KINGS CSG 3 SOLAR PROJECT

INITIAL STUDY/ MITIGATED NEGATIVE DECLARATION

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County of Kings

Project Applicant:
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1 INTRODUCTION

1.1 PURPOSE OF THE INITIAL STUDY

This Initial Study has been prepared in accordance with the following:

- California Environmental Quality Act (CEQA) of 1970 (Public Resources Code Sections 21000 et seq.); and
- California Code of Regulations, Title 14, Division 6, Chapter 3 (State CEQA Guidelines, Sections 15000 et seq.).

Pursuant to CEQA, this Initial Study has been prepared to analyze the potential for significant impacts on the environment resulting from implementation of the proposed solar photovoltaic power plant project. As required by State CEQA Guidelines Section 15063, this Initial Study is a preliminary analysis prepared by the Lead Agency, the County of Kings (County), in consultation with other jurisdictional agencies, to determine if a Mitigated Negative Declaration or an Environmental Impact Report is required for the project.

This Initial Study informs County decision-makers, affected agencies, and the public of potentially significant environmental impacts associated with the implementation of the project. A "significant effect" or "significant impact" on the environment means "*a substantial, or potentially substantial, adverse change in any of the physical conditions within the area affected by the project*" (Guidelines §15382).

Given the project's broad scope and level of detail, combined with previous analyses and current information about the site and environs, the County of Kings' intent is to adhere to the following CEQA principles:

- Provide meaningful early evaluation of site planning constraints, service and infrastructure requirements, and other local and regional environmental considerations. (Pub. Res. Code §21003.1)
- Encourage the applicant to incorporate environmental considerations into project conceptualization, design, and planning at the earliest feasible time. (State CEQA Guidelines §15004[b][3])
- Specify mitigation measures for reasonably foreseeable significant environmental effects and commit the County and the applicant to future measures containing performance standards to ensure their adequacy when detailed development plans and applications are submitted. (State CEQA Guidelines §15126.4)

Existing Plans, Programs, or Policies (PPPs)

Throughout the impact analysis in this Initial Study, reference is made to requirements that are applied to all development on the basis of federal, State, or local law, and Existing Plans, Programs, or Policies currently in place which effectively reduce environmental impacts. Existing Plans, Programs, or Policies are collectively identified in this document as PPPs. Where applicable, PPPs are listed to show their effect in reducing potential environmental impacts. Where the application of these measures does not reduce an impact to below a level of significance, a project-specific mitigation measure is introduced. The County of Kings will include these PPPs along with mitigation

measures in the Mitigation Monitoring and Reporting Program (MMRP) for the project to ensure their implementation.

1.2 DOCUMENT ORGANIZATION

This IS/MND includes the flowing sections:

Section 1.0 Introduction

Provides information about CEQA and its requirements for environmental review and explains that an Initial Study/MND was prepared by County of Kings to evaluate the proposed project's potential to impact the physical environment.

Section 2.0 Project Setting

Provides information about the proposed project's location.

Section 3.0 Project Description

Includes a description of the proposed project's physical features and construction and operational characteristics.

Section 4.0 Discretionary Approvals

Includes a list of the discretionary approvals that would be required by the proposed project.

Section 5.0 Environmental Checklist

Includes the Environmental Checklist and evaluates the proposed project's potential to result in significant adverse effects to the physical environment.

Section 6.0 Document Preparers and Contributors

Includes a list of the persons that prepared this IS/MND.

2 PROJECT SETTING

2.1 PROJECT LOCATION

The Project Site is located within the unincorporated area of the County of Kings southwest of the intersection of Avenal Cutoff Road and Highway 198 (APN 024-190-055). Local access is provided by Avenal Cutoff Road and regional access is provided by Highway 198, as shown in Figure 1, *Regional Location* and Figure 2, *Local Vicinity*. The Project is located in the – Vanguard and Westhaven USGS 7.5-minute quadrangle, within Section 26 of Township 19 South, Range 19 East.

2.2 EXISTING LAND USES AND DESIGNATION OF THE PROJECT SITE

The Project Site consists of undeveloped land that is utilized for agriculture. The Kings County General Plan designates the site as Exclusive Agriculture and it is zoned Exclusive Agricultural (AX). The site is bounded by Naval Air Station (NAS) Lemoore to the north, agricultural uses to the east, wastewater evaporation ponds to the south, and agricultural lands and solar power plants to the west. The surrounding land use categories are outlined in Table 2.2-1 below.

Table 2.2-1: Surrounding Land Uses

Direction	Land Use	Land Use Designation	Zoning Designation
North	NAS Lemoore	NAS Lemoore	No Assigned Zoning Designation
South	Wastewater evaporation ponds	Exclusive Agriculture Public/Quasi Public (AX PF)	AX (Exclusive Agricultural)
East	Agriculture	Exclusive Agriculture (AX)	AX (Exclusive Agricultural)
West	Solar Power Plants	Exclusive Agriculture (AX)	AX (Exclusive Agricultural)

Figure 1: Regional Location

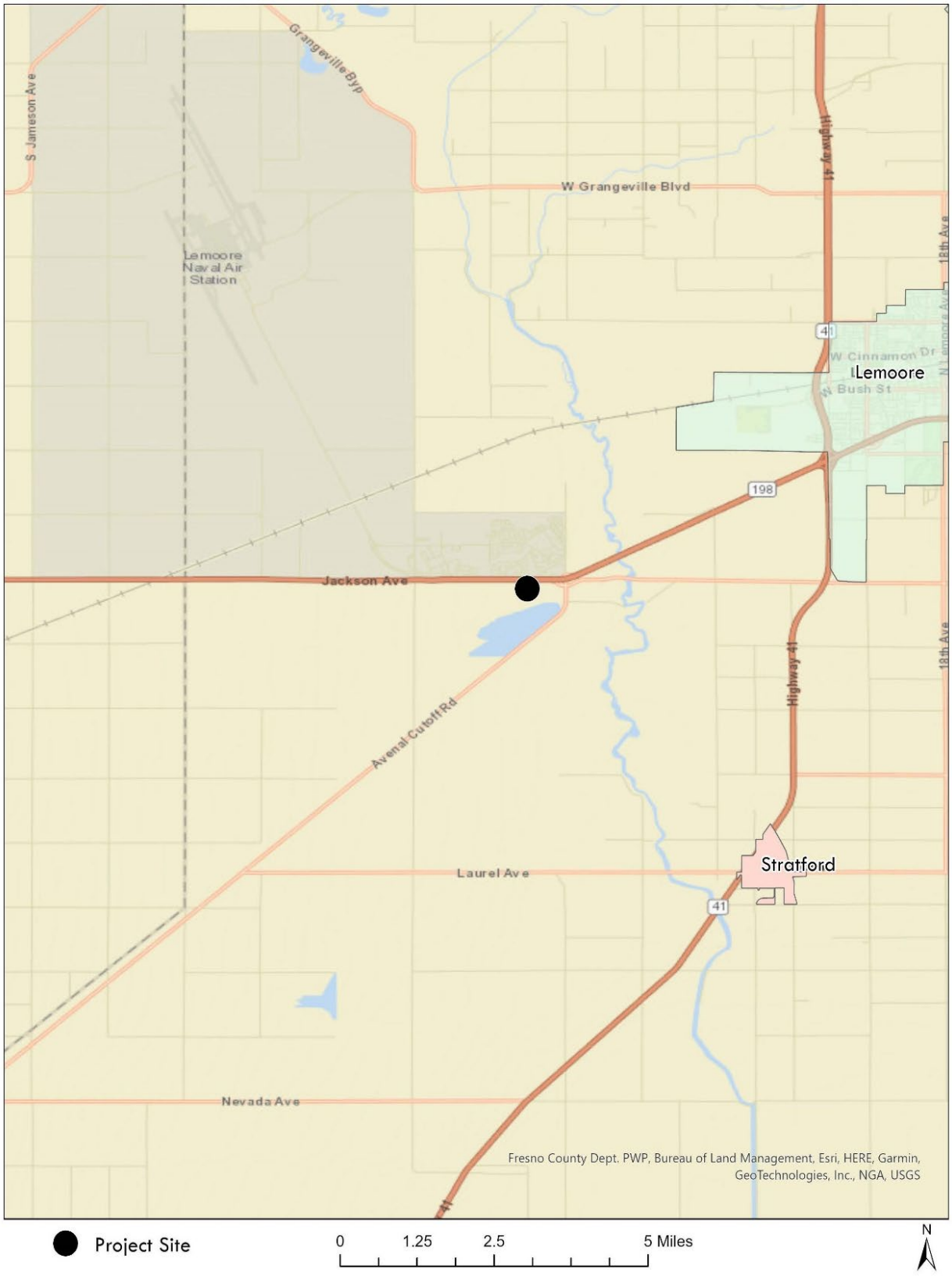


Figure 2: Local Vicinity

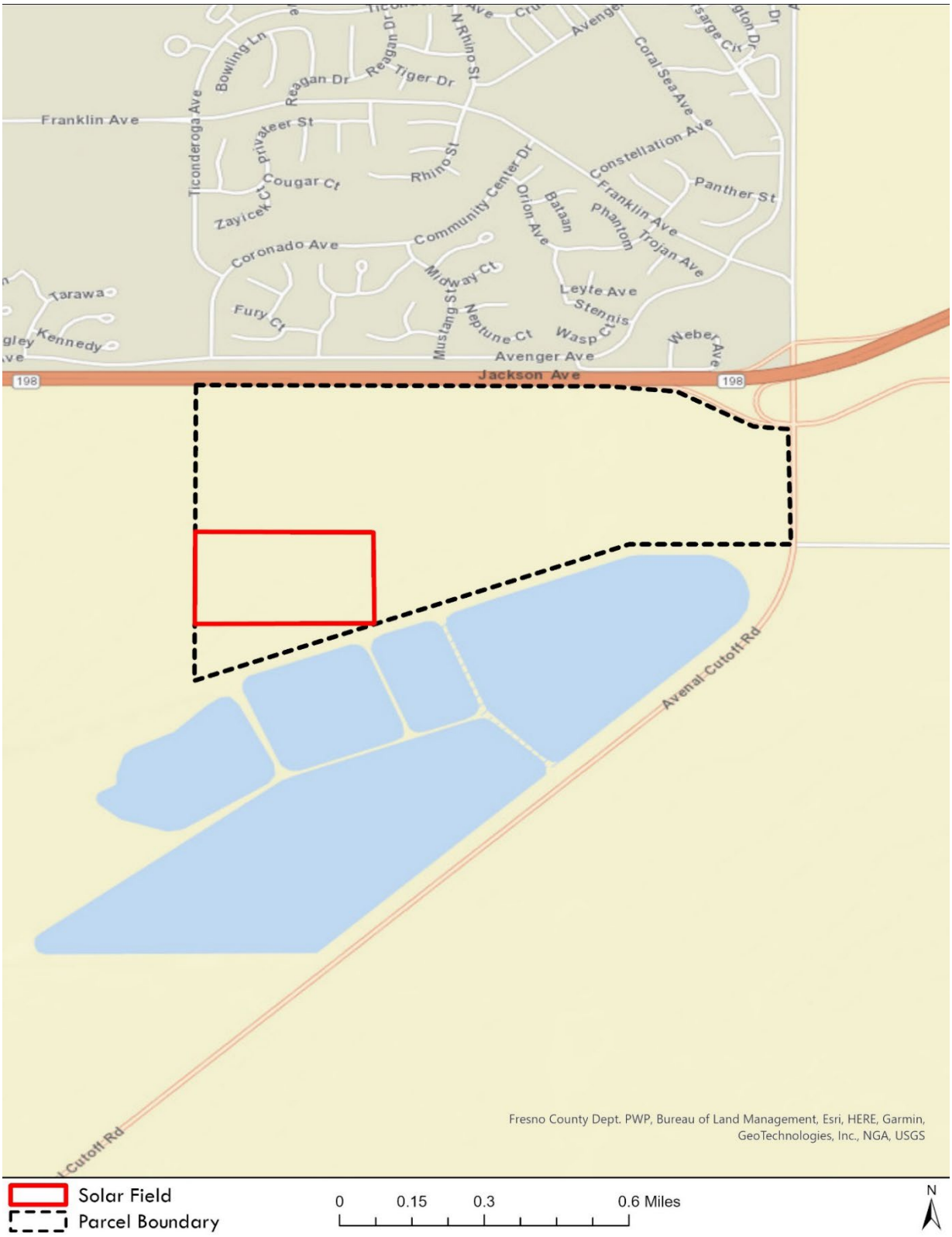
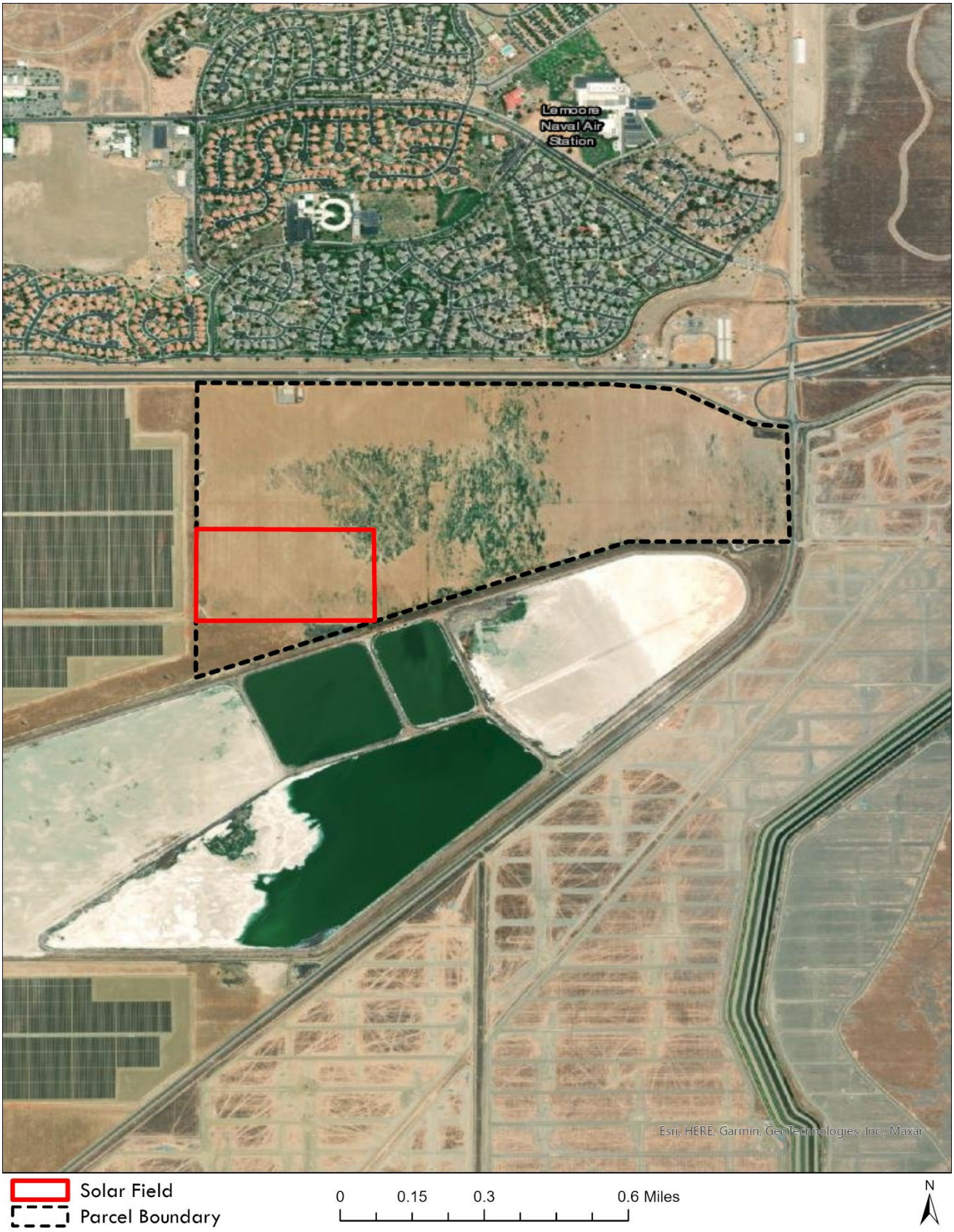


Figure 3: Aerial View



3 PROJECT DESCRIPTION

3.1 PROPOSED PROJECT

The Project would install and operate a solar photovoltaic power generation facility totaling approximately 3 MWac (subject to final design and site optimization) on approximately 20 acres of a 229-acre undeveloped property that is utilized for agriculture, adjacent to existing agricultural, military, and energy generation uses. The Project has been designed to avoid and/or minimize potential significant environmental impacts.

The Project includes installation of approximately 7,200 photovoltaic modules on ground-mounted solar arrays. The photovoltaic modules would contain solar cells that would convert sunlight to direct current (DC) electrical power which would then be converted to alternating current (AC) by string inverters before being directed to transformers and delivered to the electrical system. An overhead electrical line would lead to the point of interconnection (POI), located on the existing distribution line on the west of the Project Site.

The solar system would utilize single axis tracking mounting technology to optimize efficiency and performance. Single-axis trackers are designed to rotate the arrays in the north-to-south plane to track the sun's movement across the horizon. The ground-mounted arrays would be supported on driven pipe piles, driven H-piles, or reinforced-concrete cast-in-drilled-hole (CIDH) piers, with the foundation design to be finalized following completion of on-site geotechnical surveys and structural engineering. Once installed, the ground-mounted solar arrays would be up to approximately 8 feet in height depending on the time of day to the extent a tracking system is utilized.

Conduits and wires would be buried in trenches that run between rows and/or installed above-grade running along the backside of strings to connect the output of each string to the inverters. String inverters would be attached to racking adjacent to the array to convert electricity from direct current to alternating current. The inverters then send alternating current electricity to pad-mounted transformers to step the electricity up to the interconnection voltage of 12 kilovolts (kV). From the transformers, power lines would be buried underground before moving overhead to the POI. Trenching will either be excavated and backfilled or may be directionally drilled to avoid any existing natural resources or infrastructure features. Power generated by the Project would be released into the electrical grid by a connection to Pacific Gas and Electric (PG&E).

The Project includes installation of 7-foot-high fencing, consisting of 6 feet of chain link topped by 1 foot of barbed wire around the solar array area. The solar array area is surrounded by approximately 3,500 linear feet of fencing. The area would include a 24-foot-wide access gate, 20-foot setbacks from the fencing to the solar arrays, a 20-foot-wide access road, and 20-foot interior and perimeter roads. Roadway widths may be reduced subject to Fire Department approval. All onsite roadways would be constructed of compacted native soil. A 10,000-gallon water tank would be included for fire protection, if required by applicable codes.

After construction, the facilities would be automated to allow operation with no staffing present. Production and system health data, as well as onsite weather data, would be monitored and gathered electronically. Cleaning of the solar panels, which may be necessary to maintain efficiency, would use water acquired from an offsite commercial source, or an onsite well. Cleaning is anticipated to occur up to two times per year. Two panel cleaning cycles per year will use approximately 97,758 gallons, or 0.30-acre feet of water. According to Table 4-4 of the Westside Subbasin Groundwater Sustainability Plan dated July 2022 (https://sgma.water.ca.gov/portal/service/gspdocument/download/8785) the groundwater allocation in 2030 will allow for 0.6 acre feet (AF) of water per acre. Based upon this allocation of water cleaning of the solar panels will fit within the Sustainable Groundwater Plan. Such maintenance would

require temporary staffing onsite. Additionally, maintenance staff would visit the site on an as-needed basis when dispatched by the offsite operations center, which would continuously monitor the system.

The Project Site is located on a site that has been used for agricultural purposes since the 1950s. In order to maintain agricultural use beneath the solar field, the Project will incorporate dry farm seasonal sheep grazing or other equivalent agricultural uses, an Agricultural Management Plan would be incorporated into the Project to detail the requirements for maintenance of agricultural productivity for the site during the life of the Project. Additionally, as required by the County Development Code, a Pest Management and Weed Abatement Plan would be implemented with the Project to control insect pests and weed infestations.

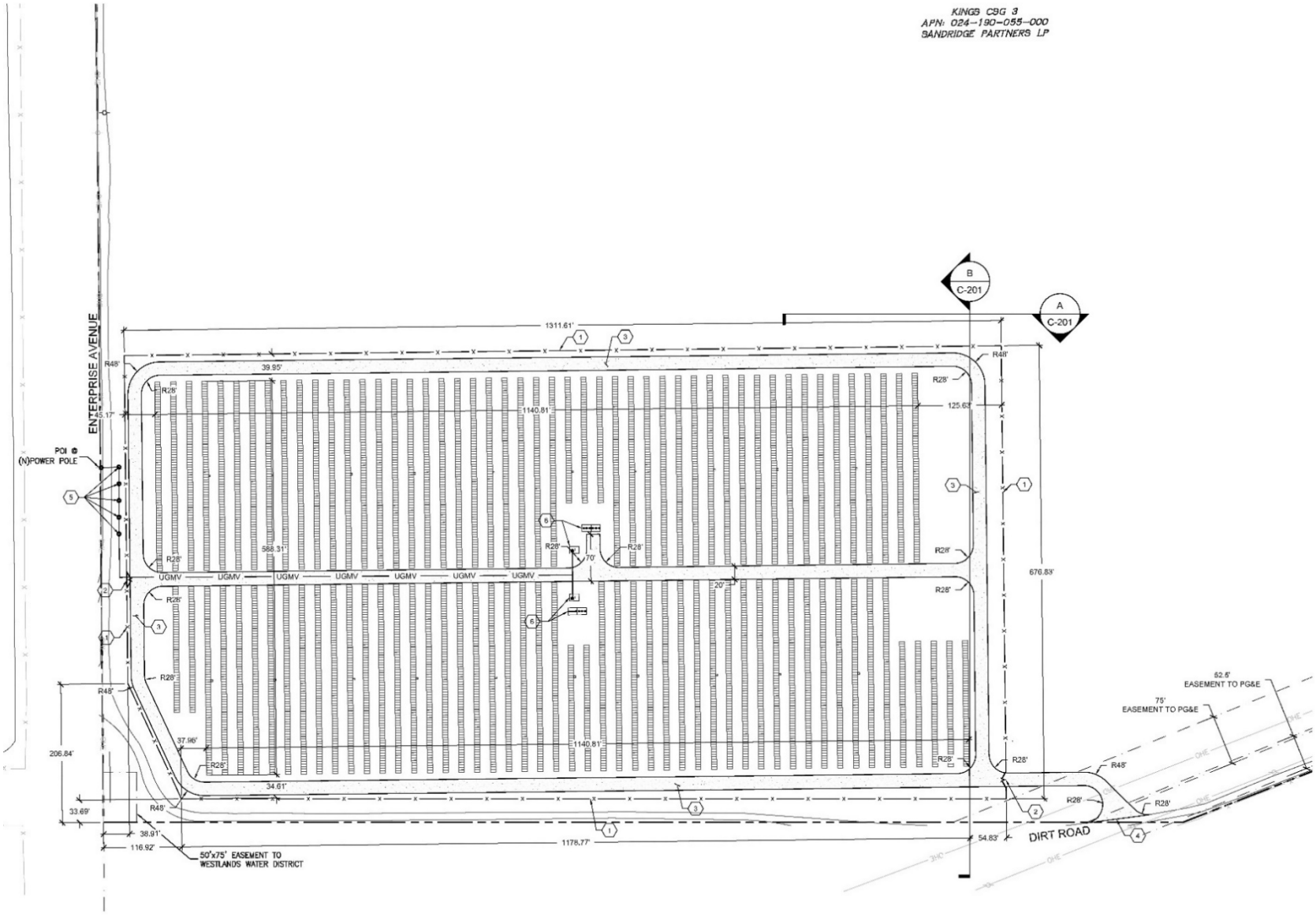
3.2 CONSTRUCTION

Construction of the Project is anticipated to last a total of 3 months. As shown on Table 3.2-1 below, construction activities include mobilization, site preparation, and facility construction and panel installation. The site preparation process would include the clearing of vegetation and minimal grading. Thereafter, shallow trenching would occur to install cable conduit that would run between the solar units and connect the output of each unit to inverters and from the inverters to the step-up transformer. The arrays would be installed with pile driven foundation systems that would extend 5 to 15 feet below the ground surface and would limit soil disturbance in the Project area, with the final foundation system subject to completion of structural engineering.

Table 3.2-1: Construction Schedule

Construction Phase	Total Working Days
Mobilization	10
Site Preparation	20
Construction and Panel Installation	45

Figure 4: Proposed Site Plan



3.3 PURPOSE AND NEED

The purpose of the Project is to construct solar photovoltaic energy generation facilities that would produce emissions-free renewable energy for the state's power grid. The Project aids in the reduction of criteria air pollutants and greenhouse gas emissions from power generation by displacing polluting non-renewable sources of electricity generation, primarily natural gas. The Project also aids in meeting renewable energy mandates established by the State's Renewables Portfolio Standard (RPS). Originally established in 2002, and most recently updated in 2018 by Senate Bill 100, the RPS requires retail sellers and publicly owned utilities to procure 60 percent of their electricity from eligible renewable energy resources by 2030 and requires all of the state's retail electricity supply to consist of zero-carbon resources by 2045. Several policies, regulations, and standards have been adopted by the State of California to address global climate change issues. These include:

- Assembly Bill 32, the California Global Warming Solutions Act of 2006, requires California to reduce its greenhouse gas emissions to 1990 levels by 2020.
- Senate Bill 1368 of 2006 limits long-term investments in baseload generation by the state's utilities to power plants that meet an emissions performance standard for greenhouse gas emissions. The performance standard was established at 1,100 pounds of carbon dioxide per megawatt-hour.
- Governor's Green Building Order S-20-04, which mandates that State agencies evaluate the merits of using clean and renewable on-site energy generation technologies in all new building or large renovation projects. Incorporating solar PV technology supports energy reduction goals and achievement of Leadership in Energy and Environmental Design (LEED) building certifications from the U.S. Green Building Council.
- Governor's Executive Order S-03-05 establishes greenhouse gas emission reduction targets, creates the Climate Action Team, and directs the California Environmental Protection Agency (Cal/EPA) to coordinate efforts with meeting the targets with the heads of other state agencies.
- Governor's Executive Order S-20-06 establishes responsibilities and roles of Cal/EPA and state agencies in climate change.
- Governor's Executive Order S-01-07 establishes a 2020 target and Low Carbon Fuel Standard.
- Governor's Executive Order S-13-08 directs state agencies to plan for sea level rise and climate impacts through coordination of the state Climate Adaptation Strategy.
- Governor's Executive Order B-16-12 orders State agencies to facilitate the rapid commercialization of zero-emission vehicles.
- Governor's Executive Order B-18-12 calls for significant reductions in state agencies' energy purchases and greenhouse gas emissions. The Executive Order included a Green Building Action Plan.
- Governor's Executive Order B-30-15 requires California to reduce its greenhouse gas emissions to 40 percent below 1990 levels by 2030.
- Governor's Executive Order B-32-15 directs State agencies to develop an integrated freight action plan by July 2016. Among other things, the plan calls for targets for transportation efficiency and a transition to near-zero-emission technologies.
- Governor's Executive Order B-55-18 establishes a statewide goal of carbon neutrality no later than 2045, and to achieve and maintain net negative emissions thereafter.

4 DISCRETIONARY APPROVALS

The following discretionary approval and permits are anticipated to be necessary for implementation of the proposed Project:

Kings County

- Adoption of a Mitigated Negative Declaration (MND)
- Approval of Conditional Use Permit (CUP) for solar energy electrical generators

5 ENVIRONMENTAL CHECKLIST FORM

This section includes the completed environmental checklist form. The checklist form is used to assist in evaluating the potential environmental impacts of the proposed project. The checklist form identifies potential project effects as follows: 1) Potentially Significant Impact; 2) Less Than Significant with Mitigation Incorporation; 3) Less Than Significant Impact; and, 4) No Impact. Substantiation and clarification for each checklist response is provided in Section 5 (Environmental Evaluation). Included in the discussion for each topic are standard condition/regulations and mitigation measures, if necessary, that are recommended for implementation as part of the proposed project.

5.1 ENVIRONMENTAL FACTORS POTENTIALLY AFFECTED

The environmental factors checked below (X) would be potentially affected by this project, involving at least one impact that is a "Potentially Significant Impact" as indicated by the checklist on the following pages.

Environmental Factors Potentially Affected

☐	Aesthetics	☒	Agriculture and Forest Resources	☒	Air Quality
☒	Biological Resources	☒	Cultural Resources	☐	Energy
☒	Geology/Soils	☐	Greenhouse Gas Emissions	☒	Hazards and Hazardous Materials
☐	Hydrology/Water Quality	☐	Land Use/Planning	☐	Mineral Resources
☐	Noise	☐	Population/Housing	☐	Public Services
☐	Recreation	☐	Transportation	☒	Tribal Cultural Resources
☐	Utilities/Service Systems	☐	Wildfire	☒	Mandatory Findings of Significance

5.2 DETERMINATION
(To be completed by the Lead Agency) on the basis of this initial evaluation:

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

Signature — Date: 7/27/2022

Noelle Tomlinson — Printed Name

Kings County Community Development Agency — For

EVALUATION OF ENVIRONMENTAL IMPACTS

1) A brief explanation is required for all answers except "No Impact" answers that are adequately supported by the information sources a lead agency cites in the parentheses following each question. A "No Impact" answer is adequately supported if the referenced information sources show that the impact simply does not apply to projects like the one involved (e.g. the project falls outside a fault rupture zone). A "No Impact" answer should be explained where it is based on project-specific factors as well as general standards (e.g. the project will not expose sensitive receptors to pollutants, based on a project-specific screening analysis).

2) All answers must take account of the whole action involved, including off-site as well as on-site, cumulative as well as project-level, indirect as well as direct, and construction as well as operational impacts.

3) Once the lead agency has determined that a particular physical impact may occur, then the checklist answers must indicate whether the impact is potentially significant, less than significant with mitigation, or less than significant. "Potentially Significant Impact" is appropriate if there is substantial evidence that an effect may be significant. If there are one or more "Potentially Significant Impact" entries when the determination is made, an EIR is required.

4) "Negative Declaration: Potentially Significant Unless Mitigation Incorporated" applies where the incorporation of mitigation measures has reduced an effect from "Potentially Significant Impact" to a "Less Significant Impact." The lead agency must describe the mitigation measures, and briefly explain how they reduce the effect to a less than significant level (mitigation measures from "Earlier Analysis," as described in (5) below, may be cross-referenced).

5) Earlier analysis may be used where, pursuant to the tiering, program EIR, or other CEQA process, an effect has been adequately analyzed in an earlier EIR or negative declaration. Section 15063 (c)(3)(d). In this case, a brief discussion should identify the following:

   (a) Earlier Analysis Used. Identify and state where they are available for review.

   (b) Impacts Adequately Addressed. Identify which effects from the above checklist were within the scope of and adequately analyzed in an earlier document pursuant to applicable legal standards, and state whether such effects were addressed by mitigation measures based on the earlier analysis.

   (c) Mitigation Measures. For effects that are "Less than Significant with Mitigation Measures Incorporated," describe the mitigation measures which were incorporated or refined from the earlier document and the extent to which they address site-specific conditions for the project.

