="" type="checkbox"/>
e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?			<input checked="" type="checkbox"/>	
f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?				<input checked="" type="checkbox"/>

☒ Check if project is located in the Biological Resources Overlay or Contains habitat for any species listed in the California Natural Diversity Database

Environmental Setting

The 19-acre Project site is located at the far western edge of urbanization from the City of Winters, 0.5 mile north of SR 128 (aka West Grant Avenue) along the east side of CR 87D. Dry Creek runs along the eastern and northern borders of the Project site, functions as the City of Winters boundary, and separates the Project site from residential development on the east. Cultivated lands occur to the north and west and an existing solar energy facility (Putah Creek Solar Facility) is on an adjacent parcel to the south. An electrical substation occurs along the southern boundary of the Project site, which currently services the existing project to the south and would service the proposed Project (Figure 4). The Project site occurs within a primarily agricultural landscape with an urban-agricultural interface on the east.

Currently, the Project site is entirely cultivated and used for production of walnuts (Figure 4). The orchard on the western portion of the Project site was more recently planted and has less canopy cover than the older orchard on the east side of the Project site. A review of historic aerial photos indicates that this

parcel has been in orchard since at least 1993, and USGS topographic maps indicate the parcel was an orchard for many years prior to 1993. Given the presence of almond trees along Dry Creek, it appears both walnuts and almonds have been produced on the Project site. There are no other land uses currently on the site and no easily-accessible records of other historic land uses.

Surrounding agricultural land use is also dominated by orchards with the exception of the area to the north and northeast, which has remained largely uncultivated grassland or pastureland, land to the immediate east, which is urbanized, and the neighboring parcel to the south, which is an electrical substation, a similar solar energy facility, and a walnut orchard. There are also two rural residences, i.e., residences located on agricultural parcels, immediately north of the Project site along the south side of Dry Creek (Figure 3).

As noted previously in Section 2, Regulatory Framework, the Yolo County General Plan includes numerous policies regulating and emphasizing the protection of natural resources and agricultural lands that provide wildlife habitat. The policy most affected by this Project is Policy CO-2.22 which, in part, prohibits development within a minimum of 100 feet from the top of banks for all rivers, creeks, sloughs, and perennial streams. The intent of this policy is to minimize intrusions and maintain the integrity of the riparian habitat.

An initial survey and biological site assessment of the Project site was conducted on January 10, 2019 from approximately 1100 to 1400 hours. The survey was conducted by walking meandering transects in all accessible areas — and walking the entire length of Dry Creek within the Project site. Land uses, natural communities, and wildlife habitats were inspected, mapped, and photographed; wildlife species occurrences were recorded using binoculars and spotting scope, and occurrences and potential habitat for each special-status species were documented.

A follow-up survey and site assessment of the Project site was conducted on May 9, 2019 from approximately 1030 to 1300 hours. This survey was conducted to provide additional biological data from spring season (breeding season) observations and conduct surveys for potentially-occurring special-status species that could not be identified during the initial winter season survey.

A detailed Biological Assessment is provided as Attachment 1.

Impact Analysis

- a) *Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?*

Less Than Significant with Mitigation Incorporated. The proposed Project would not remove or disturb any sensitive natural community, including wetlands, grassland prairies, or riparian woodland. Habitat removal (i.e., the conversion of a walnut orchard to solar development) would not affect resident or migratory wildlife movement, would not substantially degrade the quality of the environment or reduce the habitat of wildlife species, and would not cause wildlife populations to drop below self-sustaining levels.

As described in the Biological Assessment, there is no suitable habitat on or adjacent to the Project site for the following special-status species that otherwise could occur in the vicinity of the Project site if suitable habitat were present: vernal pool fairy shrimp, vernal pool tadpole shrimp, western pond turtle, tricolored blackbird, grasshopper sparrow, Adobe lily, Brewer's western flax, round-leaved filaree, and Baker's navarretia; therefore, the Project would not impact these species. There is no suitable nesting

habitat for northern harriers, western burrowing owls, or loggerhead shrikes on the Project site. Although it is possible that these species could occasionally hunt in the young orchard on the west side of the Project site and along the ruderal edges of the orchards. The conversion of the orchard to a solar PV facility would not constitute a significant impact or need for mitigation or avoidance measures. Removal of the orchard may in fact increase the available habitat for these species if a grass substrate is maintained in the open areas between the arrays. In addition, the Project would have no impact on pallid bat, western red bat, or Townsend's big-eared bat.

Valley Elderberry Longhorn Beetle. There are 22 mature elderberry shrubs along the Dry Creek riparian corridor adjacent to the Project site (Figure 5), all potentially capable of supporting Valley Elderberry Longhorn Beetle (VELB). Because these shrubs are not located within the Project boundary, the Project would have no direct impact on VELB. However, close proximity to potentially-occupied elderberry shrubs could indirectly impact VELB during the installation of the solar arrays. The Project configuration was designed to provide a 100-foot buffer between the Project and elderberry shrubs, consistent with recommended buffer distances (USFWS 2017). With this design, all 22 shrubs are 100-feet, or nearly 100-feet, from the solar arrays (Figure 5). Two shrubs slightly encroach into the 100-foot buffer by a few feet but are sufficiently distant to avoid all direct and indirect impacts. As a result, this impact is considered less than significant pursuant to CEQA; however, additional mitigation measures are recommended to be incorporated as conditions of approval to avoid inadvertent indirect impacts during construction of the solar facility (see MM BIO-1).

Swainson's Hawk and White-tailed Kite. The Project site does not support nesting or foraging habitat for the Swainson's hawk and white-tailed kite, with the exception of a moderately-sized valley oak tree adjacent to the existing substation. Surveys conducted during the 2019 breeding season did not detect active nests for either species in this tree or in trees along the adjacent Dry Creek corridor. Swainson's hawk and white-tailed kite typically do not forage in nut orchards, so the Project would not remove suitable foraging habitat for either species. Removal of the orchard, if managed with a grass substrate, may increase the extent of foraging habitat within the Project area because the existing orchard covers a larger area than the proposed solar development. As a result, the Project would have no direct impact on nesting or foraging habitat for these species.

However, because riparian trees along Dry Creek could support active nest sites, if development of the Project extends into the 2020 breeding season, construction disturbances could result in indirect impacts and possible abandonment of active nests, which would be considered significant. To remove this potentially significant impact, the Project would implement MM BIO-2 to require surveys during the breeding season by a qualified County-approved biologist and allow the biologist to halt construction if it is determined that the disturbance could result in the abandonment of active nests. Following mitigation, impacts to Biological Resources would be less than significant.

b) *Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?*

Same as a) above.

c) *Have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?*

Less than Significant Impact. As previously discussed, the Project site is a walnut orchard, which also consists of ruderal vegetation along the borders. There are no vernal pools or other wetland habitats on

the Project site or on lands immediately adjacent to the Project site. Impacts would be less than significant.

- d) *Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?*

No Impact. The proposed Project would not remove or disturb any sensitive natural community, including wetlands, grassland prairies, or riparian woodland. Habitat removal (i.e., the conversion of a walnut orchard to solar development) would not affect resident or migratory wildlife movement, would not substantially degrade the quality of the environment or reduce the habitat of wildlife species, and would not cause wildlife populations to drop below self-sustaining levels.

- e) *Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?*

Less than Significant Impact. The proposed Project would substantially comply with Yolo County General Plan Policy CO-2.22. Although Project features would not extend beyond the area currently occupied by the existing orchard, to comply with Policy CO-2.22, the Project was designed to provide a 100-foot setback from the top bank of Dry Creek to the edge of the solar arrays. Following this design, the majority of the Project is sited at least 100-feet from the top bank of Dry Creek. There remain, however, a few small areas that encroach into the 100-foot buffer (Figure 5). The Project is not expected to result in a significant impact to riparian vegetation or alter the existing function and value of Dry Creek because the Project would not extend beyond the existing orchard. Most of the Project that is adjacent to Dry Creek would be greater than 100 feet from riparian vegetation; and the Project is idle in terms of human activity, further ground disturbances, or operational function. Therefore, impacts are less than significant.

- f) *Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?*

No Impact. Although the proposed Project is within the service area of the recently permitted Yolo County Habitat Conservation Plan/Natural Communities Conservation Plan (HCP/NCCP), solar energy Projects are not Covered Activities under the HCP/NCCP. Therefore, the Project is not subject to review by the Yolo Habitat Conservancy (the HCP/NCCP Implementing Entity), the payment of fees, or the application of Avoidance and Minimization Measures pursuant to the HCP/NCCP.

Mitigation Measures

MM BIO-1 Valley Elderberry Longhorn Beetle. The following measures will be implemented as a condition of approval to reduce potential indirect impacts during removal of the orchard and installation of the solar development.

- **Fencing.** Establish a no-encroachment buffer along Dry Creek and install temporary construction fencing to delineate the buffer during installation of the solar arrays. This buffer should be at least 100 feet from the edge of the riparian corridor with the exception of the small areas at array corners where the arrays encroach into the buffer. At these locations, the buffer fence should be installed at the maximum distance possible from the creek. Prohibit all encroachment within the buffer.
- **Worker Education.** A qualified County-approved biologist shall provide training for all contractors, work crews, and onsite personnel on the importance of riparian systems and the need to avoid encroaching within the buffer.

- **Construction monitoring.** A qualified County-approved biologist shall monitor the work area at appropriate intervals to assure that all mitigation measures are implemented.
- **Long-term Maintenance of the Buffer.** Following installation of the arrays, the 100-foot buffer area shall be maintained by the Applicant with grasses to provide an open grassland edge adjacent to the Dry Creek riparian woodland.

MM BIO-2 Swainson's Hawk and White-tailed Kite. If construction work extends beyond March 15, 2020, and within 1,320 feet of Dry Creek, nesting surveys shall be undertaken by a qualified County-approved biologist during the first week of April to determine if potentially nesting pairs are present. If a Swainson's hawk pair is found within this area, construction will be postponed until it is determined whether or not the pair is nesting.

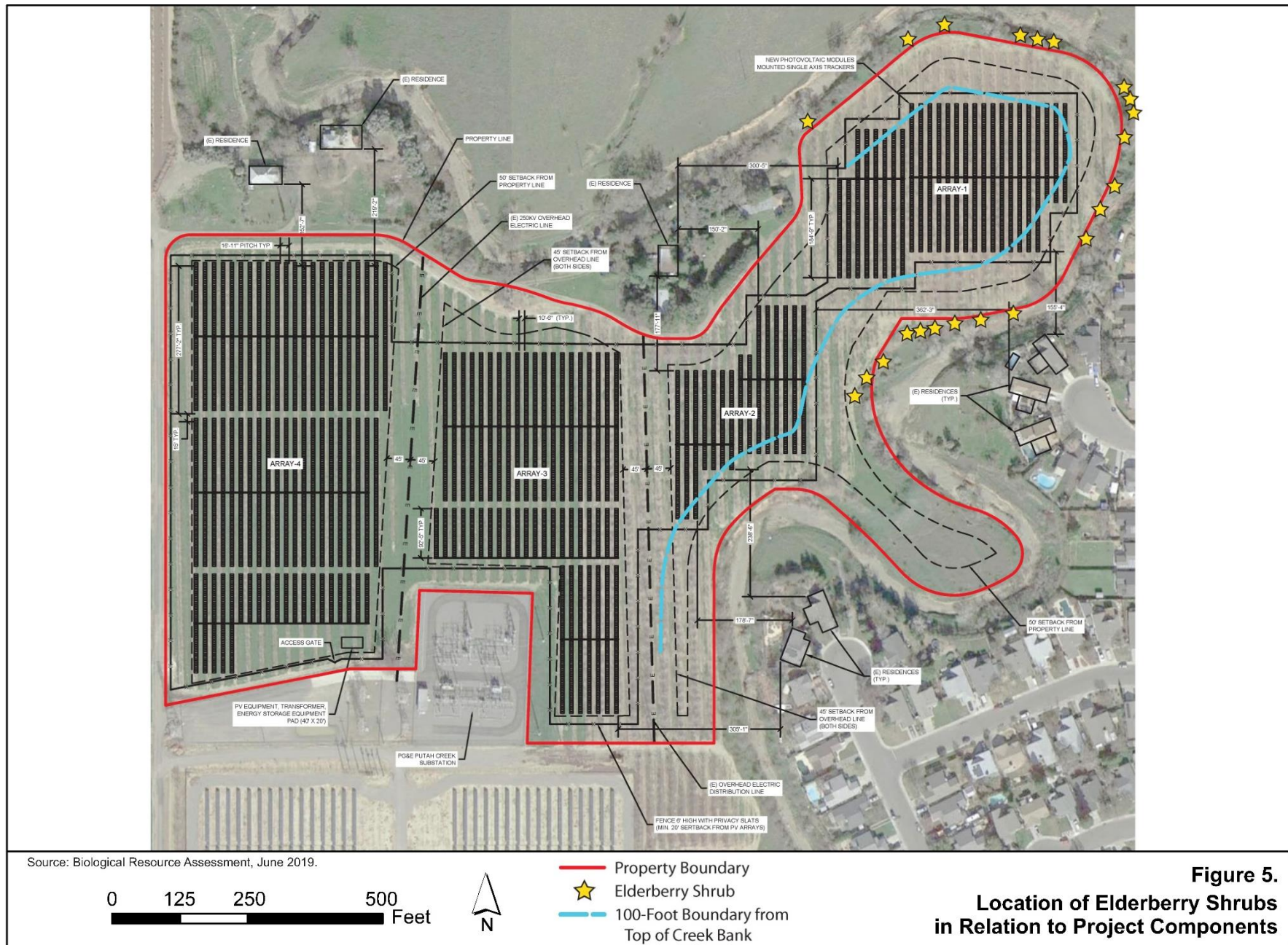
Follow-up surveys should be conducted during April to make this determination. If a nest is not found, construction can proceed without further restrictions. If an active nest is found, the County-approved biologist will assess the potential for disturbance based on proximity, type of disturbance, ambient noise and disturbance levels, line of sight, and other factors as needed to determine whether or not and the extent of a non-disturbance buffer is needed to avoid disturbance to the nest.

Biological Resources Impact Conclusions

The Project site consists almost entirely of walnut orchard, which has been the sole agricultural land use for decades. Other than a negligible amount of annual grassland and ruderal vegetation, the Project site supports no other natural communities or wildlife habitats. The proposed Project would convert not more than 19 acres of walnut orchard to solar development.

The Project would also have no direct impacts to special-status species; however, disturbances from construction of the proposed Project could potentially indirectly impact riparian vegetation and three special-status species (valley elderberry longhorn beetle, Swainson's hawk, and white-tailed kite) that may inhabit the riparian habitat. Implementation of MM BIO-1 and MM BIO-2 would reduce any potential indirect biological impacts to less than significant levels.





5.5 Cultural Resources

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project:				
a) Cause a substantial adverse change in the significance of a historical resource pursuant to §15064.5?		<input checked="" type="checkbox"/>		
b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?		<input checked="" type="checkbox"/>		
c) Disturb any human remains, including those interred outside of formal cemeteries?		<input checked="" type="checkbox"/>		

(Check if project is located in the Cultural ☐ overlays or cite results of cultural resource review)

Environmental Setting

The Project site is located at the far western edge of urbanization near the City of Winters, 0.5 mile north of SR 128 (aka West Grant Avenue) along the east side of CR 87D. Cultivated lands occur to the north and west and an existing solar energy facility (Putah Creek Solar Facility) is on an adjacent parcel to the south. The PG&E Putah Creek substation sits directly between the existing solar energy site and the Project site. The Project site occurs within a primarily agricultural landscape with an urban-agricultural interface on the east.

Dry Creek runs along the eastern and northern borders of the Project site, functions as the City of Winters city limit line, and separates the Project site from residential development on the east. Dry Creek is a tributary of Putah Creek with its confluence roughly one mile to the southeast. Putah Creek is a major tributary of the Sacramento River and was a natural corridor for native peoples between the western Sacramento Valley and the Coast ranges.

The Project would be located on the floor of the west Central Valley in the southwestern corner of Yolo County within one mile of the foothills of the Blue Ridge Range. The Project site is generally flat and characteristic of the transition from the Coast Range foothills to the valley floor. Elevation ranges from 150 to 158 feet above mean sea level.

Currently, the Project site is entirely cultivated and used for production of walnuts. Given the presence of almond trees along Dry Creek, it appears both walnuts and almonds have been produced on the Project site. There are no other land uses currently on the site and no easily-accessible records of other historic land uses.

Mixed riparian woodland occurs in a narrow corridor along Dry Creek immediately adjacent to the Project site and extending along its eastern and northern borders. The dominant overstory native trees are valley oak, and Fremont cottonwood. Vegetation along Dry Creek is fairly sparse. Other tree species include willow, black walnut, interior live oak, and blue oak. The understory consists primarily of ceanothus, blue elderberry, California buckeye, California redbud, and willow saplings. All the aforementioned plants were of high economic importance to the native Patwin of the west Sacramento Valley. Fauna characteristic of the Project area are black-tailed jackrabbit, California ground squirrel, and pocket gopher. Deer would be expected to have been present historically.

Cultural Setting

The Yolo County General Plan (2009) provides a comprehensive summary of the cultural setting of the west Sacramento Valley. The occurrence of Clovis Points in the Central Valley suggests habitation by humans in excess of 10,000 years ago. Evidence for early human use is likely deeply buried by alluvial sediments that accumulated rapidly during the Holocene epoch. Archaeological remains from this early period, though rare, have been found in and around the Central Valley, although to date none have been identified in Yolo County.

Archaeological remains have been grouped chronologically into complexes, the earliest of which is the Farmington Complex. This complex is characterized by core tools and large, reworked percussion flakes.

The prehistory of the Sacramento Valley has been described in terms of general modes of life, characterized by technology, particular artifacts, economic systems, trade, burial practices, and other aspects of culture. Three general patterns of resource use for the period between 4500 years before present (B.P.) and the contact period include the Windmill, Berkeley, and Augustine patterns.

The Windmill Pattern (4500 B.P.–2500 B.P.) shows evidence of a mixed economy that relied on the procurement of game and plant foods. The archaeological record contains numerous projectile points and a wide range of faunal remains representative of this period. Fishing was also important.

The Windmill Pattern ultimately changed to a more specialized adaptation designated as the Berkeley Pattern (2500 B.P.–1500 B.P.). A reduction in the number of handstones and millstones and an increase in mortars and pestles is inferred to indicate a greater dependence on acorns. Although gathered plant resources gained importance during this period, the continued presence of projectile points and atlatls (spear-throwers) in the archaeological record indicates that hunting was still an important activity.

The Berkeley Pattern was superseded by the Augustine Pattern around C.E. 500. The Augustine Pattern reflects a change in subsistence and land use patterns to those of the ethnographically known people (Patwin, Plains Miwok) of the historic era. This pattern exhibits a great elaboration of ceremonial and social organization, including the development of social stratification. Exchange became well developed, with an even more intensive emphasis on the use of the acorn, as evidenced by shaped mortars and pestles and numerous hopper mortars. Other notable elements of the Augustine Pattern's artifact assemblage include flanged tubular smoking pipes, harpoons, clamshell disc beads, and an especially elaborate baked clay industry, which included figurines and pottery vessels (Cosumnes Brownware).

The presence of small projectile point types, referred to as the Gunther Barbed series, indicates the use of the bow and arrow. Other traits associated with the Augustine Pattern include the introduction of pre-interment burning of offerings in a grave pit during mortuary rituals, increasingly sedentary villages, population growth, and an incipient monetary economy in which beads were used as a standard of exchange.

Ethnographic Setting

The County includes portions of the territories of two Native American groups: the Patwin and, to a lesser extent, the Plains Miwok. The western hills and mountains of the County and the lower grassland plains and oak groves were inhabited by the Hill Patwin, while the banks of the Sacramento River and associated riparian and tule marshland habitats were inhabited by the River or Valley Patwin. The Plains Miwok used this area as well.

The material culture and settlement-subsistence practices of the Patwin and the Plains Miwok share similar traits, likely because of historical relationships and an often-shared natural environment. Historical

maps and accounts of early travelers to the Sacramento Valley testify that Tule marshes, open grasslands, and occasional oak groves characterized the lower elevations near the Sacramento River and Delta. This part of the County was inundated in the winter and exceedingly dry in summer. Because of this, much of the floodplain was sparsely inhabited and Native Americans typically situated their larger, permanent settlements on higher ground along the Sacramento River. Hill Patwin tribelets lived in inter-montane valleys on the eastern side of the North Coast Range, their populations concentrating in particularly dense numbers along Cache and Putah creeks.

Historical Background

The Central Valley was explored by Spaniards and early American hunters and trappers in the early 1800s. Jedediah Strong Smith, Ewing Young, and Hudson's Bay Company trappers found the banks of the rivers and streams rich with beaver, otter, and other animals whose pelts were a highly valuable commodity in the worldwide trade of the time. They used to "cache" their pelts near Cache Creek, hence the name.

The Project area was part of the early Rancho de las Putas granted by Manuel Micheltorena, the Spanish Governor of Alta California, to brothers Jose and Sisto Berryessa in 1843.

The Gold Rush transformed Yolo County from an isolated farming community to a booming agricultural region. Grazing and farming took hold following California's statehood, and agriculture flourished into the next five decades and throughout the 20th century.

Methods

Records Search

A records search was conducted at the Northwest Information Center (NWIC) at Sonoma State University on May 10, 2019. Ten previous archaeological surveys have been conducted within 0.5 mile of the Project site (Table CR-1) with two (Moratto et al. 1994 and Thompson 2009) that included portions of the Project site. These two surveys covered almost half of the Project area. Both occurred 10 or more years ago, so per best practices the full Project Area will need resurvey. A number of cultural resources have been identified within 0.5 miles. The location of these resources is exempt from disclosure pursuant to CEQA Guidelines § 15120(d). Table CR-2 shows the cultural resources discovered within 0.5 mile of the Project site.

