Project Description

Coyote Creek Agrivoltaic Ranch Project

AUGUST 2023

Prepared for:

SACRAMENTO VALLEY ENERGY CENTER, LLC
575 Fifth Avenue, 35th Floor
New York, New York 10017

Prepared by:

DUDEK
1810 13th Street, #10
Sacramento, California 95811

Printed on 30% post-consumer recycled material.

Table of Contents

SECTION **PAGE NO.**

TABLES

FIGURES

APPENDICES SUBMITTED UNDER SEPARATE COVER

INTENTONALLY LEFT BLANK

Acronyms and Abbreviations

Acronym/Abbreviation	Definition
AC	alternating current
applicant	Sacramento Valley Energy Center, LLC
BESS	battery energy storage system
CCAR	Coyote Creek Agrivoltaic Ranch
CDFW	California Department of Fish and Wildlife
County	County of Sacramento
kV	kilovolt
MW	megawatt
project	Coyote Creek Agrivoltaic Ranch
PV	photovoltaic
RPS	Renewable Portfolio Standards
SCADA	supervisory control and data acquisition
SMUD	Sacramento Municipal Utility District
SVRA	State Vehicle Recreation Area
USACE	U.S. Army Corps of Engineers

INTENTONALLY LEFT BLANK

1 Introduction

Sacramento Valley Energy Center (applicant) proposes to construct and operate the Coyote Creek Agrivoltaic Ranch (CCAR), an approximately 200-megawatt (MW) alternating current (AC) photovoltaic (PV) solar energy generating facility and associated 4-hour/100 MW AC battery energy storage system (BESS). Components of the CCAR would include an on-site substation, inverters, solar array, fencing, roads, supervisory control and data acquisition (SCADA) system, generation tie (gen-tie) line, and switchyard. The project's 230-kilovolt (kV) gen-tie line would be approximately 1.3 miles long and would parallel the boundary of the Prairie City State Vehicle Recreation Area (SVRA). The gen-tie line would connect with a new switchyard that would be constructed to interconnect into the Sacramento Municipal Utility District (SMUD) 230 kV powerline in proximity to the Prairie City SVRA. Following construction of the switchyard, SMUD would own and operate the switchyard facilities.

Barton Ranch has historically been grazed with sheep and cattle. CCAR would use continued sheep grazing within the project's fenced boundary, and grazing is anticipated to continue outside of the fenced boundary under control of the landowner. Grazing would serve to maintain vegetation at a height to optimize solar energy production during operations while also maintaining continued agricultural use on the landscape. Reseeding within the array area following construction would provide grazing habitat and provide a dual benefit of pollinator-friendly plantings. These combined grazing activities would ensure grazing and ranching activities continue, and that the area remains as a large ranch under the Williamson Act.

Figure 1, Project Location, shows parcels included in the project study area totaling approximately 2,704 acres. Of the approximately 2,704-acre project study area, approximately 1,412 acres is within the solar development area and approximately 1,292 acres is other adjacent land. Adjacent other lands are lands within the initial project study area but located outside of the proposed footprint of project construction activities. The solar development area would encompass the temporary construction footprint and would contain all permanent Project infrastructure. Areas denoted as adjacent other lands would be appropriately delineated with flagging and/or best management practices during construction so that impacts do not extend into those areas.

Figure 2, Project Setting, shows solar development area is a substantially smaller footprint compared to the overall project study area, and is designed to avoid and minimize environmental effects while accomplishing most of the basic project objectives. The project footprint proposed was also designed based on consultation with and feedback from the California Department of Fish and Wildlife (CDFW), U.S. Fish and Wildlife Service, and U.S. Army Corps of Engineers (USACE) to avoid and minimize impacts to aquatic resources, potential habitat for threatened and endangered aquatic species, and agricultural resources.

A Neighborhood Outreach Plan (Appendix A) was prepared and is being implemented to keep members of the public informed regarding the CCAR and to gain feedback from nearby residences regarding project plans. The project design also reflects consultation with consulting tribes to avoid 14 pre-contact tribal archeological sites identified within the project footprint. Technological improvements in racking technology and careful siting were used to reduce project landform modification and to reduce air quality and greenhouse gas emissions, and to increase soil stability during construction. Refer to the Project Preliminary Grading Plans (Appendix B). Table 1 provides the Assessor's Parcel Numbers, zoning, and approximate acreages that comprise the project study area.

Table 1. Assessors Parcels within the Project Study Area and Transmission Corridor

Assessor's Parcel Number	Total Approximate Acreage	Zoning
072-0100-016	2.40	AG-80
072-0100-017	13.69	AG-80
072-0100-018	38.56	AG-80
072-0110-022	3.05	AG-80
072-0110-045	7.70	AG-80
072-0110-066	36.82	AG-80
072-0110-067	79.87	AG-80
072-0110-069	83.73	AG-80
072-0110-070	80.89	AG-80
072-0110-071	81.07	AG-80
072-0110-069	55.22	AG-80
072-0110-073	41.52	AG-80
072-0110-074	27.16	AG-80
072-0110-075	18.27	AG-80
072-0110-076	27.97	AG-80
072-3160-003	2.22	AG-80
073-0010-026	0.09	AG-80
073-0020-008	4.98	AG-80
073-0020-015	29.75	AG-80
073-0020-022	13.77	AG-80
073-0020-029	11.26	AG-80
073-0020-032	15.76	AG-80
073-0020-033	13.19	AG-80
073-0020-034	78.74	AG-80
073-0020-035	38.05	AG-80
073-0020-036	39.14	AG-80
073-0020-037	39.19	AG-80
073-0020-038	12.33	AG-80
073-0020-039	73.46	AG-80
073-0020-040	57.80	AG-80
073-0020-041	40.06	AG-80
073-0020-042	73.57	AG-80
073-0020-043	48.59	AG-80
073-0020-044	52.42	AG-80
073-0020-045	105.13	AG-80
073-0020-046	4.17	AG-80
073-0020-048	5.53	AG-80
073-0020-049	41.05	AG-80
073-0020-050	55.84	AG-80
073-0020-051	78.46	AG-80
073-0020-052	83.43	AG-80

Table 1. Assessors Parcels within the Project Study Area and Transmission Corridor

Assessor's Parcel Number	Total Approximate Acreage	Zoning
073-0020-053	33.84	AG-80
073-0020-054	85.35	AG-80
073-0020-055	6.14	AG-80
073-0020-056	68.48	AG-80
073-0020-057	40.48	AG-80
073-0020-058	66.31	AG-80
073-0020-059	73.36	AG-80
073-0020-060	36.97	AG-80
073-0020-061	80.44	AG-80
073-0020-062	12.28	AG-80
073-0020-063	11.57	AG-80
073-0020-064	62.81	AG-80
073-0020-065	17.81	AG-80
073-0020-066	39.88	AG-80
073-0020-067	11.84	AG-80
073-0020-068	9.70	AG-80
073-0020-069	17.17	AG-80
073-0020-070	39.61	AG-80
073-0020-071	15.33	AG-80
073-0020-072	42.92	AG-80
073-0020-073	5.62	AG-80
073-0020-074	32.13	AG-80
073-0020-075	6.37	AG-80
073-0020-076	2.07	AG-80
073-0020-077	29.46	AG-80
073-0050-015	0.33	AG-80
073-0050-040	1.96	AG-80
073-0050-041	11.96	AG-80
073-0050-043	5.29	AG-80
073-0050-050	10.84	AG-80
Subtotal	*2494.22*	*N/A*
Gen-Tie Line Alignment		
072-3160-002	41.70	SPA-Aerojet
072-0100-027	63.41	M-2
072-0100-018	51.25	M-2
072-0110-031	6.75	M-2
072-0110-068*	45.42	AG-80
Subtotal	*208.53*	*N/A*
Total Approximate Acreage	**2,702.75**	**N/A**

Notes: N/A = not applicable. *Parcel boundaries will be verified upon completion of final ALTA prior to construction. A slight discrepancy between the boundary for parcel 072-0110-068 and the Project Study Area boundary accounts for the approximately 1.25 acre difference between the PSA and the parcel data.

INTENTIONALLY LEFT BLANK

2 Project Location

The project site is generally south of U.S. Route 50, northwest of Rancho Murrieta, southeast of the Prairie City SVRA, and south of White Rock Road in the Cosumnes community (see Figure 1). Specifically, it is on what is known as the "Barton Ranch" adjacent to 3830 Scott Road. The geographic center of the project site is at 38.576278° North -121.132944° West, at an elevation of 196 feet above sea level. A gen-tie line would extend approximately 1.3 miles to provide an interconnection to the SMUD 230 kV powerline that runs through the Prairie City SVRA.

INTENTIONALLY LEFT BLANK

3 Site Description

The location of the CCAR was selected because of its proximity to the existing SMUD transmission corridor, landowners willing to lease their land and participate in the project, its previously disturbed nature in the form of agricultural grazing land, the site's access to transportation corridors and existing roads, and the site's excellent solar irradiance. Land uses in the area include grazing, mining, industrial lands, and the Prairie City SVRA. The primary access to the site is Scott Road. Table 2 below provides a summarized description of vegetation communities and land cover types within the site.

Table 2. Summary of Vegetation Communities and Land Cover Types

Vegetation Community/ Land Cover Type	Vegetation/Cover Type Description	Solar Development Area (acres)	Adjacent Other Lands (acres)	Project Study Area (acres)
Terrestrial				
Oak forest	Present throughout the site specifically concentrated in the south and eastern vicinities. This community is specifically characterized by greater than 10% tree cover formed primarily by blue oak *(Quercus douglasii*) with other foothill tree species mixed in.	101.0	161.83	262.83
Oak woodland	Present throughout the site specifically in the south and eastern vicinities. This vegetation community is characterized by a sparse (less than 10%) tree canopy structure that ranges from scattered blue oak trees, and small clusters of blue oaks, to small areas of blue oak stands, like a savanna.	186.28	157.73	344.0
Riparian forest	Interspersed with blue oak woodland and forest throughout the site. This vegetation community is primarily concentrated on either perennial, intermittent, or ephemeral channels within the PSA. This vegetation community consists of an open-to-dense shrubby thicket dominated by a mixture of sandbar willow, arroyo willow (*S. lasiolepis*), red willow (*S. laevigata*), and immature stands of mixed various other riparian woodland tree species.	4.19	28.37	32.55
Urban/developed	This land cover type is concentrated in the northwestern vicinity of the PSA, and near areas adjacent to Scott Road. This land cover type includes areas that have been completely altered by human activities and contain little to no vegetation. Specifically, such areas include low- and high-density residences and buildings, paved and gravel	21.10	129.43	150.53

Table 2. Summary of Vegetation Communities and Land Cover Types

Vegetation Community/ Land Cover Type	Vegetation/Cover Type Description	Solar Development Area (acres)	Adjacent Other Lands (acres)	Project Study Area (acres)
	roadways, trails, gravel lots, recreational areas (i.e., Prairie City SVRA), and other constructed environments.			
Valley and foothill grassland	The dominant vegetation community within the site. This vegetation community is an annual herbaceous vegetation community characterized mostly by naturalized annual grasses. Associated with several natural communities including vernal pools and occurs as an understory within blue oak woodlands and forests, and riparian areas. May also occur as a co-dominant with perennial grasses.	1,088.42	676.30	1764.73
Total terrestrial cover (acres)		*1,400.99*	*1,153.66*	*2,554.64*
Aquatic				
Ditch	There are five ditches throughout the northeastern portion of the PSA. The earthen ditches are either human-made or channelized natural features with intermittent hydrology intended for stormwater, agricultural, irrigation, runoff, or similar purposes.	0.02	0.86	0.88
Ephemeral channel	There are 87 ephemeral drainages within the PSA. Consist of stream channels that are naturally occurring rather than anthropogenically created, and contain flowing water during, and for a short duration after, precipitation events. Hydrology of the ephemeral drainages is dependent on inputs during rain events and runoff from the surrounding uplands. Many flow downstream into intermittent and perennial channels, while others connect swales and wetlands in larger complexes or are isolated. There are no continuous riparian corridors associated with these features in the PSA.	6.09	6.39	12.48
Freshwater emergent wetland	Thirty-four freshwater emergent wetlands occur primarily below the OHWM of Carson Creek within the PSA. Characterized by erect, rooted herbaceous hydrophytes and dominated by perennial plants such as hardstem bulrush (*Schoenoplectus acutus*; obligate), pale spike rush (*Eleocharis macrostachya*), and Baltic rush (*Juncus balticus*; facultative wetland)	0	7.97	7.97