6) Lead agencies are encouraged to incorporate into the checklist references to information sources for potential impacts (e.g. general plans, zoning ordinances). Reference to a previously prepared or outside document should, where appropriate, include a reference to the page or pages where the statement is substantiated.

7) Supporting Information Sources: A source list should be attached, and other sources used or individuals contacted should be cited in the discussion.

8) This is only a suggested form, and lead agencies are free to use different formats; however, lead agencies should normally address the questions from this checklist that are relevant to a project's environmental effects in whatever format is selected.

9) The analysis of each issue should identify: (a) the significance criteria or threshold used to evaluate each question; and (b) the mitigation measure identified, if any, to reduce the impact to less than significance.

5.3 ENVIRONMENTAL CHECKLIST QUESTIONS

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

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

No Impact. Scenic vistas consist of expansive, panoramic views of important, unique, or highly valued visual features that are seen from public viewing areas. This definition combines visual quality with information about view exposure to describe the level of interest or concern that viewers may have for the quality of a particular view or visual setting.

The Project Site consists of essentially flat agricultural land with no topographic variation or features to provide visual interest of vantage points for panoramic views. The Kings County General Plan does not identify any scenic vistas in the vicinity of the Project Site. The Project Site is adjacent to agricultural and military uses. The Project would not hinder any scenic vistas or panoramic views with the proposed setbacks from Highway 198. Therefore, the Proposed Project would not result in an adverse effect on a scenic vista.

b) Substantially damage scenic resources, including, trees, rock outcroppings, and historic buildings within a state scenic highway?

No Impact. A Scenic Route is a freeway, highway, road, or other public right-of-way, traversing an area of exceptional scenic quality, and has received a formal designation by the State of

California.

The California Scenic Highways Master Plan designates a portion of one state highway in Kings County as an "Eligible State Scenic Highway." State Route 41, commencing at the intersection of State Route 33 and proceeding south to the county line, where it continues into San Luis Obispo County, is eligible for designation as a Scenic Highway, and is approximately 20 miles south of the Project Site and well outside its viewshed. Thus, the Proposed Project would not result in a negative impact to scenic resources within a state scenic highway.

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

Less than Significant Impact. As noted above, the Project area is surrounded by solar fields and agricultural uses and adjacent to Highway 198 and military uses to the north. The agricultural uses are a major component of the immediate vicinity's aesthetics. The Project Site itself consists of vacant, undeveloped land that was previously utilized for agriculture. The Project would install solar modules, with a maximum height of 8 feet, and associated electrical equipment surrounded by a chain link fence. Given the existing visual character and quality of the public views of the existing site, the Proposed Project would alter, but not substantially degrade the existing visual character or quality of public views of the Project Site and its surroundings. Thus, impacts related to the visual degradation of the site and vicinity would be less than significant.

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

Less than Significant Impact. The Project would not create a new source of substantial light or glare which would adversely affect day or nighttime views in the area. The Project uses dark photovoltaic solar cells, which absorb rather than reflect sunlight.

Regarding nighttime lighting conditions and daytime glare conditions, "light" refers to artificial light emissions, or the degree of brightness, generated by a given source. The Illuminating Engineering Society of North America defines "glare" as the sensation produced by luminance in the visual field that is sufficiently greater than the luminance to which the eye has adapted to cause annoyance, discomfort, or loss of visual performance and visibility.

Lighting

Construction of the Proposed Project would generally occur during daytime hours and could occur as late as 9:00 p.m. in order to meet the construction schedule. No overnight construction would occur. In the event that work is performed between dusk and 9:00 p.m., the construction crew would only use the minimum illumination needed to perform the work safely. In accordance with County Development Code Section 418(E),all Project lighting would be directed downward and shielded to focus illumination on the desired work areas only, and to prevent light spillage onto adjacent properties. As applicable, work in the solar field areas and on the distribution lines at night would be performed using light stands that would be directed to the active work area. Because lighting would be shielded and focused downward and lighting used to illuminate work areas would be turned off at the end of each work day, the potential for lighting to adversely impact any residents is minimal. As a result, the Project would not be anticipated to adversely impact nighttime views in the Project area.

The Proposed Project could include small domestic light fixtures at equipment pads, as required by relevant electrical codes. No other lighting is planned. Cutoffs would be employed to prevent spillover onto neighboring properties. With the application of these typical construction methods, impacts related to lighting would be less than significant.

Glare

Most of the Project's construction activities are planned to occur during daylight hours. Increased truck traffic and the transport of the solar arrays and construction materials to the Project Site would temporarily increase glare conditions during construction. However, this increase in glare would be minimal and temporary. Construction activity would occur on focused areas of the site as construction progresses and any sources of glare would not be stationary for a prolonged period of time. Additionally, the surface area of construction equipment would be minimal compared to the scale of the Project Site. Therefore, construction of the Proposed Project would not create a new source of substantial glare that would affect daytime views in the area. Impacts would be less than significant during the construction period.

During operations, the reflection of sunlight would be the primary potential producer of glare off the glass surfaces of the solar panels in the proposed Project. A solar panel comprises numerous solar cells. A solar cell differs from a typical reflective surface in that it has a microscopically irregular surface designed to trap the rays of sunlight for the purposes of energy production. The intent of solar technology is to increase efficiency by absorbing as much light as possible (which further reduces reflection and glare).

The potential for ground-level reflection is lower in single-axis tracking systems (as compared to fixed-tilt systems), which are arranged in north-south oriented rows and allow panels to follow the sun across the sky from east to west. Since tracking systems minimize the angle of incident sunlight at the panel surface, the angle of reflectance is also smaller thus tending to direct reflected sunlight skyward even when the sun is low in the sky. Since tracking systems are arranged in north-south oriented rows, the potential for sunlight to be obliquely reflected to ground level receivers is further reduced since the sun is never low in the sky in a northerly or southerly direction.

Additionally, since solar panels are designed specifically to maximize absorption of sunlight and minimize loss of incident sunlight through reflection, the potential for glare is also greatly reduced even during occasional periods when sunlight from module surfaces may be reflected to ground-level receivers.

Given the proximity of NAS Lemoore to the Project site, there is a potential concern with the effect of glare from the solar panels on flight operations at the base. As discussed in the NAS Lemoore Joint Land Use Study (JLUS) Chapter 2, issues of glare are the result of highly reflective mirrors used in concentrating solar thermal facilities. The JLUS goes on to state that "if there is no central collection tower, the new solar panels can be made nonreflective and arrays could be installed to not cause any height or reflective issues" (JLUSPC 2011). As discussed previously, the PV modules installed for the proposed Project would be dark in color, highly absorptive, and have minimal reflectivity. An example of a solar facility Project located near an air force base includes the installation of a large PV solar facility at Nellis Air Force Base (AFB) that has had no adverse effects on the base's flight operations (USAF 2008).

. Based on these factors, the Project would result in less-than-significant impacts related to glare.

Sources

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

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

Less than Significant Impact with Mitigation. The Project Site has previously been used for agricultural purposes and is zoned as Exclusive Agriculture (AX). The site is designated as Farmland of Statewide Importance according to the most recent mapping prepared by California Department of Conservation's Farmland Mapping and Monitoring Program. Development of the Proposed Project would result in the conversion of the Project Site to a utility-scale solar generation land use. The Project would occupy the Project Site for a minimum of 20 years and up to 40 years, and at the end of the productive life of the solar generation facility, the facility would be decommissioned, and the land returned to an agricultural state.

During operation of the solar facility, most of the land (90 percent or more) beneath the solar arrays would remain in agricultural use. Uses would be described in a Agricultural Management Plan, and would consist of dry farm seasonal grazing (sheep) or other equivalent agricultural uses. Solar operations are generally considered compatible with an ongoing agricultural use of the site, including grazing.

While the applicant proposes to maintain the site in concomitant agricultural uses during operation of the facility, should the agricultural land uses be unsustainable, or the site is otherwise converted to a non-agricultural use, the impacts would be potentially significant.

Mitigation Measure AG-1 (Agricultural Management Plan), Mitigation Measure AG-2 (Soil Reclamation Plan), Mitigation Measure AG-3 (Financial Assurances), and Mitigation Measure AG-4 (Solid Waste Management Plan) are proposed to prevent permanent conversion of agricultural lands to a non-agricultural land use. Mitigation Measure AG-1 requires that agricultural land uses continue on the Project Site for the life of the Project pursuant to a Agricultural Management Plan prepared for the Project. Mitigation Measure AG-2 requires that the Project Site be restored to its pre-project baseline conditions following decommissioning of the Project, pursuant to a Soil Reclamation Plan prepared for the Project. Mitigation Measure AG-3 requires establishment of financial assurances so that if the applicant fails to perform pursuant to the Agricultural Management Plan, then the site can be cleared of all improvements and returned to its original state available for agricultural uses as outlined in the Soil Reclamation Plan. Mitigation Measure AG-4 requires preparation of a Solid Waste Management Plan pursuant to Section 1112.B.2.g of the County Development Code to ensure that solid waste generated during Project construction and operation is properly disposed of and/or recycled. With implementation of the proposed mitigation measures, potentially significant impacts to farmland would be reduced to a level of less than significant.

Mitigation Measure AG-1: Agricultural Management Plan. Prior to the issuance of a building permit, the applicant shall submit to Kings County an Agricultural Management Plan that provides for the ongoing agricultural productivity of at least 90% of the site for the life of the proposed Project. The Agricultural Management Plan shall specify that the lands designated as Farmland of Statewide Importance and lands subject to a Williamson Act contract be planted and maintained for dry farm seasonal sheep grazing, or other equivalent agricultural uses, and shall include specific provisions for soil preparation and revegetation. The Agricultural Management Plan shall include detailed provisions to ensure the successful establishment of the planned vegetative cover, and shall identify appropriate maintenance activities, including conditions under which herbicides may be used, and particularly the identification and selection of herbicides that are non-toxic to livestock

and wildlife. The Agricultural Management Plan shall also prescribe the management practices for sheep grazing. The Agricultural Management Plan shall also create requirements related to weed abatement, including tumbleweeds, and pest control to ensure that a nuisance as defined in the Development Code does not occur on the property. The Agricultural Management Plan shall include provisions for ongoing monitoring and annual reporting of agricultural activity on the site to the Kings County Community Development Agency.

Mitigation Measure AG-2: Soil Reclamation Plan. Prior to the issuance of a building permit, the applicant shall submit, for review and approval by the Kings County Community Development Agency, a Soil Reclamation Plan (Plan) for the restoration of the site at the end of the Project's useful life. The Plan shall contain an analysis of general preconstruction conditions of the Project Site, and the site shall be photographically documented by the applicant prior to the start of construction. The Plan shall contain specific measures to restore the soil to approximate its pre-project condition, including (1) removal of all above-ground and below-ground Project fixtures, equipment, and non-agricultural driveways, (2) tilling to restore the sub-grade material to a density and depth consistent with its pre-project condition, (3) revegetation using a Kings County-approved grasses and forbs seed mixture designed to maximize revegetation with noninvasive species (broadcast, drilled, or other method), and (4) application of weed-free mulch spread, as needed, to stabilize the soil until germination occurs and young plants are established to facilitate moisture retention in the soil. Whether the Project Site has been restored to pre-construction conditions shall be assessed by Kings County staff. Additional seedlings and applications of weed-free mulch shall be applied to areas of the Project Site that have been determined to be unsuccessfully reclaimed (i.e., restored to pre-project conditions), until the entire Project area has been restored to conditions equivalent to pre-project conditions. All waste shall be recycled or disposed of in compliance with applicable law. The applicant shall verify the completion of reclamation within 18 months after expiration of the Project use permit with Planning Division staff.

Mitigation Measure AG-3 Financial Assurance. Prior to the issuance of a building permit, the applicant shall post a performance or cash bond, submit a Certificate of Deposit, submit a letter of credit, or provide such other financial assurances acceptable to the County, in an amount provided in an Engineer's Cost Estimate, approved by the CDA, to ensure completion of the activities under the Soil Reclamation Plan. Every five years from the date of completion of construction of the project, the applicant shall submit an updated Engineer's Cost Estimate for financial assurances for the Plan, which will be reviewed every five years by Kings County and the financial assurance shall be maintained to the updated Engineer's Cost Estimate.

Mitigation Measure AG-4: Solid Waste Management Plan. To ensure that solid waste generated during project construction, operation and decommissioning is properly disposed of or recycled, prior to issuance of building permits, the applicant shall prepare a Solid Waste Management Plan acceptable to the County pursuant to Section 1112.B.2.g of the Development Code. The non-hazardous waste generated during construction and operation will be segregated on-site for recycling or disposal at a Class III landfill. Hazardous wastes generated during project construction, operation and decommissioning will be either recycled or disposed of at a Class I disposal facility, as required.

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

Less than Significant Impact with Mitigation. The site is zoned Exclusive Agriculture (AX). According to the County of Kings Agricultural Preserves Williamson Act Map (2013), a Williamson Act contract is in effect on the Project Site.

The California Land Conservation Act of 1965, commonly referred to as the Williamson Act, enables local governments to enter into contracts with private landowners for the purpose of restricting the use of those lands to agricultural or compatible uses. There are two types of contracts available, including Land Conservation contracts, which have a term of 10 years, and Farmland Security Zone contracts, which have a term of 20 years. The Williamson Act stipulates that local governments adopt rules governing the administration of agricultural preserves, including rules related to compatible uses, provided the rules are consistent with the following principles of compatibility (Gov. Code Section 51231).

Gov. Code Section 51238.1 (a) states uses approved on contracted lands shall be consistent with all of the following principles of compatibility:

(1) The use will not significantly compromise the long-term productive agricultural capability of the subject contracted parcel or parcels or on other contracted lands in agricultural preserve.

The productive agricultural capability of Farmland of Statewide Importance and preserved agricultural lands on the Project site would be maintained by implementation of an Agricultural Management Plan (incorporated as Mitigation Measure AG-1) which specifies the ongoing maintenance of vegetative cover for the site for sheep grazing. Since more than 90 percent of the Project site area would be maintained in vegetative cover, the use of the site for solar generation would not prevent the productive accompanying agricultural use of the site during Project operation. The light footprint of the solar generating facility would allow for the preservation of native soil cover in place and allow for low impact removal of solar arrays and electrical equipment t the end of the facility's productive life. To ensure that the site is restored to pre-project conditions following decommissioning, the applicant would also be required to implement Mitigation Measure AG-2, which requires implementation of a Soil Reclamation Plan, and Mitigation Measure AG-3, which requires financial assurances, as described above. Other agricultural parcels in the vicinity would not be impaired by introduction of the solar use because the site would contain a co-located agricultural use. The site would not contain uses, such as housing developments or office structures, that could conflict with adjacent agricultural uses.

(2) The use will not significantly displace or impair current or reasonably foreseeable agricultural operations on the subject contracted parcel or parcels or on other contracted lands in agricultural preserves. Uses that significantly displace agricultural operations on the subject contracted parcel or parcels may be deemed compatible if they relate directly to the production of commercial agricultural products on the subject contracted parcel or parcels or neighboring lands, including activities such as harvesting, processing, or shipping.

In accordance with Government Code Section 51231, Kings County has adopted procedures for implementing the Williamson Act at the local government level, including rules related to compatible uses that are consistent with the Williamson Act's principles of compatibility. The current Kings County Williamson Act implementing procedures provide specific guidance in considering the compatibility of solar PV facilities in agricultural preserves, which finds that a solar project in the location of the Project site (i.e., within that portion of the County south of SR 198, west of SR 41, and northeast of I-5) would be considered compatible if the applicant provides a soil reclamation plan and financial assurances, and if a finding can be made, based upon substantial evidence, and taking into account surface water availability, ground water quality and availability, and soil conditions, that the proposed accompanying commercial agricultural operation is a reasonably foreseeable use of the land.

Mitigation Measure AG-1 requires the implementation of an Agricultural Management Plan that provides for the ongoing agricultural productivity of the site for the life of the Project. Approximately 90 percent of the area of the Farmland of Statewide Importance and preserved agricultural lands would be used for dry farm seasonal sheep grazing during operation of the facility which constitutes a reasonably foreseeable use of the land, as discussed in the first item above. Mitigation Measure AG-2 requires the implementation of a Soil Reclamation Plan for the proposed Project, and Mitigation Measure AG-3 requires the provision of financial assurances for implementation of the Soil Reclamation Plan.

Additionally, there is substantial evidence that the Project site is subject to reduced surface water availability limitations due to groundwater quality and availability, and impaired soil conditions, such that dry farm seasonal grazing is a reasonably foreseeable use of the land. These conditions are discussed below:

Project Site Water Supply: The Project site is located within the Westlands Water District (WWD). The Project site is dependent upon imported Central Valley Project (CVP) deliveries through WWD (WWD 2013). For a number of years, the WWD has been subject to curtailment of delivered water, ongoing drought conditions, environmental regulations, and the low priority position of the WWD, compared to other CVP contractors, in receiving its federal contract water during years of water shortage. Consequently, from 2007 through 2015, WWD received an average of 32 percent of its contract water, and in 2016 WWD received five percent allocation of CVP water. Therefore, with the curtailment of water delivered to WWD in recent years, the Project site has been subject to reduced water availability in recent years.

Groundwater: According to the CA Department of Water Resources (DWR) and Central Valley Regional Water Quality Control Board (CVRWQCB), groundwater in the Project area has high concentrations of sodium, chloride, boron, carbonates and bicarbonates, which limit the volumes that can be applied given the limited tolerance of crops to these elements (CA DWR 2003, CVRWQCB 2004). Therefore, growing crops utilizing solely groundwater is not feasible.

Soil Conditions: According to the Natural Resources Conservation Service (NRCS) Soil Survey of Kings County, the native soils of Project area have naturally high salt levels, and have been exacerbated by poor natural drainage (NRCS 1986). The short supply of high quality imported water limits the amount of surface water that can be applied to pre-irrigate the soil to leach out some salts. Long term soil salinity conditions are expected to increase due to lack of a subsurface drainage system and a sustainable leachate disposal outlet.

Due to the limitation of reliable water availability and impairment of soil quality due to high salinity, the Project site is not suitable for sustaining long-term agricultural crop production, and a reasonably foreseeable agricultural use of the site would be dry land farming with seasonal grazing.

(3) The use will not result in the significant removal of adjacent contracted land from agricultural or open-space use.

The proposed Project is a self-contained solar generating facility and does not include electrical infrastructure with excess capacity that could be used to support similar solar generating facilities on adjacent contracted land. Additionally, the Project would not result in the construction of new roadways, beyond internal maintenance roadways, that would provide new

vehicular access to adjacent construction land, and therefore would not induce owners of adjacent lands to remove their contracted lands from agricultural use due to newly available roadways.

Further, the proposed Project would not provide nor require urban services and therefore would not encourage the growth of urban development on adjacent contracted lands.

In summary, the proposed Project would be consistent with the Williamson Act principles of compatibility, as further defined by Resolution of the Kings County Board of Supervisors, and therefore would have no impact in this regard.

As previously mentioned, the Project site is zoned as Exclusive Agriculture (AX). Article 4 of the Kings County Development Code allows for solar energy electrical generators within the AX zone with the approval of a Conditional Use Permit (CUP). Therefore, the Project would be consistent with the County's agricultural zoning for the site upon the granting of the subject CUP for the proposed Project.

Article 11, Section 1112.B.2 of the Kings County Development Code requires that the granting of CUPs for solar PV electrical facilities shall be subject to certain specified findings. Failure to meet the required findings would result in a potentially significant impact related to compatibility with the agricultural zoning designation. As such, the required findings, and the Project's consistency with the findings, are addressed below.

(1) The proposed site shall be located in an area designated as either "Very Low Priority," "Low Priority," or "Low-Medium Priority" land according to Figure RC-13 Priority Agricultural Land (2035 Kings County General Plan, Resource Conservation Element, Page RC-20). "Medium Priority" land may be considered when comparable agricultural operations are integrated, the standard mitigation requirement is applied, or combination thereof.

The General Plan Resource Conservation Element (Figure RC-13) shows that the Project site is mapped as "Medium Priority" (Kings County 2010). As noted in the Development Code finding, lands designated as "Medium Priority" may be considered for solar PV facilities when comparable agricultural operations are integrated or mitigation is applied, or a combination. With implementation of Mitigation Measure AG-1, approximately 90 percent of the Farmland of Statewide Importance and preserved agricultural lands would be used for dry farm seasonal sheep grazing during operation of the project which constitutes a comparable agricultural operation. Therefore, with implementation of the proposed mitigation, potential impacts would be reduced to below a level of significance.

(2) The proposed site shall be located within 1 mile of an existing 60 kV or higher utility electrical line. Small community commercial solar projects (less than or equal to three MW) may be located more than 1 mile from a 60 kV or higher transmission line subject to the following findings:

a. The project site is located on low or very low priority farmland.
b. The project site is not restricted by a Williamson Act or Farmland Security Zone contract.
c. The project will connect to existing utility infrastructure without building new power lines.
d. The project will not result in any additional easements on agricultural land, other than access easements or easements within the public Right-of-Way.

An existing 60 kV utility line is located in 25th Avenue, approximately 0.98 mile from the western property line of the Project site. Therefore, the project would satisfy the finding that it is located within 1 mile of an existing 60 kV or higher transmission line.

(3) Agricultural mitigation shall be proposed for every acre of Prime Farmland, Unique Farmland, or Farmland of Statewide Importance converted for a commercial solar facility. The agricultural mitigation shall preserve at a ratio of 1:1 an equal amount of agricultural acreage of equal or greater quality in a manner acceptable to the County for the life of the project. Agricultural mitigation on land designated "Medium-High" or higher priority land shall preserve an equivalent amount of agricultural acreage at a ratio of 2:1.

The entire Project site is mapped as Farmland of Statewide Importance under the FMMP. However, as discussed above, during Project operation, 90 percent of the Farmland of Statewide Importance and preserved agricultural lands would be maintained in dry farm seasonal sheep grazing simultaneously with the solar facility use and would not convert the land to a non-agricultural use. The Agricultural Management Plan, as required under Mitigation Measure AG-1, would ensure the maintenance of seasonal sheep grazing on the site, and on 90 percent of the Farmland of Statewide Importance and preserved agricultural lands, for the life of the Project. Mitigation Measures AG-2 and AG-3 would ensure that soils of the Project site are reclaimed to pre-project conditions upon decommissioning of the solar facility. With the proposed mitigation, this finding would be satisfied.

(4) The project shall include a reclamation plan and financial assurance acceptable to the County that ensures the return of the land to a farmable state after completion of the project life and retains surface water rights.

As discussed above, Mitigation Measures AG-2 and AG-3 would require a Soil Reclamation Plan and Financial Assurance that ensures the return of the land to a farmable state after completion of the Project life and retains surface water rights. The soil reclamation plan and financial assurance would be subject to approval by the County Community Planning Agency prior to the issuance of building permits. Based on these facts, the Project would satisfy this finding.

(5) The project shall include a pest management plan and weed abatement plan to protect adjacent farmland from nuisances and disruption.

As required under the County Development Code, the Project would include implementation of a Pest Management and Weed Abatement Plan. The Pest Management Plan would reduce the potential for pests to inhabit the Project site. The Pest Management Plan would set action thresholds, identify pests, specify prevention methods as a first course of action, specify control methods as a second course of action, and establish a quantitative performance goal of nuisance reduction to adjacent farmland. Rodenticide would be selected and used in a manner that minimizes impacts to protected biological species.

The Weed Abatement Plan would specify that native seed mixes used to revegetate the Project site are free of weeds. The plan would also ensure that combustible vegetation on and near the Project boundary would be actively managed during the construction and operational phases to minimize fire risk. Vegetation height would be kept low to the ground through sheep grazing

and by mowing and trimming with mechanical equipment. Herbicides would be applied if warranted by site conditions as specified in the Weed Abatement Plan, but would be restricted to those considered environmentally safe. Since the Project would implement these measures under the Pest Management Plan and Weed Abatement Plan for the Project, this standard would be met.

(6) The project shall space internal access driveways per Kings County Fire Department standards.

As shown in Figure 4*, Site Plan*, the Project includes internal access driveways with a minimum width of 20 feet and would be maintained to facilitate on-site circulation for emergency vehicles during all weather conditions. Therefore, the Project would conform to this standard.

(7) The project shall include a solid waste management plan for site maintenance and disposal of trash and debris.

To satisfy this finding, a solid waste management plan would be prepared for the Project to prescribe internal procedures for site maintenance and collection and disposal of solid waste during project construction, operation, and decommissioning per Mitigation Measure AG-4.

(8) The project site shall not be located on Williamson Act or Farmland Security Zone contracted land, unless it meets the principles of compatibility under Gov. Code Section 51238.1(a). Otherwise, the contract shall be proposed for cancellation.

As discussed above, the proposed Project would satisfy all of the Williamson Act principles of compatibility, as further defined by Resolution of the Kings County Board of Supervisors, for land use proposed for lands under Williamson Act contracts, including Farmland Security Zone contracts.

In summary, the proposed Project is consistent with the zoning for the site and would satisfy all of the specific findings required in the Kings County Development Code for the granting of CUPs for solar generating facilities. With implementation of the proposed mitigation, potentially significant impacts would be reduced to a level of less than significant.

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

No Impact. The site is zoned exclusive agriculture, which is not a zoning designation for forest land, timberland, or timberland zoned Timberland Production. Additionally, as noted in the Kings County General Plan Land Use Element, there are no natural forests within the County. Therefore, there is no impact related to a conflict with such zones.

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

No Impact. The site currently contains vacant and undeveloped land that was previously used for agriculture. There is no forest land on the site. The Project would not result in impacts related to the loss of forest land or conversion of forest land to non-forest use.

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

Less than Significant Impact. The Project Site consists of vacant and undeveloped land that was previously used for agricultural uses. No forest lands occur in the Project or surrounding area. As discussed under items 'a)' and 'b)' above, the Project would implement Mitigation Measures AG-1 through AG-4. Implementation of the proposed mitigation would involve maintenance of agricultural production on the Farmland of Statewide Importance for the life of the solar generating facility. The site soils would be reclaimed to pre-project conditions upon decommissioning of the solar facility. As also discussed under items 'a)' and 'b)' above, the Project would not induce conversion of other farmlands to non-agricultural uses by way of providing excess infrastructure capacities that could facilitate similar development on adjacent or nearby lands, or by way of introducing a land use that is incompatible with agricultural production. The Project would involve no other changes that could result in the conversion of Farmland to nonagricultural use. Therefore, the Project would result in a less than significant impact in regard to other changes converting Farmlands or forests..

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	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
5.3.3 AIR QUALITY.				
Where available, the significance criteria established by the applicable air quality management or air pollution control district may be relied upon to make the following determinations. Would the project:				
a) Conflict with or obstruct implementation of the applicable air quality plan?	☐	☐	☒	☐
b) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is in nonattainment under an applicable federal or state ambient air quality standard? Specifically, would implementation of the project exceed any of the following adopted thresholds:				
i) San Joaquin Valley Unified Air Pollution Control District:				
Operational and Area Sources				
Reactive organic gases (ROG): 10 tons per year.	☐	☐	☒	☐
Oxides of nitrogen (NOx): 10 tons per year.	☐	☐	☒	☐
Particulate Matter (PM10): 15 tons per year.	☐	☐	☒	☐
Stationary Sources - as Determined by District Rules				
Severe nonattainment: 25 tons per year.	☐	☐	☒	☐
Extreme nonattainment: 10 tons per year.	☐	☐	☒	☐
c) Expose sensitive receptors to substantial pollutant concentrations?	☐	☒	☐	☐
e) Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?	☐	☐	☐	☒

The discussion below is based on the Kings CSG 3 Solar Project Air Quality and Greenhouse Gas Impact Analysis (AQ/GHG Memo), prepared in March 2022 by EPD Solutions, Inc. (included as Appendix B). The AQ/GHG Memo analyzed the Proposed Project's construction- and operational-period air pollutant emissions using the California Emissions Estimator Model (CalEEMod). The Project Site is within the San Joaquin Valley Air Basin and under the jurisdiction of the San Joaquin Valley Air Pollution Control District (SJVAPCD).

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

Less than Significant Impact. A Project is considered non-conforming to an air quality plan if it conflicts with or delays implementation of any applicable attainment or maintenance plan. A project is conforming if it complies with all applicable SJVAPCD rules and regulations, complies with all proposed control measures from the applicable plan(s), and is consistent with the growth forecasts in the applicable plan(s) (or is directly included in the applicable plan). Conformity with growth forecasts can be established by demonstrating that the Project is consistent with the land use plan that was used to generate the growth forecast. The SJVAPCD has adopted regional thresholds for criteria pollutants and established air quality attainment plans for particulate matter, ozone, and carbon monoxide. The applicable air quality plans include the 2018 Plan for the 1997, 2006, and 2012 PM2.5 Standards, 2020 RACT Demonstration, and the Carbon Monoxide Maintenance Plan from CARB.

The Proposed Project would not conflict with or obstruct implementation of the applicable air quality plans. The site's Air Basin is designated "non-attainment" for State ambient air quality standards (AAQS) for ozone (O_3) and inhalable particulate matter (PM-10 and PM-2.5). However, SJVAPCD's air quality management strategy has resulted in historically low levels of PM-2.5 and ozone levels. The 2018 Plan for the 1997, 2006, and 2012 PM-2.5 Standards provides programs for obtaining "attainment" status for monitored air pollution standards. CARB staff proposed to commit to achieve, in aggregate, 32 tons per day of NOx emission reductions and 1 ton per day of PM-2.5 emission reductions in 2024, with those same emission reduction commitments carried through to 2025. These measures, in conjunction with the existing control program, identify all of the reductions required from mobile sources for the Valley's PM-2.5 attainment needs. These measures reflect a combination of State actions and petitions for federal action to establish the policy and regulatory mechanisms to bring the needed advanced technologies into the California vehicle and equipment fleet, while pairing these actions with incentive and other programs to strategically accelerate the penetration of the cleanest technologies in each sector.

As shown in Tables 5.3-1 and 5.3-2 under item 'b' below, emissions of all criteria pollutants related to Project construction, operation and decommissioning would be below the significance thresholds. Thus, direct impacts from criteria pollutants generated during construction would be less than significant.

Additionally, the Project would be unmanned and therefore not generate any daily operational traffic, beyond occasional visits by security and maintenance staff, the Project would not impede the implementation of any measures in the plan.

While the Proposed Project is not specifically identified in the County's General Plan, it would not generate new homes or significant employment opportunities that would change the County's population projections, and the proposed land use is conditionally permitted within the existing Exclusive Agriculture land use category. Additionally, the Project would generate a negligible amount of operational-period traffic to the site. For these reasons, the Project is concluded to be consistent with the relevant applicable air quality plan, and the impact is less than significant.

b) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is in nonattainment under an applicable federal or state ambient air quality standard? Specifically, would implementation of the project exceed any of the following adopted thresholds:

Less than Significant Impact. The region where the proposed Project would be built is designated as nonattainment for the ozone precursors, PM10 and PM2.5. The San Joaquin Valley Air Pollution Control District's (SJVAPCD) current adopted thresholds of significance for criteria pollutant emissions are used in evaluating Project impacts. SJVAPCD has established daily mass thresholds for regional pollutant emissions, which are listed in Table 5.3-1. The SJVAPCD's Guide for Assessing and Mitigating Air Quality Impacts (also known as GAMAQI) describes that any project that results in daily emissions that exceed any of these thresholds would have both an individually (project-level) and cumulatively significant air quality impact. If estimated emissions are less than the thresholds or reduced to below the thresholds with implementation of mitigation, impacts would be considered less than significant.