Table CR-1. Cultural Resource Studies within 0.5 Mile of the Project

Report No.	Year	Author(s)	Title	Affiliation
S-005207	1964	Brigham, Arnold	A Survey of Archeological Resources Along the Pacific Gas and Electric Company's Canadian Gas Line in California	Pacific Gas & Electric Co
S-006151	1983	Bass, Henry O.	Archaeological Survey Report, Proposed Widening of State Route 128, 03-YOL-128 PM 4.6/7.9 03209-216500	Caltrans
S-01350	1996	Offerman, Janis and Daryl Noble	Archaeological Survey Report, 03-YOL-128 PM 7.69, CU 03601 EA 436300, proposed replacement of bridge #22-36 across Apricot Draw	Caltrans

Table CR-1. Cultural Resource Studies within 0.5 Mile of the Project

Report No.	Year	Author(s)	Title	Affiliation
S-023348	1999	NA	Cultural Resources Evaluation of the Carter Ranch Property, an Approximately 40 Acre Parcel of Land, Located in the City of Winters, Yolo County, California	Archeo-Tec
S-023674	1994	Moratto, M.J., et al.	Archaeological Investigations, PGT-PG&E Pipeline Expansion Project, Idaho, Washington, Oregon, and California: Volume 1 Project Overview, Research Design and Archaeological Inventory	NFOTEC Research, Inc., and Far Western Anthropological Research Group, Inc.
S-026063	2002	Jensen, Sean M. and Peter M. Jensen	Archaeological Inventory Survey, Winters Highlands Development Project, 130 Acres at Winters, Yolo County, California	Jensen & Associates
S-031046	2004	Jensen, Peter M.	Archaeological Survey, c. 10-acre Hudson-Ogondo, Winters, Yolo County (letter report)	Jensen & Associates
S-035042	2008	Leach-Palm, Laura, Pat Mikkelsen, Paul Brandy, Jay King, Lindsay Hartman, and Bryan Larson	Cultural Resources Inventory of Caltrans District 3 Rural Conventional Highways in Butte, Colusa, El Dorado, Glenn, Nevada, Placer, Sacramento, Sierra, Sutter, Yolo, and Yuba counties	Far Western Anthropological Research Group, Inc.
S-038219	2011	Thomas, Jennifer	Putah Creek Reconductoring Project - Cultural Resources Investigation (letter report)	Far Western Anthropological Research Group, Inc.
S-046934	2015	Sikes, Nancy E., Cindy J. Arrington, and Dylan Stapleton	Cultural Resources Inventory and Effects Assessment for the Winters Highlands Project, City of Winters, Yolo County, California	Natural Investigations Company

Table CR-2. Cultural Resources within 0.5 Mile of the Project.

Resource Name (number)	Type	Site Status	Impact Potential
P-57-000187; CA-YOL-170	Lithic Scatter	Not Evaluated	No
P-57-000398; CA-YOL-192H (Highland Canal)	Water Conveyance	Not Evaluated	No
P-57-000648	Lithic Scatter Isolates	Not Evaluated	Yes

A previous survey by Moratto et al. (1994) did not locate resources within the Project site. A later survey, however, did identify artifacts along an area near Dry Creek. The records search also identified another similar resource roughly 0.5 mile to the southeast of the Project. The latter record describes three artifacts, although the site map notes four artifact locations.

Survey

On May 16 and 17, 2019, Aspen archaeologist Kayla Weatherbee conducted a pedestrian archaeological survey of the Project area, using 10-meter transect intervals in between the tree lines of Martinez Orchard. The entire Project area consists of highly disturbed soils due to ongoing farming activity. Visibility

was minimal in between tree lines and emphasis was placed on areas of greater visibility and examination of soils exposed through rodent disturbance. Due to the presence of overgrowth between the tree lines, visibility of the ground surface in those corridors was approximately 5 to 10 percent; whereas, visibility around the trees themselves, within the driplines, was 80 to 90 percent. A small portion of the north eastern section of the Project area had a much higher visibility that ranged from 25 to 75 percent throughout.

The field survey identified three isolated artifacts: two prehistoric lithic flakes and a single historic forged nail (Table CR-3). The prehistoric artifacts represent use and production of stone tools from locally available cryptocrystalline silica rocks (CCS-chert). The highly oxidized shoeing nail is typical of those hand forged historically and is likely associated with 20th century farming. A confidential figure is provided in the cultural resources technical memorandum provided to the County that identifies the locations of the previously recorded resources and those identified during Aspen's pedestrian survey of the Project area.

Table CR-3. Historical Resources Identified in the Project.

Resource Number	Period	Description	Details	Material
ISO-1	Historic	Hand-forged nail	1¾ x ½ inches	Metal (Shoeing Nail)
ISO-2	Prehistoric	Red cortical flake	4.0 x 2.5 x 6.0 cm	CCS
ISO-3	Prehistoric	Black reduction flake	5.7 x 3.0 x 1.8 cm	CCS

CRHR Evaluations

The cultural resources records search and the pedestrian archaeological survey conducted on behalf of the Project identified four isolated lithic artifacts along Dry Creek within the Project area and three to four more at the more distant location of P-57-000187. These indicate the likely use of Dry Creek as a corridor for communication, subsistence, or material acquisition, or all three. The sparse quantity of these resources and their isolated locations precludes their potential eligibility for listing on the California Register of Historical Resources (CRHR), or designation as unique archaeological resources. However, the current excessive ground cover within the Project area is likely preventing the identification of other similar types of lithic resources, thus limiting the assessment of potential Project impacts to historical resources. There is clearly a sparse artifact distribution present, but the vegetation within much of the Project area currently precludes identification. Typically, a testing program, including vegetation clearance, excavation, and soil screening, would be needed to make such determinations. From the information currently available, however, the extant resources noted do not comprise a historical resource eligible for inclusion on the CRHR, and the results of the pedestrian archaeological survey do not indicate the Project would have an impact on potentially significant cultural resources. However, although not evident on the surface, such potentially significant cultural resources may be present but currently obscured by vegetation or buried in sediments of the Project site. Implementation of mitigation measures MM CUL-1 through MM CUL-3 would reduce any potential impacts to currently unknown, buried potentially significant cultural resources to a less than significant level.

Impact Analysis

a) Cause a substantial adverse change in the significance of a historical resource pursuant to §15064.5?

Less Than Significant Impact with Mitigation Incorporated. The construction of the proposed Project may inadvertently affect buried or currently unidentifiable historic or unique archaeological resources during construction. Implementation of MM CUL-1, MM CUL-2, and MM CUL-3 would reduce any potential

impacts to currently unknown, buried potentially significant cultural resources to a less than significant level.

b) *Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?*

Less Than Significant Impact with Mitigation Incorporated. Isolated archaeological resources are present in four locations within the Project area. These resources have been recommended as not eligible for inclusion on the CRHR. However, the construction of the Project inadvertently may affect buried historic or unique archaeological resources that are presently unidentified. Implementation of MM CUL-1, MM CUL-2, and MM CUL-3 would reduce potential impacts on these resources to a less than significant level.

c) *Disturb any human remains, including those interred outside of formal cemeteries?*

Less Than Significant Impact with Mitigation Incorporated. No buried human remains, or informal, undocumented cemeteries were noted within the Project area. The Project area has been documented as being within an important resource area for the local historic and prehistoric native peoples for food and commerce. It is not uncommon to find isolated human remains that were buried in remote areas distant from a primary village. Therefore, the implementation of mitigation measures MM CUL-1, MM CUL-2, and MM CUL-3 would reduce potential impacts to currently unknown, buried cultural resources to a less than significant level.

Mitigation Measures

The following Mitigation Measures are recommended to offset potential Project-related impacts to inadvertent discoveries of buried cultural resources.

MM CUL-1 Train construction personnel. Prior to the initiation of construction, all construction personnel shall be trained by a qualified archaeologist meeting federal criteria under 36 CFR 61 regarding the recognition of possible buried cultural resources (i.e., prehistoric and/or historical artifacts, objects, or features) and protection of all archaeological resources during construction. Training shall inform all construction personnel of the procedures to be followed upon the discovery of cultural materials. All personnel shall be instructed that unauthorized removal or collection of artifacts is a violation of State law. Any excavation contract (or contracts for other activities that may have subsurface soil impacts) shall include clauses that require construction personnel to attend the Workers' Environmental Training Program, so they are aware of the potential for inadvertently exposing buried archaeological deposits.

MM CUL-2 Construction Monitoring. Ground disturbance within the Project will involve ground clearing, tree removal, minor grading, concrete pad construction, some trenching, and rack installation. Ground disturbing activities except rack installation (where trenching is not involved) shall be monitored by a qualified archaeologist meeting federal criteria under 36 CFR 61. Any buried cultural material encountered during ground-disturbing activities should be identified and evaluated on-site by the qualified archaeologist. If previously unidentified cultural resources are identified during ground disturbance activities, work within 25 feet of the find shall be halted and directed away from the discovery until the archaeologist assesses the potential significance of the resource in terms of eligibility for listing on the CRHR. If assessed as potentially eligible, the

archaeologist, in consultation with the CEQA lead agency, State Historic Preservation Officer, and the Yocha Dehe Wintun Nation, shall make the necessary plans for treatment of the find(s) and for the evaluation and mitigation of impacts if the finds are found to be eligible to the CRHR, qualify as a unique archaeological resource under CEQA Section 21083.2, or are determined to be tribal cultural resources as defined in Section 21074.

MM CUL-3 **Treatment of Human Remains.** All human remains discovered are to be treated with respect and dignity. Upon discovery of human remains, all work within 50 feet of the discovery area must cease immediately, nothing is to be disturbed, and the area must be secured. The Yolo County Coroner's Office must be called. The Coroner has two working days to examine the remains after notification. The appropriate land manager/owner of the site is to be called and informed of the discovery. It is very important that the suspected remains, and the area around them, are undisturbed and the proper authorities called to the scene as soon as possible, as it could be a crime scene. The Coroner will determine if the remains are archaeological/historic or of modern origin and if there are any criminal or jurisdictional questions.

After the Coroner has determined the remains are archaeological/historic-era, the Coroner will make recommendations concerning the treatment and disposition of the remains to the person responsible for the excavation, or to his or her authorized representative. If the Coroner believes the remains to be those of a Native American, he/she shall contact the Native American Heritage Commission (NAHC) by telephone within 24 hours.

The NAHC will immediately notify the person it believes to be the most likely descendant (MLD) of the remains. The MLD has 48 hours to make recommendations to the land owner for treatment or disposition of the human remains. If the descendant does not make recommendations within 48 hours, the land owner shall reinter the remains in an area of the property secure from further disturbance. If the land owner does not accept the descendant's recommendations, the owner or the descendant may request mediation by the NAHC.

Cultural Resources Impact Conclusions

Cultural resources recommended as ineligible for listing on the CRHR have been identified within the Project area. The current low percentage of ground visibility precludes a recommendation that no additional cultural resources, either surficial and not currently visible, or buried, may be present within the Project area, possibly in greater numbers and of greater variety. As a result, archaeological monitoring is recommended during ground-disturbing construction activities. Implementation of MM CUL-1 though MM CUL-3 will reduce any potential cultural resources impacts to less-than-significant levels.

5.6 Energy

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project:				
a) Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation?			<input checked="" type="checkbox"/>	
b) Conflict with or obstruct a state or local plan for renewable energy or energy efficiency?				<input checked="" type="checkbox"/>

Environmental Setting

Yolo County General Plan

The Project is consistent with the objectives detailed in the 2030 Countywide General Plan. Principal 9, Objective 9.6 calls for increased capacity and reliance on renewable energy resources as a means of securing the health, safety and prosperity of Yolo County communities against the adverse effects of climate change.

The Public Facilities and Services Element of the General Plan also includes two relevant goals: PF-10 and PF-11. Goal PF-10, Sources of Energy, encourages the County to “provide opportunities for the development of energy alternatives.” This goal includes policies such as Policy PF-10.1, which encourages the County to explore use of a CCA as a way to purchase electrical energy at the local level for community needs. By using a CCA, the proposed Project would be able to keep the electricity generated by it within the local community. Policy PF-10.2 encourages the streamlining of the permitting process for the production of energy alternatives such as PV. Policy PF-10.3 encourages the County to provide financial and regulatory incentives to install alternative energy and alternative energy conservation measures in all department approvals.

Goal PF-11, Utilities and Communications. Policy PF-11.1 states that the County should encourage development of power generating facilities in appropriate locations so that they can serve existing and proposed land uses. Policy PF-11.5 is designed to increase both the availability and reliability of power to the rural areas, including underserved communities. Implementation of this policy includes Action PF-A68 to promote use of sustainable renewable energy sources to power homes, businesses, agriculture, and infrastructure.

Yolo County Climate Action Plan

The Yolo County Climate Action Plan (CAP) establishes a goal to reduce 2008 emissions back to the 1990 estimated levels. It establishes 15 programs to achieve this target. Among them is to increase the use of renewable energy generation. The Action Plan includes the following relevant measures.

Measure E-1: Pursue A Community Choice Aggregation Program, which states, “Developing a CCA will require a detailed analysis of energy demand, efficiency opportunities, and renewable generation opportunities in the unincorporated area.”

Valley Clean Energy

Valley Clean Energy Alliance (VCE), formed in June 2018, is the CCA Joint Powers Authority that procures energy for customers in the cities of Davis, Woodland, and unincorporated Yolo County. Like all CCAs, VCE is an “opt out” program. Residents and businesses within its service area are automatically enrolled in VCE but have the option to opt out of the program and return to PG&E for generation service at any time. The power provided by VCE is delivered with a PG&E distribution system, which customers pay for. VCE is able to pool the electricity demands of its service area, purchase power from local renewable energy sources, and resell that electricity within its service area. It is VCE’s intent to purchase more electricity from clean energy sources than PG&E at prices that remain at or below PG&E’s rates.

State of California

California leads the country in renewable energy policy. Recent key policies include the following.

- Senate Bill 100 (SB 100) calls for 100 percent of all electricity sold in California to be generated from renewable sources by the year 2045.
- Assembly Bill 32 (AB 32) calls for GHG reduction strategies that include a reduction mandate to 1990 levels by 2020.
- Executive Order B-30-15 established a new interim statewide GHG emission reduction target to reduce GHG emissions to 40 percent below 1990 levels by 2030, to ensure California meets its target of reducing GHG emissions to 80 percent below 1990 levels by 2050.

Impact Analysis

a) Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation?

Less Than Significant. The Project consists of construction and operation of a solar energy facility. Construction of the Project would result in the consumption of fossil fuels for the transportation of workers to and from the site and for the delivery of materials and equipment. Hence, construction would not result in wasteful, inefficient, or unnecessary consumption of energy sources. Operation would result in the generation of 3 MW of electricity to support the electrical demands of the region.

b) Conflict with or obstruct a state or local plan for renewable energy or energy efficiency?

No Impact. Development and operation of the Project would support both County and State policies for the reduction of GHG and the use of renewable energy. The proposed Project is consistent with the Public Facilities and Services Element of the Yolo County General Plan. The Project is also consistent with California renewable energy goals, including SB 100 calling for all electrical generation to be from renewable sources; AB 32 which calls for GHG reduction strategies; and Executive Order B-30-15, which established a new interim statewide GHG emission reduction target.

Energy Impact Conclusions

No significant impacts are identified or anticipated, and no mitigation measures are required. Development of the Project would produce renewable power in conformance with State and County policies.

5.7 Geology and Soils

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project:				
a) Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving:				
i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.			<input checked="" type="checkbox"/>	
ii) Strong seismic ground shaking?			<input checked="" type="checkbox"/>	
iii) Seismic-related ground failure, including liquefaction?			<input checked="" type="checkbox"/>	
iv) Landslides?			<input checked="" type="checkbox"/>	
b) Result in substantial soil erosion or the loss of topsoil?			<input checked="" type="checkbox"/>	
c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in onsite or offsite landslide, lateral spreading, subsidence, liquefaction or collapse?			<input checked="" type="checkbox"/>	
d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property?			<input checked="" type="checkbox"/>	
e) Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater?				<input checked="" type="checkbox"/>
f) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?				<input checked="" type="checkbox"/>

(Check if project is located in the Geologic Hazards ☐ or Paleontological Resources ☐ Overlay District):

Environmental Setting

The Project area is located on relatively flat agricultural land that is bordered by agricultural land to the north and west. A residential housing development borders the Project site to the east and is separated from the Project by Dry Creek. Putah Creek Substation is adjacent to the Project on the south (Figure 4). The Project site is not located in an Alquist-Priolo Earthquake Fault Zone (DOC, 2019a and 2018). The nearest active fault to the Project area is in the far northwestern portion of the County. Named the Hunting Creek Fault, this active fault is over 25 miles northwest of the Project area. There are no other active faults within proximity to the Project (County of Yolo, 2009a). Pre-Quaternary faults are located within one mile of the Project, with Late Quaternary and Quaternary faults located approximately 6.5 miles southwest and 11.5 miles southeast of the Project area, respectively (DOC, 2019b).

Topographically, the western 30 percent of Yolo County is part of the California Coast Ranges with the Great Valley portion comprising the remaining 70 percent. The portion of the County that lies within the Great Valley consists of level or sloping alluvial areas (County of Yolo, 2009a). Although the Project site lies within the Central Valley, earthquake activity in the Sierra Nevada and the Coast Ranges is capable of producing ground shaking that could affect County residents. The April 1892 Vacaville-Winters earthquake caused severe damage to Winters and was believed to have originated from a segment of a complex zone of blind thrust faults that lie to the south in Solano County on the western side of the lower Sacramento Valley (County of Yolo, 2009b). Future earthquake activity could affect the Project site with ground shaking and subsequent landslides.

While the Project area is located within an area of low landslide susceptibility, lands immediately west of the Project area are designated as moderately susceptible to landslides. Furthermore, the soils in the Project area range from a moderate to high level of expansiveness (County of Yolo, 2009b).

Applicant Proposed Measures

- APM GS-1 Stormwater Pollution Prevention Plan.** Under the direction of the Applicant, a SWPPP, designed to reduce potential impacts related to erosion and surface water quality during construction activities and through the life of the Project, would be prepared by a qualified engineer or erosion control specialist and implemented before construction. The SWPPP shall include measures to address erosion, such as a construction monitoring program to be implemented by the construction supervisor and shall include best management practices to address erosion, such as watering for dust control and the construction of perimeter silt fences, as needed. The SWPPP will be submitted to Yolo County for review and approval prior to issuance of any building or grading permits. Implementation of the SWPPP will comply with State and federal water quality regulations.
- APM GS-2 Geotechnical Investigation.** A site-specific geotechnical investigation will be performed by the Applicant prior to Project construction to provide the final design recommendations for aboveground structures.

Impact Analysis

- a) *Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving:*
- i) *Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.*

Less Than Significant Impact. The Project site can be expected to experience moderate to strong ground shaking during future seismic events along active faults throughout Sierra Nevada and the Coast Ranges or along the Hunting Creek Fault in northern Yolo County. Construction of the solar Project would comply with all applicable Uniform Building Code requirements and would be engineered to withstand earthquakes that may occur in this area. Final Project design would incorporate any design recommendations from the site-specific geotechnical investigation, thereby ensuring that potential impacts would be less than significant.

ii) Strong seismic ground shaking?

Less Than Significant Impact. Any major earthquake damage on the Project site is likely to occur from ground shaking and seismically related structural failures. The degree of this type of hazard is controlled by the nature of the underlying soil and rock materials, the magnitude of and distance from the quake, the duration of ground motion, and the physical characteristics of the affected structure. Seismically induced shaking and some damage would be expected to occur during a major event, but damage would be no more severe in the Project area than elsewhere in the region. The solar Project would be built in accordance with Uniform Building Code requirements and would be generally flexible enough to sustain only minor structural damage from ground shaking. The proposed Project structures would not involve masonry walls or chimneys that could expose people to possible collapse. Therefore, potential impacts would be less than significant.

iii) Seismic-related ground failure, including liquefaction?

Less Than Significant Impact. Liquefaction is expected to be relatively higher in the Great Valley portion of the County, particularly along the floodplains of streams, where the sediments are generally sandier than other areas. Liquefaction may lead to lateral spreading. Areas most prone to lateral spreading are those that consist of fill material that has been improperly engineered, that have steep, unstable banks, and that have high groundwater tables (County of Yolo, 2009c).

The proposed Project requires little grading and minimal placement of permanent foundations such as concrete pads. Construction of the solar Project would comply with all applicable Uniform Building Code requirements, and final Project design would incorporate any design recommendations from the site-specific geotechnical investigation. Potential impacts would be less than significant.

iv) Landslides?

Less Than Significant Impact. The Project site is in an area of low landslide susceptibility, and the Project would not include any residences or caretaker units. Approval of the Project would not create a significant risk to people or structures from potential landslides.

b) Result in substantial soil erosion or the loss of topsoil?

Less than Significant Impact. The land surface at the Project site is relatively flat and would require minimal grading during installation of the solar facility. Design and implementation of the SWPPP (APM GS-1), in compliance with State and federal law, will minimize erosion and soil loss. Although there is no substantial evidence supporting a fair argument that soil erosion or loss of topsoil will occur, final Project design and construction would be subject to the requirements of the SWPPP.

c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in onsite or offsite landslide, lateral spreading, subsidence, liquefaction or collapse?

Less than Significant Impact. The Project is not located in an area of unstable geologic materials. Furthermore, the Project is not expected to significantly affect the stability of the underlying materials, which could potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse. Approval of the Project would not create a significant risk to people or structures from an unstable geologic unit or unstable soil.

d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property?

Less Than Significant Impact. The presence of expansive soils has been documented in the Project area. However, the solar Project would be constructed in accordance with Uniform Building Code requirements, and a site-specific geotechnical investigation would be required as part of the building permit process and APM GS-2. Final Project design would incorporate any design recommendations from the geotechnical investigation, thereby ensuring that potential impacts would be less than significant.

e) Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater?

No Impact. The proposed solar Project would not be served by a septic system. No impact associated with wastewater disposal systems would occur.

f) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?

No Impact. No paleontological records search or pedestrian survey were done for this analysis. Graymer et al. (2002) mapped the geology of the Project area. The agricultural land on which the Project would be built is mapped as Qa (Quaternary alluvium) of Holocene and late Pleistocene age. The shallower parts of such Quaternary alluvium would not be old enough to produce significant paleontological resources. Deeper parts could have a high sensitivity but would not be disturbed by the Project. Project-related trenching would not exceed three feet in depth, and probably would not attain a depth necessary to impact paleontological resources. Racking for the Project would be anchored through a process that moves the anchors into the ground without generating backdirt. Thus, there is no way to mitigate this process. The maximum depth of such anchoring activity is not yet known.

The alluvium in the creek that runs along the northern and eastern boundaries of the Project is mapped as Qha (Quaternary Holocene alluvium). These sediments are probably too young to produce significant paleontological resources, but would not be impacted by the Project.

Geology and Soils Impact Conclusions

No potentially significant adverse impacts are identified or anticipated, and no mitigation measures are required. However, although there are no significant impacts, the project includes APM GS-1 and APM GS-2 to further avoid any Geology and Soils impacts.

5.8 Greenhouse Gas Emissions

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project:				
a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?				<input checked="" type="checkbox"/>
b) Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?				<input checked="" type="checkbox"/>

Background

Greenhouse gases (GHGs) are gases that trap heat in the atmosphere and are emitted by natural processes and human activities. Examples of GHGs that are produced both by natural processes and industry include carbon dioxide (CO₂), methane (CH₄), and nitrous oxide (N₂O). The State of California and the United States Environmental Protection Agency (USEPA) have identified six GHGs generated by human activity that are believed to be the primary contributors to man-made global warming: (1) CO₂, (2) CH₄, (3) N₂O, (4) hydrofluorocarbons (HFCs), (5) perfluorocarbons (PFCs), and (6) sulfur hexafluoride (SF₆).