Table 2. Summary of Vegetation Communities and Land Cover Types

Vegetation Community/ Land Cover Type	Vegetation/Cover Type Description	Solar Development Area (acres)	Adjacent Other Lands (acres)	Project Study Area (acres)
Fringe wetland	Twenty-nine fringe wetlands occur primarily along terraces of Coyote Creek and Carson Creek. Most of these features occur between the ordinary high water mark and top of bank, abutting intermittent and perennial channels on site. Characterized by their proximity to intermittent and perennial channels and dominated by hydrophytic plants.	0.01	2.54	2.55
Intermittent channel	There are 26 intermittent drainages within the PSA. Generally, have flowing water during certain times of the year, when groundwater provides water for stream flow, and receive supplemental water from rainfall runoff. The intermittent drainages on site, including Little Deer Creek, are all tributary to the larger, perennial channels.	0.38	20.05	20.43
Perennial channel	Carson Creek and its tributary, Coyote Creek, flow from north to south throughout the PSA. Approximately 2 miles south of the PSA, Carson Creek converges with Deer Creek, a tributary to the Cosumnes River.	0.38	69.20	69.58
Pond	There are three ponds within the PSA. These features are natural closed depressions that have been artificially augmented by perennial water sources, generally for the purpose of supporting livestock.	0.01	9.46	9.47
Seasonal wetland	There are 136 seasonal wetlands throughout the PSA. These features are inundated seasonally, and some are connected via swales, ephemeral channels, and/or intermittent channels. Characterized by a distinct change in vegetation type and cover from the surrounding grassland.	0.16	3.92	4.08
Seasonal wetland swale	There are 61 seasonal wetland swales within the PSA. Consist of topographic depressions that would be expected to convey water when inundated, but where a defined bed and bank and typical fluvial indicators are lacking.	1.37	9.82	11.19
Seep	There are three seeps comprising within the PSA. Occur where groundwater flows to the soil surface, either from a clearly defined opening or from a saturated area where water percolates slowly through the soil.	0.01	0.15	0.16

Table 2. Summary of Vegetation Communities and Land Cover Types

Vegetation Community/ Land Cover Type	Vegetation/Cover Type Description	Solar Development Area (acres)	Adjacent Other Lands (acres)	Project Study Area (acres)
Upland swale	There are 62 upland swales within the PSA. Consist of linear topographic depressions that lack a distinct ordinary high water mark.	2.07	2.91	4.99
Vernal pool	There are 121 vernal pools throughout the PSA. Characterized as three-parameter wetlands with an impermeable layer such as a hard pan that may fill and empty several times during the rainy season. May be isolated or connected to larger vernal complexes via swales. Exhibited concentric rings of distinctly different vegetation cover and species composition.	0.17	3.39	3.57
Vernal swale	There are 12 vernal swales primarily within the western portion of the PSA. These features typically function as shallow, seasonal conveyance channels connecting vernal pools or seasonal wetland swales and forming complexes.	0.04	1.96	2.0
Total aquatic cover(acres)		***10.72***	***138.63***	***149.36***
Total vegetation communities and land cover (acres)		**1,412**	**1,292**	**2,400**

According to the California Important Farmland Finder (CDC 2022), the parcels include grazing land and other land (Appendix C, Agricultural Resources Management Plan). The CCAR facilities would be sited on grazing lands. The project site is designated general agricultural (GA-80) by the Sacramento County General Plan Land Use Element (County of Sacramento 2020), and the project site parcels are composed of lands zoned as AG-80 (County of Sacramento 2018) (Appendix D, General Plan Consistency Review). Solar development facilities are an allowable use with the GA-80 General Plan designation and the AG-80 zone. The CCAR would continue to use land for agricultural activities through continued grazing that would serve a dual benefit of providing habitat for pollinator species. The project site is currently used for cattle grazing and has historically been used for grazing and apiary facilities. The land underlying the site is subject to Williamson Act contracts 70-AP-044, 69-AP-004, 69-AP-005, 69-AP-006, and 69-AP-008. The Williamson Act contracts cover more land area than the CCAR would. The Williamson Act contracts in place are some of the oldest in the state and allow for "gas, electric, water and communication utility facilities." Additionally, the Williamson Act contracts allow for solar PV facilities and battery energy storage in conjunction with agricultural activities, and thus the CCAR is an allowable use under the contracts. The CCAR is consistent with the language in the Williamson Act contracts because the ranch and project would maintain their agricultural use.

The project proposes to interconnect to SMUD's 230 kV powerline. The 1.3-mile gen-tie line would parallel the boundary of the Prairie City SVRA on lands previously disturbed by the Prairie City SVRA. A new 230 kV switchyard would be constructed on vacant land adjacent to the existing powerline and would be owned and operated by SMUD following construction. Exhibits 1A, 1B, and 1C (see Chapter 11, Exhibits) depict the scale of the facilities that would be associated with the gen-tie line and switchyard.

INTENTIONALLY LEFT BLANK

4 Project Objectives

As presented in the January 19, 2022, Notice of Preparation prepared by the County of Sacramento (County), the primary objectives of project applicant are the following;

A. Provide a local supply of solar energy for the Sacramento County region to implement the County of Sacramento General Plan policies applicable to renewable energy.
B. Provide cost-effective delivery of local utility-scale solar energy to support attainment of SMUD 2030 Zero Net Carbon Plan targets and Integrated Resource Plan targets.
C. Support the SMUD region in attainment of state 2030 Renewable Portfolio Standards.
D. Comply with SMUD Integrated Resource Plan siting and size criteria for local utility-scale solar facilities.
E. Optimize use of existing electrical transmission and other infrastructure with existing capacity to minimize environmental impacts of new construction.
F. Provide local employment and training opportunities for a variety of building trades.

The ways in which the proposed project furthers each of these objectives is presented below.

A. Provide a local supply of solar energy for the Sacramento County region to implement the County of Sacramento General Plan policies applicable to renewable energy.

The Energy Element of the Sacramento County General Plan (County of Sacramento 2017a) sets forth the objective to "reduce the reliance on non-renewable energy sources" (Sacramento County General Plan Objective II). One of the policies enacted to reduce the reliance on non-renewable energy is to support the development and use of renewable sources of energy, including solar energy (Policy EN-19). An action taken to further advance this policy was the passage of a resolution by the County Board of Supervisors to assist and encourage the SMUD to use renewable sources of energy. The proposed project would be connected directly to SMUD facilities, providing a direct local supply of solar energy for the County that would further support the Sacramento County General Plan policies applicable to renewable energy generation.

B. Provide cost-effective and timely delivery of local utility-scale solar energy to support attainment of SMUD 2030 Zero Net Carbon Plan targets and Integrated Resource Plan targets.

(a) 2030 Zero Net Carbon Plan Targets

SMUD's 2030 Zero Carbon Plan (SMUD 2021a) describes SMUD's goal of eliminating all carbon emissions from its power supply as soon as possible, but no later than 2030. To meet the standards in the Zero Carbon Plan, one of the key provisions for SMUD would need to rely on near-term implementation of utility-scale solar projects. The Zero Carbon Plan states that solar energy has the largest potential for resource development, is the lowest cost proven clean technology available, and has potential for local development (SMUD 2021a: 87).

The shift away from natural gas generation is an "all-encompassing goal," and the transition away from natural gas generation with proven clean technologies is the foundation of the Zero Carbon Plan. These two strategies alone can eliminate 90% of greenhouse gas emissions, possibly more" (SMUD 2021a: 95). The

SMUD estimates that to meet its goal, the estimated utility scale investments in solar from 2021–2030 would need to include 1,000 to 1,500 MW of local utility-scale solar and 100 MW of regional solar (see Exhibits 1A and 1B). The proposed project would provide 200 MW of solar energy generation and 100 MW of energy storage that would be a cost-effective, local utility-scale renewable energy facility that would support the SMUD in attaining its 2030 Zero Carbon Plan targets. The project would contribute approximately 13% to 20% of this target.

(b) Integrated Resources Plan Targets

The SMUD 2021 Board Monitoring Report (SMUD Board Report) (SMUD 2021b) determined it must procure renewable energy resources to meet or exceed the state's mandate of 33% of SMUD's retail sales by 2020, 44% by 2024, 52% by 2027, and 60% of its retail sales by 2030 and thereafter. The SMUD Board Report further stated that approximately 90% of the new procurement of proven clean technologies will come from solar energy facilities (see Table C-1 in the SMUD Board Report [SMUD 2021b]). The SMUD Zero Carbon Plan Progress Report (SMUD 2022) identifies the following projects with power purchase agreements that will be critical for SMUD in achieving its near-term solar generation goals:

- Drew – NTUA (100 MW Solar)
- Coyote Creek Agrivoltaic Ranch (200 MW Solar plus 100 MW Battery)
- Sloughhouse (50 MW Solar)
- Northern Area Project (344 MW Solar plus 170 MW Battery)

Thus, SMUD identified the proposed project as critical to achieving its Integrated Resources Plan targets.

C. Support the SMUD region in attainment of state 2030 Renewable Portfolio Standards.

California's Renewable Portfolio Standards (RPS) establishes standards requiring major increases in renewable energy capacity. Senate Bill 100 increased RPS targets to 44% by the end of 2024, 52% by the end of 2027, and 60% by the end of 2030, and sets a statewide retail sales goal of 100% RPS eligible and zero-carbon resources by 2045. SMUD's 2030 zero carbon goal is more ambitious than the standard set by the state in its 2030 RPS. To meet Senate Bill 100 standards, SMUD would need to procure renewable generation of at least 60% by 2030, as well as interim targets being achieved over compliance periods. The proposed project would provide 200 MW of solar energy generation and 100 MW of energy storage that would further support SMUD in obtaining the state 2030 RPS.

D. Comply with SMUD Integrated Resource Plan siting and size criteria for local utility-scale solar facilities.

The SMUD Resource Planning Report (SMUD 2019) identified approximately 1,000 MW of utility-scale solar as a potential resource type considered to be available in Sacramento County (SMUD 2019: 69). Solar energy generation is among the lowest-cost renewable technologies if developed in high solar resource areas, which includes the project site location (SMUD 2019: 72). The Resource Planning Report further states that suitable land for development of new solar resources within the SMUD service territory is subject to constraints (e.g., access to transmission facilities, land use and environmental restrictions) that limit the size of any single installation and the overall local capacity potential (SMUD 2019: 72).

The Resource Planning Report determined that the maximum potential for new local utility-scale solar PV capacity is estimated to be about 1,000 MW in the Sacramento area (SMUD 2019). An assessment by SMUD and the County indicates that available land to locate utility-scale solar facilities is very limited. Infrastructure requirements (e.g., road access, proximity to transmission facilities) and land use and environmental constraints restrict the areas in Sacramento County and the SMUD service area where it is feasible to site utility-scale solar energy facilities (SMUD 2019). The availability of sufficient land to establish a solar energy facility is further restricted by the practical and legal need for solar developers to obtain the agreement of willing landowners. The identification of potential land available for solar energy generation within the Sacramento area was based on consideration of (1) parcels planned and zoned for solar generating facilities, (2) parcels located on low-grade agricultural or otherwise disturbed land, (3) parcel sizes sufficient to accommodate a utility-scale solar facility, and (4) location within 5 miles of existing transmission lines capable of accepting at least 200 MV of solar energy. The proposed project meets all these criteria, which makes it a highly desirable and unique site that is available from a willing landowner to construct a utility-scale solar facility on a site that is planned and zoned to allow for utility-scale solar generation.