The Project's air quality impacts are mainly attributable to short-term construction activities. The long-term impacts of operating solar electricity panels are expected to be minor. For purposes of impact assessment, air quality impacts have been separated into construction/decommissioning impacts and operational impacts.

Construction and Decommissioning

Construction activities associated with the Proposed Project would generate pollutant emissions from site preparation and grading, construction workers traveling to and from the Project site, panel and other equipment installation, and the construction of equipment pads. The amount of emissions generated on a daily basis would vary, depending on the intensity and types of construction activities occurring. Table 5.3-1 depicts peak construction and decommissioning emissions and compares them to APCD significance thresholds. As shown in the table, none of the significance thresholds are exceeded during construction. Operation of the Project is expected to be a minimum of 20 years. Decommissioning of the Project is expected to involve a similar level of activity and duration as construction. As indicated below, decommissioning emissions are calculated to be well below the SJVAPCD thresholds for each pollutant. Therefore, a less-than-significant impact related to the violation of an air quality standard or a substantial contribution to an existing or projected air quality violation would occur from implementation of the Proposed Project.

Table 5.3-1: Peak Day Construction Emissions (tons/year)

Construction Activity	Maximum Daily Regional Emissions (tons/year)					
	ROG	NO_x	CO	SO_x	PM-10	PM-2.5
Mobilization (2023)						
On-site (Fugitive Dust)	0.0	0.0	0.0	0.0	0.1	0.1
On-site (Off-Road)	0.0	0.1	0.1	0.0	0.0	0.0
Off-site (Hauling)	0.0	0.0	0.0	0.0	0.0	0.0
Off-site (Vendor)	0.0	0.0	0.0	0.0	0.0	0.0
Off-site (Worker)	0.0	0.0	0.0	0.0	0.0	0.0
Total Emissions	**0.0**	**0.1**	**0.1**	**0.0**	**0.1**	**0.1**
Site Improvements & Grading (2023)						
On-site (Fugitive Dust)	0.0	0.0	0.0	0.0	0.1	0.1

On-site (Off-Road)	0.0	0.3	0.3	0.0	0.0	0.0
Off-site (Hauling)	0.0	0.0	0.0	0.0	0.0	0.0
Off-site (Vendor)	0.0	0.1	0.0	0.0	0.0	0.0
Off-site (Worker)	0.0	0.0	0.1	0.0	0.1	0.0
Total Emissions	**0.0**	**0.4**	**0.4**	**0.0**	**0.2**	**0.1**
Panel Installation & Connection (2023)						
On-site (Off-Road)	0.1	0.3	0.4	0.0	0.0	0.0
Off-site (Hauling)	0.0	0.0	0.0	0.0	0.0	0.0
Off-site (Vendor)	0.0	0.2	0.0	0.0	0.0	0.0
Off-site (Worker)	0.0	0.0	0.2	0.0	0.1	0.0
Total Emissions	**0.1**	**0.5**	**0.6**	**0.0**	**0.1**	**0.0**
Total Construction Emissions	**0.1**	**1.0**	**1.1**	**0.0**	**0.4**	**0.2**
SJVAPCD Significance Thresholds	10	10	100	27	15	15
Threshold Exceeded?	**No**	**No**	**No**	**No**	**No**	**No**
Decommissioning (2043)						
On-site (Off-Road)	0.1	0.3	0.4	0.0	0.0	0.0
Off-site (Hauling)	0.0	0.0	0.0	0.0	0.0	0.0
Off-site (Vendor)	0.0	0.2	0.0	0.0	0.0	0.0
Off-site (Worker)	0.0	0.0	0.2	0.0	0.1	0.0
Total Emissions	**0.1**	**0.5**	**0.6**	**0.0**	**0.1**	**0.0**
SJVAPCD Significance Thresholds	10	10	100	27	15	15
Thresholds Exceeded?	**No**	**No**	**No**	**No**	**No**	**No**

Source: AQ/GHG Memo.

Operation

Operational-period emissions would be limited to vehicle trips generated by the Project. It is conservatively assumed for air quality analysis purposes that 5 vehicle trips per week would occur, with trip lengths of 40 miles roundtrip. The actual number of trips per week is expected to be less than 5. Table 5.3-2 depicts operational emission and compares them to APCD significance thresholds. As shown in the table, none of the significance thresholds are exceeded during construction. Therefore, a less-than-significant impact related to the violation of an air quality standard or a substantial contribution to an existing or projected air quality violation would occur from implementation of the Proposed Project.

Table 5.3-2: Operational Emissions (tons/year)

Operational Activity	Maximum Daily Regional Emissions (tons/year)					
	ROG	**NO_x**	**CO**	**SO_2**	**PM-10**	**PM-2.5**
Area	3.6	0.0	0.0	0.0	0.0	0.0
Energy	0.0	0.0	0.0	0.0	0.0	0.0
Mobile	0.0	0.0	0.0	0.0	0.0	0.0
Total Project Operational Emissions	3.6	0.0	0.0	0.0	0.0	0.0
SJVAPCD Significance Thresholds	10	10	100	27	15	15
Thresholds Exceeded?	**No**	**No**	**No**	**No**	**No**	**No**

Source: AQ/GHG Memo.

c) Expose sensitive receptors to substantial pollutant concentrations?

No Impact. Sensitive receptors can include uses such as residences, long-term health care facilities, rehabilitation centers, retirement homes, schools, playgrounds, childcare centers, and athletic facilities. The nearest sensitive receptor to the Project Site is a residence located about 1,840 feet north of the property boundary. The Proposed Project would not exceed any applicable criteria pollutant thresholds during construction and on-going operational activities; therefore, sensitive receptors would not be subjected to a significant air quality impact during Project construction.

Valley Fever

The Project site is located in an area that may harbor the fungus that causes Valley Fever, an illness caused by a fungus (Coccidioides immitis and C. posadasii) that grows in soils under certain conditions. The fungus is prevalent in the soils of the San Joaquin Valley, including Kings County, where the average annual exposure rates are more than 100 in 100,000 people (CDPH 2019). The fungal spores become airborne when the soil is disturbed by winds, construction, farming, or other activities. Most people who inhale the spores do not get sick. Usually, susceptible individuals experience flu-like symptoms and will feel better on their own within weeks, although some people require antifungal medication (CDC 2020). There is an increased risk of exposure to people working in construction and agriculture due to their proximity to potential release of airborne spores.

According to Kings County, risk of infection in the County is low since the land in Kings County is predominantly disturbed and the fungal spores are most prevalent in undisturbed soils (Kings County 2009). However, the fungal spores are too small to be seen and it is unknown if the soils of the Project site contain Valley Fever spores. As such, there is a potential for on-site workers to become infected. In order to reduce the potential health impacts from Valley Fever to less-than-significant levels, the following mitigation measures shall be implemented in conjunction with the Project.

Mitigation Measure AQ-1: Preventing Valley Fever Exposure. In order to protect the public and workers from Valley Fever, the following measures shall be implemented during project construction and decommissioning:

a. Implement the Dust Control Plan required to be approved for the project by the San Joaquin Valley Air Pollution District under District Rule 8021 prior to ground disturbing activity.
b. b. Provide workers with NIOSH-approved respiratory protection with particulate filters rated as N95, N99, N100, P100, or HEPA, as recommended in the California Department of Public Health publication

"Preventing Work-Related Coccidioidomycosis (Valley Fever)," available at http://www.cdph.ca.gov/programs/hesis/Documents/CocciFact.pdf.

The implementation of these measures during Project construction and decommissioning would minimize the risk of exposure of workers to Valley Fever. Therefore, the potential hazard to the public from potential exposure to Valley Fever would be reduced to a level of less than significant.

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

No Impact. The Proposed Project would not result in other emissions such as those leading to odors that would adversely affect a substantial number of people. The Project does not contain land uses typically associated with emitting objectionable odors. Potential odor sources associated with the Proposed Project may result from construction equipment exhaust and the application of asphalt and architectural coatings during construction activities. Standard construction requirements would minimize odor impacts from construction. The construction odor emissions would be temporary, short-term, and intermittent in nature and would cease upon completion of the respective phase of construction. No significant odor impacts are anticipated due to the short-term duration of such emissions, as well as the intervening distance to sensitive receptors. Thus, there would be no impact related to odors.

Sources

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Kings County. (2009). Draft Air Quality Element Background Report, County of Kings, California. Accessed: http://www.countyofkings.com/home/showdocument?id=3138

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San Joaquin Valley Air Pollution Control District. Accessed: http://valleyair.org/Air_Quality_Plans/air-quality-plans.htm

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San Joaquin Valley Air Pollution Control District (SJVAPCD). 2015. Final Draft – Guidance for Assessing and Mitigating Air Quality Impacts. Accessed: http://www.valleyair.org/transportation/GAMAQI_3-19-15.pdf.

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

The discussion below is based on the Biological Habitat Assessment for Kings CSG 3 Solar Project (Habitat Assessment), prepared in December 2021 by Phoenix Biological Consulting (included as Appendix C). Preparation of this report included a literature search to identify special status plants, wildlife, and habitats known to occur in the vicinity of the Project Site. Vegetation mapping and general plant and wildlife surveys were also conducted to identify any biological resources on or adjacent to the Project Site.

a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional

plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?

Less than Significant Impact with Mitigation Incorporated. A literature review conducted through the California Natural Diversity Database (CNDDB) identified 27 sensitive species within a 10-mile search radius of the Project Site. The search radius included a wide range of habitat types, most of which are not present within the Project Site.

The Habitat Assessment determined that there is no potential for rare plants to exist within the Project boundary as the site consists of a highly disturbed agricultural area. No threatened or endangered avian species has suitable habitat present on site. However, there is some nesting habitat on the site and foraging habitat may exist. Thus, a preconstruction nesting bird survey would be required as described in Mitigation Measure BIO-1 to avoid the potential for significant impacts to nesting birds protected by the Migratory Bird Treaty Act.

As shown in Figure BIO-1, an undisturbed habitat area exists south of the access road to the project site. Table 5.3-3 below lists sensitive species that may have suitable habitat present in this undisturbed area.

Table 5.3-3: Sensitive Species with Appropriate Habitat within Project Area

Species	Common Name	Federal Status	State Status
Gambelia sia	Blunt-nosed leopard lizard	Endangered	Endangered
Buteo swainsoni	Swainson's hawk	None	Threatened
Athene cunicularia	Burrowing owl	None	Species of Special Concern
Vulpes macrotis mutica	San Joaquin kit fox	Endangered	Threatened
Dipodomys nitratoides	Tipton kangaroo rat	Endangered	Endangered
Tacidea taxus	American badger	None	Species of Special Concern

Construction, operation, and decommissioning of the Project as planned would not impact the sensitive habitat area, and no mitigation would be required. However, should adjustments to the site plan occur which would encroach on the mapped habitat area, impacts would be avoided through implementation of Mitigation Measures BIO-1 through BIO-5. BIO-1 requires preconstruction surveys to identify any nesting birds in order to reduce the potential impact to an active nest. BIO-2 through BIO-5 requires preconstruction surveys for the species protection of burrowing owl, San Joaquin kit fox, blunt-nose leopard lizard and kangaroo rat habitats. Each measure includes additional requirements in case of positive survey findings.

Figure BIO-1: Sensitive Habitat Areas



With the implementation of Mitigation Measures BIO-1 through BIO-5, the Project would have a less-than-significant impact on any candidate, sensitive, or special-status species.

Mitigation Measure BIO-1. Nesting Birds. Where feasible, vegetation clearing shall occur outside of the breeding bird season (February 15 to August 1) to reduce the potential to impact an active nest. If clearing activities cannot be avoided during the breeding season, all suitable habitats shall be thoroughly surveyed for the presence of nesting birds by a qualified biologist with experience identifying local and migratory bird species and conducting bird surveys using appropriate survey methodology within 30 days prior to initial ground disturbing activities. Suitable nesting habitat on the Project Site includes all vegetation. If any active nests are detected, the area shall be delineated to ensure its location is known by all persons working within the vicinity, but shall not be marked in such a manner that it attracts predators. A biologist shall immediately establish a buffer in accordance with CDFW standards surrounding the nest based on professional judgement and experience. The nest will be monitored at the onset of Project activities and at the onset of any changes in Project activities to determine the efficacy of the buffer and shall adjust accordingly. The nest shall be avoided until the nesting cycle is complete or it is determined by the biological monitor that the chicks have fledged the nest and the nest is no longer active.

Additionally, all poles and posts installed on the Project site shall be immediately capped following installation as to prevent entrapment of birds during construction or operation of the Project.

Mitigation Measure BIO-2. Burrowing Owl. This mitigation measure is applicable to undisturbed native shrub south of the Project Site only, should ground disturbance within this area be required. This measure is not applicable within areas of agricultural cultivation or other disturbed areas, such as roadways. In order to minimize the potential for impacts to burrowing owls, the following measures shall be implemented:

Within undisturbed habitat areas, conduct four site visits:

- First visit between 15th of February and 15th of April.
- Three additional visits, three weeks apart, between April 15th and July 15th with at least one visit after June 15th.

Pre-construction surveys shall be conducted for burrowing owls by a qualified biologist no more than 14 days prior to the onset of ground-disturbing activity. Pre-construction surveys shall be repeated if construction halts for more than 14 days. These surveys shall be conducted in accordance with the Staff Report on Burrowing Owl Mitigation (CDFG 2012) or the most recent CDFW guidelines. The surveys shall cover all areas of suitable habitat within the planned construction zones.

If pre-construction surveys are undertaken during the breeding season (February through August) and active nest burrows are located within or near construction zones, a construction-free buffer of 150 to 250 feet shall be established around all active owl nests. The specific dimensions of the buffer zone in each case shall be established by a qualified biologist based on site conditions and the level of intensity of the disturbance activity. The buffer zones shall be enclosed with temporary fencing, and construction equipment and workers shall not be allowed to enter the enclosed setback areas. These buffer zones shall remain in place for the duration of the breeding season. After the breeding season (i.e., once all young have left the nest), passive relocation of any remaining owls may take place, but only under the conditions described below.

During the non-breeding season (September through January), any burrows occupied by resident owls in areas planned for construction shall be protected by a construction-free buffer with a radius of 150 feet around each active burrow. Passive relocation of resident owls is not recommended by CDFW where it can be avoided. If passive relocation is not avoidable, resident owls may be passively relocated according to a relocation plan prepared by a qualified biologist.

Mitigation Measure BIO-3. San Joaquin Kit Fox. This mitigation measure is applicable to undisturbed native shrub south of the Project Site only, should ground disturbance within this area be required. This measure is not applicable within areas of agricultural cultivation or other disturbed areas, such as roadways. In order to minimize the potential for impacts to San Joaquin kit fox, the following measures shall be implemented:

Pre-construction surveys shall be conducted no less than 14 days and no more than 30 days prior to the beginning of ground disturbance, construction activities, and/or any Project activity likely to impact the San Joaquin kit fox. These surveys shall be conducted in accordance with the "U.S. Fish and Wildlife Service Standardized Recommendations for Protection of the San Joaquin Kit Fox Prior to or During Ground Disturbance" (USFWS 2011). The primary objective is to identify San Joaquin kit fox habitat features (e.g., potential dens and refugia) on the Project Site and evaluate their use by San Joaquin kit fox. If an active San Joaquin kit fox den is detected within or immediately adjacent to the area of work, the USFWS shall be contacted immediately to determine the best course of action.

Mitigation Measure BIO-4. Tipton Kangaroo Rat. This mitigation measure is applicable to undisturbed native shrub south of the Project Site only, should ground disturbance within this area be required. This measure is not applicable within areas of agricultural cultivation or other disturbed areas, such as roadways. In order to minimize the potential for impacts to Tipton kangaroo rat, the following measures shall be implemented:

A qualified biologist shall conduct a survey to locate any small mammal burrows. Where feasible, a 50-foot minimum no-disturbance buffer shall be established around small mammal burrow entrances suitable for Tipton kangaroo rat use.

If burrow avoidance is not feasible, a qualified biologist shall conduct focused protocol-level trapping surveys, consisting of five consecutive nocturnal surveys with Sherman live traps. Individuals conducting surveys must hold valid section 10(a)1(A) recovery permits from the U.S. Fish and Wildlife Service and the California Department of Fish and Wildlife. Consultation with CDFW is required if Tipton kangaroo rat is detected and cannot be avoided by the Project.

Mitigation Measure BIO-5. Blunt-Nosed Leopard Lizard. This mitigation measure is applicable to undisturbed native shrub south of the Project Site only, should ground disturbance within this area be required. This measure is not applicable within areas of agricultural cultivation or other disturbed areas, such as roadways. In order to minimize the potential for impacts to blunt-nosed leopard lizard, the following measures shall be implemented:

No more than one year prior to initiating any ground-disturbing activities, protocol-level surveys shall be conducted in accordance with the 2019 CDFW Approved Survey Methodology for the Blunt-nosed Leopard Lizard. Protocol-level surveys must be conducted on multiple dates during late spring, summer, and fall of the same calendar year. Consultation with CDFW is required if blunt-nosed leopard lizard is detected and cannot be avoided by the Project.

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

No Impact. The Project Site is situated within a highly disturbed agricultural area and consists of an active common wheat agricultural plot. The Habitat Assessment concluded that the site does not contain any riparian habitat or other sensitive natural communities (Phoenix Biological Consulting 2021). Therefore, the Project would not result in impacts on riparian habitats or other sensitive natural communities.

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

No Impact. The Project Site consists of disturbed agricultural land. The Habitat Assessment did not identify surface water features. Additionally, the U.S. Geological Survey (USGS) database did not identify information on the Project Site that would necessitate a formal jurisdictional determination. The Project Site does not contain any jurisdictional areas that would be subject to permitting under state or federal regulations. Thus, the Project would not result in impacts to state or federally protected wetlands.

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

Less than Significant Impact. Surrounding land uses, including active agricultural operations, largely prevent the use of the site as a wildlife corridor. Due to the limited existing wildlife corridors

present in the Project vicinity and isolated Project Site, the Project development would not have a significant impact on wildlife corridors.

In addition, the proposed solar Project is not expected to substantially increase the level of fragmentation in the region nor is it expected to create a barrier to terrestrial migration. For this reason, there would be a less-than-significant impact to the movement of any wildlife species. Due to the disturbed land with agricultural uses and surrounding agricultural uses, the site does not serve as a native wildlife nursery site, and no such use would be impacted by the Project. Thus, impacts related to interfering substantially with the movement of species would be less than significant.

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

No Impact. The Kings County General Plan Resource Conservation Element outlines policies to conserve native oaks and native trees associated with the County's rivers, creeks, and streams. However, the Project Site does not contain any trees within or adjacent to the site. The Project would not conflict with any local policies or ordinances protecting biological resources.

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

No Impact. There is no applicable Habitat Conservation Plan (HCP) or Natural Community Conservation Plan (NCCP) affecting the Project Site. There would be no impact related to a conflict with an HCP or NCCP.

Sources

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U.S. Fish & Wildlife Service (USFWS). 2011. U.S. Fish and Wildlife Service Standardized Recommendations for Protection of the Endangered San Joaquin Kit Fox Prior To or During Ground Disturbance. Prepared by Sacramento Fish and Wildlife Office, January. http://www.fws.gov/sacramento/es/SurveyProtocols-Guidelines/Documents/kitfox_standard_rec_2011.pdf

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
5.3.5 CULTURAL RESOURCES.				
Would the project:				
a) Cause a substantial adverse change in the significance of a historical resource as defined in § 15064.5?	☐	☒	☐	☐
b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?	☐	☒	☐	☐
c) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	☐	☒	☐	☐
d) Disturb any human remains, including those interred outside of formal cemeteries?	☐	☐	☒	☐

The discussion below is based on the Cultural and Paleontological Assessment: Kings CSG 3 LLC Solar Project (Cultural Assessment), prepared by Material Culture Consulting (MCC) in January 2022 (included as Appendix D). Preparation of the report included cultural and paleontological records searches, a search of the Sacred Lands File by the Native American Heritage Commission (NAHC), outreach efforts with 12 Native American tribal representatives, background research, and a pedestrian field survey.

a) Cause a substantial adverse change in the significance of a historical resource as defined in §15064.5?

Less than Significant Impact with Mitigation Incorporated. The Cultural Resources Assessment included a California Historical Resources Information System (CHRIS) records search, background research, Native American Heritage Commission (NAHC) and Native American tribal group outreach, and a pedestrian survey. The records search identified one previously recorded resource within the Project Area (Material Culture Consulting [MCC] 2022). The resource consists of a historic-age transmission line and is not anticipated to be impacted by the Proposed Project. However, the resource was previously evaluated for the listing on the National Register of Historic Places (NRHP) and the California Register of Historic Resources (CRHR) and was deemed not eligible; thus, the line is not considered a historic resource for CEQA purposes. No additional historical resources were identified within the Project area (MCC 2022).

To minimize any potential for impacts to previously unidentified resources that may be discovered during ground disturbance, the implementation of Mitigation Measures CUL-1 through CUL-4 are required. Mitigation measure CUL-1 requires an archaeologist to be retained for on-call services in case of an unexpected archaeological find, and for construction work to halt within a 100-foot buffer of such a find until evaluation is completed by the archaeologist. Mitigation measure CUL-2

requires the Project applicant to note on any plans that require ground-disturbing excavation that there is a potential for exposing buried cultural resources. Mitigation measure CUL-3 requires the Project applicant to retain the Santa Rosa Rancheria Cultural Staff to provide pre-construction Cultural Sensitivity Training to construction staff and any excavation contractor regarding discovery of cultural resources and the potential for discovery during ground-disturbing activities. Mitigation measure CUL-4 requires the Project applicant to offer the Santa Rosa Rancheria Tachi Yokut Tribe the opportunity to provide a Native American Monitor during ground disturbing activities during both construction and decommissioning.

With the implementation of these mitigation measures, the Project would result in a less-than-significant impact on historical resources.

~~**Mitigation Measures**~~

Mitigation Measure CUL-1. Inadvertent Discoveries. Prior to the ground disturbing activities, the Developer shall retain a professional archaeologist to provide on-call services in the event archaeological resources are discovered. In the event that archaeological resources are inadvertently discovered during ground-disturbing activities, work must be halted within 100 feet of the find until it can be evaluated by a qualified archaeologist. Construction activities could continue in other areas.

The archaeologist shall document the resources using DPR 523 forms and evaluate for significance. The forms shall be filed with the California Historical Resources Information System, Southern San Joaquin Valley Information Center. The resources shall be photo-documented and collected by the archaeologist for submittal to the Santa Rosa Rancheria's Cultural and Historical Preservation Dept. The archaeologist shall be required to submit to the County for review and approval a report of the findings and method of curation or protection of the resources. Further grading or site work within the area of discovery shall not be allowed until the preceding steps have been taken.

Any potentially significant artifacts, sites or features observed shall be collected and recorded in conjunction with best management practices and professional standards. Upon coordination with the Kings County CDA, any pre-historic archaeological artifacts recovered shall be donated to an appropriate Tribal custodian or a qualified scientific institution where they would be afforded applicable cultural resource laws and guidelines.

Mitigation Measure CUL-2: Cultural Resources Alert on Project Plans. The Project applicant shall note on any plans that require ground-disturbing excavation that there is a potential for exposing buried cultural resources. Due to Kings County CDA prior to issuance of building permits (verified with plan check).

Mitigation Measure CUL-3: Pre-Construction Briefing. The Project applicant shall retain the Santa Rosa Rancheria Cultural Staff to provide pre-construction Cultural Sensitivity Training to construction staff and any excavation contractor regarding discovery of cultural resources and the potential for discovery during ground-disturbing activities, which will include information on potential cultural material finds and on the procedures to be enacted if resources are found. Verification due to Kings County CDA prior to ground-disturbing activity.

Mitigation Measure CUL-4: Native American Monitoring. Prior to any ground disturbance, the Project applicant shall offer the Santa Rosa Rancheria Tachi Yokut Tribe the opportunity to provide a Native American Monitor during ground disturbing activities during both construction and

decommissioning. Tribal participation would be dependent on the availability and interest of the Tribe. Confirmation of correspondence with Santa Rosa Rancheria Cultural Staff due to Kings County CDA prior to construction.

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

Less than Significant Impact with Mitigation Incorporated. No archaeological resources were identified in the literature review or during the pedestrian survey of the Project Site (MCC 2022). To minimize any potential for impacts to previously unidentified resources that may be discovered during ground disturbance, the implementation of Mitigation Measure CUL-1 is required. With the implementation of this mitigation measure, the Project would result in a less-than-significant impact on archaeological resources.

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

Less than Significant Impact with Mitigation Incorporated. No evidence of the burial of human remains at the site was identified in literature reviews or during the pedestrian survey. Existing regulations in the Health and Safety Code, Public Resources Code, and California Code of Regulations establish a procedure for the proper handling of unidentified human remains; this process is summarized in PPP CUL-1. With the implementation of this PPP, impacts related to the disturbance to any human remains, including those interred outside of formal cemeteries, would be less than significant.

The following PPP is incorporated into the Project and would reduce impacts related to cultural resources. This action will be included in the Project's mitigation monitoring and reporting program:

PPP CUL-1. Human Remains. Procedures of conduct following the discovery of human remains on non-federal lands have been mandated by California Health and Safety Code §7050.5, California Public Resources Code §5097.98, and California Code of Regulations (CCR) §15064.5(e). Should human remains be encountered, all work in the immediate vicinity of the burial must cease, and any necessary steps to ensure the integrity of the immediate area must be taken. The Kings County Coroner will be immediately notified. The Coroner must then determine whether the remains are Native American. If the Coroner determines the remains are Native American, the Coroner has 24 hours to notify the NAHC, who will, in turn, notify the person they identify as the most likely descendent (MLD) of any human remains. Further actions will be determined, in part, by the desires of the MLD. The MLD has 48 hours to make recommendations regarding the disposition of the remains following notification from the NAHC of the discovery. If the MLD does not make recommendations within 48 hours, the owner shall, with appropriate dignity, reinter the remains in an area of the property secure from further disturbance. Alternatively, if the owner does not accept the MLD's recommendations, the owner or the descendent may request mediation by the NAHC.

Sources

Cultural and Paleontological Assessment. Prepared by Material Culture Consulting, 2022.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
5.3.6 ENERGY.				
Would the project:				
a) Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation?	☐	☐	☐	☒
b) Conflict with or obstruct a state or local plan for renewable energy or energy efficiency	☐	☐	☐	☒

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

No Impact. The Project would utilize energy from construction activities by use of construction equipment and construction workers traveling to and from Project Site. The amount of energy used on a daily basis would vary, depending on the intensity and types of construction activities occurring and the equipment that is being utilized. However, construction activities would be limited and short term in length (3 months). Also detailed in Section 8, *Greenhouse Gas Emissions*, the amount of energy (shown in terms of GHG emissions) generated from construction activities would be limited and would not have the potential to result in a significant impact on the environment.

Operation of the Project involves generation of 3 MW of renewable energy to be supplied to the regional power grid. Thus, the Project would not result in wasteful, inefficient, or unnecessary consumption of energy resources, and impacts would not occur.

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

No Impact. As described previously, the Project involves generation of 3 MW of renewable energy for the regional power grid. The Project aids in meeting the renewable energy mandates established by the State's RPS. The RPS requires retail sellers and publicly owned utilities to procure 60 percent of their electricity from eligible renewable energy resources by 2030 and requires all of the state's retail electricity supply to consist of zero-carbon resources by 2045. In addition, the Project would assist the State in its goals for renewable energy as set forth by AB 32. Therefore, the Project would have a positive impact on meeting state and local plans for renewable energy or energy efficiency.

Sources

Kings CSG LLC Solar Project Air Quality and Greenhouse Gas Impact Analysis, Prepared by EPD Solutions, Inc., 2022.

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

a) Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:

i. Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.

No Impact. Kings County has no known major fault systems within its territory (Kings County General Plan Health and Safety Element 2010). The Project Site is not mapped within an Alquist-Priolo Earthquake Fault Zone, and there is no other evidence of a known fault within the Project Site. Therefore, there would be no impact related to the exposure of people or structures to substantial adverse effects from the rupture of a known earthquake fault.

ii. Strong seismic ground shaking?

Less than Significant Impact with mitigation. According to the Kings County General Plan Health and Safety Element, the Project Site is located within an area with a ground acceleration potential of 30-40% (2010). The Proposed Project would be an unmanned facility and would not include any habitable structures. Further, the structures installed on the site would comply with the applicable standards of the California Building Code, including, as appropriate, a site-specific geotechnical analysis. This requirement is incorporated into the Project as PPP GEO-1. With the application of PPP GEO-1, impacts related to the exposure of people or structures to substantial adverse effects from strong seismic ground shaking would be less than significant.

iii. Seismic-related ground failure, including liquefaction?

Less than Significant Impact with mitigation. The potential for liquefaction is recognized throughout the San Joaquin Valley where unconsolidated sediments and a high water table coincide (Kings County Emergency Operations Plan 2015). However, the risk and danger of liquefaction and subsidence occurring within the County is considered to be minimal. In addition, the site is not mapped within a liquefaction zone. Structures installed on the site would comply with the applicable standards of the California Building Code. This requirement is incorporated into the Project as PPP GEO-1. With the application of PPP GEO-1, impacts related to the exposure of people or structures to substantial adverse effects from seismic-related ground failure would be less than significant.

iv. Landslides?

No Impact. Landslides are the downslope movement of geologic materials. The stability of slopes is related to a variety of factors, including the slope's steepness, the strength of geologic materials, and the characteristics of bedding planes, joints, faults, vegetation, surface water, and groundwater conditions. The Project area consists of relatively flat terrain where landslides have not historically occurred. Based on these factors, impacts related to seismic-related landslide hazards would not occur.

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

Less than Significant Impact with mitigation. Active construction sites are a source of topsoil erosion if site drainage is not controlled. The implementation of PPP WQ-1, requiring preparation of a SWPPP in compliance with National Pollutant Discharge Elimination System (NPDES) standards and in accordance with County standards, and including an Erosion & Sediment Control Plan, would

minimize the risk of construction-period soil erosion or loss of topsoil. With the implementation of this measure, impacts related to soil erosion and the loss of topsoil would be less than significant.

PPP WQ-1. Stormwater Pollution Prevention Plan. Prior to construction grading and prior to the decommissioning, the applicant shall be required to file a Notice of Intent with the State Water Resources Control Board to comply with the General Permit and prepare a Storm Water Pollution Prevention Plan (SWPPP). The SWPPP will specify best management practices for control, containment of hazardous materials during construction, including housekeeping measures for control of contaminants such as petroleum products, paints and solvents, detergents, fertilizers, and pesticides, as well as vehicle and equipment fueling and maintenance practices, and waste management and disposal control practices, among other things. The project SWPPP will be prepared by a certified Qualified SWPPP Developer (QSD), who will ensure that the BMPs in the project-specific SWPPP will fully comply with the requirements of the General Permit. The enforcement of project SWPPP is the responsibility of the Central Valley Regional Water Quality Control Board, whose responsibilities include conducting inspections of the project construction sites to ensure effective implementation of Best Management Practices (BMPs) specified in the SWPPP prepared for the project.