- Carbon Dioxide: CO₂ enters the atmosphere through the burning of fossil fuels (oil, natural gas, and coal), solid waste, trees and wood products, and chemical reactions (e.g., the manufacture of cement, etc.). CO₂ is also removed from the atmosphere (or “sequestered”) when it is absorbed by plants as part of the biological carbon cycle.
- Methane: CH₄ is emitted during the production and transport of coal, natural gas, and oil. CH₄ emissions also result from livestock and agricultural practices and the decay of organic waste in municipal solid waste landfills.
- Nitrous Oxide: N₂O is emitted during agricultural and industrial activities as well as during combustion of fossil fuels and solid waste.
- Fluorinated Gases: HFCs, PFCs, and SF₆ are synthetic, powerful climate-change gases that are emitted from a variety of industrial processes. Fluorinated gases are often used as substitutes for ozone-depleting substances (i.e., chlorofluorocarbons, hydrochlorofluorocarbons, and halons). These gases are typically emitted in smaller quantities, but because they are potent climate-change gases, they are sometimes referred to as high “Global Warming Potential” gases.

The issue of combating climate change and reducing GHG emissions has been the subject of recent State legislation (AB 32 and SB 375). To date, specific thresholds of significance to evaluate impacts pertaining to GHG emissions have not been established by local decision-making agencies: YSAQMD, the State, or the federal government. However, this absence of thresholds does not negate CEQA's mandate to evaluate all potentially significant impacts associated with the proposed Project.

The following discussion of GHG/climate change impact relies upon, and “tiers off” the analysis, conclusions, and measures included in the Final Environmental Impact Report (FEIR) of the 2030 Yolo Countywide General Plan. While the FEIR analysis concluded that the severity of impacts related to planned urban growth and GHG/climate change could be reduced by some policies and some available mitigation measures, the overall impact could not be reduced to a less than significant level. The impacts

of countywide cumulative growth on GHG emissions, and the impacts of climate change on cumulative growth, are considered significant and unavoidable at this time.

The 2030 Yolo Countywide General Plan and accompanying CAP include numerous policies and measures to reduce fossil fuel reliance and greenhouse gas emissions by strongly encouraging and, in some cases, requiring, conversion to solar energy sources. For example, the CAP calls for establishment of a CCA program where 50 percent of overall County purchases are from 50 percent renewable sources, and 25 percent of all County energy purchases are 100 percent renewable. In moving toward that goal, VCE is Yolo County's CCA. VCE's portfolio includes 42 percent of its electricity from renewable power sources, and 75 percent that is carbon free (VCE, 2019).

Applicant Proposed Measures

APM GHG-1 Minimize greenhouse gas emissions during construction. The Applicant will incorporate the following measures into the construction contract to reduce GHG (and other air pollutant) emissions:

- Encourage construction workers to carpool
- Encourage recycling or re-use of all construction waste

Impact Analysis

a) *Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?*

No Impact. The proposed solar Project would generate a small amount of GHG emissions due to operation of grading equipment and vehicle employee trips generated during construction; however, these emissions would be more than offset by the beneficial effects of creating new sources of green energy to the local and State electrical power grid. The proposed Project's emissions were estimated and a portion of which were provided in Section 5.3 (Air Quality), Table AQ-1. A summary of the results of the GHG emissions calculations are provided in Table GHG-1.

Table GHG-1. Greenhouse Gas Emissions	
Emissions Source	GHG Emissions (Tons CO ₂ e)
Total Construction GHG Emissions	19
Indirect GHG Emissions Reduction ¹	-3,639
Total GHG Emissions	-3,620

Source: Aspen, 2019.

1 - This represents the estimated potential greenhouse gas emissions avoided due to the displacement of fossil fuel fired electricity generation of 3 MW annually for 30 years (the expected lifespan of the proposed Project).

As shown, the proposed Project's annual indirect GHG emissions from the displacement of fossil fuel fired electricity generation is significantly greater than the proposed Project's GHG emissions generated during construction. Therefore, the overall effect of the proposed Project would reduce GHG emissions. Additionally, the Project proposes to minimize GHGs by encouraging carpooling during construction of the Project and recycling and/or reuse of all construction waste. Because the proposed Project would offset GHG emissions, no impacts are considered to occur.

b) *Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?*

No Impact. The YSAQMD approach to addressing GHG emissions significance does not include numerical emissions thresholds. As discussed earlier, instead they assess projects using a tiered approach from the FEIR of the 2030 Yolo Countywide General Plan. Because the proposed Project would comply with Statewide plans for the reduction of GHG emissions, specifically the plan to increase the use of renewable

energy to reduce GHG emissions from the electricity sector, the proposed Project is considered consistent with the 2030 Yolo Countywide General Plan and CAP. The proposed solar Project would help to implement many of the policies identified to support policies in the General Plan and CAP that call for measurable reductions in GHGs through expanded capacity and reliance on renewable energy resources such as solar, wind, biomass, and others. No impacts would occur.

Greenhouse Gas Emissions Impact Conclusions

No potentially significant adverse impacts are identified or anticipated, and no mitigation measures are required. However, although there are no significant impacts, the project includes APM GHG-1 to further avoid GHG impacts during construction.

5.9 Hazards and Hazardous Materials

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project:				
a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?			<input checked="" type="checkbox"/>	
b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?			<input checked="" type="checkbox"/>	
c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?			<input checked="" type="checkbox"/>	
d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?				<input checked="" type="checkbox"/>
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard or excessive noise for people residing or working in the project area?				<input checked="" type="checkbox"/>
f) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?			<input checked="" type="checkbox"/>	
g) Expose people or structures, either directly or indirectly, to a significant risk loss, injury or death involving wildland fires?			<input checked="" type="checkbox"/>	

Environmental Setting

Land Use

Existing and past land use activities are commonly used as indicators of sites or areas where hazardous material storage and use may have occurred or where potential environmental contamination may exist. The Project site consists of disturbed land historically used for agricultural production; the site currently contains a walnut orchard. Current and former agricultural properties commonly have herbicide, pesticide, and/or fumigant soil contamination.

Hazardous Materials

Hazardous substances are defined by federal and State regulations that aim to protect public health and the environment. Hazardous materials have certain chemical, physical, or infectious properties that cause them to be considered hazardous. Hazardous substances are defined in the federal Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) Section 101(14), and also in the California

Code of Regulations (CCR), Title 22, Chapter 11, Article 2, Section 66261, which provides the following definition:

A hazardous material is a substance or combination of substances which, because of its quantity, concentration, or physical, chemical or infectious characteristics, may either (1) cause, or significantly contribute to, an increase in mortality or an increase in serious irreversible, or incapacitating reversible, illness; or (2) pose a substantial present or potential hazard to human health or environment when improperly treated, stored, transported or disposed of or otherwise managed.

For this analysis, soil that is excavated from a site containing hazardous materials would be considered to be a hazardous waste if it exceeded specific CCR Title 22 criteria or criteria defined in CERCLA or other relevant federal regulations. Remediation (cleanup and safe removal/disposal) of hazardous wastes found at a site is required if excavation of these materials occurs; it may also be required if certain other activities occur. Even if soils or groundwater at a contaminated site do not have the characteristics required to be defined as hazardous wastes, remediation of the site may be required by regulatory agencies subject to jurisdictional authority. Cleanup requirements are determined on a case-by-case basis by the agency taking lead jurisdiction.

Impact Analysis

a) *Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?*

Less than Significant Impact. Construction and maintenance of the proposed Project would include the use and transport of hazardous materials in the form of fuels and lubricants required to operate construction vehicles and equipment. In addition to these hazardous materials, it is anticipated that small quantities of additional common hazardous materials would be used on-site during construction and maintenance, including antifreeze and used coolant, latex and oil-based paint, paint thinners and other solvents, cleaning products, and herbicides. Any stored materials would be required to comply with Yolo County Environmental Health regulations. Minor spills or releases of hazardous materials could occur due to accidental handling and/or storage during construction activities at the site. Potential impacts related to minor spills would be largely avoided by training construction personnel in the handling and storage of hazardous materials in compliance with California Occupational Safety and Hazards Administration (OSHA) standards, in addition to compliance with SWPPP permit requirements (the Project would be required to obtain a SWPPP permit from the Regional Water Quality Control Board and APM GS-1). The Project, as proposed, would comply with OSHA laws and guidelines to ensure personnel health and safety. Furthermore, safety training would be conducted prior to construction to educate personnel of potential hazardous material protocols and safety issues.

When operational, the generation of solar electricity would not use or emit any large amounts of hazardous materials. Used biodegradable dielectric fluid and mineral oil from the transformers and miscellaneous electrical equipment are potentially hazardous materials. The spent oil would not be stored on-site, instead collected and delivered to a recycling company at the time it is removed from the equipment compliant with all rules and regulations. The battery energy storage system would be housed in small, sealed containers on the PG&E Grid Interconnection Pad. The battery containers would include hazardous waste containment in the case of a spill. Compliance with best management practices (BMPs), permit requirements, building code requirements, and all applicable rules and regulations pertaining to hazardous materials would ensure the proposed Project would have less than significant impacts

pertaining to creating a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials.

- b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?*

Less than Significant Impact. Accidental spills of hazardous materials could occur due to improper handling and/or storage practices during construction activities. However, as discussed above under checklist question a), compliance with BMPs, permit requirements, and all applicable rules and regulations pertaining to hazardous materials would ensure the proposed Project would have less than significant impacts pertaining to potential impact from the accidental release of hazardous materials into the environment.

The proposed Project would include on-site battery storage infrastructure. The battery energy storage system would be housed in small, sealed containers located on the PG&E Grid Interconnection Pad. This location represents the greatest distance from residential receptors within the Project site feasible for placement of the battery storage system. Battery containers would include hazardous waste containment in the case of a spill. Additionally, construction of foundations and battery containers would conform to all applicable building codes and regulations pertaining to such facilities, ensuring that the proposed Project would have less than significant impacts pertaining to creating a significant hazard to the public or the environment through the reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment.

- c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?*

Less than Significant Impact. The closest public school (by line-of-sight) is Winters Middle School, which is located 0.60 mile east of the nearest Project boundary. Therefore, there would be no impact to an existing or proposed school resulting from an accidental release. As discussed above under checklist question a), compliance with BMPs, permit requirements, and all applicable rules and regulations pertaining to hazardous materials would ensure the proposed Project would have less than significant impacts pertaining to accidental release of hazardous materials into the environment that could affect the nearest schools.

- d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?*

No Impact. The proposed Project is not located on a site that is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 (<https://calepa.ca.gov/sitecleanup/corteselist/>). Additionally, the Project is not located on a site that is included on a list of hazardous materials sites compiled by the Yolo County Environmental Health Division-Hazardous Waste Site Files pursuant to Government Code 65962.5. No impacts would occur related to the Project being located on, or disrupting, a registered hazardous material site.

- e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard or excessive noise for people residing or working in the project area?*

No Impact. There are no airport land use plans within two miles of the proposed Project. The nearest airport to the Project site is Blake Sky Park Airport, located 5.8 miles southwest of the nearest Project

boundary. Based on FAA (Federal Aviation Administration) guidelines (Advisory Circular 70/7460-1) to reduce potential hazards to air navigation, the Project does not include any facilities that would require FAA review for possible impacts to aviation safety. Therefore, there would be no potential safety impacts related to an airport within two miles of the Project site or hazard for people residing or working in the Project area.

- f) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?*

Less than Significant Impact. Roadways adjacent to the proposed solar energy facility are not known to be included in any emergency response plan. During construction, some oversize truck trips are expected to deliver large pieces of construction equipment and materials to the site. These activities may include brief temporary delays on local roads providing access to the site. However, no roadway or lane closures are expected during construction. In the event deliveries require any disruption to public roadways, flagmen would be present to ensure traffic flow, including emergency vehicle flow through the area and access to any nearby residences or areas. Once operational, the proposed Project would have no impact on access or movement to emergency service providers. Impacts would be less than significant.

- g) Expose people or structure, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires?*

Less than Significant Impact. The Project is adjacent to the City of Winters and irrigated farmlands of Yolo County, not in the arid hilly areas of the far western County where significant fire hazards exist. The proposed Project site is not located on forest or wilderness land, and the Project would not involve the construction or operation of habitable structures in wildland areas or promote development in wildland areas. According to the CAL FIRE Yolo County Fire Hazard Severity Zone Map, the Project site is located within a “Local Responsibility Area - Unincorporated” with respect to fire protection, with the area immediately west of the site being designated as a “Moderate” fire hazard severity zone (CAL FIRE, 2019).

The Project proposes fire prevention training and measures that would identify procedures for coordination with local emergency personnel, construction, operation, and maintenance workers regarding associated hazards and mitigation processes related to solar electricity. Additionally, combustible vegetation on and around the Project boundary would be actively managed to minimize fire risk. The greatest fire risk would be potential upset to the on-site battery energy storage facility. As discussed above under checklist question b), the battery energy storage system would be housed in small, sealed containers on the PG&E Grid Interconnection Pad. Battery containers would include hazardous waste containment in the case of a spill. Additionally, construction of foundations and battery containers would conform to all applicable building codes and regulations ensuring that the proposed Project would have less than significant impacts pertaining to exposing people or structure, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires. This issue is also further discussed within the Wildfire and Public Services sections of this Initial Study.

Hazards and Hazardous Materials Impact Conclusions

No potentially significant adverse impacts are identified or anticipated, and no mitigation measures are required.

5.10 Hydrology and Water Quality

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project:				
a) Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or groundwater quality?			<input checked="" type="checkbox"/>	
b) Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?			<input checked="" type="checkbox"/>	
c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would:				
i) Result in substantial erosion or siltation on- or off-site;			<input checked="" type="checkbox"/>	
ii) Substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site;			<input checked="" type="checkbox"/>	
iii) Create or contribute runoff water which would exceed the capacity of the existing or planned stormwater drainage systems or provide substantial additional resources of polluted runoff; or			<input checked="" type="checkbox"/>	
iv) Impede or redirect flood flows?			<input checked="" type="checkbox"/>	
d) In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?			<input checked="" type="checkbox"/>	
e) Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?			<input checked="" type="checkbox"/>	

Environmental Setting

Surface Water

Within the unincorporated County, there are approximately 7,300 acres covered in surface water (Yolo County, 2009). The surface water in Yolo County generally drains from the west to east, eventually being received by the Yolo Bypass. Four major watersheds and associated drainages are located in Yolo County: the Sacramento River, Cache Creek, Putah Creek, and Willow Slough watersheds. Surface water supplies primarily originate from the Cache Creek and Putah Creek watersheds, and the Sacramento River. In addition, many sloughs and drainage ditches cross the eastern half of the County.

The Project site is located in the Putah Creek watershed, adjacent to Dry Creek, which is a tributary to Putah Creek (Yolo County, 2009). Putah Creek is a large stream with its headwaters in the Mayacamas Mountains, a part of the Coast Range in Lake and Napa counties. The creek originates from springs on the east side of Cobb Mountain south of the town of Cobb in southwestern Lake County. It descends eastward, eventually flowing into Lake Berryessa. Downstream of Monticello Dam (the hydroelectric dam and power plant at Lake Berryessa) on the southeastern corner of the lake, Putah Creek leaves Napa County and

becomes the boundary between Yolo County and Solano County. The creek continues to flow toward the east and eventually flows into the Yolo Bypass.

Groundwater

Yolo County is underlain by a substantial amount of groundwater; the Yolo subbasin of the Sacramento Valley groundwater basin underlies the majority of Yolo County. It is estimated that groundwater storage for all of Yolo County, between 20 and 420 feet below the surface, is 14,038,000 acre-feet. The Project site is located in the West Yolo (Upper Cache-Putah) portion of the Yolo subbasin (Yolo County, 2009).

Flooding

Much of Yolo County is a natural floodplain. Historically, Putah Creek was a flood-prone system (Yolo County, 2009). The construction of the Monticello Dam at Lake Berryessa began in 1953 and was followed by construction of nine miles of levees along the lower Putah Creek channel. These improvements substantially reduced the likelihood of overbank flooding. Under current conditions, analysis and modeling of flood flows indicates that the 100-year discharge from Lake Berryessa (when full) into Putah Creek would flow at 32,200 cubic feet per second in the vicinity of the community of Winters. By contrast, there were three floods recorded before construction of the dam that peaked from 67,200 to 81,000 cubic feet per second in that same area.

Impact Analysis

- a) *Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or groundwater quality?*

Less than Significant Impact. Construction and operation of the proposed Project risk violating water quality standards or waste discharge requirements from accidental release or spill of hazardous materials that could enter Dry Creek or if accelerated erosion and sedimentation occur within the Project site. Construction of the proposed Project would require site preparation, including clearing, grading, soil conditioning, excavation, and solar module foundation installation. These activities could loosen the soil and lead to accelerated erosion and sedimentation during a storm event. However, the potential for construction of the proposed Project to result in increased erosion and sedimentation is very small due to the small amount of soil disturbance greater than six inches required for the Project and the existing flat topography of the proposed Project area.

Construction activities would include the use of heavy machinery and equipment. The use of this construction equipment could result in the accidental release or spill of hazardous materials, including hydraulic oil, fuel, grease, lubricants, coolant, and other petroleum-based products. If leaked or spilled, these hazardous materials could contaminate a nearby waterbody either directly or indirectly through subsequent transport by stormwater runoff. The potential for the proposed Project to result in contamination of a nearby waterbody by hazardous materials is unlikely due to the short construction period, the minimal amount of construction equipment and associated hazardous materials to be used in construction of the proposed Project, the generally flat topography and arid climate of the region, and the lack of nearby perennial waterbodies.

The proposed Project would disturb more than one acre in total and the Project Applicant would be required to obtain coverage under the General Permit for Discharges of Storm Water Associated with Construction Activity (Construction General Permit Order 2009-0009-DWQ) to comply with Clean Water Act NPDES requirements. Compliance with APM GS-1 and these discharge requirements would include

preparation of a SWPPP, which would specify BMPs to minimize erosion and to quickly contain and clean up any accidental spills or leaks. Also, the Applicant must comply with all applicable rules and regulations pertaining to transport, storage, and use of hazardous materials; which would further reduce the potential for water quality contamination through the accidental release or spill of hazardous materials. Compliance with applicable permits, rules, and regulations would ensure this impact would be less than significant.

- b) Substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the project may impede sustainable groundwater management of the basin?*

Less than Significant Impact. The small amount of water that would be required during construction of the proposed Project (mainly for dust suppression) would be obtained from a private local groundwater well or trucked to the site through an agreement with a local municipality. Construction water use would be short-term (approximately three months) and would be a temporary use. If available, it is likely the Project Applicant would use reclaimed water for dust suppression during construction (due to the reduced cost of readily available reclaimed water versus potable water for dust suppression).

Once operational, it is estimated that 50,000 gallons (0.15 acre-feet/year) of water per year would be used to wash the panels. This water would be sourced from a well owned by the landowner or purchased from the City of Winters. Recent 2018-2019 rainfall has eliminated most areas within California from being in drought conditions. This rainfall has replenished the amount of groundwater in storage due to a dramatic increase in the amount of natural recharge of groundwater supplies to supplement surface water supplies. If construction water is obtained from a private well through an agreement with a local land owner, it is not anticipated that the temporary and small amount of water used annually would substantially deplete groundwater supplies or result in a lowering of the local groundwater table level. If long-term water needed for panel washing is purchased from the City of Winters, this jurisdiction would consider the total amount of water that is extracted annually from local groundwater supplies to evaluate if demand would substantially alter the water budget for the groundwater basin or if it would substantially contribute to a net deficit in aquifer volume. Water use would be far less than the current watering needs of the existing orchard. While the Project would slightly increase impermeable surfaces within the site (primarily limited to foundations for PV modules), construction and operation of the proposed Project would not significantly interfere with groundwater recharge. This impact is considered less than significant.

- c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would?*

- i) Result in substantial erosion or siltation on- or off-site;*

Less than Significant Impact. The proposed Project is located in a flat agricultural area that has been planted in walnut trees. The ground beneath the solar mounts would remain permeable and the Project is not expected to cause additional runoff. The final engineering design for the Project would include measures to reduce soil erosion around the concrete pads and solar arrays. The Project would not modify any drainage patterns or change absorption rates, or the rate and amount of surface runoff. Any earthwork would enable water to flow in the direction of the natural drainage and would be designed to prevent ponding and erosion that could cause damage to each solar module footing. The minor earthwork as part of construction activities would not substantially alter the existing drainage pattern of the site or area and the tower would not impede water flow. Erosion control measures would be implemented for exposed surfaces potentially subject to soil erosion. BMPs and adherence with all applicable permits and regulations to reduce erosion and transport of soil particles or turbid water into the drainage course

flowing from the site would be employed. All conditions of existing water quality regulatory agency permits would be adhered to as well. Impacts related to erosion or siltation would be less than significant.

- ii) Substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site;*

Less Than Significant Impact. As stated above under Items a) and c) i), minor earthwork and grading may be required as part of construction activities. However, the minor grading would not result in the substantial increase in the rate or amount of surface runoff that would result in flooding on- or off-site; therefore, any impacts would be less than significant.

- iii) Create or contribute runoff water which would exceed the capacity of the existing or planned stormwater drainage systems or provide substantial additional resources of polluted runoff; or*

Less Than Significant Impact. As stated above under Items c) i) and c) ii), minor grading may be required as part of construction activities. However, the minor grading would not create or contribute runoff water, leading to the exceedance of the capacity of existing or planned stormwater drainage systems. In addition, the minor grading would not lead to an additional source of polluted runoff. Overall, impacts would be less than significant.

- iv) Impede or redirect flood flows*

Less Than Significant Impact. As stated above under Items c) i) and c) ii), the minor earthwork as part of construction activities would not substantially alter the existing drainage pattern of the site or area and the Project would not impede water flow. The proposed Project would contain a 20-foot by 40-foot pad to serve as the PG&E Grid Interconnection Pad. The elevation of the pad will be engineered to be higher than the floodplain so that the battery storage and interconnection equipment will not be flooded. The addition of this small pad would not substantially impede or redirect flood flows, resulting in less than significant impacts.

- d) In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?*

Less Than Significant Impact. The Project is located outside tsunami, or seiche zones. The area immediately adjacent to Dry Creek is in Flood Zone AE, meaning that it is in the 100-year floodplain. A portion of the Project site is also located in Zone X (shaded), which means that it is located within the 100-year floodplain; however, the unshaded Zone X portions of the site are outside the 100-year floodplain but, within the 500-year floodplain (FEMA, 2019). Because the battery system will be raised above the floodplain and the batteries will be kept in sealed containers, the risk of release of pollutants due to project inundation is minimal, resulting in less than significant impacts.