E. Optimize use of existing electrical transmission and other infrastructure with existing capacity to minimize environmental impacts of new construction.

The project site is within 1.3 miles of 230 kV transmission lines with capacity to support the proposed solar energy generation and near regional roadway infrastructure. The proposed project would use existing public infrastructure to access the site and would require minimal new transmission infrastructure (1.3-mile-long transmission line), thus minimizing environmental impacts of new construction associated with off-site improvements.

F. Provide local employment and training opportunities for a variety of building trades.

The proposed project would generate construction jobs, which is expected to average up to 250 workers daily. Workers during operations would vary but is anticipated to average 4 to 10 personnel per day.

SMUD has partnered with the California Mobility Center and community-based organizations (La Familia Counseling Center Inc., Asian Resources Inc., and Greater Sacramento Urban League) to provide job readiness and technical training to more than 300 community participants to prepare them for careers in the clean mobility sector. SMUD and its Promise Zone partners graduated 25 students from the inaugural “Energy Career Pathways” solar training class. SMUD and its partners continue to work with graduates on job placement, with a total of 12 placements to date. After a short hiatus due to COVID-19 restrictions, SMUD restarted an expanded program in 2021 with a new partner, Grid Alternatives, which expects to graduate 100 participants in the program. The project applicant would continue to partner with SMUD to provide local employment and training opportunities for a variety of building trades.

The objectives of the Project provided a baseline for which alternative sites were considered and eliminated. As noted in Appendix E (Project Alternative Memorandum), the Project the project design has evolved since its initial conception as the Applicant has sought to identify the least environmentally damaging option for development of the needed solar energy capacity. To that end, the Applicant has prioritized avoidance of sensitive resources to minimize impacts, as has minimized graded to the greatest extent feasible. Therefore, the project site is the preferred location as project objectives would be met while minimizing impacts to environmental resources.

INTENTIONALLY LEFT BLANK

5 Project Description

The project components are outlined below and summarized in Table 2.

- On-site substation and SMUD switchyard (see Exhibits 1A, 1B, 1C, and 1D)
- Solar PV modules mounted on single axis tracking systems and power conversion station including inverters and transformers (see Exhibits 2A, 2B, 2C, and 2D)
- Energy storage system with capacity to store approximately 100 MW AC/400 megawatt hours of energy (see Exhibit 3A)
- Meteorological towers
- Diesel-, propane-, or battery-powered backup generators
- Water storage tanks and groundwater wells
- Private access roads
- Landscaping (screening) along Scott Road
- Agricultural-style woven-wire perimeter fencing
- Temporary laydown yards to accommodate construction
- Gen-tie line
- Operation and maintenance buildings

Table 3. Summary of Solar Development Project Components

Project Component	Acreage
BESS	3.72
Earthworks Limits	39.63
Exclusion Zone	16.69
Fence Post	0.29
Fenced Area	726.32
Gen-Tie Corridor	18.25
Inside Work Area	186.76
Inverter	0.23
Laydown	8.19
Overhead Transmission Corridor (Medium Voltage)	10.68
Pile	2.21
Pole Riser (Gen-Tie)	0.02
Pole Riser (Medium Voltage)	0.03
PV Module	341.95
Roads	37.27
Substation	2.40
Switchyard	17.21
Water Crossing	0.41
Total Acreage	**1,412**

Notes: Exclusion zone includes avoidance areas that complete avoidance will be applied within the solar development area.

The below section provides an overview of the primary project components.

5.1 Solar Energy Generation System

The project would include approximately 200 MW AC solar power generation. The fenced solar facility would house the solar array and associated infrastructure, including solar panels, single axis tracking support structures, inverters, transformers, SCADA, and interconnection facilities (on-site substation). The proposed footprint is provided in Figure 2. Solar energy would be captured by PV panels mounted on a single-axis tracker system (refer to Exhibits 2A, 2B, 2C, and 2D). Depending on the selected manufacturer for the PV modules, the modules would be mounted on fixed-tilt, single- or dual-axis tracking structures. The modules would be grouped in 1 to 4 MW AC arrays. Fixed-tilt arrays would be oriented in east/west rows and would face in a generally southern orientation with a tilt angle of 10 to 40 degrees to maximize the amount of solar radiation absorbed over the year. Single-axis trackers typically rotate ±60 degrees (0 degrees is horizontal) along a north/south axis to track the sun's movement throughout the day. Structural support elements would be constructed of corrosion-resistant steel, aluminum, or equivalent materials that are attached to circular piers or I-beam posts that would be direct-driven into the prepared base grade of the site. Ground disturbance would be minimized to the greatest extent feasible to retain the existing vegetation coverage and topography.

The racking system would be supported, when practical, by driven piers (piles) directly embedded into the ground and would be parallel to the ground. Each rack would hold approximately 80 to 90 panels (depending on final configuration), and at its highest edge would have a maximum height of approximately 12 feet above grade, depending on the dimensions of the chosen panel and racking technology. The minimum clearance from the lower edge of the panel to ground level would be approximately 18 inches, pending final design.

At the center of each array "block" would be a power conversion station where inverters take the direct current power output from the PV modules and convert it to AC power. Typical inverter stations are shown in Photo 12 in Appendix F, Engineering Site Plan. The adjacent pad-mounted transformer steps the voltage up to a medium-voltage level. The inverter stations are typically open-air and approximately 12 feet in height. The medium-voltage outputs from each of the pad-mounted transformers are collected in combining switchgear located at discrete locations on the project site. The output power from the inverter stations is then fed to the AC collection system through an aboveground or belowground collection system. This AC collection system would deliver the electricity to the 230 kV on-site substation, where the voltage would be stepped up through a transformer to the interconnection voltage.

5.2 On-Site Substation

The project's on-site substation would be the termination point of the collection system for 34.5 kV electricity. The output of the entire field would be passed through a final interconnection step-up transformer to convert it to the grid tie voltage at 230 kV. The communication system may include aboveground or belowground fiber-optic cable or microwave tower within the substation's fenced boundary. The project would be interconnected to the regional transmission system from the on-site substation/switchyard via the gen-tie line facilities described in this project description. A conceptual substation is shown in Exhibit 1C. Additionally, the project's on-site substation would host the grid intertie safety equipment and switches required to interconnect to the high-voltage transmission system. The open-air on-site substation would be constructed on the western limits of the project site, as shown in the Engineering Site Plan (see Appendix F). The project's on-site substation would consist of components up to 150

feet in height, and feeders would be overhead lines constructed with 150-foot-tall and 100–foot-tall poles for the single and double circuits, respectively.

5.3 Battery Energy Storage System

The project would include a centralized BESS that would be constructed adjacent to the project substation. A BESS would help the array produce a more reliable source of electricity in the case of cloudy periods throughout the day that would decrease array production and help meet peak demand in the late afternoon and evening hours when electricity is needed most. The BESS is proposed to provide a capacity of approximately 400 megawatt hours in small modular structures similar in appearance to cargo shipping containers (see Exhibit 3A). The maximum height of the modular system would be approximately 25 feet. The associated inverters, transformers, and switchgear would be immediately adjacent to the BESS facilities on an outdoor pad. The project may store energy generated by the project and energy from the grid. Although not currently anticipated, the project may also incorporate energy storage housed directly at the solar array inverters. Currently, it is anticipated that the centralized BESS would provide the best solution for the project, but changing technology may allow for BESS facilities to be distributed at the inverters in the future.

The BESS equipment would have a fire rating in conformance with local fire authority and County standards. The BESS facilities would have heating, ventilation, and air conditioning to maintain battery efficiency. Power to the heating, ventilation, and air conditioning and lighting, among others, would be provided through a connection to the on-site station service transformer. The BESS would be un-staffed and have remote operational control. Periodic inspections/maintenance would be performed as necessary. Table 2 provides an overview of the benefits from the project BESS.

Table 4. Summary of Renewable Energy Storage and Benefits

Public Benefits of Renewable Energy and Transmission	How Energy Storage Achieves the Benefit
Fiscal benefit of sales tax revenues from the purchase of equipment, goods, and services.	Equipment purchases related to the design, construction, and operations of energy storage facilities would generate additional sales tax revenues.
Social and fiscal benefits from increased economic activity and local employment opportunities that do not threaten the economic viability of other industries.	The construction and operational phases of the project would generate increased economic activity by bringing new jobs to the local community. Construction workers would stay at area hotels, spend money in local restaurants, and make purchases in local stores, further stimulating service jobs in the local economy.
Improvements in technology to reduce costs of electrical generation.	Energy storage enables improved energy balancing and grid reliability by solving the discrepancy between solar energy's peak demand and peak supply times, benefitting both the region and the state. By storing excess energy generated during daylight hours, energy storage would increase the supply of energy available during peak demand, thereby offsetting some of the higher costs of energy consumption generally associated with peak nighttime demand.
Reduction in potential greenhouse gases by displacing fossil-fuel-generated electricity with renewable energy power, which does not add to the greenhouse effect.	Energy storage would help the region and the state achieve greenhouse gas reduction targets by allowing the Sacramento Municipal Utility District (SMUD) and the California Independent System Operator (CAISO) to procure electricity from renewable resources held in storage rather than from fossil-fuel sources.

Table 4. Summary of Renewable Energy Storage and Benefits

Public Benefits of Renewable Energy and Transmission	How Energy Storage Achieves the Benefit
Contribution toward meeting the State of California's Renewable Portfolio Standards (RPS) and SMUD 2030 Zero Carbon Goal.	Aid California in meeting its RPS requirements by contributing to the supply of renewable electricity for SMUD or CAISO's procurement.
Minimization of impacts to local communities, agriculture, and sensitive environmental resources.	Energy storage leverages existing renewable energy resources and reduces the need for fossil-fuel-derived sources of electricity, thus reducing potential air quality and greenhouse gas emissions. The project is sited on previously disturbed agricultural land to minimize effects on aquatic resources and agricultural land. The project site would be restored to grazing conditions at the end of the life of the project.

5.4 Generation Tie Line and SMUD Switchyard

The energy from the solar energy generation and energy storage systems would be transported from the on-site substation to SMUD's 230 kV powerlines. The route of the gen-tie line would extend approximately 1.3 miles from the facility's on-site substation to the western terminus of the gen-tie line where it would interconnect into SMUD facilities (see Figure 2). The 230 kV gen-tie line would consist of one or two single-circuit structures, which could be constructed with up to 150-foot-tall wood, concrete, or steel poles. The gen-tie line would use existing dirt and paved access roads where available, but improvements and new road sections may be required for construction, operations, and maintenance, along with decommissioning activities. A lower-voltage powerline and communications line would share the same structures or share the same easement to provide power and communications to the CCAR. A new 230 kV switchyard approximately 600 feet by 600 feet would be constructed at the point of interconnection with SMUD's existing 230 kV powerline. The new switchyard would be owned and operated by SMUD following construction and may include restroom facilities for workers completing maintenance activities. Additionally, a retention basin would be on the south and west sides of the switchyard to control stormwater run-off. The area for the switchyard and interconnection improvements would be constructed within an easement granted over Prairie City SVRA property. Impacts to the existing Prairie City SVRA are anticipated to be minimal but may require some temporary closures or rerouting of existing Prairie City SVRA infrastructure. The applicant would continue to engage Prairie City SVRA staff to ensure that any necessary closures, reroutes, or improvements are completed as necessary to accommodate construction and operations of the gen-tie line. The switchyard would be designed to avoid or relocate existing groundwater monitoring wells. The switchyard would be in an area in which Aerojet is performing groundwater remediation. The remediation activities are monitored by the Department of Toxic Substances Control, Regional Water Quality Control Board, and U.S. Environmental Protection Agency. Coordination with these agencies is ongoing to ensure that there is no conflict with the ongoing monitoring and mitigation activities.