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

Less than Significant Impact with mitigation. The Proposed Project would be an unmanned facility and would not include any habitable structures. Structures installed on the site would comply with the applicable standards of the California Building Code. This requirement is incorporated into the Project as PPP GEO-1. With the application of PPP GEO-1, potential impacts related to unstable geologic units or soils resulting in on- or offsite landslides, lateral spreading, subsidence, liquefaction, or collapse would be less than significant.

PPP GEO-1. Code Compliance. The Project is required to comply with the applicable regulations of the California Building Code.

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

Less than Significant Impact with Mitigation. The Kings County General Plan Health and Safety Element does not identify soils on the Project Site as having very low expansion potential (2010). The Proposed Project would be an unmanned facility and would not include any habitable structures. Structures installed on the site would comply with the applicable standards of the California Building Code. This requirement is incorporated into the Project as PPP GEO-1. Additionally, Mitigation Measure GEO-1 has been incorporated into the Project to require preparation of an expansive soils report by a qualified registered civil engineer prior to the issuance of building permits. With the application of PPP GEO-1 and MM GEO-1, impacts related to expansive soils would be less than significant.

Mitigation Measure GEO-1: Expansive Soils Report. Prior to the issuance of building permits, preparation of an expansive soils report by a qualified registered civil engineer, based on soil borings or excavations, to determine the potential for soils expansion and to prepare recommendations for corrective actions to mitigate potential damage to project structures due to potential soils expansion is required.

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

No Impact. No septic tanks or alternative wastewater disposal systems are proposed. Therefore, no impacts related to the use of such facilities would occur from implementation of the Project.

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

Less than Significant Impact with Mitigation. The paleontological resource assessment of the Project Area included a locality records search, literature review, and a pedestrian survey. No paleontological resources were identified directly within the Project Area during the locality search or the field survey (MCC 2022). However, multiple fossil localities have been identified near the Project Area from similar sedimentary deposits. The geological unit mapped within the Project Area is comprised of Quaternary alluvium dating from the Holocene to Pleistocene. These sediments are considered to have a low paleontological potential at the surface, however the potential increases with depth if older Pleistocene-aged sediments are encountered.

The Project Area has a low potential for impacts related to paleontological resources at the surface in the Holocene-aged deposits and a moderate potential in Pleistocene-aged deposits in the subsurface. To minimize any potential for impacts to paleontological resources that may be discovered during ground disturbance, the implementation of Mitigation Measure PAL-1 is required. This Mitigation Measure requires paleontological monitoring to be conducted when excavation exceeds depths of 6 feet. With the implementation of this Mitigation Measure, the Project would result in a less-than-significant impact on unique paleontological resources or unique geologic features.

Mitigation Measure PAL-1. Paleontological Monitoring. A trained and qualified paleontological monitor should perform initial spot checking of any excavations on the Project that have the potential to impact paleontological resources in undisturbed native sediments below 6 feet in depth. Monitoring is not required for ground-disturbing activities that have a low likelihood of revealing paleontological resources, including drilling, pile-driving, directional boring, or other similar activities. The monitor will have the ability to redirect construction activities to ensure avoidance of potential paleontological resources unearthed during ground-disturbing activities. The Project Paleontologist may re-evaluate the necessity for paleontological monitoring after examination of the affected sediments during excavation, with approval from Lead Agency and Client representatives. Any potentially significant paleontological resources observed shall be collected and recorded in accordance with best management practices and Society of Vertebrate Paleontology (SVP) professional standards. Any fossils recovered during mitigation should be prepared, identified, and deposited in an accredited and permanent scientific institution for the benefit of current and future generations, where such an institution is available and willing to accept the resources.

Sources

Cultural and Paleontological Assessment. Prepared by Material Culture Consulting, 2022.

California Geological Survey. Earthquake Zones of Required Investigation. Accessed: https://maps.conservation.ca.gov/cgs/EQZApp/app/

County of Kings General Plan Health and Safety Element. 2010. Accessed: https://www.countyofkings.com/home/showpublisheddocument/13515/636065239398370000

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
5.3.8 GREENHOUSE GAS EMISSIONS.				
Would the project:				
a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?	☐	☐	☐	☒
b) Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?	☐	☐	☐	☒

The discussion below is based on the Kings CSG LLC Solar Project Air Quality and Greenhouse Gas Impact Analysis (AQ/GHG Memo), prepared in March 2022 by EPD Solutions, Inc. (included as Appendix B). The AQ/GHG Memo included modeling of greenhouse gas emissions using the California Emissions Estimator Model (CalEEMod).

Explanation

Constituent gases of the Earth's atmosphere, called atmospheric greenhouse gases (GHGs), play a critical role in the Earth's radiation amount by trapping infrared radiation from the Earth's surface, which otherwise would have escaped to space. Prominent greenhouse gases contributing to this process include carbon dioxide (CO_2), methane (CH_4), ozone (O_3), water vapor, nitrous oxide (N_2O), and chlorofluorocarbons (CFCs). This phenomenon, known as the Greenhouse Effect, is responsible for maintaining a habitable climate. Emissions of gases that induce global warming are increased by human activities associated with industrial/manufacturing, agriculture, utilities, transportation, and residential land uses.

Section 15364.5 of the California Code of Regulations defines GHGs to include but is not limited to carbon dioxide, methane, nitrous oxide, hydrofluorocarbons, perfluorocarbons and sulfur hexafluoride. Transportation is responsible for 27 percent of the state's greenhouse gas emissions, followed by electricity generation (25 percent). Emissions of CO_2 and N_2O are byproducts of fossil fuel combustion. Methane (11 percent of the state's greenhouse gas emissions), results from natural gas systems, raising of livestock and natural wetlands. Sinks of CO_2, where CO_2 is stored outside of the atmosphere, include uptake by vegetation and dissolution into the ocean.

GHG Thresholds

SJVAPCD has not adopted thresholds of significance for GHG emissions from an individual project. The Air Resources Board (ARB) is currently using existing data from the industrial sector to formulate a proposed threshold. At this time, a significance threshold of 7,000 metric tons of CO_2 (Mt CO_2e) per year is being used for operational emissions. SJVAPCD supports the use of interim thresholds as established by CARB when adopted thresholds are not applicable.

Construction activities associated with the Proposed Project would result in emissions of CO_2 and CH_4 from construction activities. SJVAPCD's Climate Change Action Plan (CCAP) identified best performance standards (BPS) expecting to equal or exceed a 29 percent reduction in GHG emissions from stationary sources and development projects.

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

No Impact.

Construction

Construction activities produce combustion emissions from various sources, such as site grading, heavy-duty construction vehicles onsite, equipment hauling materials to and from the site, and motor vehicles transporting the construction crew. Exhaust emissions from onsite construction activities would vary daily as construction activity levels change. The CalEEMod2020.4.0 computer model estimated that the construction and decommissioning activities for the Proposed Project would generate a total of 315 $MTCO_2e$.

Operations

Project operations would generate GHG emissions primarily as a result of worker vehicle trips. Additionally, the Project's construction-related GHG emissions, amortized over 30 years, are added to the operational emissions estimate in order to determine the Project's total annual GHG emissions.

As shown in Table 5.3-4, the Project's total annual GHG emissions would be approximately 16 $MTCO_2e$ per year. This is below the threshold of 7,000 $MTCO_2e$ per year. In addition, as the Project would displace electricity generation from GHG-generating facilities such as natural gas power plants, the Project would result in a net reduction of GHG emissions of 760 $MTCO_2e$. Therefore, the Project would have a positive impact on the environment by reducing greenhouse gas emissions.

Table 5.3-4: Project Total GHG Emissions

Consumption Source	**$MTCO_2e$ per year**
Operations	5
Construction (amortized over 30 years)	11
Subtotal	**16**
Displaced Electricity Generation	-760
TOTAL NET GENERATION	**-744**
Threshold	**7,000**
Exceeds Threshold?	**No**

Source: AQ/GHG Memo

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

No Impact. The Project would provide renewable energy and would consequently assist the state in its goals for renewable energy as set forth by AB 32. In addition, the Project is consistent with the CCAP as electricity generated from solar sources will result in a reduction in GHG emissions in contrast to electricity generated from fossil fuels. As such, the Project would not conflict with the goals for AB 32 or CCAP in reducing GHG emissions and no impacts would occur.

Sources

San Joaquin Valley Air Pollution Control District. Accessed: http://valleyair.org/Air_Quality_Plans/air-quality-plans.htm

San Joaquin Valley Air Pollution Control District. Air Quality Thresholds of Significance - Criteria Pollutants. Accessed: http://www.valleyair.org/transportation/0714-GAMAQICriteria-Pollutant-Thresholds-of-Significance.pdf.

Kings CSG LLC Solar Project Air Quality and Greenhouse Gas Impact Analysis, Prepared by EPD Solutions, Inc., 2022.

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

Explanation

Federal Law

Hazardous Materials Transportation Act, Title 42, Section 11022 of the United States Code is the principal federal law in the United States regulating the transportation of hazardous materials. Its purpose is to "protect against the risks to life, property, and the environment that are inherent in the transportation of hazardous material in intrastate, interstate, and foreign commerce."

The Act was passed as a means to prevent spills and illegal dumping endangering the public and the environment. Regulations are enforced through four key provisions of the code that include: Procedures and Policies, Material Designations and Labeling, Packaging Requirements, and Operational Rules

State Law

California Health and Safety Code Chapter 6.95 establishes minimum statewide standards for Hazardous Materials Business Plans (HMBPs). HMBPs contain basic information on the location, type, quantity, and health risks of hazardous materials and/or waste. Each business is required to prepare a HMBP if that business uses, handles, or stores a hazardous material and/or waste or an extremely hazardous material in quantities greater than or equal to the following:

- 55 gallons for a liquid
- 500 pounds of a solid
- 200 cubic feet for any compressed gas
- Threshold planning quantities of an extremely hazardous substance

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

Less than Significant Impact with Mitigation. The Project is not expected to result in impacts from hazards and hazardous materials with respect to creating a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials. The Project would not involve the routine transport, use, or disposal of significant amounts of hazardous materials as defined by the Hazardous Materials Transportation Uniform Safety Act. During construction, the Project would involve the transport of general construction materials (i.e., concrete, metal, fuel, etc.) as well as the materials necessary to construct the proposed PV arrays.

Construction activities would involve the use of hazardous materials such as gasoline, diesel fuels, oils, lubricants, solvents, detergents, , degreasers, paints, welding and soldering supplies, pressurized gases, etc. All hazardous materials would be stored in containers that are specifically designed for the materials to be stored. Although these types of materials are not acutely hazardous, they are classified as hazardous materials and create the potential for accidental spillage, which could expose workers. The use, storage, transport, and disposal of hazardous materials for construction of the facility would be carried out accordance with federal, State, and County regulations. No extremely hazardous substances (i.e., governed under Title 40, Part 335 of the Code of Federal Regulations) would be used, stored, transported, or disposed of as a result of Project construction. Thus, impacts related to construction would be less than significant.

During construction, minor spills or discharges of potentially hazardous materials could occur due to improper handling, storage and/or disposal which could result in potentially significant impacts. However, in order to ensure that impacts due to the use, transport, and disposal of hazardous materials would be less than significant, Mitigation Measure HAZ-1 is being incorporated to require the applicant prepare and implement a Hazardous Materials Business Plan (HMBP) and a SWPPP as outlined in PPP WQ-1. Implementation of Mitigation Measure HAZ-1 and PPP WQ-1 would reduce any impacts regarding the handling of substances and accidental releases to a less than significant level.

Mitigation Measure HAZ-1: Hazardous Materials Business Plan. The Project applicant shall prepare and implement a Hazardous Materials Business Plan (HMBP) in accordance with the requirements of the Kings County Public Health Department Environmental Services Division. The HMBP shall include a hazardous material inventory, emergency response procedures, training program information, and basic information on the location, type, quantity, and health risks of hazardous materials stored, used, or disposed of at the proposed Project site, and procedures for handling and disposing of unanticipated hazardous materials encountered during construction. The HMBP shall include an inventory of the hazardous waste generated on site and would specify procedures for proper disposal. Any accidental release of small quantities of hazardous materials shall be promptly contained and abated in accordance with applicable regulatory requirements and reported to the Environmental Health Services Division. Implementation of the HMBP for the Project would ensure that minor spills or releases of hazardous materials would not pose a significant risk to the public or the environment.

PPP WQ-1: Stormwater Pollution Prevention Plan. Prior to construction grading and prior to the decommissioning, the applicant shall be required to file a Notice of Intent with the State Water Resources Control Board to comply with the General Permit and prepare a Storm Water Pollution Prevention Plan (SWPPP). The SWPPP will specify best management practices (BMPs) for control, containment of hazardous materials during construction, including housekeeping measures for control of contaminants such as petroleum products, paints and solvents, detergents, fertilizers, and pesticides, as well as vehicle and equipment fueling and maintenance practices, and waste management and disposal control practices, among other things. The project SWPPP will be prepared by a certified Qualified SWPPP Developer (QSD), who will ensure that the BMPs in the project-specific SWPPP will fully comply with the requirements of the General Permit. The enforcement of project SWPPP is the responsibility of the Central Valley Regional Water Quality Control Board, whose responsibilities include conducting inspections of the project construction sites to ensure effective implementation of Best Management Practices (BMPs) specified in the SWPPP prepared for the project.

Operation of the Project may involve the transport, use, and disposal or minor amounts of hazardous materials including motor vehicle fuel, lubricants, inverter coolant, cleaning chemicals, paint, pesticides, herbicides, and fire suppressant. Such materials would be stored in temporary above-ground storage tanks or in secure sheds or fenced areas. During operation, certain Project components, such as switchgears, transformers, and inverters, may contain small quantities of hazardous materials. Large quantities of hazardous substances would not be routinely transported or used during operation, except for transport, use, and disposal of transformer oil during major maintenance activities.

The types of PV modules that may be installed include thin-film modules (including cadmium telluride [CdTe or "cad tel"] and copper indium gallium diselenide technologies), crystalline and amorphous silicon (c-Si) modules, or any other commercially available photovoltaic technology. Cadmium-Telluride (CdTe) is classified as a hazardous material. In any solar facility, it is expected that some modules will occasionally need replacement during the life of the facility. The potential hazards associated with CdTe PV modules are addressed in detail under item 'b' below.

During operation of the solar facilities, minor spills or discharges of hazardous materials could occur due to improper handling, storage, and/or disposal, thus leading to a potentially significant impact. In order to reduce the potential impacts from hazardous materials during project operations to less-than-significant levels, Mitigation Measure HAZ-1, as discussed above, would be implemented with the Project.

During decommissioning, the solar arrays and supporting infrastructure would be disassembled and removed, with all materials recycled, residues, or disposed of as appropriate in accordance with the Soil Reclamation Plan to be prepared for each Project phase (Mitigation Measure AG-2). Materials stored on the site during operation would be transported and/or disposed of during the decommissioning phase. Decommissioning may result in the minor spills or discharges of potentially hazardous materials that could occur due to improper handling, storage and/or disposal which could result in potentially significant impacts. Mitigation Measure HAZ-1, as discussed above, would be implemented with the Project to reduce potential impacts from minor spills or discharges of potentially hazardous materials due to improper handling, storage and/or disposal during decommissioning of the solar facility to a less than significant level.

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

Less than Significant Impact with Mitigation. See discussion under item 'a' above. Some hazardous materials such as fuels, oils and lubricants would be used during construction, operation, and decommissioning of the Project. Mitigation Measure HAZ-1 requires preparation and implementation of a HMBP to reduce potential impacts from minor spills or discharges of potentially hazardous materials due to improper handling, storage and/or disposal. Additionally, as listed under PPP WQ-1, a SWPPP, listing BMPs to prevent construction pollutants and products from violating any water quality standard or waste discharge requirements would be prepared for the Project. The release of any spills to the environment would be prevented through the implementation of Mitigation Measure HAZ-1 and BMPs included in the SWPPP (PPP WQ-1).

Hazardous Materials in Photovoltaic (PV) Technology

In addition to the hazardous materials that may be used during construction, operation, and decommissioning of the Project, the photovoltaic technology that would be installed may contain hazardous materials. There are two dominant semiconducting materials used in photovoltaic technology including: crystalline silicon (c-si) which is the conventional material used in flat plate panels; and thin-film semiconductors such as amorphous silicon (a-si) and cadmium telluride (CdTe). The silicon based solar cells do not contain hazardous materials, although they may use lead-containing solders. Improper decommissioning of the panels with lead-containing solders could result in lead leaching into landfills and eventually into waterbodies. The applicant would recycle, reuse, or dispose of solar PV cells in compliance with all applicable local, state, and federal regulations.

CdTe is a hazardous substance when not imbedded within a PV module. During the manufacturing process, the CdTe semiconductor layer is sealed between two sheets of glass. CdTe contained within PV modules is highly stable and no emissions of any kind are generated when PV modules are used under normal conditions (Fthenakis 2003).

The primary manufacturer and operator of solar facilities with CdTe PV modules is First Solar. First Solar has a program for recycling modules at the end of their 25-year life cycle in which during the recycling and refining process, up to 90 percent of the semiconductor material is recovered for reuse in new modules (First Solar 2020).

In summary, the potential for emissions of CdTe is negligible during normal use of CdTe PV modules. Recycling of CdTe modules is preferable to disposal at a landfill, from a waste reduction and materials recovery standpoint, and a manufacturer's program is in place to accept used CdTe PV

modules. However, since the evidence indicates there is a negligible human health risk associated with CdTe modules, mandatory recycling of these modules is not required.

Under California law, PV modules are classified as universal waste (e-waste) and are not considered to be hazardous waste. In late 2020, the California Office of Administrative Law (OAL) approved regulations, effective January 1, 2021, for managing PV modules as universal waste (DTSC 2020). The adopted regulations include specific requirements for handling, transport, treatment, and disposal of discarded PV modules. All PV modules brought to the Project site that are deemed unusable will be recycled at a private facility by the Project operator or handled and disposed of as universal waste.

The potential use and disposal of PV modules at the Project site would not result in a significant risk of a release of hazardous materials that would be harmful to human health or the environment. Therefore, the potential for health hazard from PV modules would be less than significant.

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

No Impact. There is no existing or proposed school within one-quarter mile of the Project Site. The nearest schools are Neutra Elementary School and Akers Elementary School, 0.4 and 0.7 mile north of the Project Site, respectively. Thus, the Project would not result in an impact related to hazardous emissions or the handling of hazardous materials, substances, or waste near a school.

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

No Impact. As verified by the California Department of Toxic Substances Control Envirostor database, the Project Site is not included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5. There would be no significant hazard to the public or environment resulting from the site's presence on such a list.

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

Less than Significant Impact with Mitigation. Four airports exist within the proximity of the Project Area: Naval Air Station Lemoore located approximately 5 miles north, Hanford Municipal Airport located approximately 15 miles northeast, West Side Field Station Airport located approximately 14 miles northwest and Harris Ranch Airport located approximately 20 miles west of the Project Site. According to the Kings County General Plan Health and Safety Element Airport Compatibility Map, the Project Site is not located within an airport compatibility zone. In addition, the Project Site would be unmanned and no workers would be exposed to excessive noise. Therefore, impacts related to a safety hazard or noise from airport operations would not occur from implementation of the Project. The implementation of PPP HAZ-1 is required to comply with Federal Aviation Administration requirements for an Obstruction Evaluation of new structures.

> **PPP HAZ-1: FAA Obstruction Evaluation.** Prior to issuance of a building permit, the developer shall provide evidence of a completed Obstruction Evaluation (Title 14, Code of Federal Regulations Part 77) by the Federal Aviation Administration.

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

No Impact. The Proposed Project is located within an existing parcel and would not modify any roadways servicing emergency response or evacuations. There would be no impact related to the impairing of or physical interference with an adopted emergency response plan or emergency evacuation plan.

g) Expose people or structures to a significant risk of loss, injury or death involving wildland fires?

Less than Significant Impact. The Project Site is not within an area designated by California Department of Forestry and Fire Protection as a Fire Hazard Severity Zone (CAL FIRE 2007). Furthermore, no Very High Fire Hazard Severity Zones are located nearby. The Project Site is accessible by emergency personnel and vehicles in the event of a wildland fire. The Project would not include construction of structures for human habitation and there would be no permanent employees stationed at the site. For these reasons, this impact would be less than significant.

Sources

California Department of Forestry and Fire Protection. *Fire Hazard Severity Zones in SRA* [Map]. Kings County. Accessed: https://gis.data.ca.gov/datasets/789d5286736248f69c4515c04f58f414

California Department of Toxic Substances Control. Envirostor. Accessed: https://www.envirostor.dtsc.ca.gov/public/

Department of Toxic Substances Control (DTSC). (2020). Photovoltaic (PV) Modules – Universal Waste Management Regulations. Accessed: https://dtsc.ca.gov/photovoltaic-modules-pv-modules-universal-wastemanagement-regulations/

First Solar, Inc. (2020). First Solar – Recycling Modules. Accessed: http://www.firstsolar.com/en/technologies-andcapabilities/recycling-services

Fthenakis, Vasilis, and Ken Sweibel. (2003). CdTe PV: Real and Perceived EHS Risks. Accessed: https://www.bnl.gov/pv/files/pdf/art_166.pdf

Kings County. (2010). Kings County General Plan Health and Safety Element. Accessed: https://www.countyofkings.com/home/showpublisheddocument/13515/636065239398370000

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

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

Less than Significant Impact with mitigation. Operation of the Project would not require the regular use of water or produce any form of wastewater. Waste Discharge Requirements (issued by the Central Valley Regional Water Quality Control Board) are not applicable to the Project. As

further explained below, the Project would result in less-than-significant impacts related to the violation of any water quality standards.

Construction and Decommissioning

During the construction and decommissioning phases of the Project, there is a potential to generate stormwater . Stormwater runoff from the Project Site could contain pollutants such as soils and sediments that are released during grading and excavation activities, as well as chemical and petroleum-related pollutants due to spills or leaks from heavy equipment and machinery. Other common pollutants that may result from construction activities include solid or liquid chemical spills; concrete and related cutting or curing residues; wastes from paints, sealants, solvents, detergents, glues, acids, lime, plaster, and cleaning agents; and heavy metals from equipment.

Hazardous materials (such as fuels, solvents, and coatings, among others) associated with construction activities would be stored and used in accordance with manufacturer's specifications and applicable hazardous material regulations. However, soil disturbance (from construction activities associated with site grading, mounting of the solar panels, equipment installation, electrical conduit trenching, and scraping for the access roads) could cause soil erosion and the eventual release of sediment into stormwater runoff.

The NPDES permit program was established to control water pollution by regulating point sources that discharge pollutants into Waters of the U.S. Pursuant to Section 402(p) of the Clean Water Act (CWA), which requires regulations for permitting of certain stormwater discharges, the SWRCB issued the statewide NPDES General Permit for Storm Water Discharges Associated with Construction and Land Disturbance Activities (Order No 2009-009-DWQ, as amended), which became effective on July 1, 2010.

Under this Construction General Permit, individual NPDES permits or Construction General Permit coverage must be obtained for discharges of stormwater from construction sites with a disturbed area of one or more acres and are required to either obtain individual NPDES permits for stormwater discharges or be covered by the Construction General Permit. Compliance with SWPPP requirements is incorporated into the Project by PPP WQ-1.

Coverage under the Construction General Permit is accomplished by completing and filing Permit Registration Documents (PRDs) with the SWRCB prior to commencement of construction activities. Among the PRDs are a Risk Assessment, a Site Map, and a SWPPP. The primary objective of the SWPPP is to identify, construct, implement, and maintain BMPs to reduce or eliminate pollutants in stormwater discharges and authorized non-stormwater discharges from the construction site during construction. The Construction General Permit requires dischargers to assess the risk level of a Project based on both sediment transport and receiving water risk, and each Project would then be categorized into Risk Level 1, 2, or 3, with increased monitoring required for certain higher-risk sites.

Pursuant to permit requirements, the applicant will be required to implement the BMPs outlined in the Project's SWPPP, thereby for reducing or eliminating construction-related pollutants in site runoff. Compliance with this requirement would ensure that temporary water quality impacts associated with construction activities would be less than significant.

PPP WQ-1: Stormwater Pollution Prevention Plan. Prior to construction grading and prior to the decommissioning, the applicant shall be required to file a Notice of Intent with the State

Water Resources Control Board to comply with the General Permit and prepare a Storm Water Pollution Prevention Plan (SWPPP). The SWPPP will specify best management practices (BMPs) for control, containment of hazardous materials during construction, including housekeeping measures for control of contaminants such as petroleum products, paints and solvents, detergents, fertilizers, and pesticides, as well as vehicle and equipment fueling and maintenance practices, and waste management and disposal control practices, among other things. The project SWPPP will be prepared by a certified Qualified SWPPP Developer (QSD), who will ensure that the BMPs in the project-specific SWPPP will fully comply with the requirements of the General Permit. The enforcement of project SWPPP is the responsibility of the Central Valley Regional Water Quality Control Board, whose responsibilities include conducting inspections of the project construction sites to ensure effective implementation of Best Management Practices (BMPs) specified in the SWPPP prepared for the project.

Operation

Operation of the Project may involve the transport, use, and disposal or minor amounts of hazardous materials including motor vehicle fuel, lubricants, inverter coolant, cleaning chemicals, paint, pesticides, herbicides, and fire suppressant. Panels would be washed twice per year using water remove dust and other material buildup from the panels. No chemical cleaning agents would be used during this process. Compliance with SWPPP requirements incorporated into the Project by PPP WQ-1 would reduce these potential impacts to a less than significant level.

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

Less than Significant Impact. The Project would require a temporary source of water during the 3-month construction process. It is estimated that the proposed Project would require a total of 5.9 acre-feet of water during its 3-month construction period. On a per-acre basis, water demand for construction would represent a one-time use of approximately 0.2 acre-foot per acre, which would be far less than the average consumption of 2.6 acre-feet per acre per year for irrigated agriculture in the Westlands Water District (WWD). As discussed in Section 5.3.2, *Agriculture and Forestry Resources*, the Project site does not receive surface water allocation and groundwater pumping does not occur within the WWD due to low yields and poor groundwater quality. Therefore, water for construction would be obtained from a source outside the WWD and hauled to the site via tanker truck.

During operations, the solar facility would be unmanned. There would be no restrooms needed for the solar facility and no process water would be required. Two panel cleaning cycles per year would use approximately 97,758 gallons, or 0.30-acre feet of water. As discussed above, any water required for panel cleaning would be sourced from an offsite commercial vendor. Water use would be a small fraction of that required for conventional agriculture.

The Project would include solar modules mounted on driven piles, subject to final structural design. The Project would result in a minor increase in imperviousness at the site from installation of piles in the undeveloped portion of the Project Site, which would not significantly impede groundwater recharge.

During decommissioning, water would be used primarily for dust control. However, since vegetative cover would be maintained on the site during deconstruction, there would be relatively little exposed soil that would require watering for dust suppression. Total water demand during decommissioning is anticipated to be significantly less than the 5.9 acre-feet required during Project construction. As discussed above there is no source of water available at the Project site, either from groundwater pumping or surface water deliveries. Thus, water for decommissioning would be obtained from a source outside the WWD and hauled to the site via tanker truck. In summary, no groundwater would be pumped for decommissioning purposes and thus the Project would not decrease groundwater supplies or contribute to the lowering of the local groundwater table level.

In summary, the proposed Project would not decrease groundwater supplies or interfere substantially with groundwater recharge, therefore the Project would have a less than significant impact related to sustainable groundwater management.

c) i) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in substantial erosion or siltation on- or off-site?

Less than Significant Impact. The Project Site does not include a stream, river, or creek, and the Project would not involve any substantial alteration to the drainage pattern of the area. No major earth movement is required to place piles supporting the modules. Piles would be separated from each other and would therefore avoid creating an impervious surface that would substantially re-route storm flows; rather, water would flow around each pile and continue in the same direction that currently prevails. Furthermore, the piles would not result in a new source of erosion or siltation. Therefore, impacts related to alteration of the drainage pattern of the area or an increase in runoff that results in erosion, siltation, or flooding on- or offsite, would be less than significant.

c) ii) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site?

Less than Significant Impact. The Project Site does not include a stream, river, or creek, and the Project would not involve any substantial alteration to the drainage pattern of the area. The Project does not require significant grading. No major earth movement is required to place piles supporting the modules. Piles would be separated from each other and would therefore avoid creating an impervious surface that would substantially re-route storm flows; rather, water would flow around each pile and continue in the same direction that currently prevails. Furthermore, the piles would not result in a substantial increase in impervious surfaces. The Project Site is undeveloped and would remain pervious, with the exception of the piles, which would not be substantial. Therefore, impacts related to alteration of the drainage pattern or an increase in runoff that results in flooding on- or off-site would be less than significant.

c) iii) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?

Less than Significant Impact. As described in the previous response, installation of the proposed solar equipment would not result in a substantial increase in impervious surfaces. The equipment

installation area is undeveloped and would remain pervious, with the exception of the piles, which would not be substantial. Therefore, the Project would not generate runoff that would exceed drainage facilities or provide substantial additional sources of polluted runoff, and impacts would be less than significant.

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

No Impact. Federal Emergency Management Agency Flood Insurance Rate Maps (Panels 06031C0145D and 06031C0300C) show the Project Site designated as an Area of Undetermined Flood Hazard (Zone D). The piles installed by the Project would be separated from each other and would not create an impervious surface that would impede or re-route storm flows; rather, water would flow around each pile and continue in the same direction that currently prevails. Thus, the Project would not impede or redirect flood flows and impacts would not occur.

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

No Impact. As described in the previous response, the Project Site is within an Area of Undetermined Flood Hazard (Zone D). As mentioned previously, water would flow around each pile and would not create a flood hazard and the solar panels would not leach any pollutants during operation. In addition, the Project Site is not in proximity to any coastline and is therefore not subject to inundation by tsunami.

A seiche is an oscillating surface wave in a restricted or enclosed body of water generated by ground motion, usually during an earthquake. Inundation from a seiche can occur if the wave overflows a containment wall or the banks of a water body. The Project Site is not in proximity to any water body. Thus, potential impacts related to seiche would not occur. Overall, the Project Site is not located in a flood hazard, tsunami, or seiche zone, and risk of pollutant release related to these types of hazard zones would not occur.

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

Less than Significant Impact. The Project site is located within the Westside Basin, for which the Groundwater Sustainability Plan (GSP) was most recently updated in July 2022. The purpose of the GSP is to concurrently optimize groundwater use and groundwater storage in the Westside Subbasin and meet the regulatory requirements set forth in the Sustainable Groundwater Management Act (SGMA). No groundwater pumping is proposed for the Project, and the minimal impervious surface coverage added by the Project would have no discernable effect on groundwater recharge at the site. Therefore, the Project would not conflict with or obstruct implementation of the GSP for the Westside Subbasin.

The Project would require a temporary source of water during the 3-month construction process. This limited and short-term use of water would not have the potential to substantially deplete groundwater supplies.

During operations, the solar facility would be unmanned. There would be no restrooms needed for the solar facility and no process water would be required. Any water required for panel cleaning

would be sourced from an offsite commercial vendor. Water use would be a small fraction of that required for conventional agriculture.