- e) Conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?*

Less Than Significant Impact. The minor earthwork that may be required as part of the Project could result in runoff. In addition, there is a potential for spills of oil, grease, or other water contaminants associated with the use of vehicles, equipment, and materials used in construction, as well as the potential for increased erosion and sedimentation associated with soil disturbance. As stated above under Item a), Project activities would not include any discharge of water that could impact water quality. The Project would comply with Clean Water Act NPDES requirements and requirements specified under the required SWPPP to minimize erosion and to quickly contain and clean up any accidental spills or leaks. Also, the Applicant must comply with all applicable rules and regulations pertaining to transport, storage, and use of hazardous materials; which would further reduce the potential for water quality contamination through

the accidental release or spill of hazardous materials. This would reduce potential water quality impacts that could conflict with applicable water quality plans. As stated above under Item b), the proposed Project would not decrease groundwater supplies or interfere with groundwater recharge. The proposed Project would not conflict with or obstruct any plans or policies pertaining to groundwater management of the area. Impacts to water quality and groundwater plans would be less than significant.

Hydrology and Water Quality Impact Conclusions

No potentially significant adverse impacts are identified or anticipated, and no mitigation measures are required.

5.11 Land Use and Planning

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project:				
a) Physically divide an established community?				<input checked="" type="checkbox"/>
b) Cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect?				<input checked="" type="checkbox"/>

Environmental Setting

The Project site is a portion of Assessor's parcel number (APN) 030-200-016. The 31-acre parcel is flat agricultural land located in Yolo County unincorporated area, to the west of the City of Winters. Dry Creek runs along the northern and western sides of the parcel and divides the unincorporated area from the City of Winters. Access to the parcel is provided by CR 87D, which lies on the west side of the parcel (Figure 2). The parcel is designated Agriculture (AG) in the Yolo County General Plan and is zoned Agricultural Intensive (A-N).

Impact Analysis

a) Physically divide an established community?

No Impact. The solar Project is not within an established community. The City of Winters is located to the east of the Project on the other side of Dry Creek. There is no direct access from the Project site to Winters. Therefore, the Project would not divide any established community.

b) Cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect?

No Impact. The proposed Project would not conflict with any applicable land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect. See Section 6.6, Energy, for a list of key County and State energy policies. The development of a solar energy plant is consistent with those policies and promotes GHG emission reductions (see General Plan Principal 9, Objective 9.6; Goals PF-10 and 11; and the Yolo County CAP).

Land Use and Planning Impact Conclusions

No adverse impacts are identified or anticipated, and no mitigation measures are required.

5.12 Mineral Resources

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project:				
a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?				<input checked="" type="checkbox"/>
b) Result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?				<input checked="" type="checkbox"/>

Environmental Setting

Under the Surface Mining and Reclamation Act of 1975 (SMARA), the DOC maps mineral resources in the State to help identify and protect mineral resources that might be affected by urban expansion or other irreversible land uses. DOC reports and maps Mineral Resource Zone (MRZ) classifications. Classifications are based on the relative economic and resource value of the mineral resources in an area. There are four MRZ classifications: MRZ-1, a lower value designation for areas where geologic information indicates no significant mineral deposits exist; MRZ-2, areas containing identified mineral resources; MRZ-3, areas of undetermined mineral resource significance that cannot be evaluated from available data; and MRZ-4, areas of unknown mineral resource potential (DOC, 2000, p. 3). According to DOC (Maps: Mines and Mineral Resources³), only one SMARA Special Report (#156) has been prepared for Yolo County.

Preservation of mineral resources are also addressed in the Yolo County General Plan, Conservation and Open Space Element. According to the General Plan, Yolo County has two primary mineral resources, mined aggregate and natural gas. These resources are located throughout the County. There are six aggregate mines and 25 natural gas fields currently in operation in Yolo County (General Plan, p. CO-43) Yolo County is one of the 28 counties in California that produce gas and oil.

Impact Analysis

a) *Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?*

No impact. The DOC only identifies three areas of mineral resources in Yolo County. They are classified as Portland cement concrete grade aggregate and are located along Cache Creek in portions of the Capay Valley and the Esparto area, near Woodland and Davis. The proposed solar Project would not affect areas designated as significant aggregate deposits.

b) *Result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?*

No impact. Most of the natural gas fields in Yolo County are located along the Yolo Bypass and the Sacramento River, with more fields located in the unincorporated area of Dunnigan Hills and at the foot of the Capay Hills (General Plan, p. CO-46). No gas fields are located in the Project area. Therefore, the proposed

³ <https://maps.conservation.ca.gov/mineralresources/#webmaps>

solar Project would not affect areas designated as significant aggregate deposits, as classified by the State Department of Mines and Geology or a known gas field.

Mineral Resources Impact Conclusions

No significant adverse impacts are identified or anticipated, and no mitigation measures are required.

5.13 Noise

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project result in:				
a) Generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?			<input checked="" type="checkbox"/>	
b) Generation of excessive groundborne vibration or groundborne noise levels?			<input checked="" type="checkbox"/>	
c) For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?				<input checked="" type="checkbox"/>

Environmental Setting

Noise Environment in the Project Area

Community noise levels are usually closely related to the intensity of nearby human activity. Noise levels are generally considered low when ambient levels are below 45 decibels (dBA), moderate between 45 to 60 dBA, and high above 60 dBA. The proposed Project site consists of agricultural land currently planted in walnut orchard. Typical ambient noise levels occurring over a 24-hour period in agricultural areas like the Project site are expected to be 45 dBA or below when farming equipment is not being used.

Existing land uses surrounding the Project site consist of rural residences on agricultural land, solar development, electrical transmission infrastructure, residences located with the City of Winters, and agriculture. The nearest noise-sensitive receptor (residentially designated land use) to the Project, is located within the City of Winters, approximately 155 feet south of the nearest proposed solar module in Array-1 (Figure 3). Typical exterior daytime ambient noise levels proximate to these residential receptors are expected to be 50 to 60 dBA, or less.

Applicable Regulations

The proposed Project would be constructed on unincorporated Yolo County lands and the adjacent residences are located within unincorporated Yolo County.

Yolo County

Yolo County does not have a noise ordinance or other noise enforcement code at the present time. The Yolo County General Plan Health and Safety Element contains the following applicable policy pertaining to noise limits (Yolo County, 2009).

- **Policy HS-7.4:** For proposed new discretionary development, where it is not possible to reduce noise levels in outdoor activity areas to 60 dBA community noise equivalent level or less using practical application of the best-available noise reduction measures, greater exterior noise levels may be allowed, provided that all available reasonable and feasible exterior noise level reduction measures have been implemented.

- Section 7, Implementation Program, Action HS-A62. This action encourages the County to regulate the location and operation of land uses to avoid or mitigate harmful or nuisance levels of noise to the following sensitive receptors: residentially designated land uses; hospitals, nursing/convalescent homes, and similar board and care facilities; hotels and lodging; schools and day care centers; and neighborhood parks.

Applicant Proposed Measures

APM NOI-1 Noise Control. The Applicant would limit general construction activities to 10 hours per day on weekdays; pile-driving construction would be limited to the hours of 8:00 a.m. to 5:00 p.m. on weekdays.

Impact Analysis

- a) *Generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?*

Temporary Construction/Maintenance Impact Analysis

Less than Significant. Pile installation would occur for approximately three weeks total over the construction phases. As required by APM NOI-1, general construction activities would be limited to 10-hour days on weekdays; pile-driving construction would be limited to the hours of 8:00 a.m. to 5:00 p.m. on weekdays. These hours will be included as conditions of approval for the use permit. As discussed, construction of the proposed Project is expected to take three months to complete and would occur during daylight hours.

The proposed Project is located near the following residential receptors:

- In unincorporated Yolo County, residential homes approximately 150 to 220 feet to the north
- In the City of Winters, residential homes approximately 150 to 360 feet to the east

As discussed within the applicable regulations identified earlier, Yolo County does not contain any performance standards regarding temporary construction noise. Therefore, the Project would be in compliance with respect to construction noise affecting the residences located to the north within unincorporated Yolo County.

The primary source of temporary or periodic noise associated with the proposed Project is from construction activity and maintenance work (including panel washing events). Maximum noise levels during construction are expected to be about 80 dBA at 50 feet. During maintenance, noise levels would be substantially lower than this. Noise levels decrease by about 6 dBA for each doubling of distance between a fixed noise source and the receptor. The nearest sensitive receptor (residentially designated land use) to the Project is approximately 155 feet south of Array-1 in the City of Winters (Figure 3) and, according to attenuation from this distance, may experience a maximum exterior noise level of up to 70 dBA for brief periods during Project construction. Such noise levels may be similar to those experienced during mechanical harvest of the walnut trees existing at the site. However, this is based on a "worst case" scenario that assumes all of the construction equipment is in operation simultaneously at a location nearest to the residence. This scenario is unlikely. In addition, noise would be further reduced by trees and other vegetation between the southeast corner of the Project site and these residences. Furthermore, construction noise would not be situated in a single location for an extended period of time as construction proceeds. Most construction would occur at distances greater than 250 feet from these adjacent receptors. Hence, construction noise impacts would be less than significant.

Operational Impact Analysis:

Less Than Significant Impact. Solar facility operations and maintenance would generate noise from power inverters, tracking motors on individual panels, and maintenance vehicles and activities (such as panel cleaning and repairs). Based on a review of noise assessments prepared for similar solar PV projects constructed in California, a typical power inverter generates 66 dBA measured at a distance of 50 feet without an enclosure. Tracking motors that tilt an array of panels typically generate 38 dBA at 50 feet. Based on these levels, the only permanent source of noise of concern is that generated from power inverter and other switchgear infrastructure.

The inverter/distributor transformers would operate only during daytime hours when the Project is generating power. Such noise would attenuate approximately 6 dB per doubling of distance. The inverter/distributor transformers would be located directly west of the existing substation, resulting in this equipment being located approximately 800 feet from the nearest residential property line, which is in the City of Winters. Assuming this equipment generates 66 dBA at 50 feet, it would attenuate to below 48 dBA at 400 feet, and 42 dBA at 800 feet. Therefore, given the distance to the nearest sensitive receptor to this equipment, any noise would attenuate to below the Yolo County General Plan standard of 60 dBA. Impacts would be less than significant.

b) Generation of excessive groundborne vibration of groundborne noise levels?

Less Than Significant Impact. Vibration is an oscillatory motion through a solid medium in which the motion's amplitude can be described in terms of displacement, velocity, or acceleration.

Heavy equipment used during construction (primarily during any site grading activities and any pile driving of solar module poles) and loaded heavy trucks have the potential to generate localized groundborne vibration. The nearest sensitive receptors to the proposed Project site are residential homes located within the City of Winters, about 150 to 350 feet south and east of the site. As noted above in the response to question a), most construction would occur at greater distances than 250-feet from the nearest residential receptor. Even at a worst-case distance of 150-feet, typically, ground-borne vibrations generated by man-made activities attenuate rapidly with distance from the source (FTA, 2006). Therefore, any temporary vibration generated during construction is expected to have no impact beyond the immediate area of the equipment/activity generating vibration. Furthermore, heavy truck haul trips would only use paved road, greatly reducing any vibration from extending beyond the roadway limits. Once constructed, maintenance activities would rarely use heavy equipment that could generate localized vibration. Even under such circumstances, vibration levels would be equal or less than those generated during construction. Project construction and operation would result in less than significant vibration impacts.

c) For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?

No Impact. The nearest airport to the Project site is Blake Sky Park Airport, located 5.80 miles southwest of the nearest Project boundary. Due to the distance of the proposed Project to this small aviation facility, neither construction nor operation of the Project would subject workers to excessive aviation-generated noise levels. No impact would occur.

Noise Impact Conclusions

No significant adverse impacts are identified or anticipated, and no mitigation measures are required. However, although there are no significant impacts, the project include APM NOI-1 to further avoid any noise impacts during construction.

5.14 Population and Housing

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project:				
a) Induce substantial unplanned population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?				<input checked="" type="checkbox"/>
b) Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?				<input checked="" type="checkbox"/>

Environmental Setting

Yolo County had a January 2019 estimated population of 222,581, with an estimate 0.6 percent growth during the last year. During that same time period, the City of Winters, which is immediately east of the Project, had a population of 7,417, with an estimated growth decline of 0.1 percent. (DOF, E-1 report). Construction employment within Yolo County, was estimated to have 3,600 construction laborers in 2016 (CEDD, 2019).

Impact Analysis

a) Induce substantial unplanned population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?

No Impact. Construction of the Project is estimated to take three months and require a workforce of eight to ten workers. The majority of construction workers are expected to come from the local area or commute from neighboring counties or cities. Since the construction duration is short and local workforce is sufficient, it is not expected that construction workforce would relocate to the Project area during the construction period. Therefore, the proposed solar Project would not result in increases in population and would not displace any existing housing or current residents.

b) Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?

No Impact. As noted previously, the proposed solar Project would not result in a population increase in Yolo County and would not displace any existing housing or current residents.

Population and Housing Impact Conclusions

No significant adverse impacts are identified or anticipated, and no mitigation measures are required.

5.15 Public Services

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:				
i) Fire protection?			<input checked="" type="checkbox"/>	
ii) Police protection?			<input checked="" type="checkbox"/>	
iii) Schools?				<input checked="" type="checkbox"/>
iv) Recreation/Parks?				<input checked="" type="checkbox"/>
v) Other public facilities?				<input checked="" type="checkbox"/>

Environmental Setting

The Project site is located within the Winters Fire Protection District. The nearest fire station to the Project site is Station No. 26, located at 700 Main Street, Winters, California. The Winters Fire Department is made up of 3 career personnel (a Chief and 2 Captains) and 50 volunteer personnel. The fire station is located about 1.5 miles from the Project site. The Yolo County Sheriff's Office, located in Woodland, covers patrol within the unincorporated areas of Yolo County which is divided into four geographic zones. The Winters Police Department works in collaboration with the Sheriff's office under a countywide mutual aid agreement. The Winters Police Department is staffed with 11 sworn positions, including four patrol officers. The Police station is located adjacent to the Winters Fire Department at 702 Main Street. (Winters Police Department, 2019)

The Project site is within the Winters Joint Unified School District, which serves approximately 1,550 students in the City of Winters and the surrounding unincorporated area of Yolo and Solano counties. The District covers preschool through high school. The District office is located at 909 West Grant Avenue. Just more than a mile from the Project site. The closest public school (via road) is Winters Elementary School located about 1.7 miles away, and Wolfskill High School almost 2 miles away.

Yolo County Parks Department provides park and recreation services within Yolo County. The County provides regional parks with camping, boating and fishing. The closest park to the Project site — about 10 miles to the east — is the Putah Creek Fishing Access, which provides five access points spread across 150 acres between the north side of Putah Creek and SR 128. In addition to fishing access, the park provides natural trails, picnic facilities, and restrooms (Yolo County Parks, 2019). The City of Winters also provides parks for residents. The closest park to the Project site is the Valley Oak Park located at 660 Valley Oak Drive, about one mile away.

Applicant Proposed Measures

- APM PS-1 Fire Prevention Training.** The Applicant will coordinate with applicable agencies to provide training to County fire responders, construction, operational, and maintenance staff. The intent of this training will be to familiarize both responders and workers of the codes, regulations, associated hazards and mitigation processes related to solar electricity and battery storage. This training will include techniques for proper system shutdown and fire suppression procedures for PV and battery storage systems. The training will include procedures for coordination with local fire department, sheriff/police department, and emergency medical services.
- APM PS-2 Fire Prevention Measures.** The Applicant will employ the following fire prevention measures during Project construction and operation.
- Comply with applicable Yolo County Improvement Standards to ensure accessibility and ground clearance of emergency vehicles (i.e. fire engines).
 - The Applicant will develop safety measures in accordance with Cal-OSHA safety and health regulations and guidance for construction, which will be reviewed by all construction staff prior to the start of any work. Safety measures will include those that address potential electrical incidents and fire hazards.
 - Agricultural vegetation will be maintained outside the developed area to reduce potential fire hazards in the Project area.
 - Work crews will be required to park vehicles away from flammable vegetation, such as dry grass and brush. At the end of each workday, heavy equipment will be parked over mineral soil, asphalt, or concrete, where available, to reduce the chance of fire.
 - Fire suppression equipment (i.e., fire extinguishers) will be made available on the Project site at all times. All heavy equipment will be required to include mechanisms for fire suppression, including spark arresters or turbo-charging (which eliminates sparks in exhaust) and fire extinguishers.
 - Smoking will be prohibited on the Project site area except in designated areas.

Impact Analysis

- a) *Would the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services: Fire protection, Police protection, Schools, Recreation/Parks, Other public facilities?*

Less than Significant Impact.

- i) **Fire Protection.** The Project would provide ongoing management of all combustible vegetation and/or agricultural products on and around the Project boundary in order to minimize risk to fire hazards. The Project also proposes to contain battery storage. The specific type and number of batteries has yet to be determined. Battery storage would be located on a concrete pad. The batteries would be located within individual storage containers that are designed to reduce the fire potential and retain hazardous fluids.

If necessary, the Applicant has proposed to coordinate with Yolo County and City of Winters fire and emergency personnel to provide training for PV facilities and to familiarize responders with the codes, regulations, and associated hazards and processes related to solar electricity and battery backup systems. The training would include techniques for fire suppression of PV and battery backup systems. However, such training would not result in the need for new or substantially altered fire facilities, and implementation of the proposed Project is not expected to have a significant impact on fire protection services (Art Mendoza, personal communication, May 16, 2019). It is also possible that an injury could occur during construction that could require the use of emergency medical services. The potential for this to occur would not adversely impact the fire department that provides emergency medical services.

- ii) **Police Protection.** Because of the rural nature of the area, and the short construction duration it is not anticipated that the Project would require any police services. However, there is always the potential for tools, equipment, or materials to be stolen from the worksite. Such services would not adversely impact the police department.

No Impact.

- iii) to v) **All Other Services.** As described in the Population and Housing section, the Project has a short duration and would have few (eight to ten) workers. The construction workforce is expected to commute to the site and workers would not relocate to the area. Hence, the Project would not increase demand for schools, recreation or parks, or other public facilities.

Public Services Impact Conclusions

No significant impacts are identified or anticipated, and no mitigation measures are required. However, although there are no significant impacts, the project includes APM PS-1 and APM PS-2 to further avoid fire impacts during construction.

5.16 Recreation

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?				<input checked="" type="checkbox"/>
b) Does the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?				<input checked="" type="checkbox"/>

Environmental Setting

As indicated in Section 6.15, Public Services, parks are provided by Yolo County and the City of Winters.

Impact Analysis

a) *Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?*

No Impact. As previously discussed, due to the short construction duration and few workers required, it is not anticipated that the Project would result in workers relocating to the area. Hence, the proposed Project would not substantially increase the use of existing recreational facilities nor cause accelerated deterioration of them.

b) *Does the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?*

No Impact. The Project would not include nor require the construction or expansion of additional recreational facilities.

Recreation Impact Conclusions

No significant adverse impacts are identified or anticipated, and no mitigation measures are required.

5.17 Transportation

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project:				
a) Conflict with a program, plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities?			<input checked="" type="checkbox"/>	
b) Would the project conflict or be inconsistent with CEQA Guidelines section 15064.3, subdivision (b)?			<input checked="" type="checkbox"/>	
c) Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?			<input checked="" type="checkbox"/>	
d) Result in inadequate emergency access?			<input checked="" type="checkbox"/>	

Environmental Setting

Vehicles associated with the proposed Project would use regional and local roadways, primarily Interstate 505 (I-505) and SR 128 (also known as Grant Avenue near the Project site) for accessing the site. Direct site access would occur via CR 87D, which connects with SR 128. County Road 87D is a one-lane, 15-foot wide, local roadway primarily serving the agricultural and residential uses in the vicinity of the Project site. At the intersection with SR 128, 2017 average daily traffic (ADT) volumes on I-505 were 24,500 vehicles per day (Caltrans, 2017). At the intersection of SR 128 and County Road 87E, 2017 ADT volumes on SR 128 were 3,400 vehicles per day (Caltrans, 2017).

Mass Transit

The nearest mass transit system is the YoloBus bus system, with the nearest bus stops located at the intersection of SR 128 and I-505 over two miles east of the site, where the bus line travels south on I-505 (YoloBus, 2019). The segment of SR 128 accessing the Project site does not contain any transit routes (YoloBus, 2019).

Bicycle

Designated bicycle (and pedestrian) pathways are not located along roadways accessing the Project site. It is possible that bicyclists use the shoulders of SR 128 in the Project vicinity; however, the frequency of cyclists along this roadway segment are not expected to be present often given the distance to the nearest major population centers.

Applicant Proposed Measures

APM TRANS-1 Document Roadway Degradation from Construction. In order to address the potential for roadway damage prior to the start of construction, the Applicant will take photographs, or video, of CR 87D from SR 128 to the Project site to document the condition of the roadway. After construction is completed, photographs or video will again be taken. Within 3 months after completion of construction, the Applicant will be responsible for restoring CR 87D to its preconstruction state, or better.

Impact Analysis

- a) *Conflict with a program, plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities?*

Less than Significant Impact. The proposed Project would result in temporary traffic trips during construction. Truck trips associated with materials and equipment deliveries would likely be distributed throughout the workday. Temporary construction worker commute trips are assumed to come from the local area or from the greater Sacramento area. While temporary trips would occur on regional and local roadways, the Project would not generate traffic volumes (about eight to ten workers per day) that would significantly diminish the performance of the circulation system. When daily construction trips are added to the ADT volumes of affected portions of SR 128 and I-505, only temporary minor increases to the existing ADT volumes are anticipated. Once constructed, operation and maintenance of the Project would generate very few vehicle trips. Therefore, temporary and permanent traffic volumes associated with the Project would not conflict with any program pertaining to performance of the circulation system and less than significant impacts would occur.

All construction disturbance would be within the Project site only. While vehicle trips would occur on SR 128 to access CR 87D, the Project would not impact any County program plan, ordinance, or policy related to transit, bicycle, or pedestrian facilities in the vicinity of the site or along local roadways and freeways. There would be no impact to such facilities.