5.5 Ancillary Facilities

5.5.1 Access Road

Access to the project site would be from Scott Road. Access to components of the solar field would be controlled through security gates at entrances, as shown on the Engineering Site Plan (Appendix F). Multiple gate restricted

access points would be used during construction and operation. Access roads were designed to improve access to the project site during construction while minimizing environmental impacts, such as crossings of aquatic resources. Access roads are anticipated to range from 12 to 20 feet in width and would consist of a gravel base. The Project Engineering Site Plan (Appendix F) conservatively assumed all access roads would be 20 feet in width.

Construction of the project is expected to take approximately 18 months. Daily trip generation during construction would be from delivery of equipment and supplies, and the commuting of the construction workforce. The number of workers expected on site during construction would vary over the construction period and would likely average up to 250 workers per day. Deliveries of equipment and supplies to the site would also vary over the construction period but have the potential to range from 5 to 40 daily trips, averaging approximately 10 daily trips during the construction period. Parking for project-related vehicles would be provided on site during construction at temporary laydown yards.

Based on the expected trips generated, traffic on the local roads would increase during construction, but impacts to current traffic patterns are anticipated to be minimal. Construction activities typically start early in the morning (6:00 a.m.) and end early in the afternoon (3:00 to 4:00 p.m.), and much of the workforce is anticipated to travel south on Scott Road in the mornings and north in the afternoon. This pattern is opposite of the Rancho Murrieta commuting pattern.

No material impact to current traffic patterns would result during operation of the project. Operation of the site would be expected to generate approximately 4 to 10 trips per day from maintenance and security personnel.

The project access roads would be approximately 20 feet wide and composed of compacted native material, and in some cases, imported gravel. The project conservatively assumes 20 foot wide roads so that the worst case permanent impacts to environmental resources are assessed. Access road widths may be reduced to further reduce environmental impacts, and access road width will be finalized in coordination with the fire department and Sacramento County prior to building permit issuance. The project access roads would connect to existing paved access roads on the perimeter of the project site.

5.5.2 Security

5.5.2.1 Signage and Landscaping

To ensure the safety of the public and the facility, the CCAR property would be fenced, security lighting may be installed, and signs would be posted on all gates and doors. Spacing would generally be at 500-foot intervals if there are no nearby roads providing access. Signs would be placed at 75-foot intervals along roadways (see Exhibit 4). Access to the site would be controlled, and gates would be installed at the roads entering the property. The fence would be monitored periodically to detect any intrusion into the property. The project proposes to construct a 7-foot-tall agricultural woven wire fence that would be enhanced with landscaping along Scott Road, as shown in the Preliminary Landscape Plan (Appendix G).

Agricultural-style fencing in conjunction with native landscaping (primarily evergreen oaks) would be used to blend the dark profile of the array into the background for members of the public travelling along Scott Road (see Appendix H, Visual Simulations). There are no other readily available public viewpoints (e.g., roadways, parks) that would require landscaping other than Scott Road. Temporary irrigation would ensure maximized success of proposed landscaping. The native landscaping would provide both screening of the project and habitat for native species (see

the Preliminary Landscape Plan in Appendix G). Visual renderings provide an overview of the proposed facility from vantage points along Scott Road, which includes the proposed landscaping (see Appendix H, Visual Simulations).

5.5.2.2 Perimeter Fence

The solar arrays and supporting facilities would be enclosed by an approximately 7-foot-tall agricultural-style woven wire fence. This type of fencing was selected as a cost-effective solution that blends with existing fencing in the area as compared to chain-link fencing. No barbed wire is anticipated at most of the facility, other than the substation, switchyard, and BESS, which are anticipated to have chain-link fencing with barbed wire or an equivalent. Access into the project site would be provided through drive-through gates. The main purpose of the fence is to prevent unauthorized access to the site. The total height, above grade, of the fence would be approximately 7 feet. As shown in the Engineering Site Plan (Appendix F), perimeter fencing would be installed around each solar array, BESS facilities, and substation.

5.5.2.3 Lighting

Low elevation (lower than 14 feet), controlled security lighting would be installed at primary access gates, the on-site substation, and at the entrances to the BESS facilities. The lighting would only switch on when personnel enter the area (through either motion-sensor or manual activation [switch]). The lighting would be shielded so the light is directed downward. Electrical power to supply the access gate and lighting would be obtained from SMUD. Lighting would only be in areas where it is required for safety, security, or operations. All lighting would be directed on site and would include shielding as necessary to minimize illumination of the night sky and potential impacts to surrounding viewers.

5.5.2.4 Electric Service

Permanent electric service would be obtained for auxiliary loads. Service would be provided by SMUD. Temporary electric service would be obtained for primary construction logistical areas. Generator power may be used for temporary portable construction trailer(s), construction, and/or commissioning.

5.5.2.5 Communications Systems

The project would use telephone and internet services that would be provided via overhead or underground lines, microwave tower, or cellular service obtained from a local provider. A SCADA system would be implemented to remotely monitor the project 24 hours per day, 7 days per week during operations to ensure safe and efficient operations.

5.5.2.6 Fire Control

The PV modules and ancillary equipment would be constructed of fire-resistant material. Landscape maintenance and/or grazing activities would help ensure control of vegetation. The applicant would continue to engage with local fire and emergency management officials to ensure that the project is designed to comply with local requirements and expectations. During the dry season, grasses within the facility would be kept at a height of 6 inches to reduce wildfire risk. This is anticipated to be accomplish via grazing, although mowing may be supplemented on an as needed basis to ensure fire risk is mitigated. Lock boxes will be placed at all gated entrances to allow access to emergency services.

5.5.2.7 Groundwater Wells

On-site groundwater wells may be used to provide construction water needs and operational needs to support activities such as grazing and panel washing. Groundwater well options include the drilling of new wells. Off-site sources of water may also be sourced and hauled to the site. A Water Supply Assessment (WSA) has been prepared for the project to evaluate potential impacts of construction and operations on the water table (Appendix I). The WSA concludes that sufficient water is available to supply the project's water demand under normal-year, single-dry-year, and multiple-dry-year conditions over a 20-year projection, and over the estimated 35-year life of the project, accounting for the projected water demand of the CCAR plus other existing and planned future uses of the identified water supply. Although there are data gaps regarding the feasibility of providing all project water demand from groundwater extracted from on-site wells, the analyses included in the WSA evaluate such a scenario, if it were to occur. Therefore, the conclusions of the WSA remain valid regarding groundwater impacts whether all project water was supplied from on-site wells or partially from off-site wells or other sources. The accounting of off-site water sources (SCWA), described in Section 3.5, incorporates the planned future uses of water in its 20-year projections. Based on the analysis above, the project would have no significant effect on the identified water sources over the project's 35-year life. In addition, the project is consistent with the SGMA and the GSP because the project's water demand, if supplied entirely from groundwater from the SASb, would not materially impact the sustainability goals, undesirable results, minimum thresholds, or measurable objectives of the GSP.

5.6 Ranching Activities

A team from Oregon State University described the concept of co-developing the same area of land for both solar PV power and conventional agriculture as agrivoltaics (Adeh et al. 2019). "Our results indicate that there's a huge potential for solar and agriculture to work together to provide reliable energy," said corresponding author Chad Higgins, an associate professor in Oregon State University's College of Agricultural Sciences (Adeh et al. 2019). "There's an old adage that agriculture can overproduce anything. That's what we found in electricity, too. It turns out that 8,000 years ago, farmers found the best places to harvest solar energy on Earth" (Adeh et al. 2019). The project intends to implement agrivoltaics via sheep grazing. An Agricultural Resources Management Plan is included in the project to ensure agrivoltaics with the dual benefit of pollinator habitat can be implemented for the project (Appendix C) (see Exhibits 5A and 5B).

The project site is designated General Agricultural (GA-80) by the Sacramento County General Plan Land Use Element (County of Sacramento 2020), and the Project site parcels are composed of lands zoned as AG-80 (County of Sacramento 2018). The project would continue to use land for agricultural activities, which would consist of apiary facilities and/or grazing activities when economically viable. The land underlying the site is subject to Williamson Act contracts 70-AP-044, 69-AP-004, 69-AP-005, 69-AP-006, and 69-AP-008. The land has historically been used for sheep and cattle grazing and for apiary facilities.

The Williamson Act contracts allow for mining as well as gas, electric, water and communication utility facilities. The contracts allow for solar PV facilities and battery energy storage in conjunction with agricultural activities. Because the project is an agrivoltaic solar generating and energy storage project, with vegetation under the panels that would be used for sheep grazing, the project is an allowable use under the contracts. Cattle grazing is anticipated to remain in areas outside of the solar fence line, and sheep would graze within the solar fence line.

Project grading is designed to minimize landform modification associated environmental effects. The Preliminary Grading Plan (Appendix B) softens the steepness of slopes only to the extent necessary to accommodate safe construction working conditions and for engineering tolerances associated with solar racking. Areas that are disturbed would be reseeded with seed mixes that are proven to thrive in the local environment. The Agricultural Resources Management Plan (Appendix C) has been developed to ensure that the site is managed during construction so that suitable vegetation can quickly reestablish to allow for grazing activities. The proposed use would not significantly compromise the long-term productive agricultural capability of the site or neighboring parcels. The low-profile, quiet nature of the project would not impact adjacent grazing or agricultural activities, mining, or off-highway-vehicle use.

Animal productivity on the site is dependent on the weather and the amount of forage available, and grazing would remain dependent on annual climate differences. The project would implement the Agricultural Resources Management Plan (Appendix C) with the goal of achieving similar animal productivity and carrying capacity to that currently existing. This would involve the establishment of seed mixes and watering troughs that would allow for sheep grazing within the fenced portions of the project site. Given the wide range of annual forage production, the ranch historically has supported approximately one animal unit (AU) for every 8 to 10 acres per year in any given grazing year.

5.7 Siting Considerations

The project evaluated various resources to reduce project impacts to the extent practicable. The field studies and reporting efforts described below were completed and incorporated into the project design.

5.7.1 Archaeological Resources

The applicant retained Dudek to complete an archaeological resource inventory in accordance Standards and Guidelines for Archeology and Historic Preservation (48 FR 44720–44726) from the Department of Interior. Findings are summarized in Appendix J1, Cultural Resources Archeological Resources Inventory Report.

Based on the results of the inventory, the applicant is proposing various mitigation measures to ensure that impacts to archaeological resources are avoided and minimized to reduce effects to less than significant. In summary, the following avoidance and minimization measures are proposed by the applicant:

1. Development of a Cultural Resource Management Plan. A draft plan has already been developed through consultation with Sacramento County (Appendix J2).

2. Avoidance of human remains.

3. Implementation of construction monitoring.

4. Development and implementation of Walton Mining District Historical Study and Interpretive Plan.

5. Tribal cultural resources are often related to archaeological resource. Due to stated tribal interest, 14 pre-contact sites and a 100-foot buffer around those sites will be avoided by construction and operation activities. These sites will be avoided regardless of their determined eligibility. Refer to Section 5.7.2 for additional information regarding Tribal Cultural Resources.

5.7.2 Tribal Cultural Resources

Government-to-government consultation between the County of Sacramento and the consulting tribes has occurred and is on-going. Meetings where the applicant was a participant in the government-to-government discussions are detailed in Table 5 below. Note that it is the applicant's understanding that additional meetings and correspondence occurred between the County of Sacramento and consulting tribes outside of the meeting that the applicant participated in.