The Project would include solar modules mounted on driven piles, subject to final structural design. The Project would result in a minor increase in imperviousness at the site from installation of piles in the undeveloped portion of the Project Site, which would not significantly impede groundwater recharge. Due to the negligible amount of water required for the Project and the lack of significant new impervious area, impacts related to the depletion of groundwater supplies or interference with groundwater recharge would be less than significant.

Sources

Federal Emergency Management Agency. (2015). *FEMA Flood Map Service Center* [Database]. Map Number 06031C0145D. Unprinted panel. Retrieved from: https://msc.fema.gov/portal

Federal Emergency Management Agency. (2009). *FEMA Flood Map Service Center* [Database]. Map Number 06031C0300C. Unprinted panel. Retrieved from: https://msc.fema.gov/portal

https://sgma.water.ca.gov/portal/service/gspdocument/download/8785

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
5.3.11 LAND USE AND PLANNING.				
Would the project:				
a) Physically divide an established community?	☐	☐	☐	☒
b) Cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect?	☐	☐	☐	☒

a) Physically divide an established community?

No Impact. The physical division of an established community could occur if a major road (expressway or freeway, for example) were built through an existing community or neighborhood, or if a major development was built which was inconsistent with the land uses in the community such that it divided the community. The environmental effects caused by such a facility or land use could include lack of, or disruption of, access to services, schools, or shopping areas. It might also include the creation of blighted buildings or areas due to the division of the community.

The Proposed Project is located on an approximately 242-acre parcel in an unincorporated area of Kings County and does not propose any facilities which will be built through an established community. No established communities exist in the Project area; therefore, there is no potential for the Project to physically divide and established community.

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

No Impact. The Project Site is located within unincorporated Kings County. As mentioned previously, the Project has a Kings County General Plan designation of Exclusive Agriculture (AX) and is zoned Exclusive Agricultural (AX). Pursuant to Kings County Development Code Article 4, solar energy electrical facilities are permitted within the AX Zone with the approval of a Conditional Use Permit. Thus, upon approval of the Conditional Use Permit, the Project would not conflict with a land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect. No impact would occur.

Sources

Kings County Development Code. Accessed: https://www.countyofkings.com/home/showpublisheddocument/24151/637329332752630000

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
5.3.12 MINERAL RESOURCES.				
Would the project:				
a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?	☐	☐	☐	☒
b) Result in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?	☐	☐	☐	☒

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

No Impact. As described previously, the proposed solar facilities would be located adjacent to agricultural uses in an area that is not designated for mineral resource uses. Additionally, there are no active mining sites within the vicinity of the Project Site (Kings County 2010). Thus, implementation of the Proposed Project would not result in the loss of availability of a known mineral resource that would be of value to the region or the residents of the state, and impacts would not occur.

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

No Impact. Kings County and the California Department of Conservation mapping do not identify the Project Site as a locally-important mineral resource recovery site. Thus, implementation of the Proposed Project would not result in the loss of availability of a locally important mineral resource recovery site delineated on the general plan, and impacts would not occur.

Sources

California Department of Conservation. 2016. Mines & Mineral Resource Related Data & Maps. Accessed: https://maps.conservation.ca.gov/mol/index.html

County of Kings General Plan Resource Conservation Element. (2010). Accessed: https://www.countyofkings.com/home/showpublisheddocument/3112/635274892988670000

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

Kings County General Plan Noise Element

Regulating environmental noise is the responsibility of local governments, as outline in the Noise Element of the 2035 Kings County General Plan (2010). The Noise Element establishes noise standards based on land use as presented in Table 5.3-5 below.

Table 5.3-5: Noise Standards

Land Use	Average (Leq) / Maximum (Lmax)		
	Outdoor Area		Interior
	Daytime	Nighttime	Day and Night
All Residential	55/75	50/70	35/55
Transient Lodging	55/75	-	35/55
Hospitals & Nursing Home	55/75	-	35/55
Theaters & Auditoriums	-	-	30/50
Churches, Meeting Halls, Schools, and Libraries, etc.	55/75	-	35/60
Office Buildings	60/75	-	45/65
Commercial Buildings	55/75	-	45/65
Playgrounds and Parks, etc.	65/75	-	-
Industry	60/80	-	50/70

Source: Table N-8 in the Noise Element of the 2035 Kings County General Plan (2010)
Leq = equivalent continuous sound level; Lmax = maximum noise level

Sensitive Receptors

The Project Site is in an area utilized for agricultural uses. The closest sensitive receptor is an offsite residence north of Highway 198, about 1,840 feet north of the Project Site.

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

Less than Significant. Noise would be generated during the construction, operation, and decommissioning phases of the Project. In accordance with the policies contained in the Noise Element of the 2035 General Plan, a significant noise impact would occur if the maximum noise level emanating from the Project Site during construction, operation, or decommissioning would exceed County standards, outlined in Table 5.3-5 above, at the sensitive receptors in the area (Kings County 2010). Noise sensitive receptors in the area include residences north of the Project Site (1,840 feet north of the Project Site). The potential for Project-generated noise to exceed applicable noise standards is discussed for each Project phase below.

Construction/Decommissioning

The Proposed Project would create noise during the 3-month construction process. The construction noise would be short-term and periodic in nature and generated by construction equipment, including trucks, graders, bulldozers, concrete mixers and portable generators, and pile drivers. Pile driving and grading equipment would cause the loudest noise levels. Minimal grading would be required for the Proposed Project. Construction noise levels generated by commonly-used grading equipment (i.e., loaders, graders, and trucks) generate noise levels that are identified in Table 5.3-6.

Table 5.3-6: Typical Construction Equipment Noise Levels

Construction Equipment	Noise Level at 100 Feet (dBA, L_{max})	Noise Level at 100 Feet (dBA, L_{eq})
Chain Saw	77.7	70.7
Compactor (Ground)	77.2	70.2
Concrete Pump Truck	75.4	68.4
Concrete Saw	83.6	76.6
Dozer	75.7	71.7
Dump Truck	70.5	66.5
Excavator	74.7	70.7
Front End Loader	73.1	69.1
Generator	74.6	71.6
Grader	79.0	75.0
Jackhammer	82.9	75.9
Paver	71.2	68.2
Pneumatic Tools	79.2	76.2
Pumps	74.9	71.9
Scraper	77.6	73.6
Tractor	78.0	74.0

Source: Federal Highway Administration, 2006.

Noise impacts would be significant if they caused a violation of any adopted standards. In accordance with the 2035 Kings County General Plan Noise Element policies, a significant noise impact would occur if construction noise levels exceeded 55 dBA Leq, and if they exceed the

ambient noise environment by 5 dBA Leq or more. Project construction would occur during the daytime hours (7:00 a.m. to 6:00 p.m. Monday through Friday).

A construction-related noise level threshold is applied from the Criteria for Recommended Standard: Occupational Noise Exposure prepared by the National Institute for Occupational Safety and Health (NIOSH). A division of the U.S. Department of Health and Human Services, NIOSH identifies a noise level threshold based on the duration of exposure to the source. To evaluate whether the Project would generate potentially significant short-term noise levels at off-site sensitive receiver locations a construction-related NIOSH noise level threshold of 85 dBA L_{eq} is used. Noise levels generated by heavy construction equipment can range from approximately 66.5 dBA to 76.6 dBA when measured at 100 feet.

The Project Site is surrounded by agricultural land. The closest offsite sensitive receptors are residential uses located approximately 1,840 feet from the Project Site to the north. Therefore, impacts related to construction noise standards would not occur.

Operations
During operations, noise would be generated by 20 inverters located within the solar field. Typical inverters generate noise levels of less than 55 dBA at a distance of 3 meters (10 feet). The closest offsite sensitive receptor is approximately 1,840 feet to the north of the Project Site and approximately 2,300 feet from the inverters. At this distance, inverter noise would not be audible and would be well below the maximum 65 dBA noise level criteria established by the County.

Additionally, during operations the facility would be unmanned, with no daily site visits by staff. Occasional visits by fewer than five staff persons for maintenance and twice annual cleaning that would result in a negligible noise increase and would be short-term and transitory. Therefore, operational noise impacts would be less than significant.

b) Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels?

No Impact. Groundborne vibration and groundborne noise would be generated from the pile driving activities during construction of the Proposed Project. Table 5.3-7 presents typical vibration levels emanating from typical construction equipment. As detailed, at 50 feet from the pile driving activity, a peak particle velocity (PPV) of 0.300 would result, which would generate the greatest vibration from construction activities. As shown on Table 5.3-7, a PPV of 0.300 is in the lower end of the range for "distinctly perceptible" vibrations.

Groundborne vibration and groundborne noise could originate from pile driving and earth movement during the construction phase of the Proposed Project. Construction activities may result in short term impacts to the noise environment including groundborne vibration and noise. Table 5.3-7 presents typical vibration levels emanating from typical construction equipment. The nearest sensitive receptor is approximately 1,840 feet from the Project Site. At 100 feet, the greatest impact would be a peak particle velocity (PPV) of 0.140, created by pile driving. Table 5.3-8 identifies typical human responses to vibration. A PPV of 0.140 is below the threshold for vibration to be "distinctly perceptible" to humans.

Table 5.3-7: Vibration Source Levels for Construction Equipment

Equipment	PPV (in/sec) at 50 feet	PPV (in/sec) at 100 feet)
Pile Driver (impact)	0.300	0.140
Large Bulldozer	0.031	0.019
Loaded Trucks	0.027	0.017
Jackhammer	0.012	0.007
Small Bulldozer	0.003	0.001

Source: Caltrans Transportation and Construction Vibration Guidance Manual, 2020.

Table 5.3-8: Human Response to Vibration

Average Human Response	PPV (in/sec)
Severe	2.000
Strongly perceptible	0.900
Distinctly perceptible	0.250
Barely perceptible	0.040

Source: Caltrans Transportation and Construction Vibration Guidance Manual, 2020.

The closest existing residence is approximately 1,840 feet from the property line. At this distance, the vibrations from the construction pile driving would be imperceptible and there would be no construction related vibration impacts.

During operations, no activities would occur that could generate significant groundborne vibration. There would be no impacts related to either construction- or operational-period groundborne vibration and groundborne noise.

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

No Impact. The Project Site is not within 2 miles of an airport. The closest airport is the Naval Air Station Lemoore, located approximately 5 miles north. The Project Site is not located within any airport land use plan. In addition, the Project Site would be unmanned and would not generate permanent onsite employees. Therefore, impacts related to an exposure of people to noise from airport operations would not occur from implementation of the Project.

Sources

California Department of Transportation (Caltrans). *Transportation and Construction Vibration Guidance Manual*. Accessed: https://dot.ca.gov/-/media/dot-media/programs/environmental-analysis/documents/env/tcvgm-apr2020-a11y.pdf

2035 Kings County General Plan. 2010. Noise Element. Accessed: https://www.countyofkings.com/home/showpublisheddocument/13517/636065239685230000

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
5.3.14 POPULATION AND HOUSING.				
Would the project:				
a) Induce substantial population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?	☐	☐	☐	☒
b) Displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?	☐	☐	☐	☒

a) Induce substantial population growth in an area, either directly or indirectly?

No Impact. The Project does not include housing or business, which would directly induce growth. The Project includes installation and operation of a solar power plant, which is consistent with policies adopted by the State of California to replace fossil-fuel power generation with renewable energy generation. The Project would connect to the existing electricity grid and would not extend or expand infrastructure. Thus, indirect growth would not occur. Overall, there are no features of the Project that would be expected to induce substantial population growth.

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

No Impact. The Project would be constructed on undeveloped land in an agricultural area. No displacement of existing housing units would result. No impact would occur.

Sources

None.

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
5.3.15 PUBLIC SERVICES.				
a) Result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:				
Fire protection?	☐	☐	☒	☐
Police protection?	☐	☐	☒	☐
Schools?	☐	☐	☐	☒
Parks?	☐	☐	☐	☒
Other public facilities?	☐	☐	☐	☒

a) Result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for:

Fire protection?
Police protection?
Schools?
Parks?
Other public facilities?

***Fire Protection* – Less than Significant Impact**. The Kings County Fire Department (KCFD) provides fire services in the Project area. KCFD operates 10 stations and one headquarters office with 88 full time employees. The closest fire station is Station 10, located approximately 5.2 miles from the Project Site at 20200 Main Street, Stratford. An additional fire station operated by the Lemoore Volunteer Firefighters is Station 7, located approximately 6 miles from the Project Site at 1285 S. Lemoore Avenue, Lemoore.

The Proposed Project would install an unmanned solar facility. There would be no permanent onsite staffing that could require the need for emergency services. In addition, the Project includes comprehensive safety measures that comply with federal and state worker safety and fire protection codes and regulations that would be verified during the permitting process, which would

minimize the potential for fires to occur during Project construction and operations. Additionally, the Project includes the preparation and implementation of a Pest Management Plan and Weed Abatement Plan, as required under the County Development Code. The plan would ensure that combustible vegetation on and near the Project boundary would be actively managed during the construction and operational phases to minimize fire risk. Vegetation height would be kept low to the ground through sheep grazing and by mowing and trimming with mechanical equipment. The gravel driveways to be constructed around the project perimeter would provide fire breaks. Therefore, impacts related to fire protection would be less than significant.

***Police Protection* – Less than Significant Impact.** The Kings County Sheriff's Office provides law enforcement services to unincorporated areas of the county. The county is currently divided into six beat districts with five substations throughout Kings County (Kings County 2010). Each beat district has at least one deputy sheriff on duty at all times to serve the unincorporated communities and surrounding County areas (Kings County 2010).

As described in the previous response, the Project Site would be unmanned and would not have permanent staffing that could generate the need for sheriff services. The Project would include 7-foot security fencing around the panels and a 24-foot wide access gates would provide direct access for emergency equipment. The entry gates would have knox locks or similar devices to allow 24-hour access for emergency responders. Additionally, the Project would utilize sensors and cameras for remote security management before they send someone out to the site. Therefore, the Proposed Project would not result in impacts related to police protection.

***Schools* – No Impact.** Construction and operation of the Project would place no demand on school services because it would not involve the introduction of housing to the Project Site, and the short-term demand for construction would not result in new residents to the area. In addition, the Project Site would be an unmanned facility and would require limited maintenance related employment needs. Thus, the Project would not result in impacts on schools.

***Parks* – No Impact.** As described in the previous response, the Project does not involve housing. Short-term construction would not result in new residents to the area, and operation would require limited maintenance related employment needs. Thus, construction and operation of the Project would not result in impacts related to parks.

***Other Services* – No Impact.** Refer to the previous responses. The Proposed Project would not result in an increased resident population or a significant increase in the local workforce. Based on these factors, the Proposed Project would not result in any long-term impacts to other public facilities.

Sources

Kings County Fire Department. Accessed: https://www.countyofkings.com/departments/fire-department

Kings County General Plan. 2010. Health and Safety Element. Accessed: https://www.countyofkings.com/home/showpublisheddocument/13515/636065239398370000

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
5.3.16 RECREATION.				
a) Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?	☐	☐	☐	☒
b) Would the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?	☐	☐	☐	☒

a) Increase the use of existing neighborhood and regional parks or other recreational facilities such that physical deterioration of the facility would be accelerated?

No Impact. The Proposed Project consists of the construction of a solar PV power generation system and does not involve residential uses. Implementation of the Proposed Project would not increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated. Impacts related to recreation would not occur from implementation of the Project.

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

No Impact. The Proposed Project would not require the construction or expansion of recreational facilities. No new residences or recreational facilities would be constructed as part of the Project and the Project would not induce population growth. Impacts related to recreation would not occur from implementation of the Project.

Sources

None.

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

The discussion below is based on the Construction Trip Generation Letter prepared by EPD Solutions, Inc. in March 2022 (included as Appendix F).

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

No Impact. The Kings County General Plan Circulation Element identifies Highway 198 as a Principal Arterial and Avenal Cutoff Road as a Minor Arterial. Access to the Project Site would be via Murphy Ranch Road, which provides access to Avenal Cutoff Road. No direct access to Highway 198 is planned. The Project would not require a new access point to any Circulation Element roads and would have no impact on either Highway 198 or Avenal Cutoff Road.

In addition, the Project would not modify any bicycle paths, pedestrian pathways, or transit facilities. Because the site would be unmanned, there would be no increase in demand for pedestrian or bicycle transportation. Overall, the Project would result in no impacts related to a conflict with any applicable plan, ordinance or program addressing the circulation system.

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

No Impact. The CEQA Guidelines § 15064.3(b) provides criteria for analyzing transportation impacts. For land use projects, such as the Proposed Project, CEQA Guidelines § 15064.3(b) states that vehicle miles traveled exceeding an applicable threshold of significance may indicate a significant impact. In addition, it states that the analysis includes evaluation of factors such as the availability of transit, proximity to other destinations, etc.

The County of Kings has not adopted VMT analysis guidelines; therefore, guidelines from the OPR Technical Advisory on Evaluating Transportation Impacts In CEQA, December 2018, are applied. The OPR guidelines state that small projects that generate fewer than 110 average daily trips during Project operation would be presumed to have a less than significant impact on VMT and are generally exempt from further analysis of VMT. The operation of the Project would generate approximately one to two trips per week, except for occasional panel cleaning which could generate 10 daily trips. For this reason, the Project would not result in a conflict or be inconsistent with CEQA Guidelines section 15064.3(b).

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

No Impact. The Project does not include design features that would increase hazards, nor would it cause incompatible uses to be present on local roads. The Project Site is located in an agricultural area and would not increase roadway hazards. Access to the site would be via Murphy Ranch Road, which has an existing access point to Avenal Cutoff Road. No direct access to Highway 198 is planned.

Additionally, the Project would include maximum 7-foot security fencing around the panels, which would have a 24-foot wide access gate and 20-foot wide setbacks from the solar arrays that would provide direct access for emergency equipment. The entry gate would have a knox lock or similar device to allow 24-hour access for emergency responders. Therefore, impacts related to a design feature or incompatible use would not result from implementation of the Project.

d) Result in inadequate emergency access?

No Impact. The Project Site is accessible from the County's roadway network at Avenal Cutoff Road via Murphy Ranch Road. An existing private roadway within the Project parcel connects Murphy Ranch Road to the Project Site. The solar facility would be constructed in compliance with Kings County Fire Department requirements to provide for adequate circulation for emergency vehicles. In addition, the site would be unmanned, significantly reducing the potential need for emergency services onsite. Therefore, no impact would occur and no mitigation is required.

Sources

Kings CSG LLC 3 Solar Project Construction Trip Generation. Prepared by EPD Solutions, Inc., 2022.

Kings County General Plan Circulation Element. Accessed: https://www.countyofkings.com/home/showpublisheddocument/31166352748930000700 00

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

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

No Impact. No National Register of Historic Places, California Register of Historical Resources, or local register eligible or listed historic properties/cultural resources have been identified in or adjacent to the Project Site. There will be no impact to any site, feature, place, cultural landscape, sacred place, or object with cultural value to a California Native American tribe that is listed in any historical register.

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

Less than Significant Impact with Mitigation.

Notification of the Project was released on March 7, 2022 to the Santa Rosa Rancheria Tachi Yokut Tribe, in accordance with the government-to-government coordination requirements of Assembly Bill 52. To date no comments have been received from the Tribe.

Although the Proposed Project would not result in potentially significant impacts to known tribal cultural resources, there is always the possibility that previously undiscovered tribal cultural resources are present within the Project Site. Ground disturbing activities such as trenching and grading could damage or destroy previously undiscovered tribal cultural resources, which would result in a potentially significant impact. Implementation of Mitigation Measure CUL-1 through CUL-4 (see Section 5) during construction would reduce the impact to a level of less than significant.

Sources

Cultural and Paleontological Assessment prepared by Material Culture Consulting in 2022 (MCC 2022).

	Potentially Significant Impact	Less Than Significant with Mitigation Incorporated	Less Than Significant Impact	No Impact
5.3.19 UTILITIES AND SERVICE SYSTEMS.				
Would the project:				
a) Require or result in the relocation or construction of new or expanded water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	☐	☐	☐	☒
b) Have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry and multiple dry years?	☐	☐	☐	☒
c) Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?	☐	☐	☐	☒
d) Generate solid waste in excess of State or local standards or in excess of the capacity of local infrastructure or otherwise impair the attainment of solid waste reduction goals?	☐	☒	☐	☐
e) Comply with federal, state, and local management and reduction statutes and regulations related to solid waste?	☐	☐	☐	☒

a) Require or result in the relocation or construction of new or expanded water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?

No Impact. No employees would be permanently stationed at the site, and the solar facility does not include restrooms. The Proposed Project would not require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities. Any water required for panel cleaning would be sourced from an offsite commercial vendor or an existing onsite well. During construction and decommissioning, portable chemical toilets would be provided for sanitary needs and bottled drinking water would be delivered to the site. Because the site would not contain a permanent workforce and no permanent toilet facilities would be required, there would be no demand for wastewater service, and wastewater infrastructure would not be developed. Therefore, no impacts related to requiring the construction of new or expansion of existing water or wastewater facilities would occur from implementation of the Proposed Project.

b) Require or result in the construction of new water or wastewater treatment facilities, or expansion of existing facilities, the construction of which could cause significant environmental effects?

No Impact. The Project would not require any regular water supply during operations, except for the two panel cleanings each year. Two panel cleaning cycles per year will use approximately 97,758 gallons, or 0.30-acre feet of water. Water used for panel cleaning would be purchased from a water purveyor in the area and hauled to the site. Because of the limited water supply requirements for the Project, no impacts associated with the need for new or expanded water supply entitlements would occur from implementation of the Proposed Project.

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

No Impact. During construction, wastewater would be contained within portable toilet facilities and disposed of at an approved site. No employees would be permanently stationed at the site, and the solar facility does not include restrooms. Thus, operation of the Proposed Project would not generate wastewater and would not impact existing wastewater treatment facilities.

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

Less than Significant Impact with Mitigation. As described in Section 5.3.2, *Agriculture and Forestry Resources*, Mitigation Measure AG-4 requires preparation of a Solid Waste Management Plan pursuant to Section 1112.B.2.g of the County Development Code to ensure that solid waste generated during Project construction and operation is properly disposed of and/or recycled. Non-recyclable construction and operational waste would be disposed of at the Kettleman Hills Facility Landfill or other local landfill permitted to accept such waste. The Kettleman Hills Facility Landfill is permitted to accept 4,500 tons per day of solid waste and is permitted to operate through 2046 (CalRecycle 2021). The Proposed Project consists of short-term waste generation limited to minor quantities of construction debris, most of which would be recyclable. The landfill has the capacity to accommodate the limited solid waste from the 3-month construction process.

The panels would eventually need to be disposed of (decommissioned). Most parts of the proposed solar system are recyclable. Panels typically consist of silicon, glass, and a metal frame. Panel structures typically consist of aluminum and concrete. These materials can be recycled. Concrete from deconstruction would be recycled through local recyclers. Metal and scrap equipment and parts that do not have free flowing oil would be sent for salvage. Equipment containing any free-flowing oil would be managed as hazardous waste and be evaluated before disposal at a properly-permitted disposal facility. Oil and lubricants removed from equipment would be managed as used oil and disposed in accordance with applicable hazardous waste disposal requirements.

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

No Impact. The Project would comply with all federal, state, and local statutes and regulation related to solid waste. The Project would consist of short-term construction activities (with short-term waste generation limited to minor quantities of construction debris) and thus would not result in long-

term solid waste generation. Solid wastes produced during the construction phase of this Project, or during future decommissioning activities would be disposed of in accordance with all applicable statutes and regulations. Accordingly, anticipated impacts from the Proposed Project related to landfill capacity and compliance with applicable regulations would be less than significant.

Sources

CalRecycle SWIS Database. Accessed: http://www.calrecycle.ca.gov.

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

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

No Impact. The Proposed Project is located within an existing parcel and would not modify any roadways servicing emergency response or evacuations. There would be no impact related to the impairing of or physical interference with an adopted emergency response plan or emergency evacuation plan.

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

No Impact. As described in the previous response, the Project Site is not located within a fire hazard severity zone and is within a Local Responsibility Area (CAL FIRE 2007). In addition, the Project Site is vacant and relatively flat and does not contain a slope or other factors that could exacerbate wildfire risks. The Proposed Project would be an unmanned facility and would not include any habitable structures. Therefore, the Project would not involve any occupants that could be exposed to pollutant concentrations from a wildfire. Thus, not impacts would occur.

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

Less than Significant Impact. The Project Site is located adjacent to agricultural lands. The Project would implement solar infrastructure and associated conduits and wires to convey the electricity generated onsite. However, this infrastructure would not exacerbate the fire risks of the area. The solar arrays would be above ground on piles. The conduits and wires would be buried in trenches that run between rows and/or installed above-grade running along the backside of strings to connect the output of each string to the inverters. Additionally, the onsite vegetation would be mowed regularly to avoid interference with electrical equipment.

The Project includes a 24-foot wide access gate and setbacks from the solar arrays that would provide direct access for emergency equipment. The entry gate would have a knox lock or similar device to allow 24-hour access for emergency responders. In addition, a 10,000 gallon water tank would be installed, if required by applicable codes, to provide a water source for emergency fire access. Therefore, although the Project includes installation of infrastructure, it would not exacerbate fire risks. Thus, impacts would be less than significant.

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

No Impact. As described in the previous responses, the Project would install solar infrastructure that would not exacerbate fire risks. In addition, the Project Site does not include or adjacent to any steep slopes or locations where landslides could occur. In addition, the Project Site would be unmanned and would not generate permanent onsite employees. Therefore, the Project would not expose people or structures to impacts related to post-fire slope instability or drainage changes.

Sources

California Department of Forestry and Fire Protection (CAL FIRE). 2007. Kings County Fire Hazard Map. Accessed: https://osfm.fire.ca.gov/media/6689/fhszl06_1_map16.pdf

County of Kings General Plan Health and Safety Element. 2010. Accessed: https://www.countyofkings.com/home/showpublisheddocument/13515/636065239398370000

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

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

Less than Significant Impact with Mitigation Incorporated. As described in Section 2, Agriculture and Forestry Resources, the Project will maintain agricultural uses on the Project Site and will not conflict with existing zoning for agricultural use or a Williamson Act contract. Mitigation Measures AG-1 through AG-4 require development of a Agricultural Management Plan, a Soil Reclamation Plan, proof of financial assurance, and preparation of a solid waste management plan. Implementation of Mitigation Measures AG-1 through AG-4 would eliminate the potential of significantly impacting agricultural resources.

As described in Section 4, Biological Resources, the Project would not reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, or reduce the number or restrict the range of a rare or endangered plant or animal. Mitigation Measures BIO-1 through BIO-5 require preconstruction or protocol surveys of sensitive species to ensure no identified sensitive species are on site during the Project's construction period. Implementation of Mitigation Measures BIO-1 through BIO-5 would eliminate the potential of significantly impacting protected species.

As described in Section 5, Cultural Resources, the Project Site does not contain any known historic or prehistoric attributes and would not eliminate important examples of the major periods of

California history or prehistory. However, based on the proximity to known, densely distributed cultural resources, there is probability that crews could encounter significant cultural resources during the course of Project development. Mitigation Measure CUL-1 through CUL-4 ensures that any previously unidentified cultural resources discovered during construction would not be impacted. With the application of Mitigation Measures BIO-1 through BIO-5 and Mitigation Measure CUL-1 through CUL-4, impacts related to biological and cultural resources would be less than significant.

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

Less than Significant Impact with Mitigation Incorporated. Mitigation Measures AG-1 through AG-4, AQ-1, BIO-1 through BIO-5, CUL-1 through CUL-4, GEO-1, HAZ-1 and PAL-1 are incorporated into the Project to minimize impacts related to agricultural, air quality, biological, cultural, geological, and paleontological resources. No Project impacts are identified in this Initial Study that could combine with the impacts of other projects to be cumulatively considerable. With the implementation of mitigation measures, impacts would not combine to be cumulatively considerable.

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

Less than Significant Impact with Mitigation Incorporated. Impacts that could result in substantial adverse effects on human beings, either directly or indirectly would be less than significant as described in the previous responses. In addition, Mitigation Measures AG-1 through AG-4, AQ-1, BIO-1 through BIO-5, CUL-1 through CUL-4, GEO-1, HAZ-1 and PAL-1 are incorporated into the Project to minimize impacts related to agricultural, air quality, biological, cultural, geological, and paleontological resources. In addition, various Existing Plans, Programs, or Policies are in place to minimize the potential for impacts. These include PPP WQ-1 (Stormwater Pollution Prevention Plan), PPP CUL-1 (Human Remains), and PPP GEO-1 (Code Compliance). With the application of standard requirements of development and Project-specific mitigation measures, impacts would be less than significant.