- b) *Would the project conflict or be inconsistent with CEQA Guidelines section 15064.3, subdivision (b)?*

Less Than Significant Impact. As discussed in CEQA Guidelines Section 15064.3(b.3), a qualitative analysis of construction traffic vehicle miles travelled (VMT) may be appropriate for determining consistency. Temporary construction worker commute trips are assumed to originate within the local area or from the greater Sacramento area. Some truck trips associated with delivery of specialized materials and equipment are expected to originate from long distances. While these few construction truck trips may require a slight increase in VMT to access the Project site, they would be temporary trips and only in limited volumes necessary to deliver specialized equipment and materials to the site. Long-term operation and maintenance of the Project would generate very few vehicle trips, most coming from within the local area, and would generate VMT similar to other rural electrical infrastructure. Electrical infrastructure maintenance trips are not considered to be transit-friendly trips, that could reduce overall VMT of the Project area. At this time, no known applicable VMT thresholds of significance for temporary construction trips that may indicate a significant impact is known. Therefore, while the proposed Project would include temporary construction trips that may include a minor increase in VMT to deliver specialized materials and equipment, they would be temporary, and the Project would not affect existing transit uses or corridors and is presumed to cause a less than significant transportation impact with respect to CEQA Guidelines Section 15064.3(b.3).

- c) *Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?*

Less Than Significant Impact. All construction disturbance would be localized within the Project site only, with interior access provided by a 30-foot wide perimeter road, maintained to facilitate on-site circulation. In addition, internal roadways, approximately 20 to 30 feet in width would be provided within the array footprint. The Project does not include the modifications to any public roadways or driveways. During construction, oversize truck trips are expected to deliver large pieces of construction equipment and

materials to the site. All oversized truck trips would require obtaining permits from Caltrans and local jurisdictions, as needed. The construction contractor would follow all rules and requirements of such permits.

As discussed in Section 6.1, Aesthetics, the PV modules are designed to absorb sunlight and the glass modules that protect the PV surface are typically formulated glass designed to allow sunlight to pass with minimal reflection. While some localized glare could occur to the south, southeast, and southwest (the general direction that panels would face and tilt), any glare is expected to be minor and not extend to SR 128 (2,600 feet away) or the adjacent CR 87D roadway. Additionally, the panels will be screened with vegetation along the perimeter of the site. Therefore, no glare impacts to motorists would occur. Impacts due to increased transportation hazards associated with the Project would be less than significant.

d) Result in inadequate emergency access?

Less than Significant Impact. During construction, some oversize truck trips are expected to deliver large pieces of construction equipment and materials to the site. These activities may include brief temporary delays on local roads providing access to the site. However, all oversized truck trips would require obtaining permits from Caltrans and local jurisdictions, as needed. The construction contractor would follow all rules and requirements of such permits. These permits include assurances for emergency vehicle movements and access. Additionally, no roadway or lane closures are expected during construction. In the event deliveries require any disruption to public roadways, flagmen would be present to ensure traffic flow, including emergency vehicle flow through the area and access to any nearby residences or areas. Once operational, the proposed Project would have no impact on access or movement to emergency service providers. Impacts would be less than significant.

Transportation Impact Conclusions

No significant adverse impacts are identified or anticipated, and no mitigation measures are required. However, although there are no significant impacts, the project includes APM TRANS-1 to further avoid any transportation impacts.

5.18 Tribal Cultural Resources

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:				
a) Listed or eligible for listing in California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code section 5020.1(k), or			<input checked="" type="checkbox"/>	
b) A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1. In applying the criteria set forth in subdivision (c) of Public Resources Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.		<input checked="" type="checkbox"/>		

Environmental Setting

The County includes portions of the territories of two Native American groups: the Patwin and, to a lesser extent, the Plains Miwok. The western hills and mountains of the County and the lower grassland plains and oak groves were inhabited by the Hill Patwin, while the banks of the Sacramento River and associated riparian and tule marshland habitats were inhabited by the River or Valley Patwin. The Plains Miwok used this area as well. The modern descendants of the Patwin include the Yocha Dehe Wintun Tribe (Tribe). The Tribe has expressed interest and concern for impacts to tribal Cultural Resources that may occur during construction.

The material culture and settlement-subsistence practices of the Patwin and the Plains Miwok share similar traits, likely because of historical relationships and an often-shared natural environment. Historical maps and accounts of early travelers to the Sacramento Valley testify that tule marshes, open grasslands, and occasional oak groves characterized the lower elevations near the Sacramento River and Delta. This part of the County was inundated in the winter and exceedingly dry in summer. Because of this, much of the floodplain was sparsely inhabited and Native Americans typically situated their larger, permanent settlements on higher ground along the Sacramento River. Hill Patwin tribelets lived in inter-montane valleys on the eastern side of the North Coast Range, their populations concentrating in particularly dense numbers along Cache and Putah creeks.

Impact Analysis

- a) *Listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code section 5020.1(k)?*

Less Than Significant. The historical resources present in the Project site are evaluated as not eligible for inclusion on the CRHR.

- b) *A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1. In applying the criteria set forth in subdivision (c) of Public Resources Code Section 5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe.*

Less than Significant with Mitigation Incorporated. While the resources present are not eligible for inclusion on the CRHR, additional materials are likely present but currently obscured by vegetation or buried in sediments of the Project site. Any additional resources, if found, may contribute significantly to resource importance and may qualify for the CRHR.

Tribal Cultural Resources Conclusions

The potential exists for cultural resources to be present but obscured by vegetation or buried. Hence, Implementation of mitigation measures MM CUL-1 through MM CUL-3 would reduce any potential tribal cultural resource impacts to a less than significant level.

5.19 Utilities and Service Systems

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
Would the project:				
a) Require or result in the relocation or construction of new or expanded water, wastewater treatment or storm water drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects?				<input checked="" type="checkbox"/>
b) Have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years?				<input checked="" type="checkbox"/>
c) Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?				<input checked="" type="checkbox"/>
d) Generate solid waste in excess of State or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals?				<input checked="" type="checkbox"/>
e) Comply with federal, state, and local management and reduction statutes and regulations related to solid waste?				<input checked="" type="checkbox"/>

Environmental Setting

There is no stormwater or wastewater collection system in the unincorporated area where the Project is located. An existing drainage ditch runs along the western edge of the parcel and Dry Creek is located along the north and east edges of the Project. The final engineering design for the site would include measures to reduce any soil erosion concerns around concrete pads and the solar arrays. It is not anticipated that the Project would require installation of storm drains or new channels.

Potable water in the Project area is generally provided by onsite wells. No onsite wells would be installed for this Project. During construction, water would be delivered via subcontracted water trucks and used mostly for dust suppression. Construction workers would provide their own potable water.

The Project would not require any permanent septic or sanitation infrastructure. During construction, portable restrooms (porta-potties) would be delivered to the site and maintained by an affiliate or subcontracted entity.

The projected peak electricity load for the site is 30 kilowatts. The primary electrical loads would be for security system and lighting, tracker motors, and service outlets for maintenance personnel. Electrical service would be derived from the Putah Creek substation and coordinated with PG&E.

A site-specific telecommunication system would be installed by the Applicant (either wired or wireless). The Project requires interconnection with the existing local telecommunication system at the PG&E Grid Interconnection Pad. The Applicant or its appointed contractors would work with telecommunications

vendors to determine the ideal methodology and design to deliver telecommunications to the Interconnection Pad.

Impact Analysis

- a) *Require or result in the relocation or construction of new or expanded water, wastewater treatment or stormwater drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects?*

No Impact. The proposed solar Project would not affect existing water, wastewater, or stormwater systems. During construction, water for dust suppression would be imported in tanker trucks. Anticipated onsite water use during operations would be limited to approximately 50,000 gallons per year (0.15 acre-feet/year), primarily for washing the PV panels; which is expected to occur up to twice per year. Water will be sourced from a well owned by the landowner or purchased from the City of Winters. Similarly, the existing drainage ditch running along the western edge of the parcel is more than adequate to handle the site's drainage, because the ground under the arrays would remain permeable and is expected to handle a majority of the Project's stormwater runoff. Electricity would be provided by PG&E from its existing Putah Creek Substation, adjacent to the Project site. A wireless telecommunication system would be installed in coordination with the telecommunication vendor (likely AT&T).

- b) *Have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years?*

No Impact. Water use during construction would be primarily for dust suppression and would be delivered in tanker trucks. Although not quantified, the overall amount of water used for dust suppression would be less than what is currently used to irrigate the walnut orchard. During operations, water use would be limited to 50,000 gallons per year (0.15 acre-feet/year) to wash the PV panels.

- c) *Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?*

No Impact. During construction and operation, sanitary waste would be provided by porta potties, which would be pumped out by a vacuum truck as need. The contents that are removed would be delivered to a wastewater treatment provider, most likely the City of Winters. The amount of waste generated by eight to ten workers would be minimum. As of 2014, the City of Winters wastewater treatment facility was able to treat 590,000 gallons of waste per day. (Walker, 2017)

- d) *Generate solid waste in excess of State or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals?*

No Impact. Construction of the proposed Project would have no effect on landfills. Per APM GHG-1, the Applicant has committed to "encourage recycling or re-use of all construction waste." The Project would not affect the ability of landfills in the area to comply with federal, State, and local statutes and regulations pertaining to solid waste.

- e) *Comply with federal, state, and local management and reduction statutes and regulations related to solid waste?*

No Impact. As noted in d) above, the Applicant has committed in APM GHG-1 to recycle and reuse all construction waste. Hence, all federal, State, and local solid waste regulations, as implemented and enforced by Yolo County, would be satisfied.

Utilities and Service Systems Impact Conclusions

No significant adverse impacts are identified or anticipated, and no mitigation measures are required. However, although there are no significant impacts, the Applicant has proposed APM GHG-1 as part of the project description to minimize construction waste.

5.20 Wildfire

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the project:				
a) Substantially impair an adopted emergency response plan or emergency evacuation plan?			<input checked="" type="checkbox"/>	
b) Due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose project occupants to, pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire?			<input checked="" type="checkbox"/>	
c) Require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment?			<input checked="" type="checkbox"/>	
d) Expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?				<input checked="" type="checkbox"/>

Environmental Setting

The Project is adjacent to the City of Winters and irrigated farmlands of Yolo County, not in the arid hilly areas of the far western County where significant fire hazards exist. The proposed Project site is not located on forest or wilderness land, and the Project would not involve the construction or operation of habitable structures in wildland areas or promote development in wildland areas. According to the CAL FIRE Yolo County Fire Hazard Severity Zone Map, the Project site is located within a “Local Responsibility Area - Unincorporated” with respect to fire protection, with the area immediately west of the site being designated as a “Moderate” fire hazard severity zone (CAL FIRE, 2019).

Impact Analysis

a) *Substantially impair an adopted emergency response plan or emergency evacuation plan?*

Less than Significant Impact. Roadways adjacent to the proposed solar energy facility are not known to be included in any emergency response plan. During construction, some oversize truck trips are expected to deliver large pieces of construction equipment and materials to the site. These activities may include brief temporary delays on local roads providing access to the site. However, no roadway or lane closures are expected during construction. In the event deliveries require any disruption to public roadways, flagmen would be present to ensure traffic flow, including emergency vehicle flow through the area and access to any nearby residences or areas. Once operational, the proposed Project would have no impact on access or movement to emergency service providers. Impacts would be less than significant.

- b) Due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose project occupants to, pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire?*

Less than Significant Impact. The Project site is flat, with the nearest topographical feature being the foothills of western Yolo County starting approximately two miles west of the site. Fossil fuels would be used for construction vehicles and other equipment during site grading, foundation excavation, and construction, and tower installation. The presence and usage of fuels and power during construction could lead to a temporary increased risk of wildfire and pollutant concentrations in the event of a fire during construction. However, prior to construction, the site would be devoid of most vegetation, other than some walnut trees that will remain outside the construction area. The irrigation system previously used to water the orchard, will be retained to water the remaining orchard trees. To reduce fire risk during construction, the Applicant would adhere to APM PS-1 and APM PS-2, along with standard construction BMPs to avoid ignition, and follow standard CAL FIRE prevention protocols. Once constructed, the Project would generate solar energy for power, develop a battery energy storage facility, and connect to an existing adjacent substation.

The greatest fire risk would be potential upset to the on-site battery energy storage facility. As previously described in Section 5.9, Hazardous and Hazardous Materials, the battery energy storage system would be housed in small, sealed containers on the PG&E Grid Interconnection Pad. Construction and installation of battery containers would conform to all applicable building codes and regulations ensuring that the proposed Project would have less than significant impacts pertaining to exacerbating wildfire risks and increased pollutant concentrations as a result of a wildfire due to prevailing winds, slope, or elevation of the Project site.

- c) Require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment?*

Less than Significant Impact. The Project proposes APM PS-1, Fire Prevention Training, and APM PS-2, Fire Prevention Measures, that would identify procedures for coordination with local emergency personnel, construction, operation, and maintenance workers regarding associated hazards and mitigation processes related to solar electricity. Additionally, combustible vegetation on and around the Project boundary would be actively managed to minimize fire risk. The greatest fire risk would be potential upset to the on-site battery energy storage facility. As discussed above under checklist question b) and elsewhere in the Initial Study, the battery energy storage system would be housed in small, sealed containers on the PG&E Grid Interconnection Pad. Battery containers would include hazardous waste containment in the case of a spill. The Project would comply with all setback requirements specified by the Agricultural Intensive (A-N) Zone and Solar Energy Systems Ordinance. This would ensure adequate distance from any Project infrastructure and adjacent land uses. Additionally, construction of foundations and battery containers would conform to all applicable building codes and regulations ensuring that the proposed Project would have less than significant impacts pertaining to exacerbating fire risks.

- d) Expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?*

Less Than Significant. The Project site is flat, with the nearest topographical feature being the foothills of western Yolo County starting approximately two miles west of the site. While residential receptors are located adjacent to the site, they are separated by the existing Dry Creek waterway. Due to the flat topography of the site, minor ground disturbance associated with Project construction would not destabilize any slopes that could trigger landslides. While solar modules would create impervious surface within the

site, these angled panels would enable water to flow in the direction of the natural drainage of the site and prevent ponding or erosion. Drainage would continue surface flow to Dry Creek and the Project would not expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes. Impacts would be less than significant.

Wildfire Impact Conclusions

No potentially significant adverse impacts are identified or anticipated, and no mitigation measures are required. However, although there are no significant impacts, the Applicant has proposed APM PS-1 and APM PS-2 as part of the project description to minimize wildfire potential.

5.21 Mandatory Findings of Significance

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
a) Does the project have the potential to substantially degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, substantially reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?		<input checked="" type="checkbox"/>		
b) Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects)?			<input checked="" type="checkbox"/>	
c) Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?			<input checked="" type="checkbox"/>	

Impact Analysis

a) *Does the project have the potential to substantially degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, substantially reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?*

Less than Significant Impact with Mitigation Incorporated. Based on the information provided in this Initial Study and the mitigation measures required, the Project would not degrade the quality of the environment.

Section 5.2, Agricultural/Forest Resources, indicates that Prime Farmland would be removed from production and converted to a PV field. As mitigation, the Project would be required to obtain agricultural conservation easements or pay in lieu fees in compliance with the County's Agricultural Conservation and Mitigation Program (County's Code of Ordinances Section 8-2.404).

Section 5.4, Biological Resources, shows that the proposed Project could potentially indirectly impact the riparian habitat, valley elderberry longhorn beetle, as well as nesting habitat for the Swainson's hawk and white-tailed kite. Mitigation measures proposed as part of Project approval would reduce impacts to biological resources to less than significant levels so that the habitat and/or range of any special status plants or animals are not significantly impacted. Additionally, the Project would be required to comply with mitigation measures that would be implemented as Conditions of Approval that regulate construction activity during raptor nesting season, if any nearby nests are identified. With mitigation incorporated, impacts to biological resources would be less than significant.

Section 5.5, Cultural Resources, and Section 5.18, Tribal Cultural Resources, indicate that the cultural resources present are not eligible for inclusion on the CRHR; however, additional materials may be present but are currently obscured by vegetation or buried in sediments of the Project site. If additional resources are found, they may contribute significantly to resource importance and qualify it for the CRHR. Hence, mitigation measures such as construction monitoring have been proposed to mitigate cultural and Tribal resource impacts.

- b) *Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects)?*

Less than Significant Impact. Based on the analysis provided in this Initial Study, the Project would have no significant cumulative impacts. Yolo County contains 250,695 acres of prime farmland.⁴ The Project will convert less than 19 acres of prime farmland, or about 0.0076 percent of the County's existing prime farmland. Although the Project would convert prime farmland — which is permitted upon issuance of a Use Permit so long as proper mitigation is adopted and approved — solar energy development would play a key role in reducing the consumption of non-renewable energy in the County and in California. Solar developments in Yolo County, such as the proposed Project, could contribute to a beneficial cumulative impact to reduce greenhouse gases.

- c) *Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?*

Less than Significant Impact. As indicated throughout this Initial Study, substantial adverse effects are not expected to occur as a result of Project construction or operation. The proposed Project's impacts on the environment included impacts identified as having "no impact," "less than significant impact," and "less than significant with mitigation incorporated." The Applicant has included APMs in its Project description to address many of the identified impacts; mitigation measures have been imposed to reduce all other identified impacts to a less than significant level. For example, as required by the County's Agricultural Conservation Easement Program, mitigation for the loss of agricultural lands would be required prior to implementation of the Project. As a result, preparation of an Environmental Impact Report is not required.

⁴ Davis Enterprise. 2019. Letter to the Editor, "Ag is key in Yolo County" by Michelle Clark, Yolo Land Trust Executive Director. Available online at: <https://www.davisenterprise.com/forum/letters/letter-agriculture-is-important-to-yolo-county/>. Accessed August 12, 2019.

6. Summary of Applicant Proposed Measures

The following measures were identified by the Applicant to further reduce potential Project impacts.

Aesthetics

APM AES-1 Visual Screening. The Applicant will retain a sufficient number of existing orchard trees to provide screening of the Project from CR 87D and adjacent residents. At a minimum, at least one row of walnut trees shall remain between CR 87D and the Project site, and between adjacent residents and the Project site.

To the degree practicable, walnut trees that do not need to be removed for the PV panels, associated structures, and/or related facilities, will remain. The Applicant will continue to irrigate and maintain the remaining walnut trees.

Air Quality

APM AQ-1 Reduce tailpipe emissions. The Applicant will implement the following measures to reduce tailpipe emissions from diesel-powered construction equipment.

- Maximize use of diesel construction equipment meeting CARB's 1996 or newer certification standard for off-road heavy-duty diesel engines
- Use emission control devices at least as effective as the original factory-installed equipment
- Substitute gasoline-powered for diesel-powered equipment when feasible
- The primary contractor shall be responsible to ensure that all construction equipment is properly tuned and maintained prior to and for the duration of onsite operation
- All equipment will use Tier 2 engines, if available

APM AQ-2 Fugitive dust control measures. The Applicant will implement the following fugitive dust control measures.

- Watering all active construction sites at least twice daily in dry conditions, with the frequency of watering based on the type of operation, soil, and wind exposure
- All disturbed areas, including storage piles, which are not being actively used for construction purposes, shall be effectively stabilized of dust emissions using water or other approved substances
- Prohibit all grading activities during periods of high wind (over 20 miles per hour)
- On-site vehicles limited to a speed that minimizes dust emissions on unpaved roads (15 mph)
- Cover all trucks hauling dirt, sand, or loose materials
- Cover inactive storage piles
- Post a publicly visible sign with the telephone number and person to contact regarding dust complaints. The Applicant, or its contractor, will respond to complaints and take corrective action within 48 hours.
- Limit the area under construction at any one time

Geology and Soils

- APM GS-1 Stormwater Pollution Prevention Plan.** Under the direction of the Applicant, a SWPPP, designed to reduce potential impacts related to erosion and surface water quality during construction activities and through the life of the Project, would be prepared by a qualified engineer or erosion control specialist and implemented before construction. The SWPPP shall include measures to address erosion, such as a construction monitoring program to be implemented by the construction supervisor and shall include best management practices to address erosion, such as watering for dust control and the construction of perimeter silt fences, as needed. The SWPPP will be submitted to Yolo County for review and approval prior to issuance of any building or grading permits. Implementation of the SWPPP will comply with State and federal water quality regulations.
- APM GS-2 Geotechnical Investigation.** A site-specific geotechnical investigation will be performed by the Applicant prior to Project construction to provide the final design recommendations for aboveground structures.

Greenhouse Gas Emissions

- APM GHG-1 Minimize greenhouse gas emissions during construction.** The Applicant will incorporate the following measures into the construction contract to reduce GHG (and other air pollutant) emissions:
- Encourage construction workers to carpool
 - Encourage recycling or re-use of all construction waste

Noise

- APM NOI-1 Noise Control.** The Applicant would limit general construction activities to 10 hours per day on weekdays; pile-driving construction would be limited to the hours of 8:00 a.m. to 5:00 p.m. on weekdays.

Public Services

- APM PS-1 Fire Prevention Training.** The Applicant will coordinate with applicable agencies to provide training to County fire responders, construction, operational, and maintenance staff. The intent of this training will be to familiarize both responders and workers of the codes, regulations, associated hazards and mitigation processes related to solar electricity and battery storage. This training will include techniques for proper system shutdown and fire suppression procedures for PV and battery storage systems. The training will include procedures for coordination with local fire department, sheriff/police department, and emergency medical services.
- APM PS-2 Fire Prevention Measures.** The Applicant will employ the following fire prevention measures during Project construction and operation.
- Comply with applicable Yolo County Improvement Standards to ensure accessibility and ground clearance of emergency vehicles (e.g., fire engines).

- The Applicant will develop safety measures in accordance with Cal-OSHA safety and health regulations and guidance for construction, which will be reviewed by all construction staff prior to the start of any work. Safety measures will include those that address potential electrical incidents and fire hazards.
- Agricultural vegetation will be maintained outside the developed area to reduce potential fire hazards in the Project area.
- Work crews will be required to park vehicles away from flammable vegetation, such as dry grass and brush. At the end of each workday, heavy equipment will be parked over mineral soil, asphalt, or concrete, where available, to reduce the chance of fire.
- Fire suppression equipment (i.e., fire extinguishers) will be made available on the Project site at all times. All heavy equipment will be required to include mechanisms for fire suppression, including spark arresters or turbo-charging (which eliminates sparks in exhaust) and fire extinguishers.
- Smoking will be prohibited on the Project site area except in designated areas.

Transportation

APM TRANS-1 Document Roadway Degradation from Construction. In order to address the potential for roadway damage prior to the start of construction, the Applicant will take photographs, or video, of CR 87D from SR 128 to the Project site to document the condition of the roadway. After construction is completed, photographs or video will again be taken. Within 3 months after completion of construction, the Applicant will be responsible for restoring CR 87D to its preconstruction state, or better.

7. Summary of Mitigation Measures

The following mitigation measures were identified to reduce impacts to less than significant:

Agriculture and Forestry Resources

MM AG-1 Farmland Conservation Easement. Mitigation for the permanent loss of agricultural land will comply with Yolo County Code Section 8-2.404 (the Agricultural Conservation and Mitigation Program), which requires the acquisition of an agricultural preservation easement at a ratio between 1:1 and 3:1 depending on the location of the easement areas, or payment of an in-lieu fee, as applicable.