Table 5. Summary of Project Consultation Meetings to Date

Date	Location	Attendees	Discussion Topics
June 1, 2022	Project Site	Shingle Springs Rancheria, Wilton Rancheria, Sacramento County, Applicant	Discussion of site plans, discussion of tribal cultural resources and site avoidance/studies, tribal stated interest in further exploratory efforts at two sensitive sites, discussion of tribal historical uses
June 2, 2022	Project Site	Wilton Rancheria, United Auburn Indian Community, Sacramento County, Applicant	Discussion of site plans, discussion of tribal cultural resources and site avoidance/studies, tribal stated interest in further exploratory efforts at two sensitive sites, discussion of tribal historical uses
January 6, 2023	Online Meeting	United Auburn Indian Community, Sacramento County, Applicant	Discussion regarding avoidance of pre-contact tribal cultural resources, discussion regarding tangible tribal cultural resources identification and proposed canine forensic surveys at two locations, discussion of potential drone surveys to further inform site boundary delineation
January 25, 2023	Online Meeting	United Auburn Indian Community, Shingle Springs Rancheria, Sacramento County, Applicant	Applicant commitment to development of Tribal Cultural Resource Avoidance and Minimization Plan in coming weeks for tribal review, Applicant commitment to avoidance of all known pre-contact archaeological sites, Applicant commitment to targeted drone surveys, applicant commitment to tribal monitoring and other construction related mitigation measures during construction. Discussion regarding the significance of the broader landscape and potential need for an ethnography

Table 5. Summary of Project Consultation Meetings to Date

Date	Location	Attendees	Discussion Topics
May 2, 2023	Online Meeting	Applicant, Sacramento County	Discussion of draft Tribal Cultural Resource Avoidance and Minimization Plan and proposed county updates prior to distribution to consulting tribes
June 7, 2023	Site Visit, Canine Forensic Survey	Applicant, Sacramento County, Institute for Canine Forensics, Wilton Rancheria, Shingle Springs Rancheria	Execution of canine forensic surveys at two sensitive sites
June 8, 2023	Site Visit, Canine Forensic Survey	Applicant, Sacramento County, Institute for Canine Forensics, Wilton Rancheria, Shingle Springs Rancheria	Execution of canine forensic surveys at two sensitive sites

This consultation resulted in additional identification efforts requested by the consulting tribes to assist in further identification of tribal cultural resources, as follows:

1. At the request of consulting tribes, a forensic canine survey was completed on specific sites within the project footprint to identify the potential for human remains. The survey resulted in the modification of avoidance boundaries at the two sites due to canine "alerts." The results of this study are considered confidential in accordance with California law but have been shared with the County and consulting tribes.
2. Drone imagery and lidar data was shared with the County and consulting tribes based on the consultation process. The collection locations were shared with the tribes prior to the data being shared and were focused on higher probability locations where existing known sites were already present. No additional sites have resulted from the sharing of these locations to date.
3. Dr. Anthony Burris, a consultant recommended by the consulting tribes, was engaged to begin preparation of an ethnography, with interim deliverable including a summary of intangible tribal cultural resources, to inform the identification of the larger Tosewin Region (Ethnography Phase 1 Deliverable). The interim deliverable is anticipated in Q3 of 2023.

The tribal consultation process also resulted in the development of a draft Tribal Cultural Resources Avoidance and Minimization Plan to be implemented by the applicant (Appendix J3). This plan included the following proposed avoidance and minimization measures for tribal cultural resources, with deliverables generally laid out as prior to, during, and following construction:

1. Finalization of the Tribal Cultural Resources Avoidance and Minimization Plan prior to construction.
2. Avoidance and preservation in place of the 14 pre-contact archaeological sites and a 100-foot buffer surrounding those sites during construction and operations via high-visibility temporary fencing. Avoidance will include the updated boundaries resulting from the forensic canine survey effort.
3. Pre-designation of a reburial area for inadvertent discoveries during construction.
4. Establishment of a reburial lab facility for tribal monitors.

5. Repatriation of tribal cultural resources.
6. Restrictive instrument of preservation.
7. Development of worker awareness training.
8. Implementation of a Tribal Monitoring Program during construction.
9. Development of an Unanticipated Discoveries Plan.
10. Finalization of Ethnography Phase 2 (finalization of Public and Private Ethnography Report) to mitigate for previously identified intangible resources following construction.

5.7.3 Built Environment

ECORP conducted a built-environment study in accordance with Section 106 of the National Historic Preservation Act and the California Environmental Quality Act (Appendix J4, Built Environment Report). Records search results indicated six previously recorded built environment resources exist within the Solar Development Area. ECORP revisited all six previously recorded built environment resources and evaluated four resources that lacked prior evaluations. As a result of the 2022 and 2023 field inspection, ECORP located four unrecorded built environment resources in the Solar Development Area. ECORP did not find any of the resources eligible for inclusion in the NRHP and the CRHR under any criteria. ECORP evaluated built environment resources that exceed 50 years of age to ascertain if they meet any of the criteria for inclusion in the NRHP/CRHR. ECORP recommends that the following resources are considered not eligible for inclusion in the NRHP/CRHR under any of the criteria:

- P-34-5261, a historic-era dam and reservoir;
- P-34-1573, a historic-era rock wall;
- P-34-5267, a historic-era transmission line;
- P-34-5268, a historic-era transmission line;
- CC-02, a historic-era well;
- CC-03, historic-era Scott Road;
- CC-05, historic-era Payen Road; and
- CC-07, a historic-era earthen dam and reservoir.

Previous recordings indicate the following resources do not meet any of the criteria for inclusion in the NRHP/CRHR:

- P-34-2299, historic-era Capitol Dredging Company Dredge Tailings; and
- P-34-2195, historic-era transmission lines.

ECORP did not find any of the resources eligible for inclusion in the NRHP and the CRHR under any criteria; therefore, resulting in a finding of No Impacts/No Historic Properties Affected. In all cases, the lead agency will require that any unanticipated (or post-review) discoveries found during Project construction be managed through a procedure designed to assess and treat the find as quickly as possible and in accordance with applicable state and federal law. However, until the lead agencies concur with the identification and evaluation of eligibility of cultural resources, including archaeological sites, and standing structures, no ground-disturbing activity or demolition should occur.

5.7.4 Aquatic Resources

The project study area was surveyed for aquatic resources to assess impacts to state and federal waters (Appendix K1, Aquatic Resources Delineation Report). The aquatic resources delineation was conducted to identify and map existing aquatic resources potentially subject to the regulatory jurisdiction of USACE pursuant to Section 401 and 404 of the Clean Water Act. Based on all the data collected during the field delineation, Dudek determined that approximately 149.70 acres (200,618.60 linear feet) of mapped aquatic resources (i.e., wetlands and non-wetland waters) occur within the project study area that preliminarily meet the criteria of waters of the United States pursuant to current regulations in Section 404 of the Clean Water Act. This includes the following wetland features: freshwater emergent wetland (8 acres), fringe wetland (2.55 acres), pond (9.47 acres), seasonal wetland (4.10 acres), vernal pool (3.57 acres), seasonal wetland swale (11.26 acres, 38,762.39 linear feet), vernal swale (2.02 acres, 6,341.94 linear feet), and seep (0.16 acres); and the following non-wetland waters: ditch (0.89 acres, 2,227.07 linear feet), ephemeral drainage (12.50 acres, 49,926.86 linear feet), intermittent channel (20.45 acres, 43,985.08 linear feet), perennial channel (69.74 acres, 34,276.08 linear feet), and upland swale (5 acres, 25,099.18 linear feet). The jurisdictional determinations for aquatic resources are preliminary until a Preliminary Jurisdictional Determination (PJD) is verified by USACE Sacramento District.

The site plan is designed to minimize direct, indirect, and temporary impacts to aquatic resources. Impact to aquatic resources by project component were assessed utilizing similar methodology to other permitted solar projects in the region (e.g., Rancho Seco Solar II Project, Sloughhouse Solar Project) and subsequently approved by the CDFW, USACE, RWQCB, and the USFWS. For a detailed summary of direct, indirect, and temporary impacts to aquatic resources within the solar development area, refer to Section 6 of the Biological Technical Report (Appendix K2).

5.7.5 Threatened and Endangered Species

The applicant retained Dudek to evaluate impacts from the project to threatened and endangered species. The results of this analysis are outlined in the Biological Technical Report (Appendix K2). State and federally listed threatened and endangered species with potential to occur and mitigation measures for each species are included in the Biological Technical Report. Impact definitions by project component and resource type were assessed in conformance with impact type assessments for other permitted solar projects in the region (e.g., Rancho Seco Solar II Project, Sloughhouse Solar Project) and subsequently approved by the CDFW and the USFWS. Based on the resources evaluated in this BTR and the preliminary analysis of impacts, it can be concluded that the Project impacts are less than significant with avoidance, minimization, and/or mitigation. A complete summary of resource and AMMs to reduce the significance of impacts is detailed in Table 29 of the Biological Technical Report Appendix K2); and are consistent with the AMMs listed in the South Sacramento Habitat Conservation Plan (Appendix K3).

5.7.6 Oak Woodlands

Certified arborists were used to complete an assessment of impacts to tree species across the project site. The results of these efforts are summarized in the Arborist Report (Appendix K4). During the field inventory, 4,787 individual trees were inventoried within the solar development area consisting of 11 different tree species. Of the 4,787 trees inventoried, a maximum total of 4,394 trees meet the protection criteria established by the California Environmental Quality Act Guidelines, Oak Woodlands Conservation Act, California Fish and Game Code Sections 1360 through 1372, and/or the Sacramento County General Plan Conservation Element (County of Sacramento

2017b). Mitigation would be fulfilled through preservation on site and/or off site, through a mitigation/preservation bank credit purchase, or via pay into an in-lieu fee program (e.g., Sacramento County Tree Preservation Fund).

5.7.7 Potential for Contamination

A Phase I Environmental Site Assessment was completed to evaluate the site for potential existing sources of contamination (Appendix L). The Phase I Environmental Site Assessment broadly identifies the Aerojet groundwater plume as a recognized environmental condition beneath the north portion of the project site, with the potential for vapor intrusion and existing groundwater contamination. The applicant will ensure that construction and operation of the facility do not conflict with the ongoing management of this recognized environmental condition, and to ensure that construction activities do not pose a health or safety risk to construction or operations personnel. Other than the Aerojet Brownfield, no other recognized environmental conditions were noted within the Project Study Area.

5.7.8 Geotechnical Evaluation

A Preliminary Geotechnical Evaluation Report was completed to inform design of the project site (Appendix M). Based on these results, geotechnical information shows that, with proper design and engineering measures, the site is suitable to host the Project. Additional detailed geotechnical evaluations would occur to inform detailed design criteria necessary prior to construction of the project.

5.7.9 Noise

Noise may be generated by equipment within the substation; typically, this includes switches, protection and control equipment, transformers, and the incoming transmission lines. The noise generated by transmission lines and switches were previously analyzed to be 25 A-weighted decibels (dBA) at 50 feet. Transformers within the substation would generate noise levels like those at the inverters. Substation switches do not generate an audible noise, and circuit breakers (70 dBA at 65 feet) would not be a common noise source because they would only operate for short periods of time during an emergency event to protect the switches and transformers within the substation. Additionally, the primary noise generator from the BESS facilities would be the air conditioning units. The BESS facilities would generally be set back from the property lines, and if located near the substation, the nearest neighbor is the Prairie City SVRA and the noise from a standard off-road vehicle at the Prairie City SVRA is substantially greater than the noise from an air conditioner. Additionally, the Prairie City SVRA obtained a noise easement over a portion of the Barton Ranch to ensure that the noise generated by off-road-vehicle activities at Prairie City SVRA were accepted by the neighbors. The substation and BESS facilities, along with the transmission line, are all within the noise easement of the Prairie City SVRA.