Existing Plans, Programs, or Policies

PPP CUL-1. Human Remains. *See Section 5.*

PPP GEO-1. Code Compliance. *See Section 7.*

PPP HAZ-1: FAA Obstruction Evaluation. *See Section 9.*

PPP WQ-1. Stormwater Pollution Prevention Plan. *See Section 7.*

Mitigation Measures

Mitigation Measure AG-1. Agricultural Management Plan. *See Section 2.*

Mitigation Measure AG-2. Soil Reclamation Plan. *See Section 2.*

Mitigation Measure AG-3. Financial Assurance. *See Section 2.*

Mitigation Measure AG-4. Solid Waste Management Plan. *See Section 2.*

Mitigation Measure AQ-1. Valley Fever Exposure Mitigation. *See Section 3.*

Mitigation Measure BIO-1. Nesting Birds. *See Section 4.*

Mitigation Measure BIO-2. Burrowing Owl. *See Section 4.*

Mitigation Measure BIO-3. San Joaquin Kit Fox. *See Section 4.*

Mitigation Measure BIO-4. Tipton Kangaroo Rat. *See Section 4.*

Mitigation Measure BIO-5. Blunt-Nosed Leopard Lizard. *See Section 4.*

Mitigation Measure CUL-1 Inadvertent Discoveries. *See Section 5.*

Mitigation Measure CUL-2 Cultural Resources Alert on Project Plans. *See Section 5.*

Mitigation Measure CUL-3 Pre-Construction Briefing. *See Section 5.*

Mitigation Measure CUL-4 Native American Monitoring. *See Section 5.*

Mitigation Measure GEO-1. Expansive Soils Report. *See Section 7.*

Mitigation Measure PAL-1 Paleontological Monitoring. *See Section 7.*

Mitigation Measure HAZ-1. Hazardous Materials Business Plan. *See Section 9.*

6 DOCUMENT PREPARERS AND CONTRIBUTORS

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APPENDIX A KINGS CSG 3 LLC SOLAR PROJECT MITIGATION MONITORING AND REPORTING PROGRAM						
Number	**Measure**	**Monitoring Activity**	**Implementation Responsibility/ Verification**	**Responsibility for Oversight of Compliance/ Verification**	**Timing**	**Outside Agency Coordination**
AGRICULTURE AND FOREST RESOURCES						
Mitigation Measure						
AG-1	**Agricultural Management Plan**. Prior to the issuance of a building permit, the applicant shall submit to Kings County a Agricultural Management Plan that provides for the ongoing agricultural productivity of the site for the life of the proposed Project. The Agricultural Management Plan shall specify that the lands designated as Farmland of Statewide Importance and lands subject to a Williamson Act contract be planted and maintained as ~~a pollinator-friendly habitat, for~~ dry farm seasonal sheep grazing, or other equivalent agricultural uses, and shall include specific provisions for soil preparation and revegetation. The Agricultural Management Plan shall include detailed provisions to ensure the successful establishment of the planned vegetative cover and shall identify appropriate maintenance activities, including conditions under which herbicides may be used, and particularly the identification and selection of herbicides that are non-toxic to livestock and wildlife. The Agricultural Management Plan shall also prescribe the management practices for sheep grazing if grazing is proposed. The Agricultural Management Plan shall include provisions for ongoing monitoring and annual reporting of agricultural activity on the site to the Kings County Community Development Agency. The Agricultural Management Plan shall also comply with the requirements of the Development Code related to weed abatement and pest control. The Agricultural Management Plan shall provide that, before grazing or other suitable reasonably foreseeable agricultural use is discontinued on lands designated as Farmland of Statewide Importance and/or lands subject to a Williamson Act contract, the following will need to be completed: (1) Terminate the existing Williamson Act contracts through nonrenewal or cancellation; and (2) Mitigate for the loss of Farmland of Statewide Importance at a ratio of 1:1 with restrictive covenants which will be effective for the life of the solar Project. The agricultural land preserved under the	Agricultural Management Plan	Developer	Planning	Prior to issuance of building permit	N/A

APPENDIX A KINGS CSG 3 LLC SOLAR PROJECT MITIGATION MONITORING AND REPORTING PROGRAM						
Number	**Measure**	**Monitoring Activity**	**Implementation Responsibility/ Verification**	**Responsibility for Oversight of Compliance/ Verification**	**Timing**	**Outside Agency Coordination**
	restrictive covenants shall be of equal or greater quality as defined by the Department of Conservation's Farmland Mapping and Monitoring Program (i.e., if Farmland of Statewide Importance is converted to solar then the agricultural land preserved must not be in a classification indicating a lower quality than Farmland of Statewide Importance).					
AG-2	**Soil Reclamation Plan.** Prior to the issuance of a building permit, the applicant shall submit, for review and approval by the Kings County Community Development Agency, a Soil Reclamation Plan (Plan) for the restoration of the site at the end of the Project's useful life. The Plan shall contain an analysis of general preconstruction conditions of the Project Site, and the site shall be photographically documented by the applicant prior to the start of construction. The Plan shall contain specific measures to restore the soil to approximate its pre-project condition, including (1) removal of all above-ground and below-ground Project fixtures, equipment, and non-agricultural driveways, (2) tilling to restore the sub-grade material to a density and depth consistent with its pre-project condition, (3) revegetation using a Kings County-approved grasses and forbs seed mixture designed to maximize revegetation with noninvasive species (broadcast, drilled, or other method), and (4) application of weed-free mulch spread, as needed, to stabilize the soil until germination occurs and young plants are established to facilitate moisture retention in the soil. Whether the Project Site has been restored to pre-construction conditions shall be assessed by Kings County staff. Additional seedlings and applications of weed-free mulch shall be applied to areas of the Project Site that have been determined to be unsuccessfully reclaimed (i.e., restored to pre-project conditions), until the entire Project area has been restored to conditions equivalent to pre-project conditions. All waste shall be recycled or disposed of in compliance with applicable law. The applicant shall verify the completion of reclamation within 18 months after expiration of the Project use permit with Planning Division staff.	Soil Reclamation Plan	Developer	Planning	Prior to issuance of building permit	N/A

APPENDIX A KINGS CSG 3 LLC SOLAR PROJECT MITIGATION MONITORING AND REPORTING PROGRAM						
Number	**Measure**	**Monitoring Activity**	**Implementation Responsibility/ Verification**	**Responsibility for Oversight of Compliance/ Verification**	**Timing**	**Outside Agency Coordination**
AG-3	**Financial Assurance.** Prior to the issuance of a building permit, the applicant shall post a performance or cash bond, submit a Certificate of Deposit, submit a letter of credit, or provide such other financial assurances acceptable to the County, in an amount provided in an Engineer's Cost Estimate, approved by the CDA, to ensure completion of the activities under the Soil Reclamation Plan.	Proof of financial assurance	Developer	Planning	Prior to issuance of a building permit	N/A
AG-4	**Solid Waste Management Plan.** To ensure that solid waste generated during project construction and operation is properly disposed of or recycled, prior to issuance of building permits, the applicant shall prepare a Solid Waste Management Plan acceptable to the County pursuant to Section 1112.B.2.g of the Development Code. The non-hazardous waste generated during construction and operation will be segregated on-site for recycling or disposal at a Class III landfill. Hazardous wastes generated during project construction and operation will be either recycled or disposed of at a Class I disposal facility, as required.	Preparation and implementation of Solid Waste Management Plan	Developer	Kings County	Prior to issuance of building permit	N/A
AIR QUALITY						
Mitigation Measure						
AQ-1	**Mitigation Measure AQ-1:** Preventing Valley Fever Exposure. In order to protect the public and workers from Valley Fever, the following measures shall be implemented during project construction and decommissioning: a. Implement the Dust Control Plan required to be approved for the project by the San Joaquin Valley Air Pollution District under District Rule 8021 prior to ground disturbing activity. b. Provide workers with NIOSH-approved respiratory protection with particulate filters rated as N95, N99, N100, P100, or HEPA, as recommended in the California Department of Public Health publication "Preventing Work-Related Coccidioidomycosis (Valley Fever)," available at	Implementation of Valley Fever exposure mitigation.	Developer	Kings County / San Joaquin Valley Air Pollution Control District	During construction and decommissioning	N/A

APPENDIX A KINGS CSG 3 LLC SOLAR PROJECT MITIGATION MONITORING AND REPORTING PROGRAM						
Number	**Measure**	**Monitoring Activity**	**Implementation Responsibility/ Verification**	**Responsibility for Oversight of Compliance/ Verification**	**Timing**	**Outside Agency Coordination**
	http://www.cdph.ca.gov/programs/hesis/Documents/CocciFact.pdf.					
BIOLOGICAL RESOURCES						
Mitigation Measure						
BIO-1	**Nesting Birds.** Where feasible, vegetation clearing shall occur outside of the breeding bird season (February 15 to August 1) to reduce the potential to impact an active nest. If clearing activities cannot be avoided during the breeding season, all suitable habitats shall be thoroughly surveyed for the presence of nesting birds by a qualified biologist with experience identifying local and migratory bird species and conducting bird surveys using appropriate survey methodology within 30 days prior to initial ground disturbing activities. Suitable nesting habitat on the Project Site includes all vegetation. If any active nests are detected, the area shall be delineated to ensure its location is known by all persons working within the vicinity, but shall not be marked in such a manner that it attracts predators. A biologist shall immediately establish a conservative buffer surrounding the nest based on professional judgement and experience. The nest will be monitored at the onset of Project activities and at the onset of any changes in Project activities to determine the efficacy of the buffer and shall adjust accordingly. The nest shall be avoided until the nesting cycle is complete or it is determined by the biological monitor that the chicks have fledged the nest and the nest is no longer active.	Preconstruction survey to be completed by Project Biologist	Developer/ Project Biologist	Planning	Prior to Ground Disturbance	N/A
BIO-2	**Burrowing Owl.** This mitigation measure is applicable to undisturbed native shrub south of the Project Site only, should ground disturbance within this area be required. This measure is not applicable within areas of agricultural cultivation or other disturbed areas, such as roadways. In order to minimize the potential for impacts to burrowing owls, the following measures shall be implemented: Within undisturbed habitat areas, conduct four site visits:	Protocol surveys to be completed by Project Biologist (only if impacts occur in undisturbed areas outside the Project Site)	Developer/ Project Biologist	Planning	Prior to Ground Disturbance	CDFW (if species detected and cannot be avoided)

APPENDIX A KINGS CSG 3 LLC SOLAR PROJECT MITIGATION MONITORING AND REPORTING PROGRAM						
Number	**Measure**	**Monitoring Activity**	**Implementation Responsibility/ Verification**	**Responsibility for Oversight of Compliance/ Verification**	**Timing**	**Outside Agency Coordination**
	• First visit between 15th of February and 15th of April. • Three additional visits, three weeks apart, between April 15th and July 15th with at least one visit after June 15th. Pre-construction surveys shall be conducted for burrowing owls by a qualified biologist no more than 14 days prior to the onset of ground-disturbing activity. Pre-construction surveys shall be repeated if construction halts for more than 14 days. These surveys shall be conducted in accordance with the Staff Report on Burrowing Owl Mitigation (CDFG 2012) or the most recent CDFW guidelines. The surveys shall cover all areas of suitable habitat within the planned construction zones. If pre-construction surveys are undertaken during the breeding season (February through August) and active nest burrows are located within or near construction zones, a construction-free buffer of 150 to 250 feet shall be established around all active owl nests. The specific dimensions of the buffer zone in each case shall be established by a qualified biologist based on site conditions and the level of intensity of the disturbance activity. The buffer zones shall be enclosed with temporary fencing, and construction equipment and workers shall not be allowed to enter the enclosed setback areas. These buffer zones shall remain in place for the duration of the breeding season. After the breeding season (i.e., once all young have left the nest), passive relocation of any remaining owls may take place, but only under the conditions described below. During the non-breeding season (September through January), any burrows occupied by resident owls in areas planned for construction shall be protected by a construction-free buffer with a radius of 150 feet around each active burrow. Passive relocation of resident owls is not recommended by CDFW where it can be avoided. If passive relocation is not avoidable, resident owls may be passively					

APPENDIX A KINGS CSG 3 LLC SOLAR PROJECT MITIGATION MONITORING AND REPORTING PROGRAM						
Number	**Measure**	**Monitoring Activity**	**Implementation Responsibility/ Verification**	**Responsibility for Oversight of Compliance/ Verification**	**Timing**	**Outside Agency Coordination**
	relocated according to a relocation plan prepared by a qualified biologist.					
BIO-3	**San Joaquin Kit Fox.** This mitigation measure is applicable to undisturbed native shrub south of the Project Site only, should ground disturbance within this area be required. This measure is not applicable within areas of agricultural cultivation or other disturbed areas, such as roadways. In order to minimize the potential for impacts to San Joaquin kit fox, the following measures shall be implemented: Pre-construction surveys shall be conducted no less than 14 days and no more than 30 days prior to the beginning of ground disturbance, construction activities, and/or any project activity likely to impact the San Joaquin kit fox. These surveys shall be conducted in accordance with the "U.S. Fish and Wildlife Service Standardized Recommendations for Protection of the San Joaquin Kit Fox Prior to or During Ground Disturbance" (USFWS 2011). The primary objective is to identify San Joaquin kit fox habitat features (e.g., potential dens and refugia) on the Project Site and evaluate their use by San Joaquin kit fox. If an active San Joaquin kit fox den is detected within or immediately adjacent to the area of work, the USFWS shall be contacted immediately to determine the best course of action.	Protocol surveys to be completed by Project Biologist (only if impacts occur in undisturbed areas outside the Project Site)	Developer/ Project Biologist	Planning	Prior to Ground Disturbance	CDFW/ USFWS (if species detected and cannot be avoided)
BIO-4	**Tipton Kangaroo Rat.** This mitigation measure is applicable to undisturbed native shrub south of the Project Site only, should ground disturbance within this area be required. This measure is not applicable within areas of agricultural cultivation or other disturbed areas, such as roadways. In order to minimize the potential for impacts to Tipton kangaroo rat, the following measures shall be implemented: A qualified biologist shall conduct a survey to locate any small mammal burrows. Where feasible, a 50-foot minimum no-	Protocol surveys to be completed by Project Biologist (only if impacts occur in undisturbed areas outside the Project Site)	Developer/ Project Biologist	Planning	Prior to Ground Disturbance	CDFW/ USFWS (if species detected and cannot be avoided)

APPENDIX A KINGS CSG 3 LLC SOLAR PROJECT MITIGATION MONITORING AND REPORTING PROGRAM						
Number	**Measure**	**Monitoring Activity**	**Implementation Responsibility/ Verification**	**Responsibility for Oversight of Compliance/ Verification**	**Timing**	**Outside Agency Coordination**
	disturbance buffer shall be established around small mammal burrow entrances suitable for Tipton kangaroo rat use. If burrow avoidance is not feasible, a qualified biologist shall conduct focused protocol-level trapping surveys, consisting of five consecutive nocturnal surveys with Sherman live traps. Individuals conducting surveys must hold valid section 10(a)1(A) recovery permits from the U.S. Fish and Wildlife Service and the California Department of Fish and Wildlife. Consultation with CDFW is required if Tipton kangaroo rat is detected and cannot be avoided by the Project.					
BIO-5	**Blunt-Nosed Leopard Lizard.** This mitigation measure is applicable to undisturbed native shrub south of the Project Site only, should ground disturbance within this area be required. This measure is not applicable within areas of agricultural cultivation or other disturbed areas, such as roadways. In order to minimize the potential for impacts to blunt-nosed leopard lizard, the following measures shall be implemented: No more than one year prior to initiating any ground-disturbing activities, protocol-level surveys shall be conducted in accordance with the 2019 CDFW Approved Survey Methodology for the Blunt-nosed Leopard Lizard. Protocol-level surveys must be conducted on multiple dates during late spring, summer, and fall of the same calendar year. Consultation with CDFW is required if blunt-nosed leopard lizard is detected and cannot be avoided by the Project.	Protocol surveys to be completed by Project Biologist (only if impacts occur in undisturbed areas outside the Project Site)	Developer/ Project Biologist	Planning	Prior to Ground Disturbance	CDFW/ USFWS (if species detected and cannot be avoided)
CULTURAL RESOURCES						
Policies, Plans, and Procedures						
PPP CUL-1	**Human Remains.** Procedures of conduct following the discovery of human remains on non-federal lands have been mandated by California Health and Safety Code §7050.5, California Public Resources Code §5097.98, and California Code of Regulations (CCR) §15064.5(e). Should human remains be encountered, all	Discovery of human remains	Developer/ Contractor	Planning	During Grading	Possible coordination with Native American

APPENDIX A KINGS CSG 3 LLC SOLAR PROJECT MITIGATION MONITORING AND REPORTING PROGRAM						
Number	**Measure**	**Monitoring Activity**	**Implementation Responsibility/ Verification**	**Responsibility for Oversight of Compliance/ Verification**	**Timing**	**Outside Agency Coordination**
	work in the immediate vicinity of the burial must cease, and any necessary steps to ensure the integrity of the immediate area must be taken. The Kings County Coroner will be immediately notified. The Coroner must then determine whether the remains are Native American. If the Coroner determines the remains are Native American, the Coroner has 24 hours to notify the NAHC, who will, in turn, notify the person they identify as the most likely descendent (MLD) of any human remains. Further actions will be determined, in part, by the desires of the MLD. The MLD has 48 hours to make recommendations regarding the disposition of the remains following notification from the NAHC of the discovery. If the MLD does not make recommendations within 48 hours, the owner shall, with appropriate dignity, reinter the remains in an area of the property secure from further disturbance. Alternatively, if the owner does not accept the MLD's recommendations, the owner or the descendent may request mediation by the NAHC.					Heritage Commission and County Coroner.
Mitigation Measures						
CUL-1	**Inadvertent Discoveries.** Prior to the ground disturbing activities, the Developer shall retain a professional archaeologist to provide on-call services in the event of archaeological resources are discovered. In the event that archaeological resources are inadvertently discovered during ground-disturbing activities, work must be halted within 100 feet of the find until it can be evaluated by a qualified archaeologist. Construction activities could continue in other areas. The archaeologist shall document the resources using DPR 523 forms and evaluate for significance. The forms shall be filed with the California Historical Resources Information System, Southern San Joaquin Valley Information Center. The resources shall be photo-documented and collected by the archaeologist for submittal to the Santa Rosa Rancheria's Cultural and Historical Preservation Dept. The archaeologist shall be required to submit to	On-call Archaeologist	Developer/ Contractor/ Project Archaeologist	Planning	During Grading	Possible coordination with Native American Heritage Commission.

APPENDIX A KINGS CSG 3 LLC SOLAR PROJECT MITIGATION MONITORING AND REPORTING PROGRAM						
Number	**Measure**	**Monitoring Activity**	**Implementation Responsibility/ Verification**	**Responsibility for Oversight of Compliance/ Verification**	**Timing**	**Outside Agency Coordination**
	the County for review and approval a report of the findings and method of curation or protection of the resources. Further grading or site work within the area of discovery shall not be allowed until the preceding steps have been taken. Any potentially significant artifacts, sites or features observed shall be collected and recorded in conjunction with best management practices and professional standards. Upon coordination with the Kings County CDA, any pre-historic archaeological artifacts recovered shall be donated to an appropriate Tribal custodian or a qualified scientific institution where they would be afforded applicable cultural resource laws and guidelines.					
CUL-2	**Cultural Resources Alert on Project Plans.** The Project applicant shall note on any plans that require ground-disturbing excavation that there is a potential for exposing buried cultural resources. Due to Kings County CDA prior to issuance of building permits (verified with plan check).	Cultural Resources Alert on plans	Applicant/ Contractor	Kings County CDA	Prior to issuance of building permits	N/A
CUL-3	**Pre-Construction Briefing.** The Project applicant shall retain the Santa Rosa Rancheria Cultural Staff to provide pre-construction Cultural Sensitivity Training to construction staff and any excavation contractor regarding discovery of cultural resources and the potential for discovery during ground-disturbing activities, which will include information on potential cultural material finds and on the procedures to be enacted if resources are found. Verification due to Kings County CDA prior to ground-disturbing activity.	Arrange for Tribe to conduct pre-construction briefing	Applicant/ Contractor	Kings County CDA	Prior to construction	Work with Santa Rosa Rancheria Cultural Staff
CUL-4	**Native American Monitoring.** Prior to any ground disturbance, the Project applicant shall offer the Santa Rosa Rancheria Tachi Yokut Tribe the opportunity to provide a Native American Monitor during	Offer Santa Rosa Rancheria Tachi Yokut Tribe opportunity to	Applicant/ Contractor	Kings County CDA	During constriction	Work with Santa Rosa Rancheria

APPENDIX A KINGS CSG 3 LLC SOLAR PROJECT MITIGATION MONITORING AND REPORTING PROGRAM						
Number	**Measure**	**Monitoring Activity**	**Implementation Responsibility/ Verification**	**Responsibility for Oversight of Compliance/ Verification**	**Timing**	**Outside Agency Coordination**
	ground disturbing activities during both construction and decommissioning. Tribal participation would be dependent on the availability and interest of the Tribe. Confirmation of correspondence with Santa Rosa Rancheria Cultural Staff due to Kings County CDA prior to construction.	provide a Native American monitor				Tachi Yokut Tribe
GEOLOGY AND SOILS						
Policies, Plans, and Procedures						
PPP GEO-1	**Code Compliance.** The Project is required to comply with the applicable regulations of the California Building Code.	Construction plans and specifications	Developer	Building	Prior to Building Permit Issuance	N/A
PPP WQ-1	**Stormwater Pollution Prevention Plan.** Prior to construction grading and prior to the decommissioning, the applicant shall be required to file a Notice of Intent with the State Water Resources Control Board to comply with the General Permit and prepare a Storm Water Pollution Prevention Plan (SWPPP). The SWPPP will specify best management practices for control, containment of hazardous materials during construction, including housekeeping measures for control of contaminants such as petroleum products, paints and solvents, detergents, fertilizers, and pesticides, as well as vehicle and equipment fueling and maintenance practices, and waste management and disposal control practices, among other things. The project SWPPP will be prepared by a certified Qualified SWPPP Developer (QSD), who will ensure that the BMPs in the project-specific SWPPP will fully comply with the requirements of the General Permit. The enforcement of project SWPPP is the responsibility of the Central Valley Regional Water Quality Control Board, whose responsibilities include conducting inspections of the project construction sites to ensure effective implementation of Best Management Practices (BMPs) specified in the SWPPP prepared for the project.	Submission of SWPPP to State Water Resources Control Board	Developer/ Contractor	Kings County Building/ State Water Resources Control Board	Prior to issuance of building permits.	N/A
Mitigation Measures						

APPENDIX A KINGS CSG 3 LLC SOLAR PROJECT MITIGATION MONITORING AND REPORTING PROGRAM						
Number	**Measure**	**Monitoring Activity**	**Implementation Responsibility/ Verification**	**Responsibility for Oversight of Compliance/ Verification**	**Timing**	**Outside Agency Coordination**
GEO-1	**Expansive Soils Report.** Prior to the issuance of building permits, preparation of an expansive soils report by a qualified registered civil engineer, based on soil borings or excavations, to determine the potential for soils expansion and to prepare recommendations for corrective actions to mitigate potential damage to project structures due to potential soils expansion is required.	Expansive Soils Report	Applicant/ Contractor	Kings County CDA	Prior to the issuance of building permits	N/A
Mitigation Measures						
PAL-1	**Paleontological Monitoring.** A trained and qualified paleontological monitor should perform initial spot checking of any excavations on the Project that have the potential to impact paleontological resources in undisturbed native sediments below 6 feet in depth. Monitoring is not required for ground-disturbing activities that have a low likelihood of revealing paleontological resources, including drilling, pile-driving, directional boring, or other similar activities. The monitor will have the ability to redirect construction activities to ensure avoidance of potential paleontological resources unearthed during ground-disturbing activities. The Project Paleontologist may re-evaluate the necessity for paleontological monitoring after examination of the affected sediments during excavation, with approval from Lead Agency and Client representatives. Any potentially significant paleontological resources observed shall be collected and recorded in accordance with best management practices and Society of Vertebrate Paleontology (SVP) professional standards. Any fossils recovered during mitigation should be prepared, identified, and deposited in an accredited and permanent scientific institution for the benefit of current and future generations, where such an institution is available and willing to accept the resources.	Project Paleontologist to conduct monitoring during initial phase of ground-disturbing activities.	Project Paleontologist/ Kings County	Kings County	During Grading	N/A
HAZARDS AND HAZARDOUS MATERIALS						
Policies, Plans, and Procedures						
HAZ-1	**FAA Obstruction Evaluation.** Prior to issuance of a building permit, the developer shall provide evidence of a completed Obstruction	Submission of Obstruction Evaluation to FAA	Developer	Kings County	Prior to issuance of	FAA

APPENDIX A KINGS CSG 3 LLC SOLAR PROJECT MITIGATION MONITORING AND REPORTING PROGRAM						
Number	**Measure**	**Monitoring Activity**	**Implementation Responsibility/ Verification**	**Responsibility for Oversight of Compliance/ Verification**	**Timing**	**Outside Agency Coordination**
	Evaluation (Title 14, Code of Federal Regulations Part 77) by the Federal Aviation Administration.				building permits.	
Mitigation Measures						
HAZ-1	**Hazardous Materials Business Plan.** The Project applicant shall prepare and implement a Hazardous Materials Business Plan (HMBP) in accordance with the requirements of the Kings County Public Health Department Environmental Services Division. The HMBP shall include a hazardous material inventory, emergency response procedures, training program information, and basic information on the location, type, quantity, and health risks of hazardous materials stored, used, or disposed of at the proposed Project site, and procedures for handling and disposing of unanticipated hazardous materials encountered during construction. The HMBP shall include an inventory of the hazardous waste generated on site and would specify procedures for proper disposal. Any accidental release of small quantities of hazardous materials shall be promptly contained and abated in accordance with applicable regulatory requirements and reported to the Environmental Health Services Division. Implementation of the HMBP for the Project would ensure that minor spills or releases of hazardous materials would not pose a significant risk to the public or the environment.	Preparation of a Hazardous Materials Business Plan.	Developer	Kings County	Prior to issuance of building permits.	N/A

Environment | Planning | Development Solutions, Inc.

To: Rafik Albert
From: Alex J. Garber
Date: 3/18/2022
Re: Air Quality and Greenhouse Gas Impact Analysis for Kings CSG LLC Solar Project

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This technical memorandum presents an analysis of the air quality and greenhouse gas (GHG) impact for the proposed Kings CSG LLC Solar Project (project), located at APN 024-190-055 in the County of Kings. The project proposes the construction of a 3,000 kW (AC) Solar Plant on a disturbed area of 18.14 acres. The project is located in the San Joaquin Valley Air Pollution Control District (SJVAPCD) and the site is currently vacant. The project site plan is shown in Figure 1 Project Site Plan. To support the CEQA analysis for the proposed project, this report analyzes the proposed project's construction and operational impacts to air quality (emission of criterial pollutants) emissions using the California Emissions Estimator Model (CalEEMod version 2020.4.0) land use emission model. The SJVAPCD *Guidance for Assessing and Mitigating Air Quality Impacts* (GAMAQI) (March 19, 2015) was used for guidance and thresholds for this analysis.

Summary of Air Quality and GHG Impact

The Project's maximum daily emissions (regional and local) for construction and operation of the project would not exceed SJVAPCD's regional thresholds of significance. Projects that do not exceed the regional thresholds are assumed to not have a significant impact on a project level and cumulative level. Therefore, the proposed project would have less than significant air quality impacts. In addition, the proposed project results in a net reduction in GHG emissions and supports the implementation of statewide policies to reduce emissions causing climate change.

Air Quality Impact Tables

Regional Emissions

The SJVAPCD has adopted maximum emission thresholds (tons per year) for the criteria pollutants during construction and operation of a project which can be seen in Table 1. While incremental regional air quality impacts of an individual project are generally very small and difficult to measure, SJVAPCD's regional maximum emission thresholds set standards to reduce the burden of SJVAPCD to attain and maintain ambient air quality standards. The construction of the project would be done in three phases:

1. Mobilization: 10 Days
2. Site Improvements & Grading: 20 Days
3. Panel Installation: 45 Days

The facility will be unmanned during operations, with only occasional site visits for security, maintenance, and repairs. A maintenance crew would access the site about once a month and 5-10 panel washers would be utilized once a quarter. The project conservatively analyzed 1 trip a day to account for the irregular trips. The operation of the project is expected to be a minimum of 20 years. The decommissioning of the project would be similar to the panel installation phase, with more efficient and lower emission equipment. For a conservative analysis, the panel installation phase was doubled to account for the decommissioning

of the project, not taking account for the more efficient equipment as CalEEMod assumptions are not very accurate that far out.

Table 2: *Regional Construction Annual Emissions Estimates* and Table 3: *Regional Operational Emissions Estimates* show the project impacts generated from CalEEMod. The CalEEMod print out sheets can be found attached. As can be seen in Table 2 and Table 3, the project would have less then significant regional air quality impacts.

Table 1. SJVAPCD Regional Emissions Significance Thresholds

Air Pollutant	Maximum Emissions (tons/year)	
	Construction	Operation
ROGs	10	10
NOx	10	10
CO	100	100
SOx	27	27
PM-10	15	15
PM-2.5	15	15

Table 2. Regional Construction Annual Emission Estimates

Construction Activity	Maximum Daily Regional Emissions (tons/year)					
	ROG	NO_x	CO	SO_x	PM-10	PM-2.5
Mobilization (2023)						
On-site (Fugitive Dust)	0.0	0.0	0.0	0.0	0.1	0.1
On-site (Off-Road)	0.0	0.1	0.1	0.0	0.0	0.0
Off-site (Hauling)	0.0	0.0	0.0	0.0	0.0	0.0
Off-site (Vendor)	0.0	0.0	0.0	0.0	0.0	0.0
Off-site (Worker)	0.0	0.0	0.0	0.0	0.0	0.0
Total Emissions	**0.0**	**0.1**	**0.1**	**0.0**	**0.1**	**0.1**
Site Improvements & Grading (2023)						
On-site (Fugitive Dust)	0.0	0.0	0.0	0.0	0.1	0.1
On-site (Off-Road)	0.0	0.3	0.3	0.0	0.0	0.0
Off-site (Hauling)	0.0	0.0	0.0	0.0	0.0	0.0
Off-site (Vendor)	0.0	0.1	0.0	0.0	0.0	0.0
Off-site (Worker)	0.0	0.0	0.1	0.0	0.1	0.0
Total Emissions	**0.0**	**0.4**	**0.4**	**0.0**	**0.2**	**0.1**
Panel Installation and Connection (2023)						
On-site (Off-Road)	0.1	0.3	0.4	0.0	0.0	0.0
Off-site (Hauling)	0.0	0.0	0.0	0.0	0.0	0.0
Off-site (Vendor)	0.0	0.2	0.0	0.0	0.0	0.0
Off-site (Worker)	0.0	0.0	0.2	0.0	0.1	0.0
Total Emissions	**0.1**	**0.5**	**0.6**	**0.0**	**0.1**	**0.0**
Total Construction Emissions	**0.1**	**1.0**	**1.1**	**0.0**	**0.4**	**0.2**
SJVAPCD Significance Thresholds	10	10	100	27	15	15
Threshold Exceeded?	**No**	**No**	**No**	**No**	**No**	**No**
Decommissioning (2043)						
On-site (Off-Road)	0.1	0.3	0.4	0.0	0.0	0.0
Off-site (Hauling)	0.0	0.0	0.0	0.0	0.0	0.0
Off-site (Vendor)	0.0	0.2	0.0	0.0	0.0	0.0
Off-site (Worker)	0.0	0.0	0.2	0.0	0.1	0.0
Total Emissions	**0.1**	**0.5**	**0.6**	**0.0**	**0.1**	**0.0**
SJVAPCD Significance Thresholds	10	10	100	27	15	15
Threshold Exceeded?	**No**	**No**	**No**	**No**	**No**	**No**

Table 3. Regional Operational Emission Estimates

Operational Activity	Maximum Daily Regional Emissions (tons/year)					
	ROG	NO_x	CO	SO_x	PM-10	PM-2.5
Area	3.6	0.0	0.0	0.0	0.0	0.0
Energy	0.0	0.0	0.0	0.0	0.0	0.0
Mobile	0.0	0.0	0.0	0.0	0.0	0.0
Total Project Operational Emissions	3.6	0.0	0.0	0.0	0.0	0.0
SJVAPCD Significance Thresholds	10	10	100	27	15	15
Threshold Exceeded?	**No**	**No**	**No**	**No**	**No**	**No**

Potential Impacts to Sensitive Receptors

A sensitive receptor is defined as an individual who is most susceptible to negative health affects when exposed to air pollutants including children, the elderly, and adults with chronic health issues. Such receptors include residences, schools, elderly care centers, and hospitals. The closest sensitive receptors are on-base residences within NAS Lemoore, about 560 meters (1,840 feet) to the north. The project would not exceed any applicable criteria pollutant thresholds during construction and on-going operational activities. Therefore, the potential sensitive receptors would not experience a significant air quality impact.

Odors

In the GAMAQI, Table 6: Screening Levels for Potential Odor Sources lists following land uses that are generally associated with odor complaints:

- Wastewater Treatment Facilities
- Sanitary Landfill
- Transfer Station
- Composting Facility
- Petroleum Refinery
- Asphalt Batch Plant
- Chemical Manufacturing
- Fiberglass Manufacturing
- Painting/Coating Operations
- Food Processing Facility
- Feed Lot/Dairy
- Rendering Plant

The project does not fit under any of those land uses; therefore, the distance thresholds do not apply. Potential odor sources could occur during construction with the usage of construction equipment and the application of asphalt and architectural coating. Standard construction equipment would reduce the odor from the exhaust and the application of asphalt and architectural coating would be temporary and intermittent. The operation of the project would consist of maintenance work and panel washing which do not contribute any substantive odors. Finally, the project would be required to comply with the SJVAPCD Rule 4102 to prevent occurrences of public nuisances. Therefore, with compliance of Rule 4102 and temporary nature of odor causing construction activities, the project would have a less than significant Odor impact.