Biological Resources

MM BIO-1 Valley Elderberry Longhorn Beetle. The following measures will be implemented as a condition of approval to reduce potential indirect impacts during removal of the orchard and installation of the solar development.

- **Fencing.** Establish a no-encroachment buffer along Dry Creek and install temporary construction fencing to delineate the buffer during installation of the solar arrays. This buffer should be at least 100 feet from the edge of the riparian corridor with the exception of the small areas at array corners where the arrays encroach into the buffer. At these locations, the buffer fence should be installed at the maximum distance possible from the creek. Prohibit all encroachment within the buffer.
- **Worker Education.** A qualified County-approved biologist shall provide training for all contractors, work crews, and onsite personnel on the importance of riparian systems and the need to avoid encroaching within the buffer.
- **Construction monitoring.** A qualified County-approved biologist shall monitor the work area at appropriate intervals to assure that all mitigation measures are implemented.
- **Long-term Maintenance of the Buffer.** Following installation of the arrays, the 100-foot buffer area shall be maintained by the Applicant with grasses to provide an open grassland edge adjacent to the Dry Creek riparian woodland.

MM BIO-2 Swainson's Hawk and White-tailed Kite. If construction work extends beyond March 15, 2020, and within 1,320 feet of Dry Creek, nesting surveys shall be undertaken by a qualified County-approved biologist during the first week of April to determine if potentially nesting pairs are present. If a Swainson's hawk pair is found within this area, construction will be postponed until it is determined whether or not the pair is nesting.

Follow-up surveys should be conducted during April to make this determination. If a nest is not found, construction can proceed without further restrictions. If an active nest is found, the County-approved biologist will assess the potential for disturbance based on proximity, type of disturbance, ambient noise and disturbance levels, line of sight, and other factors as needed to determine whether or not and the extent of a non-disturbance buffer is needed to avoid disturbance to the nest.

Cultural Resources

The following Mitigation Measures are incorporated into the Project design to reduce potential impacts to less than significant.

MM CUL-1 Train construction personnel. Prior to the initiation of construction, all construction personnel shall be trained by a qualified archaeologist meeting federal criteria under 36 CFR 61 regarding the recognition of possible buried cultural resources (i.e., prehistoric and/or historical artifacts, objects, or features) and protection of all archaeological resources during construction. Training shall inform all construction personnel of the procedures to be followed upon the discovery of cultural materials. All personnel shall be instructed that unauthorized removal or collection of artifacts is a violation of State law. Any excavation contract (or contracts for other activities that may have subsurface soil impacts) shall include clauses that require construction personnel to attend the Workers' Environmental Training Program, so they are aware of the potential for inadvertently exposing buried archaeological deposits.

MM CUL-2 Construction Monitoring. Ground disturbance within the Project would involve ground clearing, tree removal, minor grading, concrete pad construction, some trenching, and rack installation. Ground disturbing activities except rack installation (where trenching is not involved) shall be monitored by a qualified archaeologist meeting federal criteria under 36 CFR 61. Any buried cultural material encountered during ground-disturbing activities should be identified and evaluated on-site by the qualified archaeologist. If previously unidentified cultural resources are identified during ground disturbance activities, work within 25 feet of the find shall be halted and directed away from the discovery until the archaeologist assesses the potential significance of the resource in terms of eligibility for listing on the CRHR. If assessed as potentially eligible, the archaeologist, in consultation with the CEQA lead agency, State Historic Preservation Officer, and the Yocha Dehe Wintun Nation, shall make the necessary plans for treatment of the find(s) and for the evaluation and mitigation of impacts if the finds are found to be eligible to the CRHR, qualify as a unique archaeological resource under CEQA Section 21083.2, or are determined to be tribal cultural resources as defined in Section 21074.

MM CUL-3 Treatment of Human Remains. All human remains discovered are to be treated with respect and dignity. Upon discovery of human remains, all work within 50 feet of the discovery area must cease immediately, nothing is to be disturbed, and the area must be secured. The Yolo County Coroner's Office must be called. The Coroner has two working days to examine the remains after notification. The appropriate land manager/owner of the site is to be called and informed of the discovery. It is very important that the suspected remains, and the area around them, are undisturbed and the proper authorities called to the scene as soon as possible, as it could be a crime scene. The Coroner would determine if the remains are archaeological/historic or of modern origin and if there are any criminal or jurisdictional questions.

After the Coroner has determined the remains are archaeological/historic-era, the Coroner will make recommendations concerning the treatment and disposition of the remains to the person responsible for the excavation, or to his or her authorized representative. If the Coroner believes the remains to be those of a Native American,

he/she shall contact the Native American Heritage Commission (NAHC) by telephone within 24 hours.

The NAHC would immediately notify the person it believes to be the most likely descendant (MLD) of the remains. The MLD has 48 hours to make recommendations to the land owner for treatment or disposition of the human remains. If the descendant does not make recommendations within 48 hours, the land owner shall reinter the remains in an area of the property secure from further disturbance. If the land owner does not accept the descendant's recommendations, the owner or the descendant may request mediation by NAHC.

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A consultant team headed by Aspen Environmental Group prepared this document under the direction of the County of Yolo. The preparers and technical reviewers of this document are presented below.

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Attachment A

Biological Resources Assessment

ATTACHMENT A



Biological Resources Assessment for the Putah Creek Energy Farm Yolo County, California

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Introduction

Background

Putah Creek Solar Farms LLC is proposing to install an approximately 3-megawatt photovoltaic solar facility on a 31-acre parcel (project site) in southwestern Yolo County contiguous with the western city limit boundary of the City of Winters. The proposed project, Putah Creek Energy Farm, would occupy approximately 16 to 17 acres of the 20- to 23-acre fenced project site, which historically and currently is active agricultural land. The project would also be contiguous on its southern border to Putah Creek Solar Facility, which has been operational for several years, and to a PG&E electrical substation that will service the new project (Figure 1).

Although bordering the City of Winters city limit, the proposed project is within the jurisdiction of Yolo County. Yolo County would therefore serve as the lead agency for the project pursuant to the California Environmental Quality Act (CEQA). This biological resource assessment was prepared consistent with the requirements of CEQA and intended to be incorporated into the full CEQA assessment for the proposed project.

Although the proposed project is within the service area of the recently permitted Yolo County Habitat Conservation Plan/Natural Communities Conservation Plan (HCP/NCCP), solar energy projects are not Covered Activities under the HCP/NCCP. Therefore, the project is not subject to review by the Yolo Habitat Conservancy (the HCP/NCCP Implementing Entity), the payment of fees, or the application of Avoidance and Minimization Measures pursuant to the HCP/NCCP.

Location and Setting

The 20-acre project site is located at the far western edge of urbanization from the City of Winters, 0.4 miles north of West Grant Avenue along the east side of County Road 87D. Dry Creek runs along the eastern and northern borders of the project site, functions as the City of Winters city limit line, and separates the project site from residential development on the east. Cultivated lands occur to the north and west and an existing solar energy facility (Putah Creek Solar Facility) is on an adjacent parcel to the south. An electrical substation occurs along the southern boundary of the project site, which currently services the existing project to the south and will service the proposed project (Figure 1). The project site occurs within a primarily agricultural landscape with an urban-agricultural interface on the east.

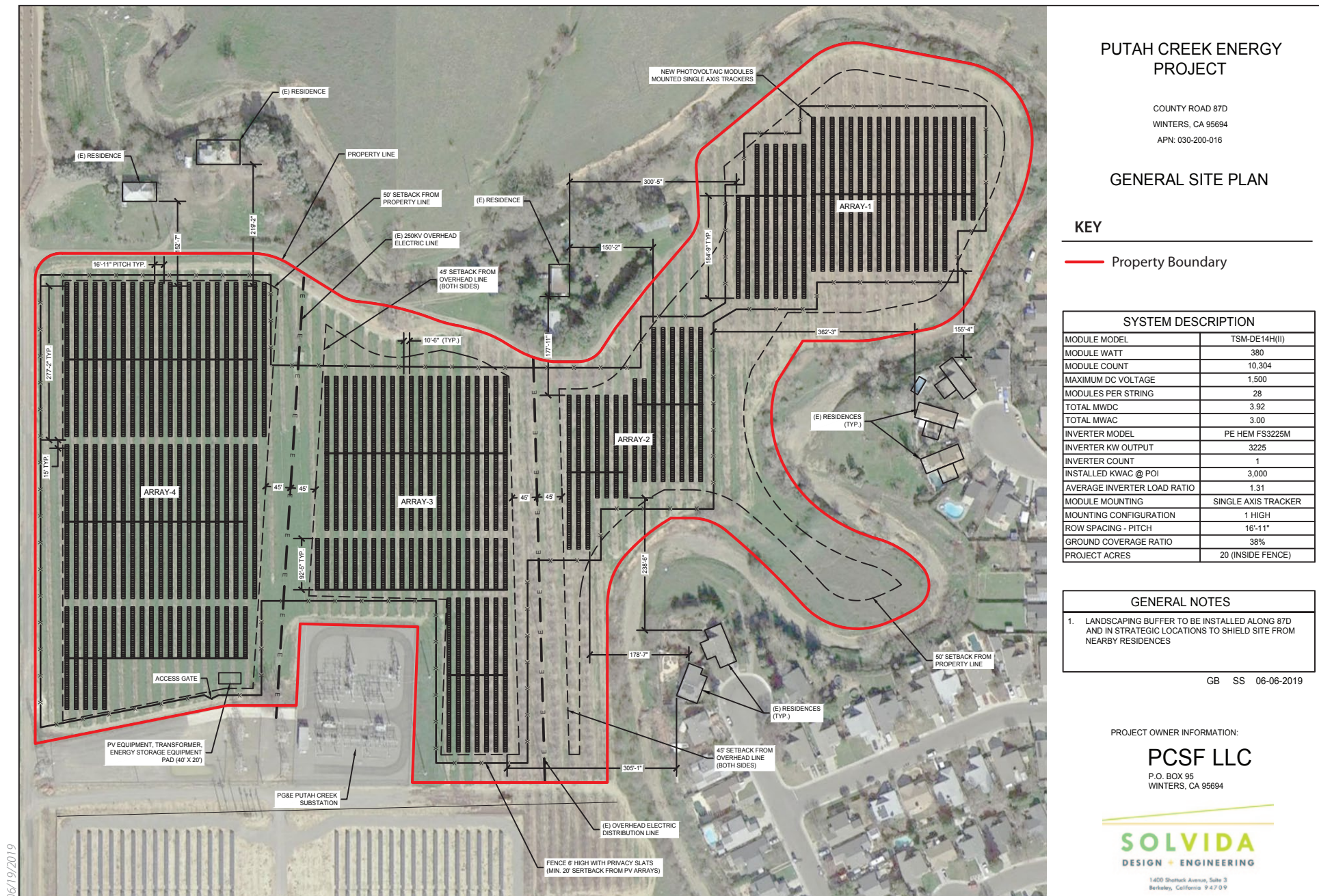
Project Description

The proposed project includes the installation of four photovoltaic solar arrays. Within each array, the panels would be mounted on sets of galvanized steel racking that rotate from east to west to track the sun's path throughout a day. For the solar panel arrays to avoid energy reducing shadow effects, a minimum open space of 13-15 feet (east to west) is required between rows (Figure 2). Two existing overhead electrical transmission lines extend north-south through the project and connect within the existing substation on the south-central edge of the project site. The solar panels are set back 45-feet from the centerline of the transmission lines. A 20 x



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Figure 1
Location of the Proposed Project



SOURCE: Solvida Design + Engineering 2019.

40-foot equipment storage building will also be constructed on the west side of the substation. The project would be surrounded by an 8-foot-high chain-link fence.

Objectives

This biological resources assessment was prepared to provide Yolo County with a summary of biological resources, including the occurrence or potential for occurrence of special-status species, within and near the 20-acre project site; and to provide an assessment of potential biological resource impacts resulting from the installation of the proposed solar project, along with recommendations to minimize or avoid significant impacts that can be referenced by or integrated into a CEQA document.

Regulatory Framework

Several state and federal laws and regulations are relevant to the proposed project. Each is briefly described below.

California Environmental Quality Act

The California Environmental Quality Act (CEQA) requires that significant environmental impacts of proposed projects be reduced to a less-than-significant level through adoption of feasible avoidance, minimization, or mitigation measures unless overriding considerations are identified and documented.

During the CEQA review process, environmental impacts are assessed and a significance determination provided based on pre-established thresholds of significance. Thresholds are established using guidance from CEQA, particularly Appendix G of the State CEQA guidelines and CEQA Section 15065 (Mandatory Findings of Significance). CEQA guidance is then refined or defined based on further direction from the lead agency.

Consistent with Appendix G of the State CEQA guidelines, a biological resource impact is considered significant (before considering offsetting mitigation measures) if the lead agency determines that project implementation would result in one or more of the following:

- Substantial adverse effects, either directly or through habitat modifications, on any species identified as being a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by California Department of Fish and Wildlife (CDFW) or US Fish and Wildlife Service (USFWS);
 - A substantial adverse effect on a special-status wildlife species is typically defined as one that would:
 - Reduce the known distribution of a species,
 - Reduce the local or regional population of a species,
 - Increase predation of a species leading to population reduction,
 - Reduce habitat availability sufficient to affect potential reproduction, or
 - Reduce habitat availability sufficient to constrain the distribution of a species and not allow for natural changes in distributional patterns over time.

- Substantial interference with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or interference with the use of native wildlife nursery sites.
 - Substantial interference with resident wildlife movement is typically defined as obstructions that prevent or limit wildlife access to key habitats, such as water sources or foraging habitats, or obstructions that prohibit access through key movement corridors considered important for wildlife to meet needs for food, water, reproduction, and local dispersal.
 - Substantial interference with migratory wildlife movement is typically defined as obstructions that prevent or limit regional wildlife movement through the project area to meet requirements for migration, dispersal, and gene flow that exceed the defined baseline condition.

Consistent with CEQA Section 15065 (Mandatory Findings of Significance), a biological resource impact is considered significant if the project has the potential to:

- substantially degrade the quality of the environment;
- substantially reduce the habitat of a fish or wildlife species;
- cause a fish or wildlife population to drop below self-sustaining levels;
- threaten to eliminate a plant or animal community;
- substantially reduce the number or restrict the range of an endangered, rare or threatened species.

CEQA defines the significance of an impact on a state-listed species based on the following:

- Appendix G of the State CEQA guidelines states that a biological resource impact is considered significant (before considering offsetting mitigation measures) if the lead agency determines that project implementation would result in “substantial adverse effects, either directly or through habitat modifications, on any species identified as being a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by CDFG or USFWS”; and
- CEQA Section 15065 (Mandatory Findings of Significance), a biological resource impact is considered significant if the project has the potential to “substantially reduce the number or restrict the range of an endangered, rare or threatened species”.

California Fish and Game Code 3503.5 (Birds of Prey)

Section 3503.5 of the Fish and Game Code prohibits the take, possession, or destruction of any birds of prey or their nests or eggs. The California Department of Fish and Wildlife may issue permits authorizing take pursuant to the California Endangered Species Act.

Yolo County General Plan

The Yolo County General Plan includes numerous policies regulating and emphasizing the protection of natural resources and agricultural lands that provide wildlife habitat. Those most relevant to the proposed project include the following:

- Policy AG-1.5. Strongly discourage the conversion of agricultural land for other uses. No lands shall be considered for re-designation from Agricultural or Open Space to another land use designation unless all of the following findings can be made:
 - A. There is a public need or net community benefit derived from the conversion of the land that outweighs the need to protect the land for long-term agricultural use.
 - B. There are no feasible alternative locations for the proposed project that are either designated for non-agricultural land uses or are less productive agricultural lands.
 - C. The use would not have a significant adverse effect on existing or potential agricultural activities on surrounding lands designated Agriculture.
- Policy AG-1.6. Continue to mitigate at a ratio of no less than 1:1 the conversion of farm land and/or the conversion of land designated or zoned for agriculture, to other uses.
- Policy CO-2.1. Consider and maintain the ecological function of landscapes, connecting features, watersheds, and wildlife movement corridors.
- Policy CO-2.3. Preserve and enhance those biological communities that contribute to the county's rich biodiversity including blue oak and mixed oak woodlands, native grassland prairies, wetlands, riparian areas, aquatic habitat, agricultural lands, heritage valley oak trees, remnant valley oak groves, and roadside tree rows.
- Policy CO-2.9. Protect riparian areas to maintain and balance wildlife values.
- Policy CO-2.22. Prohibit development within a minimum of 100 feet from the top of banks for all lakes, perennial ponds, rivers, creeks, sloughs, and perennial streams. A larger setback is preferred. The setback will allow for fire and flood protection, a natural riparian corridor (or wetland vegetation), a planned recreational trail where applicable, and vegetated landscape for stormwater to pass through before it enters the water body. Recreational trails and other features established in the setback should be unpaved and located along the outside of the riparian corridors whenever possible to minimize intrusions and maintain the integrity of the riparian habitat. Exceptions to this action include irrigation pumps, roads and bridges, levees, docks, public boat ramps, and similar uses, so long as these uses are sited and operated in a manner that minimizes impacts to aquatic and riparian features.
- Policy CO-2.38. Avoid adverse impacts to wildlife movement corridors and nursery sites (e.g., nest sites, dens, spawning areas, breeding ponds).
- Policy CO-2.41. Require that impacts to species listed under the State or federal Endangered Species Acts, or species identified as special-status by the resource agencies, be avoided to the greatest feasible extent. If avoidance is not possible, fully mitigate impacts consistent with applicable local, State, and Federal requirements.

Methods

Pre-Survey Investigation

Prior to conducting the site visit, available information regarding biological resources on or near the project site was gathered and reviewed. Sources included:

- California Natural Diversity Data Base (2018)
- Yolo County General Plan (Yolo County 2009)

- Yolo County HCP/NCCP (www.yolohabitatconservancy.org/)
- eBird (online database of bird observations) (<https://ebird.org/home>)
- Tricolored blackbird portal (<https://tricolor.ice.ucdavis.edu/>)
- Calflora (<https://www.calflora.org/>)
- Estep 2008 (Distribution, Abundance, and Habitat Associations of the Swainson's Hawk in Yolo County)
- Other local research, surveys, and environmental documents

Aerial photographs and land use/vegetation maps of the project site and surrounding area were also reviewed.

Field Survey and Assessment

An initial survey and site assessment of the project site was conducted on January 10, 2019 from approximately 1100 to 1400 hours. The survey was conducted by walking meandering transects in all accessible areas – and walking the entire length of Dry Creek within the project site. Land uses, natural communities, and wildlife habitats were inspected, mapped, and photographed; wildlife species occurrences were recorded using binoculars and spotting scope, and occurrences and potential habitat for each special-status species was documented.

A follow-up survey and site assessment of the project site was conducted on May 9, 2019 from approximately 1030 to 1300 hours. This survey was conducted to provide additional biological data from spring season (breeding season) observations and conduct surveys for potentially-occurring special-status species that could not be identified during the initial winter season survey.

Results

General Characteristics

Physiography

Located on the floor of the Central Valley in the southwestern corner of Yolo County, but within 1 mile of the foothills of the Blue Ridge Range, the project site is generally flat but with slightly discernable rolling topography characteristic of the transition from the Coast Range foothills to the valley floor, with elevation ranging from 150 to 158 feet above mean sea level. The project site is similar throughout and with no other significant topographic features, although bordered on the east and north by Dry Creek, which supports a deeply incised channel within 100 feet of the majority of the proposed project footprint (Figure 2).

The climate in the vicinity of the project site is mild with average annual maximum temperature of 74.6 degrees Fahrenheit and average annual minimum temperature of 47.6 degrees Fahrenheit, with winter rains and dry summers, and an average annual rainfall of approximately 20 inches.

Land Use

Currently, the project site is entirely cultivated and used for production of walnuts (Figure 3). The orchard on the western portion of the project site was more recently planted and has less canopy cover than the older orchard on the east side of the project site. A review of historic aerial photos indicates that this parcel has been in orchard since at least 1993, and USGS topographic maps indicate the parcel was an orchard for many years prior to 1993. Given the presence of almond trees along Dry Creek, it appears both walnuts and almonds have been produced on the project site. There are no other land uses currently on the site and no easily-accessible records of other historic land uses.

Surrounding agricultural land use is also dominated by orchards with the exception of the area to the north and northeast, which has remained largely uncultivated grassland or pastureland, land to the immediate east, which is urbanized, and the neighboring parcel to the south, which is a similar solar energy facility (Plate 1). There are also two rural residences immediately north of the project site along the south side of Dry Creek (Figure 3).



Plate 1. Looking west from the southern boundary of the project site. Note the walnut orchard on the project site (right), the existing solar facility (left), the electrical substation (right, behind the walnut orchard), and the Blue Ridge Range in the background.



06/19/2019



Figure 3
Land Use and Natural Communities
on and around the Project Site

Biological Communities and Wildlife Use

The following describes the vegetation and wildlife associations of the three natural communities occurring on or immediately adjacent to the proposed project site, cultivated land (orchard); grassland/ruderal; and riparian. Appendix A includes a list of all wildlife and plant species observed and documented during the January 10 and May 9, 2019 surveys.

Orchard

The majority of the project site, and all of the proposed solar development footprint, consists of walnut orchard (Figure 3) (Plates 2 and 3). Although considered to have relatively low overall wildlife habitat value, orchards are occupied by a variety of bird species, and although often controlled with rodenticides, ground squirrels and small rodents occupy orchard habitats and provide a prey resource for raptors and mammalian carnivores. A number of species were observed in or around the orchards during the field survey, including turkey vulture (*Cathartes aura*), red-tailed hawk (*Buteo jamaicensis*), American kestrel (*Falco sparverius*), mourning dove (*Zenaida macroura*), American crow (*Corvus brachyrhynchos*), scrub jay (*Aphelocoma californica*), yellow-rumped warbler (*Setophaga coronata*), white-crowned sparrow (*Zonotrichia leucophrys*), red-winged blackbird (*Agelaius phoeniceus*), European starling (*Sturnus vulgaris*), black-tailed jackrabbit (*Lepus californicus*), California ground squirrel (*Otospermophilus beecheyi*), and sign of pocket gopher (*Thomomys bottae*).



Plate 2. Walnut orchard, looking north from the southeast project boundary. (January 10, 2019)



Plate 3. More recently re-planted walnut orchard on the west half of the project site. May 9, 2019.