The project would generate short-term construction noise that could be perceptible to nearby noise-sensitive receptors. The project would also generate sources of vibration including blasting that may be required in areas where underlying soil conditions require blasting of granitic materials to establish foundations and final graded elevation. Residences located adjacent to areas of construction activity could be exposed to construction noise from on-site construction activity and off-site construction activities, such as movement of construction equipment along area roadways. Section 6.68.090(e) of the County of Sacramento Code establishes conditions that are considered exempt from the associated provisions, as described below:

Noise sources associated with construction, repair, remodeling, demolition, paving or grading of any real property, provided said activities do not take place between the hours of eight p.m. and six a.m. on weekdays and Friday

commencing at eight p.m. through and including seven a.m. on Saturday; Saturdays commencing at eight p.m. through and including seven a.m. on the next following Sunday and on each Sunday after the hour of eight p.m.

The construction activities will comply with the hours prescribed by the County Noise ordinance and with adherence to the noise ordinance standards, impacts to sensitive receptors are not anticipated.

5.7.10 Air Quality and Greenhouse Gas Emissions

An Air Quality and Greenhouse Gas Emissions Study (Appendix N) was developed to analyze air quality and greenhouse gas emissions during construction and operation. The project would comply with the emissions mitigation requirements adopted by the Sacramento Metro Air Quality Management District, and with applicable regulations of the California Air Resources Board. The project would offset conventional air pollutant and greenhouse gas emissions associated with SMUD's existing power-generating facilities and would assist SMUD in achieving the goals of its 2030 Zero Carbon Plan regarding greenhouse gas emissions. Mitigation measures are proposed in Appendix Nto mitigate for potential effects related to construction emissions and reduce impacts to less than significant.

5.7.11 Glare

A Glare Study was completed to ensure that the project does not contribute to hazardous glare conditions for overhead flight paths and at cab height along receptors adjacent to the project site (i.e., Scott Road) (Appendix O). The results of the analysis indicate that the proposed project would not result in hazardous glare in the green, or yellow ocular impact categories for any of the adjacent point (dwellings and single control tower) and route receptors (flight paths and nearby roadways). For all locations analyzed, the analysis predicts no potential green (low potential for after image), yellow (potential for after image), or red (potential permanent eye damage) ocular impact at the modelled locations. This analysis used the industry accepted and preferred FAA methodology for assessing impact from glare for both flight paths and receptor locations.

INTENTIONALLY LEFT BLANK

6 Construction

6.1 Construction Activities

Construction is planned to occur over approximately 18 months. Construction would include the following types of activities generally in the following sequence of activities:

- Site preparation and installation of best management practices
- Security fence installation
- Tree removal
- Site preparation and clearing/grading
- Road and utility construction
- Underground work (trenching)
- System installation
- Gen-tie line and switchyard installation
- BESS installation
- Testing and commissioning
- Site cleanup and restoration

For all phases of construction, construction equipment would be delivered to the site on "low-bed" trucks unless the equipment can be driven to the site (e.g., boom trucks). Prior to site preparation, best management practices would be implemented to ensure adequate soil stabilization measures and off-site sedimentation are avoided prior to significant earth-disturbing activities. This would include measures such as silt fence installation, installation of avoidance fencing for sensitive areas, implementation of rock pads at public road entrances and exits, and more. Due to topography of the site, the construction contractor is evaluating the use of erosion-control sediment basins to reduce the potential for off-site sedimentation. The use of sediment basins has been conservatively estimated in the grading evaluation but may be reduced as construction plans are finalized. Site preparation would include the clearing of trees, removal of root balls, and backfilling of holes to accommodate solar construction. Merchantable timber would be hauled off site for local use, and the remainder would be chipped on site and temporarily stockpiled to assist in site stabilization and revegetation efforts later in the construction sequence. The hydrology design was prioritized to protect the project's facilities and adjacent facilities from large storm events. Grading was designed to avoid and minimize effects on aquatic resources. If the site is unable to be balanced upon final design, any excess cut material would either be used to support other construction backfill needs (e.g., filling of holes following root ball removal), would be distributed across larger swaths of the array area, or would be stockpiled and stabilized for distribution at decommissioning. No excess cut/fill material, other than potential relatively small amounts of fill associated with the proposed Switchyard, is anticipated to be hauled off site during construction. In some locations blasting that may be required in areas where underlying soil conditions require blasting of granitic materials to establish foundations and final graded elevation. A Blasting Plan would be prepared and implemented by the general contractor before any blasting takes place. Blasting times would be limited to the hours permitted in the County ordinance., and nearby residents would be notified in advance of blasting.

Table 3 provides an overview of the grading quantities anticipated for the various project components.

Table 6. Grading Quantities by Project Component

Project Component	Cut (Cubic Yards)	Fill (Cubic Yards)	Net (Cubic Yards)
Solar Array	680,000	520,000	160,000 (Cut)
Access Roads	65,000	65,000	Balanced
Erosion Control Sediment Basins	510,000	510,000	Balanced
Substation and Battery Energy Storage System	170,000	80,000	90,000 (Cut)
SMUD Switchyard	36,000	28,500	7,500 (Cut)

Following grading, racking installation would begin. Much of the project would be installed via direct-driven piles to support the solar modules and racking. Some piles would require pre-drilling in areas of shallow bedrock or rocky soils. Following installation of piles, racking and torque tubes would be installed to hold the solar modules. Prior to installation, the PV modules would be off-loaded and installed using small cranes, boom trucks, forklifts, rubber-tired loaders, rubber-tired backhoes, and other small- to medium-sized construction equipment as needed.

A variety of methods would be used for installation of underground collection lines. In areas of underground collection, plowing or trenching equipment would be used that excavates the line location, places the line, and immediately backfills thereafter. This allows for a significant reduction of soil disturbing activities compared to traditional trenching. In some locations, dependent on soil conditions, more traditional trenching via backhoe may be required. In other locations, aboveground collection would be used for collection lines. These locations would place electrical pole infrastructure, likely wooden poles via direct drive or pre-drilled where necessary. Trucks with workers would follow the installation process to install the lines thereafter.

Inverters would be delivered via truck bed to their location via the gravel access roads, where they would be put in place via a boom or crane. BESS, substation, and switchyard equipment would similarly be delivered for installation to their location of installation.

Following installation of the array and interconnection facilities, commissioning and testing would occur. Commissioning would generally certify that facility equipment is certified and ready for energy delivery into the electric grid. Commissioning would be completed in close coordination with SMUD to ensure that all utility standards and expectations are met.

As commissioning of the facility progresses, site cleanup and restoration activities would be ongoing. This includes final site stabilization of exposed soils and final seeding and revegetation, cleanup of any remaining on-site refuse, final installation of project landscaping, removal, and restoration of site laydown yards/temporary construction facilities, and more. Many site restoration activities would occur long before decommissioning to ensure that the facility remains in good working order throughout the construction period.

6.2 Construction Schedule

This project is anticipated to be built over an approximately 18-month timeframe from the onset of security fence installation through testing and commissioning of the facility. It is anticipated that the work would be completed in 8- to 10-hour shifts, with a total of five shifts per week (Monday–Friday). Overtime and weekend work would be used only as necessary to meet scheduled milestones or to accelerate the schedule and would comply with all applicable California labor laws and applicable County rules. Typical construction work hours are expected to be from 6:00 a.m. to 4:00 p.m. However, the schedule may change based on a need to comply with various biological

mitigation measures, overall construction timing, or worker safety such as avoidance of excessive midday heat. Work at night would be performed occasionally within limited areas of the site. Primary construction activities and durations are presented in Table 4. The activities shown in Table 4 would overlap in certain phases, and all are expected to occur within the estimated 18-month construction duration.

Table 7. Proposed Project Construction Duration, Equipment, and Workers by Activity

Activity	Duration	Equipment	Pieces	Daily Workers
Perimeter fence installation	3 months	Skid loader with auger attachment	1	Maximum = 476 Average = 250
		4x4 forklift	1	
		Flatbed truck	1	
Site preparation and clearing/grading	10 months	Water truck – 3 axles	3	
		Grader	2	
		Bulldozer	1	
		Scraper	1	
		10-ton roller	1	
		Sheepsfoot roller	1	
		Tractor (with mower attachment)	1	
Tree removal	3 months	Crushing/processing equipment	1	
		Excavators	3	
		Other material handling equipment	4	
		Skid street loaders	4	
Underground work (trenching)	5 months	Excavator	2	
		Roller	1	
		Other construction equipment	1	
		Water trucks	1	
		4x4 forklift	1	
System installation	8 months	4x4 forklift	10	
		Small crane (80-ton)	1	
		All-terrain vehicle	26	
		Pile driver	5	
		Pickup truck	5	
		5-kilowatt generator	3	
Gen-tie line installation	1 month	Line truck (with spool trailer)	1	
		Boom truck (with bucket)	1	
Energy storage system, switchyard, and collector substation	10 months	Backhoe	1	
		Small crane	1	
		Pickup truck	5	
		4x4 forklift	4	
Testing and commissioning	3 months	Pickup truck	4	
Site cleanup and restoration	2 months	Grader	1	
		Skid loader	1	

6.2.1 Temporary Construction Facilities

During construction, temporary facilities would be developed on site to facilitate the construction process. Temporary laydown yards are anticipated and may include construction trailers, temporary septic systems or holding tanks, parking areas, material receiving/storage areas, water storage ponds, construction power service, recycling/waste handling areas, and others. These facilities would be in the areas designated on the final site plan.

6.3 Water Use

Water consumption during construction is estimated to be approximately 253 acre-feet for dust suppression, earthwork, and plant re-establishment over an approximately 18-month period. Construction water would be available from on-site wells. New wells may be drilled. Water may also be obtained from off-site sources (see Appendix I, Water Supply Assessment and Verification). Construction-phase water demand would be greatest during site grading, which would consist of scrapers, dozers, graders, and disc and roll compaction over the site. Operational water use is described in Chapter 7, Operation and Maintenance.

INTENTIONALLY LEFT BLANK

7 Operation and Maintenance

An operations and maintenance building is anticipated to support periodic maintenance activities necessary at the site. The location of the operations and maintenance building is still under evaluation based on regional needs of other solar facilities. An operations and maintenance building may be constructed on site. Alternatively, an off-site operations and maintenance building may be used that services other projects in the Sacramento area. It is anticipated that an on-site operations and maintenance building and any associated staging/laydown would be constructed in an upland area without impacts to sensitive resources, likely adjacent to Scott Road. An offsite location would most likely utilize existing office/warehouse space, if available for lease or purchase.

Operations would be monitored remotely through the SCADA system, and periodic inspections and maintenance activities would occur. During operations, solar panel washing is expected as performance testing, weather, and site conditions dictate. General labor (up to 10 individuals) may assist in the panel cleaning.

The operational phase water demand is anticipated to be limited to solar panel cleaning and occasional restroom use by maintenance workers. A restroom inside of the control building within the substation would accommodate occasional worker use with one toilet and one sink. Water demand for the operation and maintenance phase was estimated to be 3,376 gallons of water per megawatt (Appendix I, Water Supply Assessment and Verification). Based on the CCAR's estimated production of 200 MW, the water demand for a single panel-washing event would be approximately 2 acre-feet. Assuming washings would be required once a year, the annual operations and maintenance water demand is estimated to be 2 acre-feet per year (note that panel washing is typically not required in average or wet water years). Water trucks would be used to deliver water for panel washing operations from a local purveyor. The water used for panel washing operations would be clean water, with no chemicals added. The restroom water demand is estimated to be an additional 0.2 acre-feet per year. Water for the agricultural component of the project would be equivalent to or less than under existing conditions, and therefore would not represent an increase in water use over baseline conditions for that purpose.

INTENTIONALLY LEFT BLANK

8 Decommissioning

The planned operational life of the facility is approximately 35 years. However, if the facility continues to be economically viable, it could be operated for a longer period.