Greenhouse Gases

In the GAMAQI Section 8.9: Thresholds of Significance – Greenhouse Gas Emissions, State the August 2008 Climate Change Action Plan (CCAP) and the December 17, 2009, *The Final Staff Report – Climate Change Action Plan: Addressing GHG Emissions Impacts Under CEQA* are the guiding documents to analyze Greenhouse Gas Emissions. The CCAP directed the Air Pollution Control Officer to develop guidance documents, which lead to the 2009 Final Staff Report. The Final Staff Report sets the GHG threshold at 7,000 $MTCO_2e$/year. To analyze the projects impact, the construction GHG emissions are amortized over 30 years and added to the project's operational GHG emissions.

The project's construction GHG emissions are shown in Table 4: Project Construction GHG Emissions, and the overall construction and operational emissions are shown in Table 5: Project GHG Emissions. These emissions were calculated using the CalEEMod Model. The proposed project is proposed to produce 4,230 KW (4.23 MW) of electricity, which amounts to approximately 8,213 megawatt hours (MWh) per year.

Megawatt hours are calculated by multiplying the MW produced by assumed hours of daylight (7.5 hours) and number of days in a year (365). Pacific Gas & Electric (PG&E) has a CO_2 intensity factor of 203.98 pounds per MWh for projects served by the utility. Therefore, the project would displace about 760 $MTCO_2e$ of GHG. As shown in Table 7, the project GHG emissions are -744 $MTCO_2e$ per year, below the 7,000 $MTCO_2e$ per year threshold. Therefore, the project would have a positive impact on GHG emissions.

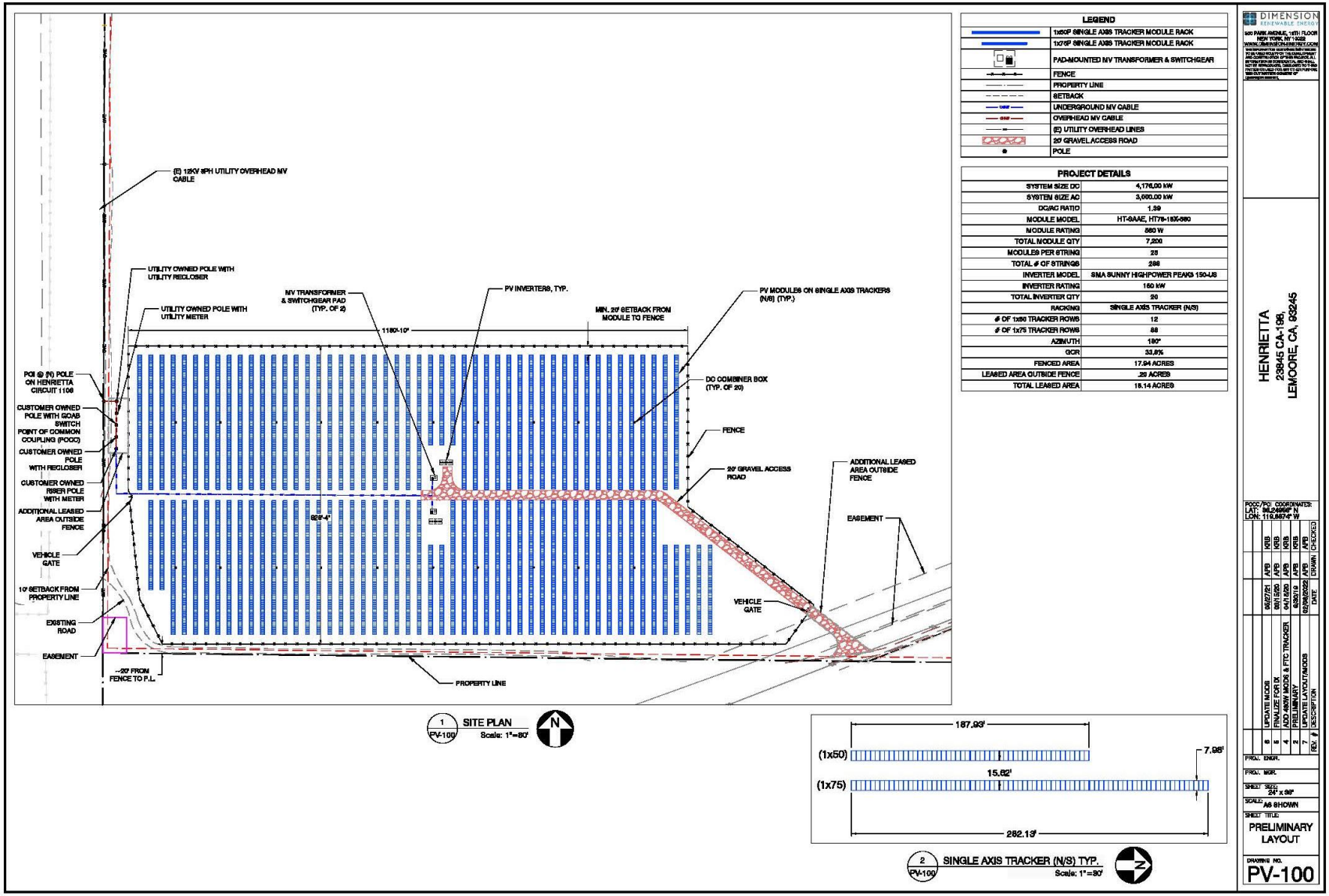
Table 4. Project Construction GHG Emissions

Activity	Annual GHG Emissions ($MTCO_2e$)
2023	
Mobilization	31
Site Improvements & Grading	88
Panel Installation & Connection	196
Total	315
2043	
Decommissioning	196
Total Construction	511
Total Emissions Amortized Over 30 Years	17

Table 5. Project Net GHG Emissions

Activity	Annual GHG Emissions ($MTCO_2e$)
Project Operational Emissions	
Area	0
Energy	0
Mobile	5
Waste	0
Water	0
Total Project Gross Operation Emissions	5
Project Construction Emissions	17
Total Emissions	22
CO_{2e} Emissions Displaced	-760
Net Emissions	-738
Significance Threshold	7,000
Threshold Exceeded?	**No**

Figure 1: Project Site Plan



Kings Solar CSG 3 - Kings County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Kings Solar CSG 3

Kings County, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric	Lot Acreage	Floor Surface Area	Population
User Defined Industrial	18.14	User Defined Unit	18.14	790,178.40	0

1.2 Other Project Characteristics

Urbanization	Rural	**Wind Speed (m/s)**	2.2	**Precipitation Freq (Days)**	37
Climate Zone	3			**Operational Year**	2023
Utility Company	Pacific Gas and Electric Company				
CO2 Intensity (lb/MWhr)	203.98	**CH4 Intensity (lb/MWhr)**	0.033	**N2O Intensity (lb/MWhr)**	0.004

1.3 User Entered Comments & Non-Default Data

Project Characteristics -

Land Use - Lot Acreage from Project site plan (leased area).

Construction Phase - Construction schedule from similar solar projects within the SJVAQMD area.

Off-road Equipment - Assumed 8hr work day.

Trips and VMT - Trip length and worker trip generation from project trip generation (EPD Solutions 2022).

Vehicle Trips - Since the project trips are irregular as seen in the project Trip Generation Memo (EPD Solutions, 2022) 1 trip a day is analyzed.

Fleet Mix - Assumed operational trips would use utility vehicles.

Table Name	Column Name	Default Value	New Value
tblConstructionPhase	NumDays	300.00	45.00
tblConstructionPhase	NumDays	30.00	20.00
tblFleetMix	HHD	0.04	0.00

Kings Solar CSG 3 - Kings County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

tblFleetMix	LDA	0.50	0.00
tblFleetMix	LDT1	0.05	0.00
tblFleetMix	LDT2	0.17	1.00
tblFleetMix	LHD1	0.03	0.00
tblFleetMix	LHD2	6.8650e-003	0.00
tblFleetMix	MCY	0.02	0.00
tblFleetMix	MDV	0.17	0.00
tblFleetMix	MH	3.6680e-003	0.00
tblFleetMix	MHD	8.2360e-003	0.00
tblFleetMix	OBUS	6.3300e-004	0.00
tblFleetMix	SBUS	1.1830e-003	0.00
tblFleetMix	UBUS	1.9000e-004	0.00
tblLandUse	LandUseSquareFeet	0.00	790,178.40
tblLandUse	LotAcreage	0.00	18.14
tblOffRoadEquipment	UsageHours	7.00	8.00
tblOffRoadEquipment	UsageHours	7.00	8.00
tblProjectCharacteristics	UrbanizationLevel	Urban	Rural
tblTripsAndVMT	VendorTripLength	6.60	40.00
tblTripsAndVMT	VendorTripLength	6.60	40.00
tblTripsAndVMT	VendorTripLength	6.60	40.00
tblTripsAndVMT	VendorTripNumber	0.00	20.00
tblTripsAndVMT	VendorTripNumber	0.00	16.00
tblTripsAndVMT	VendorTripNumber	130.00	32.00
tblTripsAndVMT	WorkerTripLength	16.80	40.00
tblTripsAndVMT	WorkerTripLength	16.80	40.00
tblTripsAndVMT	WorkerTripLength	16.80	40.00
tblTripsAndVMT	WorkerTripNumber	18.00	30.00
tblTripsAndVMT	WorkerTripNumber	20.00	70.00
tblTripsAndVMT	WorkerTripNumber	332.00	120.00

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

tblVehicleTrips	CW_TL	14.70	40.00
tblVehicleTrips	CW_TTP	0.00	100.00
tblVehicleTrips	PR_TP	0.00	100.00
tblVehicleTrips	ST_TR	0.00	0.06
tblVehicleTrips	SU_TR	0.00	0.06
tblVehicleTrips	WD_TR	0.00	0.06

2.0 Emissions Summary

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2023	0.1146	1.0395	1.0696	3.3900e-003	0.3315	0.0395	0.3710	0.1254	0.0367	0.1620	0.0000	308.9595	308.9595	0.0383	0.0162	314.7349
Maximum	**0.1146**	**1.0395**	**1.0696**	**3.3900e-003**	**0.3315**	**0.0395**	**0.3710**	**0.1254**	**0.0367**	**0.1620**	**0.0000**	**308.9595**	**308.9595**	**0.0383**	**0.0162**	**314.7349**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2023	0.1146	1.0395	1.0696	3.3900e-003	0.3315	0.0395	0.3710	0.1254	0.0367	0.1620	0.0000	308.9594	308.9594	0.0383	0.0162	314.7348
Maximum	**0.1146**	**1.0395**	**1.0696**	**3.3900e-003**	**0.3315**	**0.0395**	**0.3710**	**0.1254**	**0.0367**	**0.1620**	**0.0000**	**308.9594**	**308.9594**	**0.0383**	**0.0162**	**314.7348**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Quarter	Start Date	End Date	Maximum Unmitigated ROG + NOX (tons/quarter)	Maximum Mitigated ROG + NOX (tons/quarter)
8	**11-24-2022**	**2-23-2023**	0.6989	0.6989
9	**2-24-2023**	**5-23-2023**	0.4488	0.4488
		Highest	0.6989	0.6989

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	3.6354	0.0000	1.7000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	3.2000e-004	3.2000e-004	0.0000	0.0000	3.5000e-004
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	6.2000e-004	1.6300e-003	0.0170	6.0000e-005	5.8900e-003	3.0000e-005	5.9100e-003	1.5600e-003	2.0000e-005	1.5900e-003	0.0000	5.2361	5.2361	9.0000e-005	1.2000e-004	5.2754
Waste						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Water						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**3.6361**	**1.6300e-003**	**0.0172**	**6.0000e-005**	**5.8900e-003**	**3.0000e-005**	**5.9100e-003**	**1.5600e-003**	**2.0000e-005**	**1.5900e-003**	**0.0000**	**5.2364**	**5.2364**	**9.0000e-005**	**1.2000e-004**	**5.2757**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

2.2 Overall Operational

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	3.6354	0.0000	1.7000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	3.2000e-004	3.2000e-004	0.0000	0.0000	3.5000e-004
Energy	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Mobile	6.2000e-004	1.6300e-003	0.0170	6.0000e-005	5.8900e-003	3.0000e-005	5.9100e-003	1.5600e-003	2.0000e-005	1.5900e-003	0.0000	5.2361	5.2361	9.0000e-005	1.2000e-004	5.2754
Waste						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Water						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total	**3.6361**	**1.6300e-003**	**0.0172**	**6.0000e-005**	**5.8900e-003**	**3.0000e-005**	**5.9100e-003**	**1.5600e-003**	**2.0000e-005**	**1.5900e-003**	**0.0000**	**5.2364**	**5.2364**	**9.0000e-005**	**1.2000e-004**	**5.2757**

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio-CO2	Total CO2	CH4	N20	CO2e
Percent Reduction	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

3.0 Construction Detail

Construction Phase

Phase Number	Phase Name	Phase Type	Start Date	End Date	Num Days Week	Num Days	Phase Description
1	Mobilization	Site Preparation	1/1/2023	1/13/2023	5	10	
2	Site Improvements & Grading	Grading	1/14/2023	2/10/2023	5	20	
3	Panel Installation & Connection	Building Construction	2/11/2023	4/14/2023	5	45	

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

Acres of Grading (Site Preparation Phase): 15

Acres of Grading (Grading Phase): 60

Acres of Paving: 0

Residential Indoor: 0; Residential Outdoor: 0; Non-Residential Indoor: 0; Non-Residential Outdoor: 0; Striped Parking Area: 0 (Architectural Coating – sqft)

OffRoad Equipment

Phase Name	Offroad Equipment Type	Amount	Usage Hours	Horse Power	Load Factor
Mobilization	Rubber Tired Dozers	3	8.00	247	0.40
Mobilization	Tractors/Loaders/Backhoes	4	8.00	97	0.37
Site Improvements & Grading	Excavators	2	8.00	158	0.38
Site Improvements & Grading	Graders	1	8.00	187	0.41
Site Improvements & Grading	Rubber Tired Dozers	1	8.00	247	0.40
Site Improvements & Grading	Scrapers	2	8.00	367	0.48
Site Improvements & Grading	Tractors/Loaders/Backhoes	2	8.00	97	0.37
Panel Installation & Connection	Cranes	1	8.00	231	0.29
Panel Installation & Connection	Forklifts	3	8.00	89	0.20
Panel Installation & Connection	Generator Sets	1	8.00	84	0.74
Panel Installation & Connection	Tractors/Loaders/Backhoes	3	8.00	97	0.37
Panel Installation & Connection	Welders	1	8.00	46	0.45

Trips and VMT

Phase Name	Offroad Equipment Count	Worker Trip Number	Vendor Trip Number	Hauling Trip Number	Worker Trip Length	Vendor Trip Length	Hauling Trip Length	Worker Vehicle Class	Vendor Vehicle Class	Hauling Vehicle Class
Mobilization	7	30.00	20.00	0.00	40.00	40.00	20.00	LD_Mix	HDT_Mix	HHDT
Site Improvements & Grading	8	70.00	16.00	0.00	40.00	40.00	20.00	LD_Mix	HDT_Mix	HHDT
Panel Installation & Connection	9	120.00	32.00	0.00	40.00	40.00	20.00	LD_Mix	HDT_Mix	HHDT

3.1 Mitigation Measures Construction

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.2 Mobilization - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0983	0.0000	0.0983	0.0505	0.0000	0.0505	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0133	0.1376	0.0912	1.9000e-004		6.3300e-003	6.3300e-003		5.8200e-003	5.8200e-003	0.0000	16.7254	16.7254	5.4100e-003	0.0000	16.8606
Total	**0.0133**	**0.1376**	**0.0912**	**1.9000e-004**	**0.0983**	**6.3300e-003**	**0.1046**	**0.0505**	**5.8200e-003**	**0.0563**	**0.0000**	**16.7254**	**16.7254**	**5.4100e-003**	**0.0000**	**16.8606**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	3.6000e-004	0.0191	3.4100e-003	1.1000e-004	3.6400e-003	1.6000e-004	3.8000e-003	1.0500e-003	1.5000e-004	1.2000e-003	0.0000	10.1393	10.1393	2.0000e-005	1.4600e-003	10.5740
Worker	1.1400e-003	9.4000e-004	0.0116	4.0000e-005	4.4600e-003	2.0000e-005	4.4800e-003	1.1800e-003	2.0000e-005	1.2000e-003	0.0000	3.4835	3.4835	6.0000e-005	8.0000e-005	3.5089
Total	**1.5000e-003**	**0.0200**	**0.0150**	**1.5000e-004**	**8.1000e-003**	**1.8000e-004**	**8.2800e-003**	**2.2300e-003**	**1.7000e-004**	**2.4000e-003**	**0.0000**	**13.6228**	**13.6228**	**8.0000e-005**	**1.5400e-003**	**14.0828**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.2 Mobilization - 2023

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0983	0.0000	0.0983	0.0505	0.0000	0.0505	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0133	0.1376	0.0912	1.9000e-004		6.3300e-003	6.3300e-003		5.8200e-003	5.8200e-003	0.0000	16.7253	16.7253	5.4100e-003	0.0000	16.8606
Total	**0.0133**	**0.1376**	**0.0912**	**1.9000e-004**	**0.0983**	**6.3300e-003**	**0.1046**	**0.0505**	**5.8200e-003**	**0.0563**	**0.0000**	**16.7253**	**16.7253**	**5.4100e-003**	**0.0000**	**16.8606**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	3.6000e-004	0.0191	3.4100e-003	1.1000e-004	3.6400e-003	1.6000e-004	3.8000e-003	1.0500e-003	1.5000e-004	1.2000e-003	0.0000	10.1393	10.1393	2.0000e-005	1.4600e-003	10.5740
Worker	1.1400e-003	9.4000e-004	0.0116	4.0000e-005	4.4600e-003	2.0000e-005	4.4800e-003	1.1800e-003	2.0000e-005	1.2000e-003	0.0000	3.4835	3.4835	6.0000e-005	8.0000e-005	3.5089
Total	**1.5000e-003**	**0.0200**	**0.0150**	**1.5000e-004**	**8.1000e-003**	**1.8000e-004**	**8.2800e-003**	**2.2300e-003**	**1.7000e-004**	**2.4000e-003**	**0.0000**	**13.6228**	**13.6228**	**8.0000e-005**	**1.5400e-003**	**14.0828**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.3 Site Improvements & Grading - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0920	0.0000	0.0920	0.0365	0.0000	0.0365	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0332	0.3452	0.2805	6.2000e-004		0.0142	0.0142		0.0131	0.0131	0.0000	54.5352	54.5352	0.0176	0.0000	54.9762
Total	**0.0332**	**0.3452**	**0.2805**	**6.2000e-004**	**0.0920**	**0.0142**	**0.1063**	**0.0365**	**0.0131**	**0.0497**	**0.0000**	**54.5352**	**54.5352**	**0.0176**	**0.0000**	**54.9762**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	5.7000e-004	0.0305	5.4500e-003	1.7000e-004	5.8200e-003	2.5000e-004	6.0700e-003	1.6800e-003	2.4000e-004	1.9200e-003	0.0000	16.2229	16.2229	4.0000e-005	2.3300e-003	16.9183
Worker	5.3100e-003	4.4100e-003	0.0542	1.8000e-004	0.0208	1.0000e-004	0.0209	5.5300e-003	9.0000e-005	5.6200e-003	0.0000	16.2565	16.2565	2.8000e-004	3.7000e-004	16.3747
Total	**5.8800e-003**	**0.0350**	**0.0597**	**3.5000e-004**	**0.0266**	**3.5000e-004**	**0.0270**	**7.2100e-003**	**3.3000e-004**	**7.5400e-003**	**0.0000**	**32.4794**	**32.4794**	**3.2000e-004**	**2.7000e-003**	**33.2930**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.3 Site Improvements & Grading - 2023

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.0920	0.0000	0.0920	0.0365	0.0000	0.0365	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Off-Road	0.0332	0.3452	0.2805	6.2000e-004		0.0142	0.0142		0.0131	0.0131	0.0000	54.5351	54.5351	0.0176	0.0000	54.9761
Total	**0.0332**	**0.3452**	**0.2805**	**6.2000e-004**	**0.0920**	**0.0142**	**0.1063**	**0.0365**	**0.0131**	**0.0497**	**0.0000**	**54.5351**	**54.5351**	**0.0176**	**0.0000**	**54.9761**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	5.7000e-004	0.0305	5.4500e-003	1.7000e-004	5.8200e-003	2.5000e-004	6.0700e-003	1.6800e-003	2.4000e-004	1.9200e-003	0.0000	16.2229	16.2229	4.0000e-005	2.3300e-003	16.9183
Worker	5.3100e-003	4.4100e-003	0.0542	1.8000e-004	0.0208	1.0000e-004	0.0209	5.5300e-003	9.0000e-005	5.6200e-003	0.0000	16.2565	16.2565	2.8000e-004	3.7000e-004	16.3747
Total	**5.8800e-003**	**0.0350**	**0.0597**	**3.5000e-004**	**0.0266**	**3.5000e-004**	**0.0270**	**7.2100e-003**	**3.3000e-004**	**7.5400e-003**	**0.0000**	**32.4794**	**32.4794**	**3.2000e-004**	**2.7000e-003**	**33.2930**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.4 Panel Installation & Connection - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0377	0.3474	0.3895	6.5000e-004		0.0168	0.0168		0.0158	0.0158	0.0000	55.8903	55.8903	0.0136	0.0000	56.2306
Total	**0.0377**	**0.3474**	**0.3895**	**6.5000e-004**		**0.0168**	**0.0168**		**0.0158**	**0.0158**	**0.0000**	**55.8903**	**55.8903**	**0.0136**	**0.0000**	**56.2306**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	2.5800e-003	0.1374	0.0245	7.6000e-004	0.0262	1.1400e-003	0.0273	7.5500e-003	1.0900e-003	8.6400e-003	0.0000	73.0030	73.0030	1.7000e-004	0.0105	76.1324
Worker	0.0205	0.0170	0.2092	6.8000e-004	0.0803	3.8000e-004	0.0806	0.0213	3.5000e-004	0.0217	0.0000	62.7035	62.7035	1.0700e-003	1.4400e-003	63.1594
Total	**0.0231**	**0.1544**	**0.2337**	**1.4400e-003**	**0.1065**	**1.5200e-003**	**0.1080**	**0.0289**	**1.4400e-003**	**0.0303**	**0.0000**	**135.7065**	**135.7065**	**1.2400e-003**	**0.0119**	**139.2918**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

3.4 Panel Installation & Connection - 2023

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.0377	0.3474	0.3895	6.5000e-004		0.0168	0.0168		0.0158	0.0158	0.0000	55.8902	55.8902	0.0136	0.0000	56.2306
Total	**0.0377**	**0.3474**	**0.3895**	**6.5000e-004**		**0.0168**	**0.0168**		**0.0158**	**0.0158**	**0.0000**	**55.8902**	**55.8902**	**0.0136**	**0.0000**	**56.2306**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Vendor	2.5800e-003	0.1374	0.0245	7.6000e-004	0.0262	1.1400e-003	0.0273	7.5500e-003	1.0900e-003	8.6400e-003	0.0000	73.0030	73.0030	1.7000e-004	0.0105	76.1324
Worker	0.0205	0.0170	0.2092	6.8000e-004	0.0803	3.8000e-004	0.0806	0.0213	3.5000e-004	0.0217	0.0000	62.7035	62.7035	1.0700e-003	1.4400e-003	63.1594
Total	**0.0231**	**0.1544**	**0.2337**	**1.4400e-003**	**0.1065**	**1.5200e-003**	**0.1080**	**0.0289**	**1.4400e-003**	**0.0303**	**0.0000**	**135.7065**	**135.7065**	**1.2400e-003**	**0.0119**	**139.2918**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

4.0 Operational Detail - Mobile

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	6.2000e-004	1.6300e-003	0.0170	6.0000e-005	5.8900e-003	3.0000e-005	5.9100e-003	1.5600e-003	2.0000e-005	1.5900e-003	0.0000	5.2361	5.2361	9.0000e-005	1.2000e-004	5.2754
Unmitigated	6.2000e-004	1.6300e-003	0.0170	6.0000e-005	5.8900e-003	3.0000e-005	5.9100e-003	1.5600e-003	2.0000e-005	1.5900e-003	0.0000	5.2361	5.2361	9.0000e-005	1.2000e-004	5.2754

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
User Defined Industrial	1.09	1.09	1.09	15,847	15,847
Total	1.09	1.09	1.09	15,847	15,847

4.3 Trip Type Information

	Miles			Trip %			Trip Purpose %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW	Primary	Diverted	Pass-by
User Defined Industrial	40.00	6.60	6.60	100.00	0.00	0.00	100	0	0

4.4 Fleet Mix

Land Use	LDA	LDT1	LDT2	MDV	LHD1	LHD2	MHD	HHD	OBUS	UBUS	MCY	SBUS	MH
User Defined Industrial	0.000000	0.000000	1.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000	0.000000

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

5.0 Energy Detail

Historical Energy Use: N

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Electricity Unmitigated						0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
NaturalGas Mitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
NaturalGas Unmitigated	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
User Defined Industrial	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU/yr	tons/yr										MT/yr					
User Defined Industrial	0	0.0000	0.0000	0.0000	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**	**0.0000**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
User Defined Industrial	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated

	Electricity Use	Total CO2	CH4	N2O	CO2e
Land Use	kWh/yr	MT/yr			
User Defined Industrial	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

6.0 Area Detail

6.1 Mitigation Measures Area

Kings Solar CSG 3 - Kings County, Annual

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	3.6354	0.0000	1.7000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	3.2000e-004	3.2000e-004	0.0000	0.0000	3.5000e-004
Unmitigated	3.6354	0.0000	1.7000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	3.2000e-004	3.2000e-004	0.0000	0.0000	3.5000e-004

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.5494					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	3.0860					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	2.0000e-005	0.0000	1.7000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	3.2000e-004	3.2000e-004	0.0000	0.0000	3.5000e-004
Total	**3.6354**	**0.0000**	**1.7000e-004**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**3.2000e-004**	**3.2000e-004**	**0.0000**	**0.0000**	**3.5000e-004**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

6.2 Area by SubCategory

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.5494					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Consumer Products	3.0860					0.0000	0.0000		0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
Landscaping	2.0000e-005	0.0000	1.7000e-004	0.0000		0.0000	0.0000		0.0000	0.0000	0.0000	3.2000e-004	3.2000e-004	0.0000	0.0000	3.5000e-004
Total	**3.6354**	**0.0000**	**1.7000e-004**	**0.0000**		**0.0000**	**0.0000**		**0.0000**	**0.0000**	**0.0000**	**3.2000e-004**	**3.2000e-004**	**0.0000**	**0.0000**	**3.5000e-004**

7.0 Water Detail

7.1 Mitigation Measures Water

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

	Total CO2	CH4	N2O	CO2e
Category	MT/yr			
Mitigated	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
User Defined Industrial	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

7.2 Water by Land Use

Mitigated

	Indoor/Outdoor Use	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	MT/yr			
User Defined Industrial	0 / 0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	Total CO2	CH4	N2O	CO2e
	MT/yr			
Mitigated	0.0000	0.0000	0.0000	0.0000
Unmitigated	0.0000	0.0000	0.0000	0.0000

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
User Defined Industrial	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

Mitigated

	Waste Disposed	Total CO2	CH4	N2O	CO2e
Land Use	tons	MT/yr			
User Defined Industrial	0	0.0000	0.0000	0.0000	0.0000
Total		**0.0000**	**0.0000**	**0.0000**	**0.0000**

9.0 Operational Offroad

Equipment Type	Number	Hours/Day	Days/Year	Horse Power	Load Factor	Fuel Type

EMFAC Off-Model Adjustment Factors for Gasoline Light Duty Vehicle to Account for the SAFE Vehicle Rule Applied

10.0 Stationary Equipment

Fire Pumps and Emergency Generators

Equipment Type	Number	Hours/Day	Hours/Year	Horse Power	Load Factor	Fuel Type

Boilers

Equipment Type	Number	Heat Input/Day	Heat Input/Year	Boiler Rating	Fuel Type

User Defined Equipment

Equipment Type	Number

11.0 Vegetation

Biological Habitat Assessment For
Kings CSG 3 Solar Project

(APNs 024-190-029, -034, -055)
Vanguard, Lemoore and Westhaven 7.5 Minute Quadrangle,
Section 26, Township 19 S, Range 19 E
Kings County, California

Prepared for

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April 6, 2022

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Executive Summary:

At the request of Kings CSG 3 LLC, Phoenix Biological Consulting (Phoenix) initiated a biological habitat assessment on the approximately 242-acre property, assessor's parcel numbers (APNs) 024-190-029, -034, and -055, of which on ~18 acres, Kings CSG 3 LLC is developing an approximately 3-megawatt (MWac) photovoltaic (PV) solar energy generation facility and associated power line connections (the Project).

The site is located on agricultural land west of Lemoore, Kings County, California. The site consists of an active agricultural plot. Representative photographs and maps of the site are included in this report.

This report was completed following a site visit by Phoenix on November 28, 2021. The entire site was evaluated for potential impacts from the proposed project, including sensitive plant and animal species as well as potential jurisdictional drainages that could be affected by the project.

The conclusions of this report are summarized as follows:

- Areas along the perimeter of the site not under agricultural cultivation are considered potential or suitable habitat for burrowing owl. Focused protocol surveys are recommended to determine the presence (if any) of burrowing owl within these areas. Protocol surveys are not required within the area under cultivation.
- Due to the land usage, the solar array footprint and parcel boundary are both considered potential and suitable habitat for nesting birds. All potential bird species should be included in a preconstruction nesting bird survey, conducted within 30 days of ground disturbance, if the project occurs during the nesting season (February 15 – August 1).
- The CNDDB search indicated the presence of 8 rare plant species within nine quad search area. However, none of the rare plant species have a potential to occur on site due to agricultural land use practices within the site and the surrounding areas. A botanical survey is not required.
- The site does not contain surface waters that would require a formal jurisdictional delineation.
- The southern border of the site interfaces with several large water detention basins. The habitat around the basins has high potential for San Joaquin Kit Fox (SJKT), Blunt-nosed leopard lizard (BNLL), burrowing owl (BUOW) and Tipton Kangaroo Rat (TKR). Surveys for these species are recommended if the solar field encroaches on non-agricultural lands along the southern border of the site.

- There is potential nesting habitat for raptor species along the project boundary, especially along the southern border where existing transmission line towers are situated. Surveys for Swainson 's hawk are recommended if the solar field encroaches on non-agricultural lands.

Recommended mitigation measures based on the results of this habitat assessment are provided at the end of this report.

Introduction and Purpose:

At the request of Kings CSG 3 LLC, Phoenix Biological Consulting (Phoenix) initiated a biological habitat assessment on the approximately 232-acre property, assessor's parcel numbers (APNs) 024-190-029, -034, and -055, of which on ~18 acres, Kings CSG 3 LLCis developing an approximately 3-megawatt (MWac) photovoltaic (PV) solar energy generation facility and associated power line connections (the Project).

The site is located on agricultural land west of Lemoore, Kings County, California. The site consists of active agricultural lands. Representative photographs and maps of the site are included in this report.