Grassland/Ruderal

A small, approximately 1.2-acre portion of the parcel on the east side would be excluded from the project. Most of this area is on a lower bench at a narrow bend along Dry Creek (Figure 3) (Plate 4). This area consists primarily of annual grasses and ruderal vegetation, including soft chess (*Bromus hordeaceus*), slender oat (*Avena barbata*), Bermuda grass (*Cynodon dactylon*), Italian rye grass (*Festuca perennis*), yellow star-thistle (*Centaurea solstitialis*), bull thistle (*Cirsium vulgare*), mustard (*Brassica* sp.), and crane's bill geranium (*Geranium molle*). It also appears to have been part of a restoration effort along Dry Creek. There are several relatively recent plantings of native trees and shrubs, primarily willow (*salix* sp.) and ceanothus (*Ceanothus* sp.). This area provides a small amount of open habitat for species that are otherwise associated with the Dry Creek corridor, riparian habitat, or species that occur at the interface between riparian woodland and open grassland. Species observed in this area include golden-crowned sparrow (*Zonotrichia atricapilla*), dark-eyed junco (*Junco hyemalis*), and Eurasian collared dove (*Streptopelia decaocto*).

There is also a small strip of annual grassland vegetation along the existing transmission line right of way through the center of the project site (Figure 3) (Plate 5). A narrow strip of ruderal vegetation or barren ground also occurs along the outer edges of the project site, along the edge of fields, and within access roads along the outer perimeter of the orchard. There is also a small patch of trees (one valley oak and several walnut saplings) located at the southwest corner of the substation and along the south boundary of the project site (Plate 6).



Plate 4. Looking southeast toward a lower bench along Dry Creek that would not be disturbed by the proposed project. Note the ceanothus planting in the foreground and the residential development on the east side of Dry Creek.



Plate 5. Looking north along the transmission line right-of-way through the center of the project site. This area will remain open following installation of the arrays.



Plate 6. Group of small valley oak and walnut trees along the ruderal edge of the project site's southern boundary at the southwest corner of the substation.

Riparian

Mixed riparian woodland occurs in a narrow corridor along Dry Creek immediately adjacent to the project site and extending along its eastern and northern borders (Figure 3). The edge of riparian vegetation is delineated by the dirt road around the perimeter of the orchard (Plate 7). Dry Creek is a deeply incised stream with steep banks – vertical in some areas – and variable vegetative cover (Plates 8 and 9). The dominant overstory native trees are valley oak (*Quercus lobata*) and Fremont cottonwood (*Populus fremontii*), which occur intermittently along the corridor. The most common tree species is almond (*Prunus dulcis*), particularly along the southeast edge of the project site. Their presence along the riparian corridor is likely a result of expansion from the orchard when it was farmed in almonds. Vegetation along Dry Creek is fairly sparse, with periodic areas of more dense, multi-structured vegetation. Other tree species include willow, black walnut (*Juglans hindsii*), interior live oak (*Quercus wislizeni*), blue oak (*Quercus douglasii*), and photinia (*Photinia* sp.). The understory consists primarily of ceanothus, blue elderberry (*Sambucus cerulea*), California buckeye (*Aesculus californica*), California redbud (*Cercis occidentalis*), and almond and willow saplings (Plates 10 and 11). Among the wildlife species detected in the riparian habitat were northern flicker (*Colaptes auratus*), scrub jay, western kingbird (*Tyrannus verticalis*), yellow-rumped warbler, acorn woodpecker (*Melanerpes formicivorus*), Ruby-crowned kinglet (*Regulus calendula*), black phoebe (*Sayornis nigricans*), Say's phoebe (*Sayornis saya*), western tanager (*Piranga ludoviciana*), American goldfinch (*Spinus tristis*), and gray squirrel (*Sciurus griseus*). Dry Creek provides important nesting and cover habitat and an important movement corridor for many bird and mammal species. The larger valley oak and cottonwood trees provide suitable nesting and perching habitat for raptors, including red-tailed hawks, Swainson's hawks (*Buteo swainsoni*), red-shouldered hawks (*Buteo lineatus*), and great-horned owls (*Bubo virginianus*).



Plate 7. Looking south along Dry Creek on May 9 from near the southeast corner of the project site. Note the dirt access road separating Dry Creek from the orchard.



Plate 8. Looking southwest along Dry Creek on May 9. The project site is in the background on the right – the orchard just beyond the steep bank. Note the sparse riparian vegetation and steep banks along the bend.



Plate 9. Looking south (downstream) along Dry Creek on May 9. The project site is on the right. Note the narrow riparian corridor along the steep bank with residential development on the left.



Plate 10. Looking north toward along the eastern edge of the project site on January 10. This is an area with denser and structurally complex valley oak-cottonwood riparian along Dry Creek. Note that virtually all riparian vegetation is limited to the slopes of the drainage and outside of the project site boundary.



Plate 11. Looking south along Dry Creek (left) on May 9. Although narrow, some areas along the creek support a fairly dense and complex vegetation association. Note the elderberry shrub (center of photo) along the edge of the project site's perimeter road at the upper bank of Dry Creek.

There are also native and nonnative ornamental trees around the two rural residences immediately north of the project site, between the project boundary and Dry Creek (Figure 3). These trees, including ornamental pine and cedar, along with valley oak, walnut, and cottonwood trees also provide habitat for many of the species that could occur in the adjacent riparian.

Special-status Species

Special-status species are generally defined as species that are assigned a status designation indicating possible risk to the species. These designations are assigned by state and federal resource agencies (e.g., CDFW, U.S. Fish and Wildlife Service) or by private research or conservation groups (e.g., National Audubon Society, California Native Plant Society). Assignment to a special-status designation is usually done on the basis of a declining or potentially declining population, either locally, regionally, or nationally. The extent to which a species or population is at risk usually determines the status designation. The factors that determine risk to a species or population generally fall into one of several categories, such as habitat loss or modification affecting the distribution and abundance of a species; environmental contaminants affecting the reproductive potential of a species; or a variety of mortality factors such as hunting or fishing, interference with man-made objects (e.g., collision, electrocution, etc.), invasive species, or toxins. For purposes of this biological resource assessment, special-status species are defined as follows:

- Species that are listed, proposed, or candidates for listing under the federal Endangered Species Act (50 CFR 17.11 – listed; 61 FR 7591, February 28, 1996 - candidates);
- Species that are listed or proposed for listing under the California Endangered Species Act (Fish and Game Code 1992 Sections 2050 et seq.; 14 CCR Sections 670.1 et seq.);
- Species that are designated as Species of Special Concern by CDFW;
- Species that are designated as Fully Protected by CDFW (Fish and Game Code, Section 3511, 4700, 5050, and 5515;
- Species included on Lists 1B or 2 by the California Native Plant Society;
- Species that meet the definition of rare or endangered under CEQA (14 CCR Section 15380).

A records search of CDFW's California Natural Diversity Data Base (CNDDB), and other sources of occurrence data (e.g., eBird, Tricolored Blackbird Portal, other survey efforts) provide the initial reference for special-status species occurrences on and around the project site. However, a CNDDB records search encompasses a much larger area than the project site and does not address the presence/absence of suitable habitat within the project site. Instead, it is used as initial guidance to indicate the species that have been observed or have the potential to occur within the general area of the project site and to focus the next step in the assessment, habitat availability. Potential for species to occur is then based on the presence/absence of suitable habitat on or in the vicinity of the project site. Finally, specific surveys within suitable habitat determines the actual presence/absence of potentially occurring species. Because both a winter and spring survey were conducted, results from records searches, habitat assessment, and species-specific surveys are reported here.

Table 1 lists the special-status species with potential to occur in the vicinity of the project site based on existing information about their local and regional distribution and species lists provided by CNDDB and other sources. The table also describes habitat associations; the presence/absence of suitable habitat; and whether or not the species has been reported from the project site or observed during the field survey. Figure 4 illustrates the location of reported special-status species occurrences in the vicinity of the project site for each potentially-occurring species. Each species in Table 1 with potential to occur on or adjacent to the project site is described in more detail below including habitat associations, the presence/absence of suitable habitat, and reported occurrences from existing records and this survey.

Table 1. Special-status species with potential to occur in the vicinity of the Putah Creek Energy Farm Project Site, Yolo County.

Species	Status State/ Federal	Habitat Association	Habitat Present on or Adjacent to the Project site	Observed Onsite During Survey	Reported Occurrence on the Project site
Valley elderberry longhorn beetle <i>Desmocerus californicus dimorphus</i>	-/T	Elderberry shrubs	Yes	No	No
Vernal pool fairy shrimp <i>Branchinecta lynchi</i>	-/T	Vernal pools	No	No	No
Vernal pool tadpole shrimp <i>Lepidurus packardii</i>	-/E	Vernal pools	No	No	No
Western pond turtle <i>Actinemys marmorata</i>	CSC/-	Streams, ponds, canals	Yes	No	No
Northern harrier <i>Circus cyaneus</i>	CSC/-	Grasslands, pastures, fields, seasonal wetland	Yes	No	No
White-tailed kite <i>Elanus leucurus</i>	FP/-	Nests in trees, hunts in grassland/farmland/wetland	Yes	No	No
Swainson's hawk <i>Buteo swainsoni</i>	T/-	Nests in trees, hunts in grassland and farmlands	Yes	No	No
Burrowing owl <i>Athene cunicularia</i>	CSC/-	Grasslands, field edges with ground squirrel activity	Yes	No	No
Short-eared owl <i>Asio flammeus</i>	CSC/-	Grasslands, prairies, marshes	No	No	No
Loggerhead shrike <i>Lanius ludovicianus</i>	CSC/-	Grasslands, agricultural areas	Yes	No	No
Grasshopper sparrow <i>Ammodramus savannarum</i>	CSC/-	Grasslands	No	No	No
Tricolored blackbird <i>Agelaius tricolor</i>	T/-	Marsh, bramble, silage, grassland, pastures	No	No	No
Palid bat <i>Antrozous pallidus</i>	CSC/-	Grasslands, shrub lands, woodlands.	Yes	No	No
Townsend's big-eared bat <i>Corynorhinus townsendii</i>	CSC/-	Caves, bridges, buildings	No	No	No
Western red bat <i>Lasiurus blossevillei</i>	CSC/-	Riparian woodland fruit orchards	Yes	No	No
Baker's navarretia <i>Navarretia leucocephala</i>	1B/-	Vernal pools	No	No	No
Round-leaved filaree <i>Erodium macrophyllum</i>	2/-	Grasslands	No	No	No
Adobe lily <i>Fritillaria pluriflora</i>	1B/-	Grasslands	No	No	No
Brewer's western flax <i>Hesperolinon breweri</i>	1B/-	Grasslands	No	No	No

T=threatened; E=Endangered; CSC=California species of species concern; FP=state fully protected; 1B and 2 =CNPS rare plant ranks;

Valley Elderberry Longhorn Beetle

The valley elderberry longhorn beetle (VELB) (*Desmocerus californicus dimorphus*) is a federally-listed medium-sized woodboring beetle, about 0.8 inches long. Endemic to California's Central Valley and watersheds that drain into the Central Valley, this species' presence is entirely dependent on the presence of its host plant, the elderberry shrub (*Sambucus* spp.). Elderberry grows in upland riparian forests or savannas adjacent to riparian vegetation, but also occurs in oak woodlands and savannas and in disturbed areas. It usually co-occurs with other woody riparian plants, including valley oak, Fremont cottonwood, various willows, and other riparian trees and shrubs (Barr 1991, Collinge et al 2001, U.S. Fish and Wildlife Service 2017).

VELB is rarely observed, but suitable elderberry shrubs are common throughout much of Yolo County, occurring in riparian and upland habitats including the edges of agricultural fields. There were no elderberry shrubs on the project site; however, 22 mature elderberry shrubs were detected along the adjacent Dry Creek corridor immediately adjacent to the project site boundary (Figure 5) (Plate 11). All had stems sufficiently large to support VELB. The nearest reported detection of VELB is approximately 0.6 miles south of the project site along a tributary of Putah Creek (CNDDDB 2019) (Figure 4).

Vernal Pool Fairy Shrimp and Vernal Pool Tadpole Shrimp

Vernal pool fairy shrimp (*Branchinecta lynchi*) was reported from two sites on the north side of Winters as recently as 2006 (CNDDDB 2019) (Figure 4). Vernal pool tadpole shrimp (*Lepidurus packardii*) was not reported, but has potential to occur at the same sites. There are no vernal pool or other wetland habitats on the project site or on lands immediately adjacent to the project site and therefore no potential for these species to occur or be impacted by the project.

Western Pond Turtle

The western pond turtle (*Actinemys marmorata*) is a species of special concern found in permanent water bodies, such as lakes, ponds, slow moving streams, and water conveyance channels that include basking habitat (down logs, rocks) and that support sufficient aquatic prey. They also require adjacent or nearby upland habitat that is suitable for building nests, to aestivate, and to overwinter (Jennings and Hayes 1994). Although there is suitable adjacent upland habitat, Dry Creek is not considered suitable year-round habitat for western pond turtle in most years due to lack of spring-summer flows (Plate 12). The nearest reported occurrence is along Putah Creek, 1.25 miles southeast of the project site (CNDDDB 2019) (Figure 4). The small lower bench of Dry Creek within the project boundary is considered suitable upland habitat for pond turtles, but this area is not part of the project footprint and is unlikely to be occupied due to the lack of spring-summer flows in the creek. There is otherwise no suitable onsite habitat for western pond turtle and no potential for this species to occur onsite or be impacted by the project.

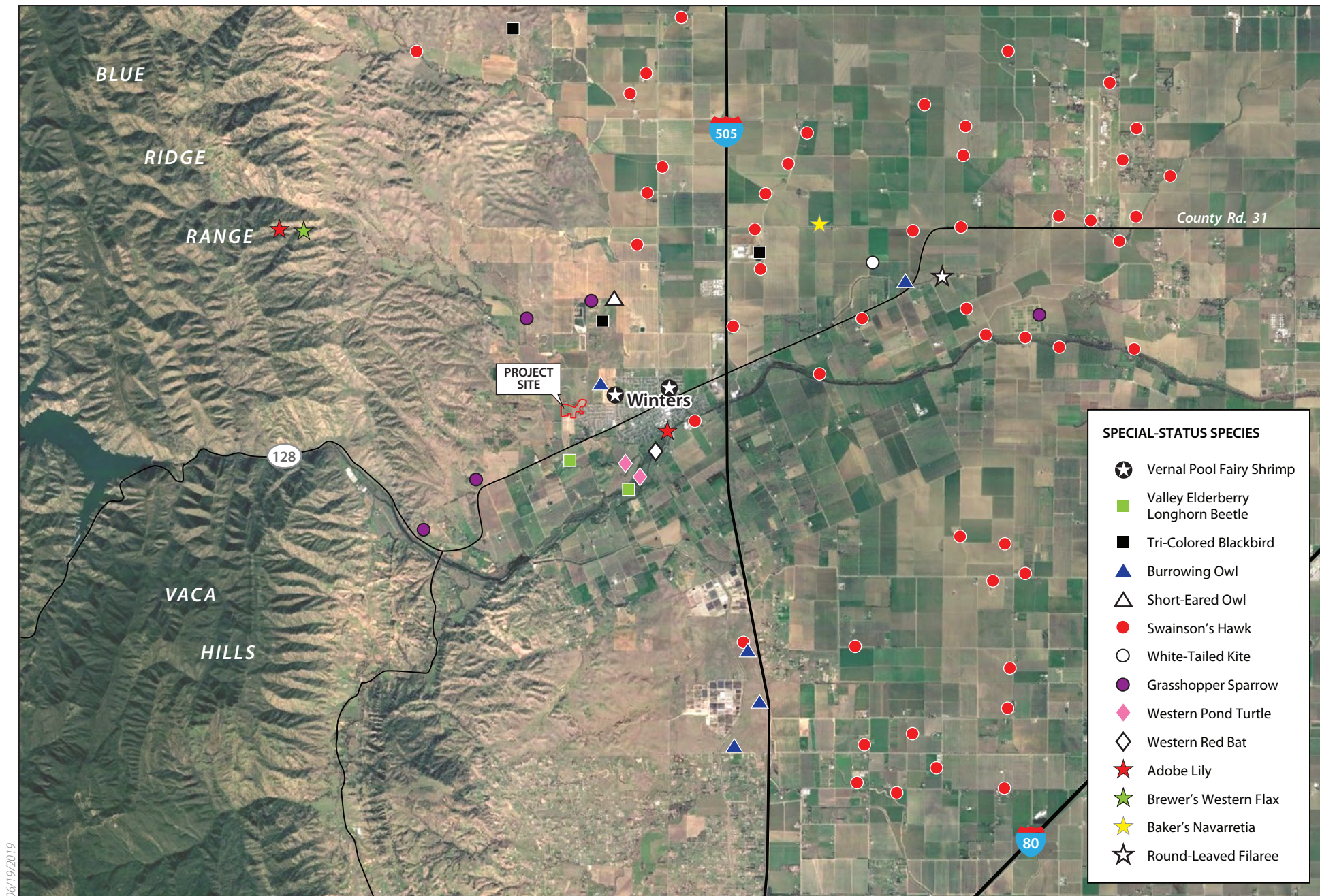




Plate 12. Looking north along Dry Creek on May 9, 2019. The project site is the orchard in the background on the far side of the creek. Suitable adjacent upland habitat occurs along the creek, but the lack of spring-summer flows precludes western pond turtle occurrence in most years.

Northern harrier

The northern harrier is a state species of special concern that nests on the ground in grassland, seasonal marsh, and some cultivated habitats. The species is frequently observed throughout most of Yolo County; however, there are relatively few reported nest sites due to the difficulty confirming the location of ground nests. The nearest reported nest site in CNDDDB (2018) is approximately 13 miles northeast of the project site. However, there are undoubtedly additional nesting territories closer to or in the vicinity of the project site. eBird reports several occurrences of the species in the vicinity of the project site, but does not report confirmed breeding sites. The non-orchard cultivated and grassland habitats in the area support suitable nesting and foraging habitat for harriers.

The project site supports only marginal foraging habitat for northern harriers. When orchards are young, harriers may still hunt around the trees for small rodents. There may be some limited foraging use of the younger orchard on the west side of the project site by northern harriers and some use of the grassy open areas along the transmission line corridor (Plate 5). The small grassy benches along the Dry Creek may also support some foraging use, but these sites are too small and isolated to support nesting (Plate 4). Although some foraging use may occasionally occur, there is no suitable nesting habitat on or immediately adjacent to the project site and therefore no potential for this species to nest or be impacted by the project.

Swainson's Hawk

The Swainson's hawk is a medium-sized raptor associated with generally flat, open landscapes. In the Central Valley it nests in mature native and nonnative trees and forages in grassland and agricultural habitats. Although a state-threatened species, the Swainson's hawk is relatively common in Yolo County during the spring-summer breeding season due to the availability of nest trees and the agricultural crop patterns that are compatible with Swainson's hawk foraging. The species migrates out of the Central Valley during the fall-winter non-breeding season and therefore could not be detected during the site survey. However, the project site is within an area that is periodically surveyed for this species. Over 300 nest sites have been documented in Yolo County, at least 16 of which are within 5 miles of the project site (Estep 2008, CNDDDB 2019), and the nearest of which is approximately 2 miles east of the project site along Putah Creek (Figure 4).

The species has not been reported nesting on or immediately adjacent to the project site. However, there are several valley oak and cottonwood trees adjacent to the project site along Dry Creek that are suitable as nest trees (Plates 13 and 14). The survey conducted on May 9, 2019 did not detect any active Swainson's hawk nests in these trees or other suitable nest trees adjacent to the project site. Also, because the project site currently and historically has been an orchard, it does not provide suitable foraging habitat for Swainson's hawks and therefore there is no potential for this species to be negatively impacted by the project. Conversion of the orchard to the solar array will increase the amount of open space within the project area, and if managed using a grass substrate may encourage limited foraging use by Swainson's hawks (Estep and Dinsdale 2013).



Plate 13. Looking southwest along Dry Creek on May 9. Valley oak and cottonwood trees immediately east of Array 2 are capable of supporting Swainson's hawk, white-tailed kite, and other raptor nests.



Plate 14. Looking north along Dry Creek near the far northeast corner of the project site on January 10. Several valley oak and cottonwood trees in this area are the largest along the creek adjacent to the project site and probably the most likely to support raptor nesting.

White-tailed kite

The white-tailed kite, a state fully protected species is a highly specialized and distinctively-marked raptor associated with open grassland and seasonal wetland landscapes. It typically nests in riparian forests, woodlands, woodlots, and occasionally in isolated trees, primarily willow, valley oak, cottonwood, and walnut) and some nonnative trees. It forages in grassland, seasonal wetland, and agricultural lands, but is more limited in its use of cultivated habitats compared with the Swainson's hawk. As a result, the species occurs throughout most of Yolo County, but in low breeding densities (Dunk 1995, Erichsen 1995, Estep 2008).

No white-tailed kites were detected during the survey and no nests have been reported on or in the immediate vicinity of the project site. The nearest reported nest is approximately 4.8 miles northeast of the project site (Estep 2008) (Figure 4). e-Bird reports several breeding season occurrences in the area, so although no active nests are reported, local breeding is highly likely. There is no nesting habitat available on the project site for this species, with the exception of the small group of trees next to the substation along the southern border. However, given that surrounding landscape (e.g., primarily orchards), use of these trees is unlikely. Suitable nesting habitat also occurs in the valley oak and cottonwood trees along Dry Creek, adjacent to the project site (Plates 13 and 14). The survey conducted on May 9, 2019 did not detect any active white-tailed kite nests in these trees or other suitable nest trees adjacent to the project site. Also, because the project site currently and historically has been an orchard, it does not provide suitable foraging habitat for white-tailed kites and therefore there is no potential for this species

to be negatively impacted by the project. Conversion of the orchard to the solar array will increase the amount of open space within the project area, and if managed using a grass substrate may encourage limited foraging use by white-tailed kites (Estep and Dinsdale 2013).

Western Burrowing Owl

The western burrowing owl (*Athene cunicularia*), a state species of special concern occurs in open, dry grasslands, agricultural and range lands, and desert habitats. In the Central Valley, they are associated with remaining grassland habitats, pasturelands, and edges of agricultural fields. They also occur in vacant lots and remnant grassland or ruderal habitats within urbanizing areas. Historically nesting in larger colonies, due to limited nesting habitat availability most of the more recent occurrences are individual nesting pairs or several loosely associated nesting pairs. The burrowing owl is a subterranean-nesting species, typically occupying the burrows created by California ground squirrels. They also occupy artificial habitats, such as those created by rock piles and occasionally in open pipes and small culverts. They forage for small rodents and insects in grassland and some agricultural habitats with low vegetative height. Key to burrowing owl occupancy are grassland or ruderal conditions that maintain very short vegetative height around potential nesting burrows (Gervais et al. 2008).

In Yolo County, burrowing owls occur mainly in the grassland and pasture habitats of the southern panhandle and in cultivated and ruderal habitats in the Davis area. Nesting and wintering occurrences have also been reported from the area immediately north of Winters, in the Dunnigan Hills, and elsewhere in the grassland foothills along the west side of the valley. The nearest reported location is approximately 0.3 miles northeast of the project site, just across Dry Creek, on former grassland habitats that are currently being urbanized with residential development (Figure 4). The small colony that inhabited this site is presumably no longer extant. However, other suitable grassland habitat remains in the vicinity, north of Dry Creek.