The applicant has created a draft Decommissioning Plan (Appendix P) that would be implemented as a condition of approval of the project. A final decommissioning plan would be submitted to the County prior to construction. The plan would be implemented at the end of the project's life, and would comply with the County's decommissioning requirements, including the following:

- Description of the proposed decommissioning measures for the facility and for all appurtenances constructed as part of the facility.
- Description of the activities necessary to restore the site to its previous condition.
- Presentation of the costs associated with the proposed decommissioning measures.
- Discussion of conformance with applicable regulations and with local and regional plans.

INTENTIONALLY LEFT BLANK

9 Anticipated Permits and Agency Consultation

Table 5 provides a list of agencies that are expected in the decision making for issuance of a permit and related environmental review and consultation requirements by federal, state, or local laws, regulations, or polices.

Table 8. Anticipated Permits and Agency Consultation

Agency	Approval
Sacramento County Board of Supervisors	Final Environmental Impact Report Certification
Sacramento County Board of Supervisors	Use Permit, Special Development Permit and Design Review; amendment of Dillard Solar Project Use Permit; review of Planning Commission decisions
Sacramento County Planning Commission	Recommendation to the Board of Supervisors regarding Use Permit and amendment of existing solar facility use permit, Special Development Permit, Design and Site Plan Review
Sacramento Municipal Utility District (SMUD)	Various Agreements
County of Sacramento Site Improvement Section	Land Grading and Erosion Control Permit
County of Sacramento Building Permits Inspection Division	Building Permits
County of Sacramento Department of Transportation	Encroachment Permit
Sacramento County Environmental Management Department	On-Site Wastewater Disposal Permit or Well Certification and Permits
Sacramento Metropolitan Air Quality Management District	Fugitive Dust Prevention and Control Plan
Regional Water Quality Control Board – Central Valley Region	Section 402 National Pollutant Discharge Elimination System Permit Compliance, Waste Discharge Permit, Section 401 Water Quality Certification
California Department of Fish and Wildlife	Streambed Alteration Agreement, California Endangered Species Act Take Permit
U.S. Army Corps of Engineers	Section 404 Permit
U.S. Fish and Wildlife Service	Federal Endangered Species Act Take Permit, Section 7 Consultation

INTENTIONALLY LEFT BLANK

10 Project Approvals

The proposed project would be subject to the following County approvals:

- A Use Permit to construct and operate a solar energy plant and/or battery energy storage on lands zoned AG-80, including related grazing activities
- Certification of the Final Environmental Impact Report, and Mitigation Monitoring and Reporting Program per the California Environmental Quality Act by the Sacramento County Board of Supervisors
- Lot Tie Agreement to reduce the setbacks for parcels that are part of the project and adjacent to one another

Discretionary Actions and Approvals by Other Agencies

Responsible Agencies are those agencies that have discretionary approval over one or more actions involved with development of the proposed project. Trustee Agencies are state agencies that have discretionary approval or jurisdiction by law over natural resources affected by a project. These agencies may include, but are not limited to, the following:

- CDFW (Streambed Alteration Agreement; California Endangered Species Act Incidental Take Permit)
- California Department of Toxic Substances Control (gen-tie line easement and related facilities)
- California Public Utilities Commission (Authority to Enter into Power Purchase Agreement)
- California Regional Water Quality Control Board (401 Water Quality Certification, Porter-Cologne Act Waste Discharge Requirements, National Pollution Discharge Elimination System permit, State Waters permit)
- California State Department of General Services (gen-tie line easement and related facilities)
- California State Department of Parks and Recreation (gen-tie line easement and related facilities)
- California State Public Works Board (gen-tie line easement and related facilities)
- Sacramento Metropolitan Air Quality Management District
- Sacramento Municipal Utility District (various agreements regarding delivery of electricity to SMUD system)
- USACE (Clean Water Act 404 permit)
- U.S. Fish and Wildlife Service (Section 7 Consultation and incidental take authorization)
- U.S. Environmental Protection Agency (gen-tie line easement and related facilities, including review regarding compliance with restrictions related to Aerojet's remediation activities)

INTENTONALLY LEFT BLANK

11 Exhibits

Exhibit 1A. Gen-tie line of similar 230 kV switchyard in Sacramento County.

Exhibit 1B. Example of 230 kV substation and monopole gen-tie line.

Exhibit 1C. Proposed project conceptual 230 kV substation.

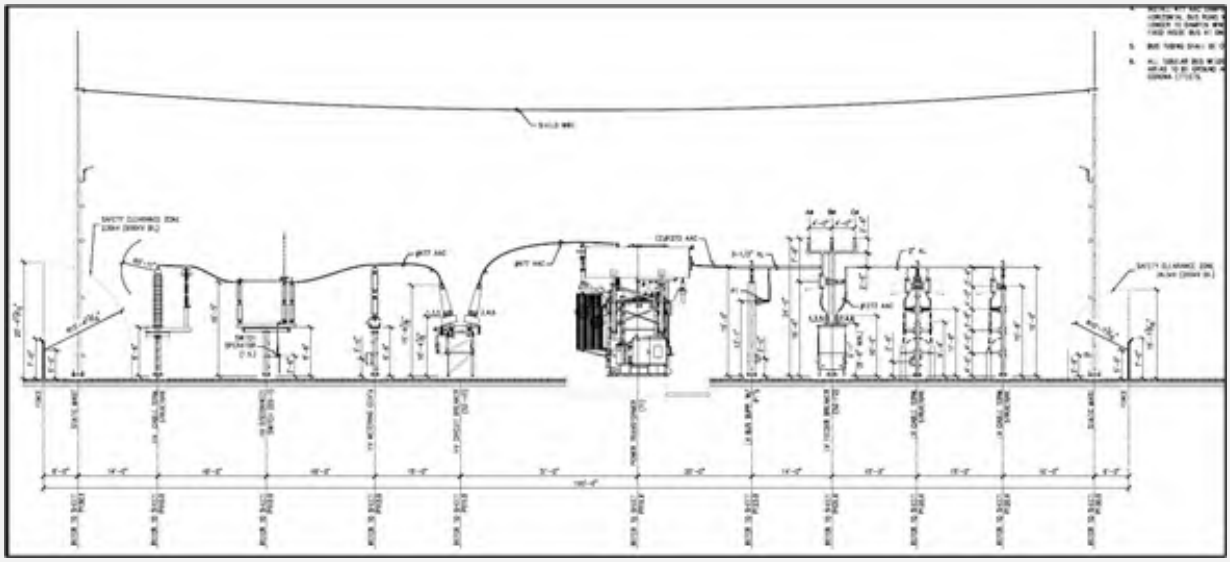


Exhibit 1D. Proposed project conceptual substation elevation view.

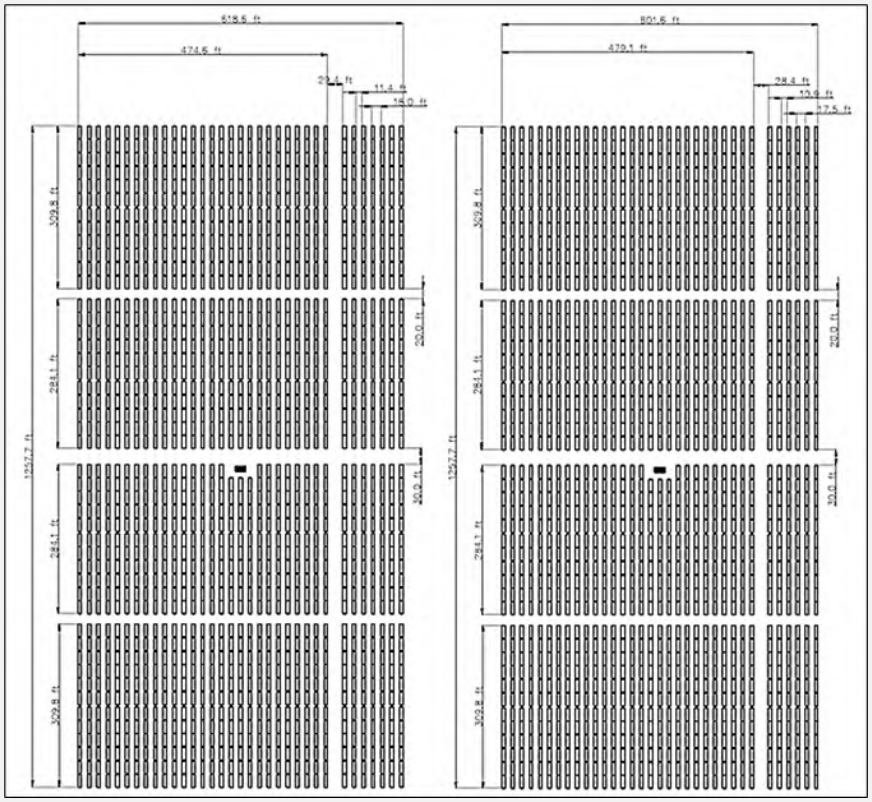


Exhibit 2A. Proposed project conceptual array block details.

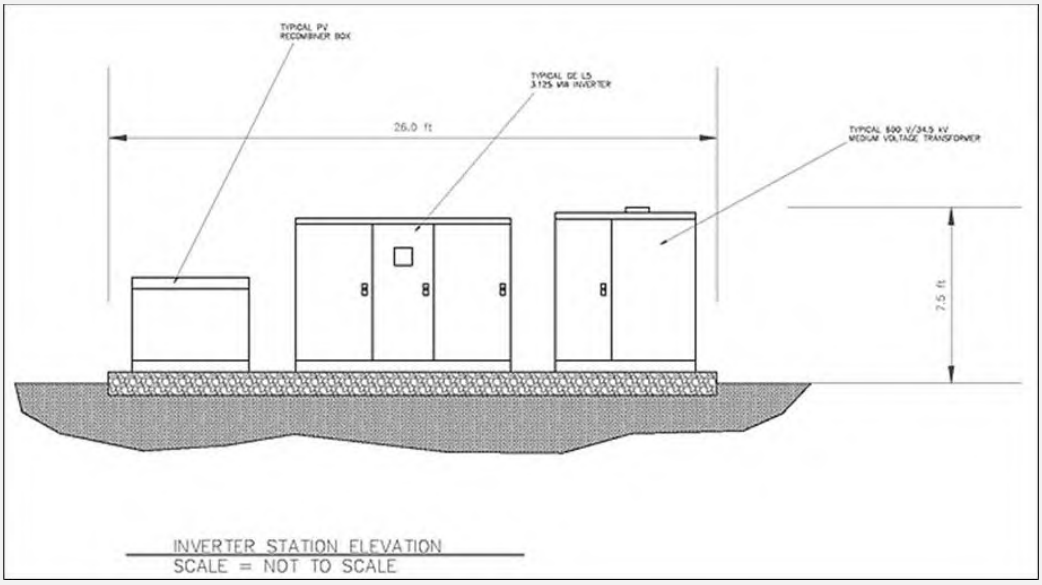


Exhibit 2B. Proposed project typical inverter station.

Exhibit 2C. Sheep using shade from solar panels for vegetation management on another project.

Exhibit 2D. Sheep grazing and resting amidst solar panels for vegetation management on another project.

Exhibit 3A. Examples of battery storage containers.

Exhibit 4. Example solar facility signage.

Exhibit 5A. Example apiary management at a solar farm (Photo Source: 1859 Oregon's Magazine 2019).

Exhibit 5B. Example of pollinator-friendly habitat on another project.

INTENTIONALLY LEFT BLANK

12 References

1859 Oregon's Magazine. 2019. "A Solar Apiary Combines Solar Power and Pollination." By James Sinks. July 23, 2019. Accessed July 2021. https://1859oregonmagazine.com/think-oregon/a-solar-apiary-combines-solar-power-and-pollination/.

Adeh, E.H., S.P. Good, M. Calaf, and C.W. Higgins. 2019. "Solar PV Power Potential Is Greatest Over Croplands." *Scientific Reports*. August 7, 2019. https://doi.org/10.1038/s41598-019-47803-3.

CDC (California Department of Conservation). 2022. California Important Farmland Finder. https://maps.conservation.ca.gov/dlrp/ciff/.

County of Sacramento. 2017a. *Sacramento County General Plan Energy Element*. Adopted February 15, 1979; last amended September 26, 2017. https://planning.saccounty.gov/LandUseRegulationDocuments/Documents/General-Plan/Energy%20Element%20-%20Amended%2009-26-17.pdf.

County of Sacramento. 2017b. *Sacramento County General Plan Conservation Element*. Adopted December 15, 1993; last amended September 26, 2017. https://planning.saccounty.gov/LandUseRegulationDocuments/Documents/General-Plan/Conservation%20Element%20%20Amended%2009-26-17.pdf.

County of Sacramento. 2018. General Plan Land Use Diagram. November 9, 2011; last updated September 11, 2018. https://planning.saccounty.gov/LandUseRegulationDocuments/Documents/General-Plan/GPLU2030_UPDATED_FINAL_0918.pdf.

County of Sacramento. 2020. *Sacramento County General Plan Land Use Element*. Adopted December 15, 1993; last amended October 6, 2020. https://planning.saccounty.gov/PlansandProjectsIn-Progress/Documents/Land%20Use%20Element%20Amended%2010-06-20.pdf.

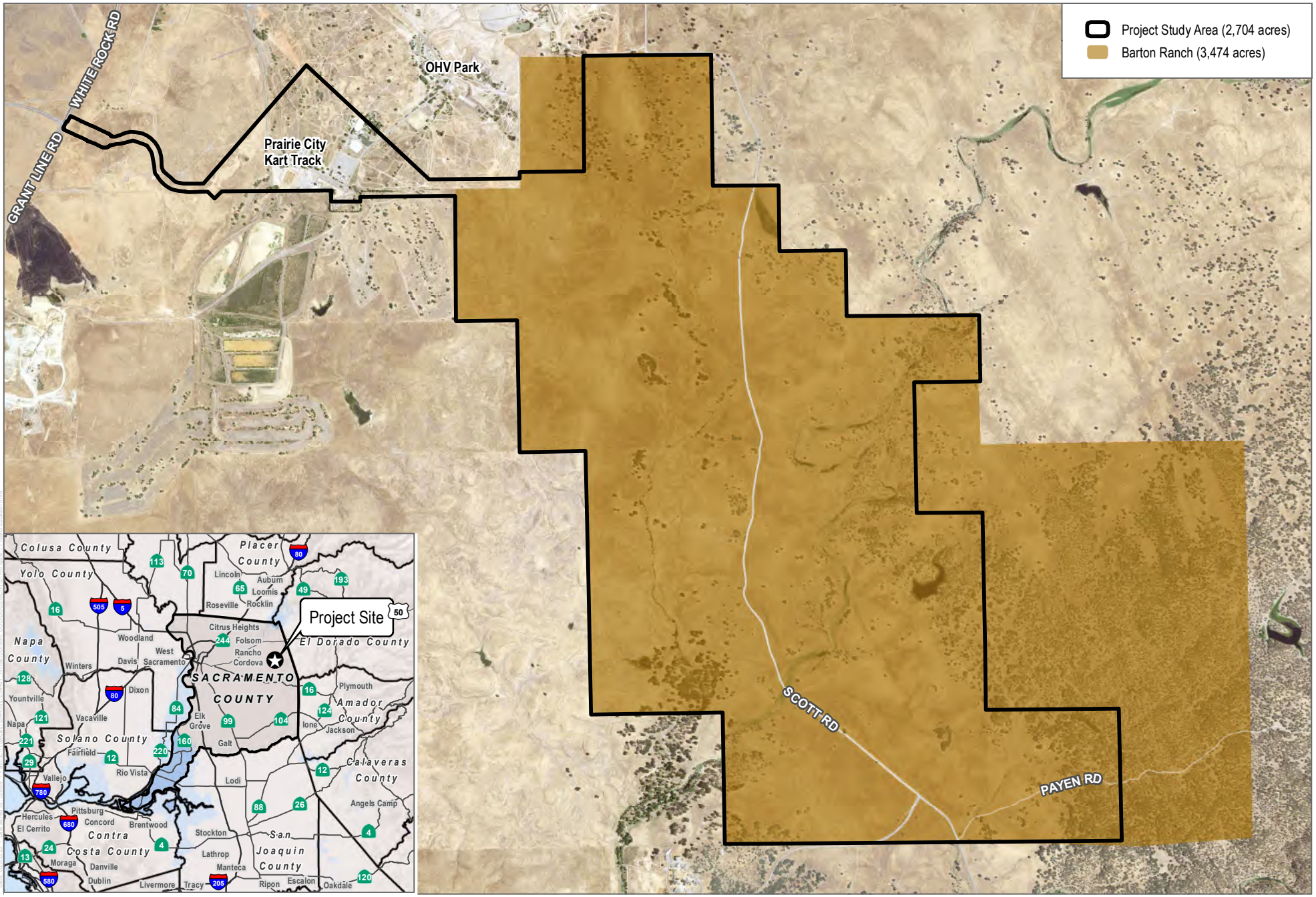
SMUD (Sacramento Municipal Utility District). 2019. *Resource Planning Report*. April 2019. https://www.smud.org/-/media/Documents/Corporate/Environmental-Leadership/Integrated-Resource-Plan.ashx.

SMUD. 2021a. *2030 Zero Carbon Plan*. April 2021. https://www.smud.org/-/media/Documents/Corporate/Environmental-Leadership/ZeroCarbon/2030-Zero-Carbon-Plan-Technical-Report.ashx.

SMUD. 2021b. *Board Monitoring Report 2021. SD-9 Resource Planning*. https://www.smud.org/-/media/Documents/Corporate/About-Us/Board-Meetings-and-Agendas/2021/Sept/Updated---Final-SD-9---Resource-Planning-Board-Monitoring-Report.ashx.

SMUD. 2022. *Zero Carbon Plan Progress Report*. March 2022. https://www.smud.org/-/media/Documents/Corporate/Environmental-Leadership/ZeroCarbon/2030-ZCP-Progress-Report---March-2022_FINAL.ashx.

INTENTIONALLY LEFT BLANK



SOURCE: DigitalGlobe 2017

DUDEK

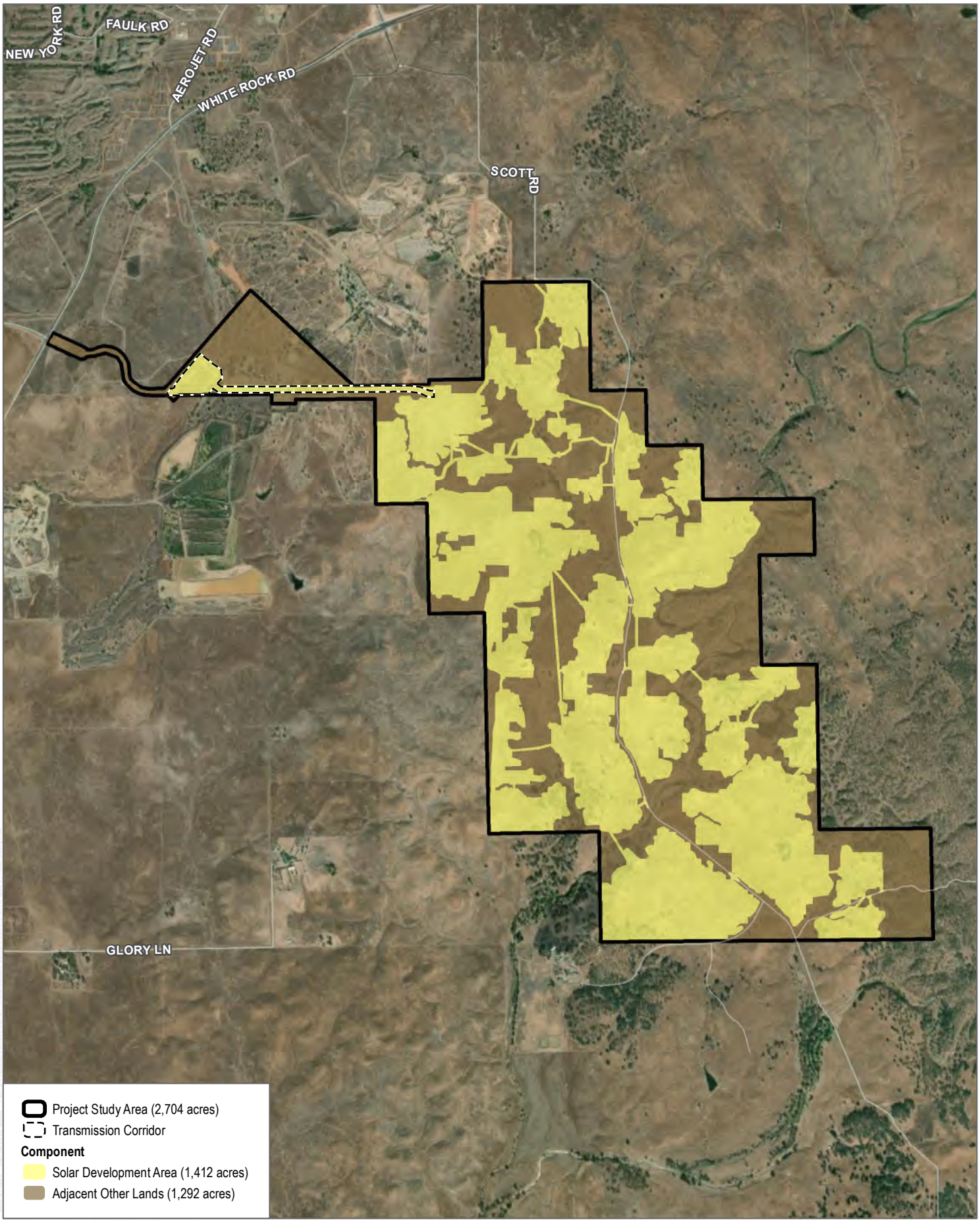
0 1,000 2,000 Feet

FIGURE 1

Project Location

Project Description for the Coyote Creek Agrivoltaic Project

INTENTIONALLY LEFT BLANK



SOURCE: USGS 7.5-minute Quadrangle

DUDEK

0 1,000 2,000 Feet

FIGURE 2

Project Setting

Project Description for the Coyote Creek Agrivoltaic Project

INTENTIONALLY LEFT BLANK

Appendices Submitted Under Separate Cover

Appendix A.	Neighborhood Outreach Plan
Appendix B.	Preliminary Grading Plan
Appendix C.	Agricultural Resources Management Plan
Appendix D.	General Plan Consistency Review
Appendix E.	Project Alternatives Memorandum
Appendix F.	Engineering Site Plan
Appendix G.	Preliminary Landscaping Plan
Appendix H.	Visual Simulations
Appendix I.	Water Supply Assessment and Verification
Appendix J1.	Cultural Resources Archeological Resources Inventory Report
Appendix J2.	Cultural Resources Management Plan
Appendix J3.	Tribal Cultural Resources Avoidance and Minimization Plan
Appendix J4.	Built Environment Report
Appendix K1.	Aquatic Resources Delineation Report
Appendix K2.	Biological Resources Report
Appendix K3.	SSHCP Consistency Analysis
Appendix K4.	Arborist Report
Appendix L.	Phase 1 Environmental Site Assessment
Appendix M.	Geotechnical Report
Appendix N.	Air Quality and Greenhouse Gas Emissions Study
Appendix O.	Glare Study
Appendix P.	Decommissioning Plan