Although there is evidence of ground squirrel activity within the interior of the orchard, the only potential for burrowing owl occurrence is along the ruderal strip along roadsides around the perimeter of the project site, and along the edge of the substation (Plate 15) and in the grassy opening along the transmission line corridor. These areas provide very marginal burrow and foraging habitat, and given the historical land use on the project site and adjacent land uses (mainly orchards), the potential for occurrence in this area is very low. During both the winter- and spring-season field surveys, no burrowing owl or burrowing owl sign was detected and no potential breeding or wintering burrows were detected around the perimeter of the project site. Therefore, there is no potential for this species to be impacted by the project.



Plate 15. Looking west along the northern border of the substation on May 9. Grassy edges adjacent to orchards and the substation are occupied by ground squirrels, but provide very marginal habitat for burrowing owls due to the overall land use and lack of larger open grasslands.

Short-eared Owl

The short-eared owl (*Asio flammeus*) is a state species of special concern that occurs mainly in open grassland, seasonal wetland, and freshwater marsh habitats. A ground-nesting species, it has been reported to nest in Yolo County, including in the Yolo Basin and near the Yolo County landfill, but reported occurrences have declined sharply in the last couple of decades. Most historic occurrences were from the grassland/pasturelands and wetlands in the vicinity of the Yolo County landfill. Although CNDDDB (2019) reports no occurrences in Yolo County, eBird reports numerous occurrences (mostly winter season occurrences) from the 1980s to present, mostly southeast of Woodland, the Yolo Bypass, and the southeast panhandle of Yolo County. However, eBird also reports a 2013 winter season occurrence approximately 1.5 miles north of the project site just north of County Road 32A (Figure 4). Because the project site does not support suitable grassland or wetland habitat for short-eared owl, there is no potential for the species to occur onsite or be impacted by the project.

Loggerhead Shrike

The loggerhead shrike occurs in open habitats with scattered trees, shrubs, posts, fences, utility lines, or other perches. It nests in small trees and shrubs and forages for small rodents, reptiles, and insects in pastures and agricultural lands. An underreported species in CNDDDB, no records are available for Yolo County (CNDDDB 2018). However, eBird reports several incidental records around Winters. The grassland and oak savannah foothills along the western edge of the

valley are thought to be the highest value habitat for this species; but some cultivated landscapes may also provide suitable conditions for nesting and foraging.

No loggerhead shrikes were detected during either the winter- or spring-season surveys and no nests have been reported from the project area or immediate vicinity (CNDDDB 2019, eBird 2019). The species is more likely to be incidentally observed foraging in the cultivated habitats surrounding the project site. Although trees along Dry Creek provide suitable nesting habitat, nesting is unlikely due to the surrounding habitat/land use conditions (e.g., orchards, urbanization). Also, the project site does not provide suitable foraging habitat for loggerhead shrikes. Therefore, there is no potential for this species to be impacted by the project.

Grasshopper Sparrow

Grasshopper sparrows (*Ammodramus savannarum*) are found in dry, well-drained grasslands with patches of bare ground that may include scattered, taller shrubs or annuals that are used for song perches. Suitable grassland habitats include native bunchgrass, wild rye, and wet meadows. Pasturelands and annual grasslands dominated by star thistle are rarely used. They are commonly found along grassy hill slopes and sometimes in flat terrain. In Yolo County, they are considered rare and irregular (not annual) breeders in the Yolo Bypass and the grasslands in the lower western foothills. CNDDDB does not report any occurrences in the vicinity of the project site; however, eBird report several occurrences, the nearest of which is approximately 1.2 miles northeast of the project site (Figure 4). The project site does not provide suitable nesting or foraging habitat for grasshopper sparrows. Therefore, there is no potential for this species to be impacted by the project.

Tricolored Blackbird

The tricolored blackbird (*Agelaius tricolor*) is a state-listed threatened species that nests in colonies from several dozen to several thousand breeding pairs. They have three basic requirements for selecting their breeding colony sites: open accessible water; a protected nesting substrate, including either flooded or thorny or spiny vegetation; and a suitable foraging space providing adequate insect prey within a few miles of the nesting colony (Beedy and Hamilton 1999). Nesting colonies are found in freshwater emergent marshes, in willows, blackberry bramble, thistles, or nettles, and in silage and grain fields (Beedy and Hamilton 1999).

Most recently reported tricolored blackbird colonies in Yolo County occur in the eastern part of the county, including Conaway Ranch and at locations in the Yolo Bypass, and along the western edge of the valley (CNDDDB 2019, Tricolored Blackbird Portal); however, eBird reports numerous incidental non-breeding or foraging occurrences throughout the interior of the county. CNDDDB (2019) and the Tricolored Blackbird Portal report a breeding colony 1.2 miles northeast of the project site at the Winters wastewater treatment facility north of County Road 32A (Figure 4). eBird reports another possible breeding colony approximately 3 miles northeast of the project site. The project site does not provide suitable nesting or foraging habitat for tricolored blackbirds. The adjacent land to the north provides suitable grassland foraging habitat, but the breeding colony north of County Road 32A is the nearest potential breeding habitat. Therefore, there is no potential for this species to be impacted by the project.

Special-status Bats

Three special status bats potentially occur in the vicinity of the project site, including pallid bat (*Antrozous pallidus*), Townsend's big-eared bat (*Corynorhinus townsendii townsendii*), and western red bat (*Lasiurus blossevillei*), all state species of special concern. Pallid bat occurs primarily in shrublands, woodlands, and forested habitats, but also can forage in grasslands and agricultural areas. Townsends's big-eared bat occurs in a variety of woodland and open habitats, including agricultural areas. Western red bat occurs in wooded habitats, including riparian and fruit orchards, and grasslands. Pallid bat and Townsend's big-eared bat roost in mines, caves, rocky crevices, large hollow trees, and occasionally in large open buildings that are usually abandoned or infrequently inhabited. Western red bat usually roosts in large trees (Pierson and Rainey 1998, Pierson 1998, Fellers and Pierson 2002, Pierson et al. 2006).

Most reported occurrences are from the foothills and higher elevation areas of western Yolo County; however, CNDDDB (2019) reports a red bat occurrence from the confluence of Dry Creek and Putah Creek in 2013. There are no suitable trees or other potential roosting habitat for these species on the project site. The sparse riparian habitat along Dry Creek may provide only marginal roosting habitat for red bat; however, although they could potentially hunt for insects above the project site, the surrounding landscape of orchards and urbanization is not considered suitable habitat for these species.

Special-status Plants

Four special-status plant species are known to occur in the vicinity of the project site (Figure 4). Adobe lily (*Fritillaria pluriflora*), Brewer's western flax (*Hesperolinon breweri*), and round-leaved filaree (*Erodium macrophyllum*) occur in grassland habitats; and Baker's navarretia (*Navarretia leucocephala*) occurs in wet habitats, particularly vernal pools. Calflora reports occurrences of these species from the general area; however, none been reported from the project site and there is no suitable habitat for any of these species within the project site boundary. Therefore, these species are not present onsite nor will they be impacted by the project.

Impacts of the Proposed Project

Biological Communities

The proposed project would not remove or disturb any sensitive natural community, including wetlands, grassland prairies, or riparian woodland. Habitat removal (i.e., the conversion of a walnut orchard to solar arrays) would not affect resident or migratory wildlife movement, would not substantially degrade the quality of the environment or reduce the habitat of wildlife species, and would not cause wildlife populations to drop below self-sustaining levels.

Orchard

Approximately 17 acres of walnut orchard would be removed by the project and replaced with solar arrays. Because orchards provide relatively low value habitat to most wildlife species,

because no special-status species would be directly affected by this removal, and because this represents a small amount of the Yolo County agricultural land planted in orchards, the loss of 17 acres of walnut orchard will not significantly affect biological resources. This impact does not represent a significant impact pursuant to CEQA and would not be in conflict with any biological resources policies in the Yolo County General Plan. However, this impact is in conflict with AG-1.5, which addresses the conversion of agricultural lands to other uses, and may require mitigation as per AG-1.6 (Refer to the Agricultural Resources Section).

Grassland/Ruderal

The proposed project may temporarily remove a negligible amount (<1 acre) of grassland/ruderal vegetation around the perimeter of the project site, mainly along roadsides. This habitat provides limited value to wildlife and its removal would not result in significant impacts to biological resources. It is also likely to recover to its current condition following completion of the project. This impact does not represent a significant impact pursuant to CEQA and would not be in conflict with any biological resources policies in the Yolo County General Plan.

Riparian

Riparian vegetation along Dry Creek would not be removed or otherwise affected by the conversion of the walnut orchard to a solar array. The project was initially designed to provide a 50-foot setback from the property line, which generally runs along the top bank of Dry Creek (and the outer edge of riparian habitat), to the project. However, to comply with Policy CO-2.22 of the Yolo County General Plan (Prohibit development within a minimum of 100 feet from the top of banks for all lakes, perennial ponds, rivers, creeks, sloughs, and perennial streams), even though project features will not extend beyond the area currently occupied by the existing orchard, the project was redesigned to provide a 100-foot setback from the top bank of Dry Creek to the edge of the solar arrays. Following this redesign, the majority of the project is sited at least 100-feet from the top bank of Dry Creek. There remain, however, a few small areas that encroach into the 100-foot buffer (Figure 5). But because the project will not extend beyond the existing orchard, because most of the project that is adjacent to Dry Creek will be greater than 100 feet from riparian vegetation, and because the project is idle in terms of human activity, further ground disturbances, or operational function, the project is not expected to result in a significant impact to riparian vegetation or alter the existing function and value of Dry Creek.

Special-Status Species

Only those special-status species with potential to occur on or adjacent to the project site are addressed below. There is no suitable habitat on or adjacent to the project site for the following special-status species listed in Table 1 that otherwise could occur in the vicinity of the project site if suitable habitat were present: vernal pool fairy shrimp, vernal pool tadpole shrimp, western pond turtle, tricolored blackbird, grasshopper sparrow, adobe lily, Brewer's western flax, round-leaved filaree, and Baker's navarretia, and therefore the project will not impact these species.

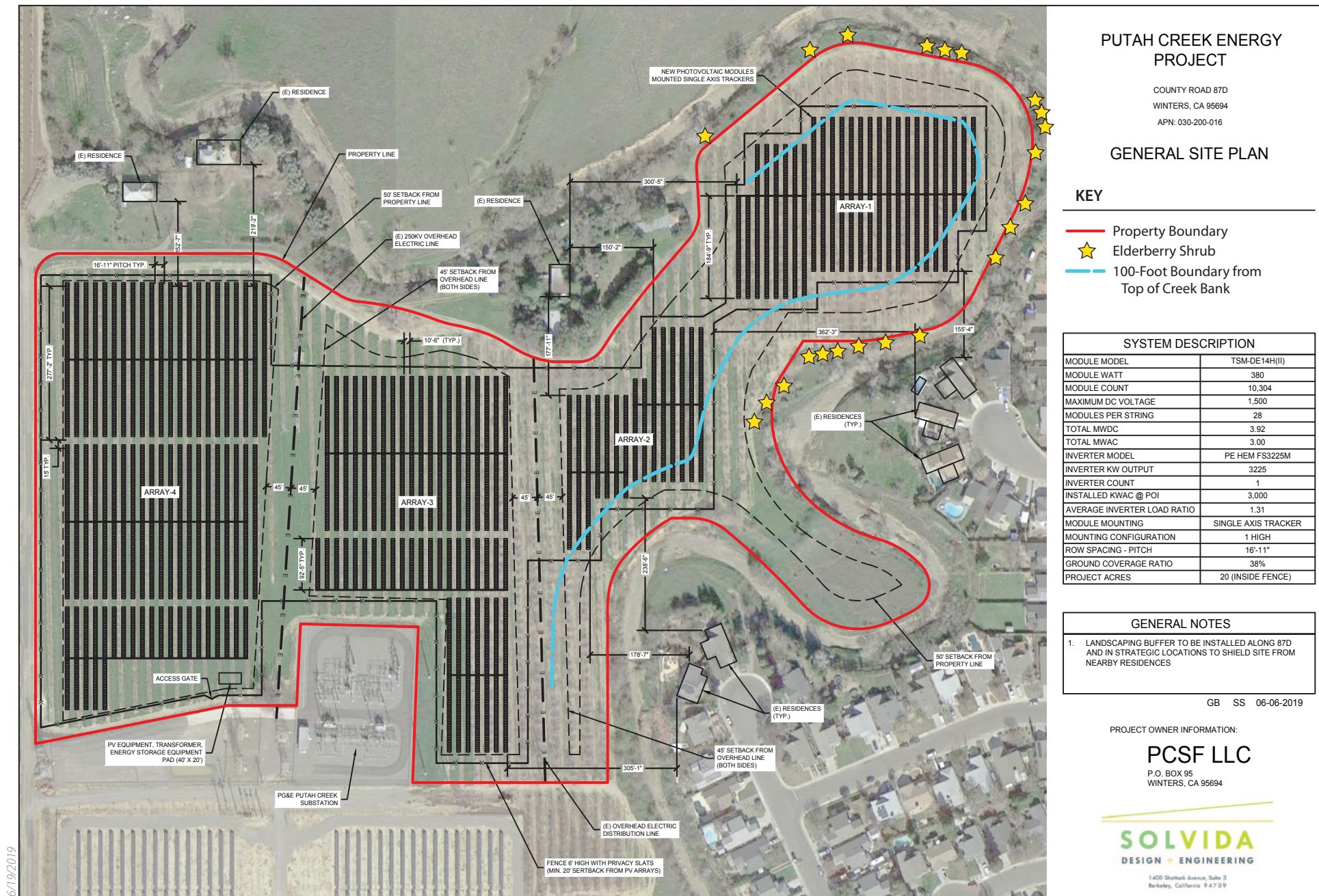


Figure 5
Location of Elderberry Shrubs
in Relation to Project Components

Valley Elderberry Longhorn Beetle

There are 22 mature elderberry shrubs along the Dry Creek riparian corridor adjacent to the project site (Figure 5), all potentially capable of supporting VELB. Because these shrubs are offsite, the project would have no direct impact on VELB. However, close proximity to potentially-occupied elderberry shrubs could indirectly impact VELB during the installation of the solar arrays. The redesigned project configuration was also done to provide a 100-foot buffer between the project and elderberry shrubs, consistent with recommended buffer distances (USFWS 2017). With this redesign, all 22 shrubs are 100-feet or nearly 100-feet from the solar arrays (Figure 5). Two shrubs slightly encroach into the 100-foot buffer by a few feet, but are sufficiently distant to avoid all direct and indirect impacts. As a result, this impact is considered less than significant pursuant to CEQA; however, additional avoidance measures are recommended during construction of the solar facility to avoid inadvertent indirect impacts.

Swainson's Hawk and White-tailed Kite

The project site does not support nesting or foraging habitat for the Swainson's hawk and white-tailed kite with the exception of a moderately-sized valley oak tree adjacent to the existing substation. Surveys conducted during the 2019 breeding season did not detect active nests for either species in this tree or in trees along the adjacent Dry Creek corridor. The project will also not remove suitable foraging habitat for either species, and – if managed with a grass substrate – may increase the extent of foraging habitat within the project area because the existing orchard, which will be removed, covers a larger area than the proposed solar array configuration. As a result, the project will have no direct impact on nesting or foraging habitat for these species.

However, because riparian trees along Dry Creek could support active nest sites, if development of the project extends into the 2020 breeding season, construction disturbances could result in indirect impacts and possible abandonment of active nests. This potentially significant impact would require implementation of avoidance measures to reduce it to a level of less than significant.

Northern Harrier, Western Burrowing Owl, and Loggerhead Shrike

There is no suitable nesting habitat for northern harriers, western burrowing owls, or loggerhead shrikes on the project site. Although it is possible that these species could occasionally hunt in the young orchard on the west side of the project site and along the ruderal edges of the orchards, the conversion of the orchard to a solar array would not constitute a significant impact or need for mitigation or avoidance measures. Removal of the orchard, may in fact increase the available habitat for these species if a grass substrate is maintained in the open areas between the arrays.

Special-status Bats

No potential roosting habitat would be removed or otherwise disturbed by the proposed project. Therefore, the project would have no impact on pallid bat, western red bat, or Townsend's big-eared bat.

Special-status Plants

The project site does not support habitat for any of the four potentially-occurring special-status plant species, Adobe lily, Brewer's western flax, round-leaved filaree, and Baker's navarretia, and therefore the project would have no impact on these species.

Conclusions and Recommendations

The project site consists almost entirely of walnut orchard, which has been the sole agricultural land use for decades. Other than a negligible amount of annual grassland and ruderal vegetation, the project site supports no other natural communities or wildlife habitats. The proposed project would convert 17 acres of walnut orchard to four solar arrays, which would connect to the adjacent substation. The project would not result in any ongoing noise, traffic, or operational disturbances and would not be inconsistent with the Yolo County General Plan policies related to natural resources.

The project would also have no direct impacts to special-status species; however, disturbances from construction of the proposed project could potentially indirectly impact riparian vegetation and three special-status species (valley elderberry longhorn beetle, Swainson's hawk, and white-tailed kite) that may inhabit the riparian habitat.

The following measures are recommended to avoid and minimize possible indirect impacts.

Riparian and Valley Elderberry Longhorn Beetle

The northeast arrays (Arrays 1 and 2) are adjacent to Dry Creek. There would be no direct disturbances to the riparian vegetation or elderberry shrubs along Dry Creek, and with the exception of several small areas at array corners, the majority of the project is at least 100 feet from the creek channel and riparian corridor – and at least 100-feet from all but two elderberry shrubs, which are 80 to 90 feet away. Because of the low-impact and idle nature of the project, and because the arrays will not extend beyond the area currently occupied by the walnut orchard, this is not expected to result in a significant impact to adjacent riparian vegetation, VELB, or other biological resources that inhabit the riparian corridor. However, the following avoidance and minimization measures should be implemented to reduce potential indirect impacts during removal of the orchard and installation of the solar array.

- **Fencing.** Establish a no-encroachment buffer along Dry Creek and install temporary construction fencing to delineate the buffer during installation of the solar arrays. This buffer should be at least 100 feet from the edge of the riparian corridor with the exception of the small areas at array corners where the arrays encroach into the buffer. At these locations, the buffer fence should be installed at the maximum distance possible. Prohibit all encroachment within the buffer.
- **Worker Education.** A qualified biologist will provide training for all contractors, work crews, and any onsite personnel on the importance of riparian systems and the need to avoid encroaching within the buffer.

- **Construction monitoring.** A qualified biologist will monitor the work area at project appropriate intervals to assure that all avoidance and minimization measures are implemented.
- **Long-term Maintenance of the Buffer.** Following installation of the arrays, the 100-foot buffer area should be maintained with grasses to provide an open grassland edge adjacent to Dry Creek riparian woodland.

Swainson's Hawk and White-tailed Kite

Swainson's hawks and white-tailed kites can be sensitive to noise and other indirect disturbances while nesting. No active nests of these species were found during surveys conducted in May 2019. If project work is completed prior to March 2020, no further surveys or avoidance measures are required. However, if work extends beyond 2020, additional surveys should be repeated to determine presence/absence of active nests. If active nests are present, a qualified biologist should examine the potential for disturbance and construction activities should be postponed during the breeding season (March through August) if it is determined that the disturbance could result in the abandonment of active nests. This determination should be based on proximity, type of disturbance, ambient noise and disturbance levels, line of sight, and other factors as needed.

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Appendix A. Species Observed on January 10 and May 9, 2019 Surveys

Common Name	Scientific Name
Birds	
Turkey vulture	<i>Cathartes aura</i>
Red-tailed hawk	<i>Buteo jamaicensis</i>
Red-shouldered hawk	<i>Buteo lineatus</i>
American kestrel	<i>Falco sparverius</i>
California quail	<i>Callipepla californica</i>
Anna's hummingbird	<i>Calypte anna</i>
Mourning dove	<i>Zenaida macroura</i>
Eurasian collared dove	<i>Streptopelia decaocto</i>
Scrub jay	<i>Aphelocoma californica</i>
Northern mockingbird	<i>Mimus polyglottos</i>
American crow	<i>Corvus brachyrhynchos</i>
Common raven	<i>Corvus corax</i>
Northern flicker	<i>Colaptes auratus</i>
Acorn woodpecker	<i>Melanerpes formicivorus</i>
Western kingbird	<i>Tyrannus verticalis</i>
Western meadowlark	<i>Sturnella neglecta</i>
Barn swallow	<i>Hirundo rustica</i>
Cliff swallow	<i>Petrochelidon pyrrhonota</i>
Black phoebe	<i>Sayornis nigricans</i>
Says phoebe	<i>Sayornis saya</i>
Western tanager	<i>Piranga ludoviciana</i>
Ruby-crowned kinglet	<i>Regulus calendula</i>
Yellow-rumped warbler	<i>Setophaga coronata</i>
White-crowned sparrow	<i>Zonotrichia leucophrys</i>
Golden-crowned sparrow	<i>Zonotrichia atricapilla</i>
European starling	<i>Sturnus vulgaris</i>
Red-winged blackbird	<i>Agelaius phoeniceus</i>
Dark-eyed junco	<i>Junco hyemalis</i>
American goldfinch	<i>Spinus tristis</i>
Mammals	
Black-tailed jackrabbit	<i>Lepus californicus</i>
Pocket gopher	<i>Thomomys bottae</i>
California ground squirrel	<i>Otospermophilus beecheyi</i>
Gray squirrel	<i>Sciurus griseus</i>
Plants	
Almond	<i>Prunus dulcis</i>
Willow	<i>Salix</i> sp.
Ceanothus	<i>Ceanothus</i> sp.
Valley oak	<i>Quercus lobata</i>
Interior live oak	<i>Quercus wislizeni</i>
Blue oak	<i>Quercus douglasii</i>
Fremont cottonwood	<i>Populus fremontii</i>
Black walnut	<i>Juglans hindsii</i>
Blue elderberry	<i>Sambucus cerulea</i>
California buckeye	<i>Aesculus californica</i>
Redbud	<i>Cercis occidentalis</i>
Photinia	<i>Photinia</i> sp.

Soft chess	<i>Bromus hordeaceus</i>
Slender oat	<i>Avena barbata</i>
Bermuda grass	<i>Cynodon dactylon</i>
Italian rye grass	<i>Festuca perennis</i>
Yellow star thistle	<i>Centaurea solstitialis</i>
Bull thistle	<i>Cirsium vulgare</i>
Mustard	<i>Brassica</i> sp.
Crane's bill geranium	<i>Geranium molle</i>