Per the California Environmental Quality Act (CEQA), the lead agency requires a project proponent to initiate a habitat assessment to identify sensitive biological resources that may have the potential to occur within a site. This report was completed following a site visit by Phoenix on November 28, 2021. The entire site was evaluated for potential impacts from the proposed project, including sensitive plant and animal species as well as potential jurisdictional drainages that could be affected by the project.

Several sensitive species that are known to occur within a nine-quadrangle search area were identified through the California Natural Diversity Database (CNDDB) literature/database search. The results of the habitat assessment indicate that portions of the site, especially along the southern border of the project area, may have potential habitat for nesting birds, Tipton kangaroo rat, San Joaquin kit fox and burrowing owl.

Project Description:

Kings CSG 3 LLC is proposing to develop an approximately 3-MWac photovoltaic solar energy generation facility and associated power line (the Project) on approximately 18 acres of a 242-acre property, identified as assessor's parcel numbers 024-190-029, -034, and -055, located west of Lemoore, Kings County. . The project will generate renewable energy utilizing

photovoltaic panels, and will be interconnected to power grid via a new pole along an existing Pacific Gas & Electric 12 kV distribution circuit along the western edge of the site.

Location:

The site is located at the southwest corner of the Avenal Cutoff and Hwy 198 on agricultural land west of Lemoore, Kings County, California along the intersection of three 7.5-minute quadrangle topographic maps: Vanguard, Lemoore and Westhaven (Exhibit 1). The legal description of the parcel is a portion of the North half of Section 26, Township 19 S, Range 19 E.

Habitat and Land Use:

The project area consists of three parcels totaling 242 acres that are bordered by a roadway to the north (Hwy 198) and Avenal Cutoff to the east, water storage ponds to the south and a solar farm to the west. Approximately 95% of the 242-acre property consists of freshly plowed farmland. Due to the recent plowing, no species would be present within 95% of the site. The plowed farm land is boarded by disturbed edge habitat that consists of wild lettuce (*Lactuca virosa*), Russian thistle (*Salsola sp.),* shiny geranium (*Geranium lucidum*), cheatgrass (*Bromus tectorum*) and various past season annual plant species. Within the edge habitat, there were several burrows found that are likely to be SJKF and potential TKR. During the field visit, two bird species were observed: Killdeer and a hawk. The hawk had markings consistent with a Swainson's Hawk. The structure located on the northwest corner of the parcel may be nesting habitat for raptors due to the excessive amounts of raptor droppings found within the abandoned structure. Additionally, an existing transmission line that is situated along the southern border is also potential raptor nesting habitat. A complete list of vegetation and photos can be found on Table 4 & Exhibit 8.

Target Sensitive Species Natural History Description:

Burrowing Owl

Burrowing owls (*Athene cunicularia*) are a small, long-legged, ground-dwelling owl that occurs from British Columbia, throughout North America and portions of Central and South America. They are typically nocturnal but are also known to be crepuscular (active dawn and dusk). Typical prey items include invertebrates, small mammals, lizards, snakes, and small birds. They nest underground in burrows and clutches range between 9-11 eggs. Burrow entrances and nests are adorned with cow chips, feathers, grass, food items and dog feces. They are typically monogamous and tend to exist in colonies. They exhibit high nest fidelity and will return to the same burrow nest site for multiple years.

Burrowing owls occur in a variety habitat types throughout California, such as annual and perennial grasslands, agriculture fields, deserts and scrublands characterized by low-growing vegetation (CBOC, 1993). Suitable owl habitat may also include areas with trees and shrubs where canopy cover is less than 30% of ground surface. Suitable burrows may include both artificial and natural burrows that provide shelter from the elements as well as protection from predators. Burrowing owls also use burrows for nesting during spring and early summer months. California ground squirrel (CGS; *Spermophilus beecheyi)* is known to provide suitable burrows as well as inactive coyote, kit fox, badger, and desert tortoise burrows. Burrowing owls can also create and/or modify existing burrows. Artificial burrows may include culverts, concrete pipes, wood debris piles and openings beneath cement or asphalt.

In desert scrub habitat, they are usually associated with canid (i.e., fox and coyote) and CGS burrows along mounds that provide vistas for viewing prey and predators. They are also found along washes and wash banks where small mammal and invertebrate abundance is higher. Burrowing owls are a BLM sensitive species and a California species of special concern. They are also protected under the Migratory Bird Treaty Act (MBTA) and within sections 3503, 3503.5 and 3800 of the California Department of Fish and Game Code which prohibits the take, possession, or destruction of birds, their nests, or eggs (CBOC, 1993).

San Joaquin Kit Fox

The San Joaquin kit fox (*Vulpes macrotis mutica*) is a federally threatened and State-endangered species that is a permanent resident of arid grasslands or open scrubland in the San Joaquin Valley, where friable soils are present. Dens are required year-round for reproduction, shelter, temperature regulation, and protection from predators. They require open grassland and savannah habitats for foraging and dispersal. Historically their habitat included native alkali marsh and saltbush scrub of the valley floor, but the availability of such habitats has diminished markedly due to agricultural conversion. Grasslands with friable soils are considered the principal habitat for denning, foraging, and dispersal, while open oak woodlands provide lower quality foraging and dispersal habitat. Kit foxes will use habitats that have been extensively modified by humans, including grasslands and scrublands with active oil fields, wind turbines, and agricultural matrices.

Swainson's hawk

The Swainson's hawk (*Buteo swainsoni*) is a slender buteo averaging 19 inches long with a wingspan of 51 inches. The coloring of Swainson's ranges from light to dark with many intermediate morphs. They are distinguishable in flight by white wing linings that contrast with dark flight feathers. Unlike other buteos, Swainson's migrate between North America and South America each year. Most of the California population winters in Argentina, however the wintering

habits of the Antelope Valley population specifically are unknown. The California population has steadily decreased and was listed as threatened by the CDFW in 1983 (CDFG, 2010).

The breeding season begins in late March to early April when birds typically return to nest sites. Nest site fidelity is high for Swainson's hawk. Pairs form immediately and nest building occurs over a one to two-week period. Both males and females are involved in nest building. Nests are usually easily identified as courtship displays involve circling the nesting site and frequent vocalizations. In California, Swainson's hawk can nest in cottonwood, oaks, sycamores, and willows provide suitable nesting habitat (Bloom, 1980). During the month of May incubation and hatching occurs. Females remain well-hidden in the nest. Males forage for hours and rarely return to nesting site to prevent predators from recognizing nest location. Clutch sizes vary from 2-5. Once hatched, hatchlings remain in the nest until July or August. Between June and mid-July both males and females leave the nest often as fledglings are relatively safe from predators. In July or August, fledglings leave the nest and migratory flocks begin to form in August and September. Migratory flocks usually reach wintering grounds by November.

Swainson's hawks are aerial foragers, soaring over foraging habitat in search of prey. Historically they have foraged in native desert scrub communities. Much of the historical foraging habitat has been lost to development or conversion to incompatible crop types. However, Swainson's hawks also forage in irrigated pastures and alfalfa fields that can support a suitable prey base. Throughout breeding season Swainson's prey on mostly ground squirrels, voles, and other small mammals. Unlike other buteos, Swainson's hawks also forage for insects such as grasshoppers and crickets during non-breeding season. The home range is indirectly proportional to abundance or ease of locating prey. For example, alfalfa fields provide cover, forage and water for small rodents; therefore, home range grows to increase the ability of locating prey. The Swainson's hawk is listed as a California state threatened species under the California Endangered Species Act (CESA) under the California Department of Fish and Wildlife. They are also protected under the Migratory Bird Treaty Act (MBTA) and within sections 3503, 3503.5 and 3800 of the California Department of Fish and Game Code which prohibits the take, possession, or destruction of birds, their nests, or eggs (CBOC, 1993).

Rare Plants

There are no rare plants identified in the CNDDB database that have suitable habitat on site.

CNDDB Rarefind Database, IPAC and Literature Review Results:

A thorough California natural diversity database (CNDDB) literature review and Information for Planning and Consultation (IPAC) was conducted to determine which species occur within a nine-quadrangle search area of the site (Exhibit 6; Appendix A, Table 1). Twenty-

seven sensitive species were detected within the nine-quadrangle search area. Multiple habitat types fall within the ten-mile radius; alkali desert scrub, annual grassland, cropland, freshwater emergent wetland, lacustrine, orchard and vineyard, urban, and valley-foothill riparian. Therefore, several species fall out of range/habitat limits given the specific characteristics of the site (See Table 1 for habitat potential for all species).

Species that are known to occur within the nine-quadrangle search area, with potential habitat type on non-agricultural portions of the site, include: burrowing owl (*Athene cunicularia*), Swainson's hawk (*Buteo swainsoni*), Blunt-nosed leopard lizard, (*Gambelia sila*), Tipton kangaroo rat (*Dipodomys nitratoides nitratoides),* San Joaquin kit fox *(Vulpes macrotis mutica).*

Burrowing Owl

There are records for burrowing owl presence from the CNDDB search. The burrowing owl occurrences are located within proximity of the site and in multiple directions. Potential burrowing owl habitat does occur on site. Due to the proximity of CNDDB occurrences and the potential habitat that exists at this site, focused surveys for burrowing owl will be required along the perimeter of the site. Surveys are not required within the agricultural areas.

San Joaquin Kit Fox

The San Joaquin kit fox has numerous occurrences within the nine-quadrangle search area for the project. The site has some potential habitat along the southern border. Surveys for SJKF are recommended if solar field development occurs outside of agricultural areas.

Tipton Kangaroo Rat

There are Tipton kangaroo rats occurrences to the east and further to the south in the CNDDB search database (Exhibit 6).

Swainson's Hawk

There is suitable nesting habitat for Swainson's hawk along existing transmission line towers that are situated on the southern border of the site. Focused protocol surveys for Swainson's hawk will be required if solar field development occurs outside of agricultural areas.

Birds

There is some nesting habitat on the site and foraging habitat may exist for general passerines. All nesting birds are covered under the Migratory Bird Treaty Act (MBTA). All potential bird species should be included in a preconstruction nesting bird survey, conducted within 30 days before the start of ground disturbance, if project ground disturbance starts during the nesting season (February 15 to August 1).

Wildlife Corridors

The site is relatively isolated due to surrounding agriculture land use and paved roads. Due to the active agriculture practices no natural wildlife corridors are present it is not anticipated that the project development will have a significant impact to wildlife corridors. The surrounding agriculture fields may act as human-made corridors but the small size of this parcel and presence of surrounding agriculture fields should not have a significant impact on wildlife corridors.

Rare Plants

There were 8 rare plant species within the CNDDB database: alkali-sink goldfields (*Lasthenia chrysantha*), Ferris' goldfields (*Lasthenia ferrisiae*), San Joaquin woollythreads (*Monolopia congdonii*), San Joaquin bluecurls (*Trichostema ovatum*), mud nama (*Nama stenocarpa*), California alkali grass (*Puccinellia simplex*), Hoover's eriastrum (*Eriastrum hooveri*), and recurved larkspur (*Delphinium recurvatum*). The California Native Plant Society (CNPS) has created 5 lists (or ranks) in an effort to categorize degrees of concern. Plants that fall under list 2 are plants that are rare, threatened, or endangered in California, but are more common elsewhere. All of the plants constituting California Rare Plant Rank 2 meet the definitions of Sec. 1901, Chapter 10 (Native Plant Protection Act) or Secs. 2062 and 2067 (California Endangered Species Act) of the California Department of Fish and Game Code and are eligible for state listing. (Tibor, ed. 2001). It is mandatory that they be fully considered during preparation of environmental documents relating to CEQA. The CNPS Threat Rank is an extension added onto the California Rare Plant Rank and designates the level of endangerment by a .1 to .3 ranking with .1 being the most threatened, .2 being fairly threatened, and .3 being not very threatened. The potential rare plant rankings for plants with suitable habitat and within the CNDDB database are provided on Table 1. Due to the land usage, no suitable habitat for rare plants is present on site.

Proximity to Conservation Areas:

There are no known conservation areas nearby to the project site.

Jurisdictional Drainages:

The U.S. Army Corps of Engineers (USACE), Regional Water Quality Control Board (RWQCB), and California Department of Fish and Wildlife (CDFW) collectively regulate jurisdictional waters of the U.S. and state. There are no noticeable surface water features on the site and nothing within the USGS database on the site that would necessitate a formal jurisdictional determination.

Table 1: CNDDB Nine-Quadrangle Search Results & Habitat Potential

	Scientific Name	Common Name	Federal Status	State Status	CNPS Ranking	Habitat Potential
Reptiles	*Masticophis flagellum ruddocki*	San Joaquin coachwhip	None	Species of Special Concern	N/A	Habitat is not present.
	Gambelia sila	blunt-nosed leopard lizard	Endangered	Endangered	N/A	Habitat may be present along southern border.
	Emys marmorata	western pond turtle	None	Species of Special Concern	N/A	Habitat is not present.
	Phrynosoma blainvillii	coast horned lizard	None	Species of Special Concern	N/A	Habitat is not present.
Amphibians	*Spea hammondii*	Western spadefoot	None	None	N/A	Habitat is not present
Birds	*Accipiter cooperii*	Cooper's hawk	None	Watch List	N/A	Habitat is not present.
	Buteo swainsoni	Swainson's hawk	None	Threatened	N/A	Habitat may be present along the existing transmission line on the southern border.
	Aythya americana	redhead	None	Species of Special Concern	N/A	Habitat is not present.
	Dendrocygna bicolor	fulvous whistling-duck	None	Species of Special Concern	N/A	Habitat is not present.
	Charadrius montanus	mountain plover	None	Species of Special Concern	N/A	Habitat is not present.
	Charadrius nivosus nivosus	western snowy plover	Threatened	Species of Special Concern	N/A	Habitat is not present.
	Agelaius tricolor	tricolored blackbird	None	Threatened	N/A	Habitat is not present.
	Xanthocephalus xanthocephalus	yellow-headed blackbird	None	Species of Special Concern	N/A	Habitat is not present.

	Chlidonias niger	black tern	None	Species of Special Concern	N/A	Habitat is not present.
	Sternula antillarum browni	California least tern	Endangered	Endangered	N/A	Habitat is not present.
	Toxostoma lecontei	Le Conte's thrasher	None	Species of Special Concern	N/A	Habitat is not present.
	Pelecanus erythrorhynchos	American white pelican	None	Species of Special Concern	N/A	Habitat is not present.
	Numenius americanus	long-billed curlew	None	Watch List	N/A	Habitat is not present.
	Asio otus	long-eared owl	None	Species of Special Concern	N/A	Habitat is not present.
	Athene cunicularia	burrowing owl	None	Species of Special Concern	N/A	Habitat may be present along borders.
Mammals	*Vulpes macrotis mutica*	San Joaquin kit fox	Endangered	Threatened	N/A	Habitat may be present along southern edge.
	Onychomys torridus tularensis	Tulare grasshopper mouse	None	Species of Special Concern	N/A	Habitat is not present.
	Dipodomys nitratoides exilis	Fresno kangaroo rat	Endangered	Endangered	N/A	Habitat is not present.
	Dipodomys nitratoides nitratoides	Tipton kangaroo rat	Endangered	Endangered	N/A	Habitat may be present along southern edge.
	Perognathus inornatus	San Joaquin pocket mouse	None	Species of Special Concern	N/A	Habitat is not present.
	Taxidea taxus	American badger	None	Species of Special Concern	N/A	Habitat may be present along southern edge.
Plants	*Lasthenia chrysantha*	alkali-sink goldfields	None	None	1B.1	Habitat is not present.
	Lasthenia ferrisiae	Ferris' goldfields	None	None	4.2	Habitat is not present.
	Monolopia congdonii	San Joaquin woollythreads	Endangered	None	1B.2	Habitat is not present.

	Trichostema ovatum	San Joaquin bluecurls	None	None	4.2	Habitat is not present.
	Nama stenocarpa	mud nama	None	None	2B.2	Habitat is not present.
	Puccinellia simplex	California alkali grass	None	None	1B.2	Habitat is not present.
	Eriastrum hooveri	Hoover's eriastrum	Delisted	None	4.2	Habitat is not present.
	Delphinium recurvatum	recurved larkspur	None	None	1B.2	Habitat is not present.

Habitat Assessment Results:

The results of the habitat assessment indicate that the site is situated within a highly disturbed agricultural area. The site consists of an active agricultural plot, with non-agricultural vegetation along the perimeter.

The habitat assessment determined no potential for rare plants to exist on site. A botanical survey is not required to determine presence/absence.

There is some nesting habitat on the site and foraging habitat may exist for passerines. All nesting birds are covered under the Migratory Bird Treaty Act (MBTA). All potential bird species should be included in a preconstruction nesting bird survey, conducted within 30 days before the start of ground disturbance, if ground disturbance is inidiated during the nesting season (February 15 to August 1).

The site is considered potential or suitable habitat for nesting birds and burrowing owl. Focused protocol surveys are recommended to determine the presence (if any) of burrowing owl in the non-agricultural portions of the site.

The site does not contain surface waters that would require a formal jurisdictional delineation.

The southern border of the site is adjacent to several large water detention basins with semi-disturbed native shrubs and potential suitable habitat for SJKF, BNLL, and TKR. Surveys for these species are only required if the solar field encroaches on non-agricultural lands.

Table 2: Survey Recommendations:
Below are survey recommendations based on the results of the habitat assessment.

Species	Federal Status	State Status	Survey Requirements	Legal Authority
Nesting Birds	N/A	Species of Special Concern	No ground disturbance to occur during nesting season (between February 15 and August 1) without a clearance survey by a qualified biologist, conducted within 30 days of ground disturbance, to ensure that no nesting birds are impacted.	Migratory Bird Species Act. California Environmental Quality Act.
Burrowing Owl	N/A	Species of Special Concern	Within undisturbed habitat areas: Conduct four site visits: First visit between 15th of February and 15th of April. Three additional visits, three weeks apart, between April 15th and July 15th with at least one visit after June 15th.	Fish and Game Code. Sections 3503, 3503.5, and 3800. Migratory Bird Species Act. California Environmental Quality Act.
San Joaquin kit fox	Endangered	Threatened	If impacts occur within undisturbed habitat: 30 Day preconstruction survey is recommended. Surveys must be conducted on foot within prescribed parameters as outlined by U.S. Fish and Wildlife Service San Joaquin kit fox survey protocol for the northern range.	(The Endangered Species Act of 1973. California Environmental Quality Act.
Tipton kangaroo rat	Endangered	Endangered	If impacts occur within undisturbed habitat: Conduct five consecutive nocturnal surveys with	U.S. Fish and Wildlife Service 2013 Survey Protocol, California

Species	Federal Status	State Status	Survey Requirements	Legal Authority
			Sherman live traps by those individuals holding valid section 10(a)1(A) recovery permits from the United States Fish and Wildlife Service (USFWS) and the California Department of Fish and Wildlife (CDFW).	Environmental Quality Act.
Blunt-nosed leopard lizard	Endangered	Endangered	If impacts occur within undisturbed habitat: Surveys must be conducted on foot within prescribed temperature and weather as outlined by DFG BNLL protocol revised May 2004.	Fish and Game Code §5050. California Environmental Quality Act.

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This concludes the habitat assessment for the approximately 242-acre survey (Kings CGS 3 LLC Solar) near the town of Lemoore, Kings County, California.

Certification: *I hereby certify that the statements furnished above and in the attached exhibits present the data and information presented are true and correct to the best of my knowledge and belief. Field work conducted for this report was performed by me or under my direct supervision. I certify that I have not signed a non-disclosure or consultant confidentiality agreement with the project applicant or applicant's representative and that I have no financial interest in the project. Any federally and/or state threatened/endangered species cannot be taken under State and Federal law. The report and recommended mitigation measures included in this report do not constitute authorization for incidental take of the any sensitive species.*

Report Prepared Performed BY:

Date: April 6, 2022 Signature: _____

Ryan Young, Senior Biologist

Exhibit 1: Topographic View

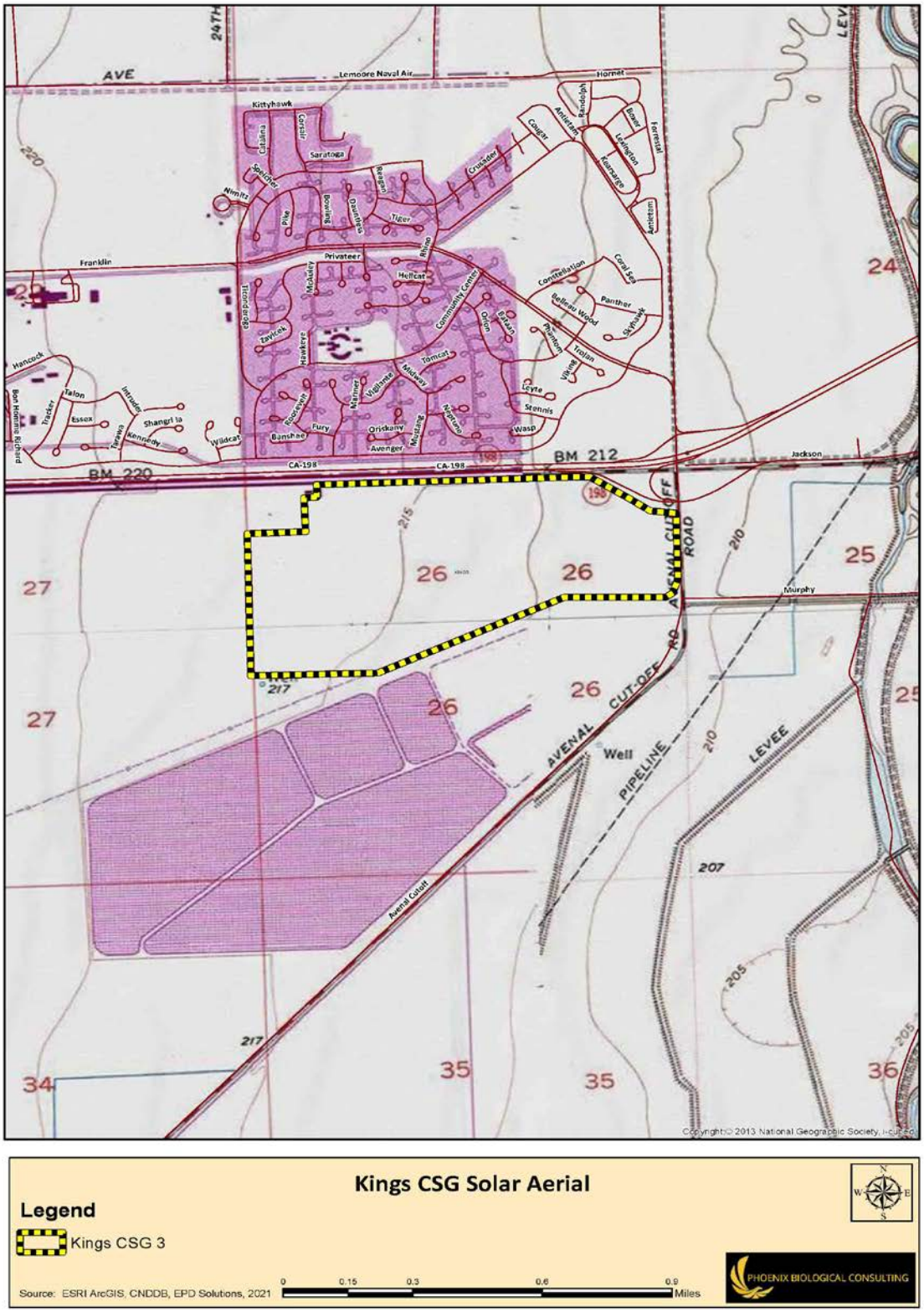


Exhibit 2: Regional View

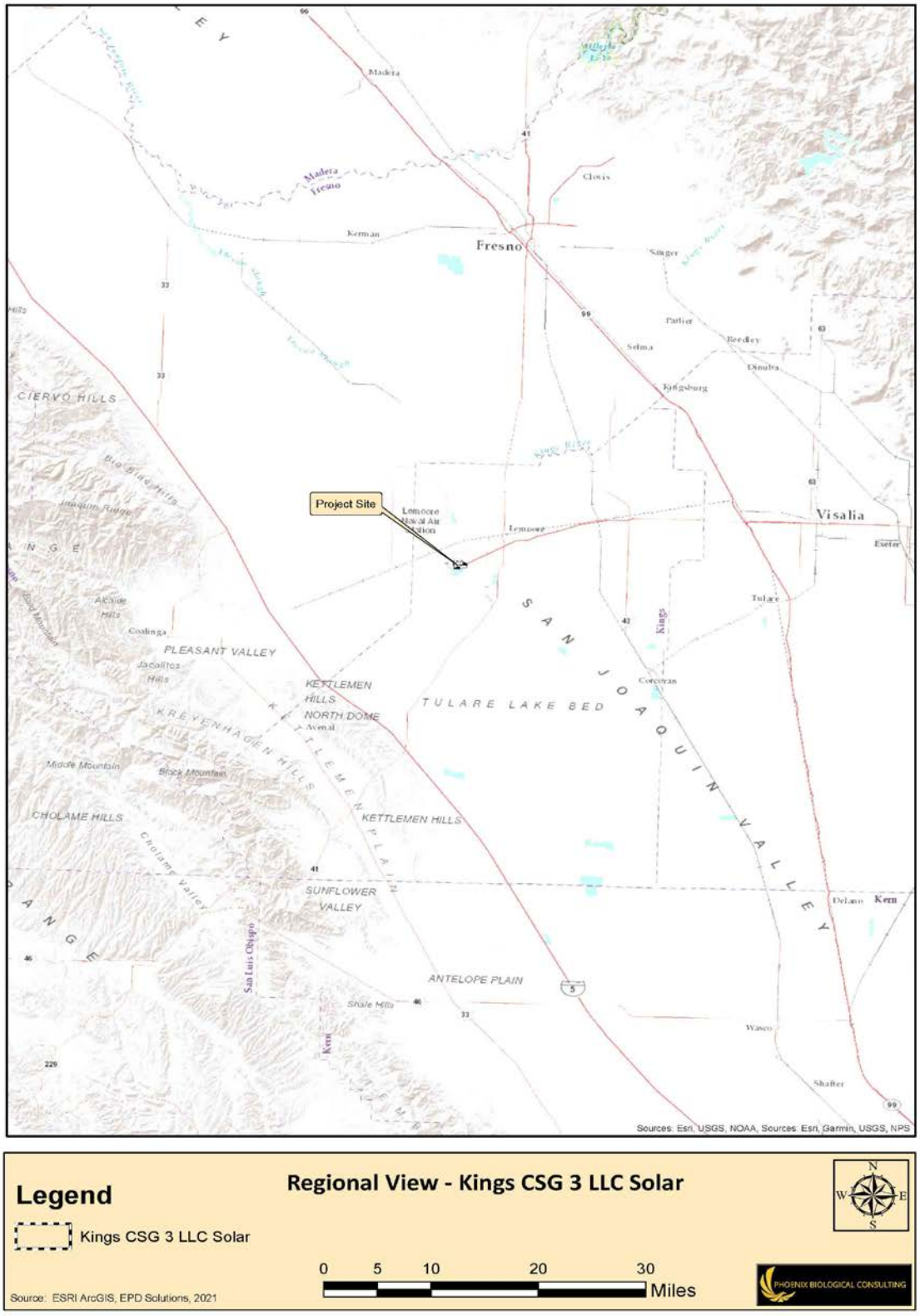


Exhibit 3: Aerial View

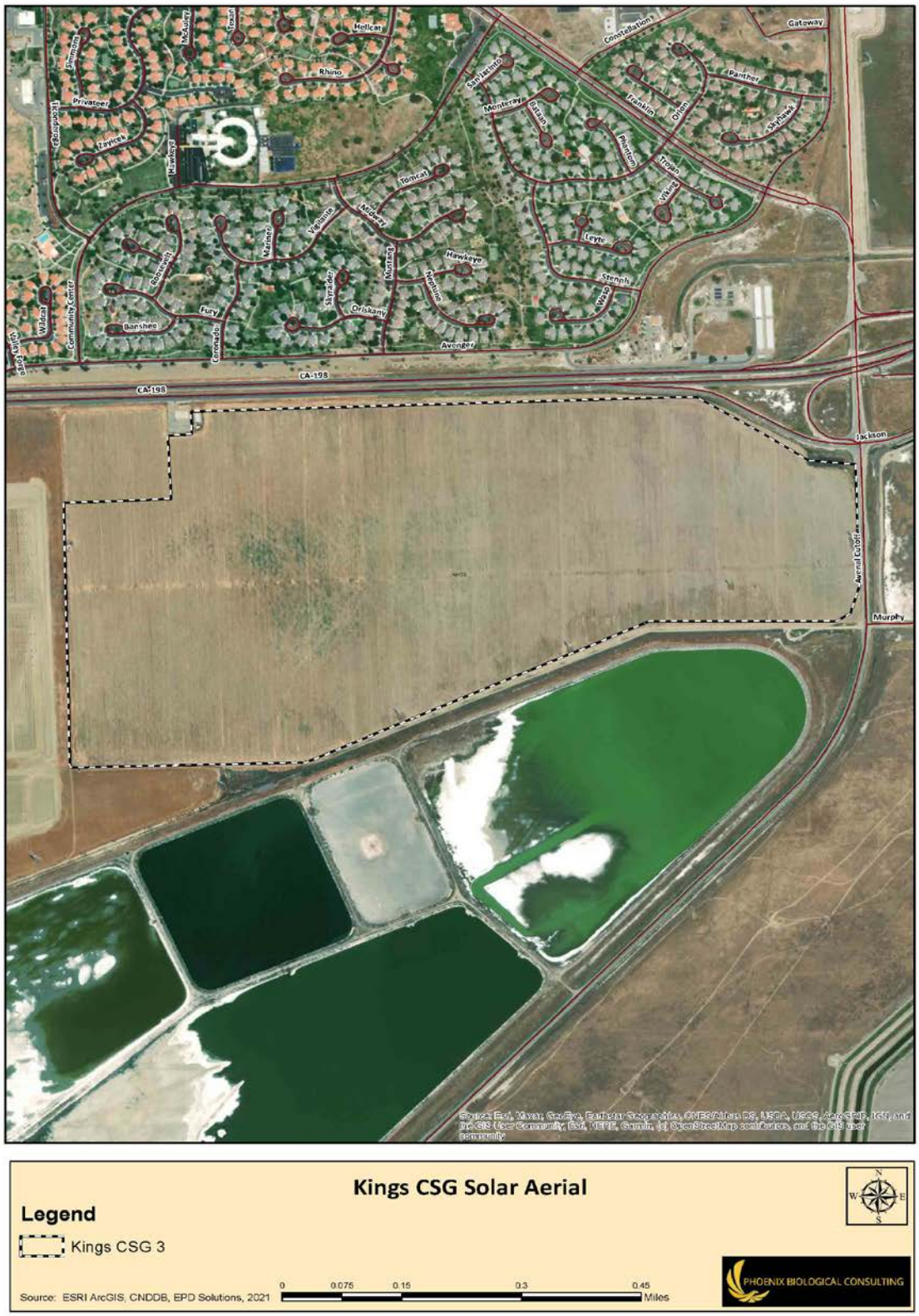


Exhibit 4: Soils Classification



Exhibit 5: Drainages



Exhibit 6: CNDDB Records

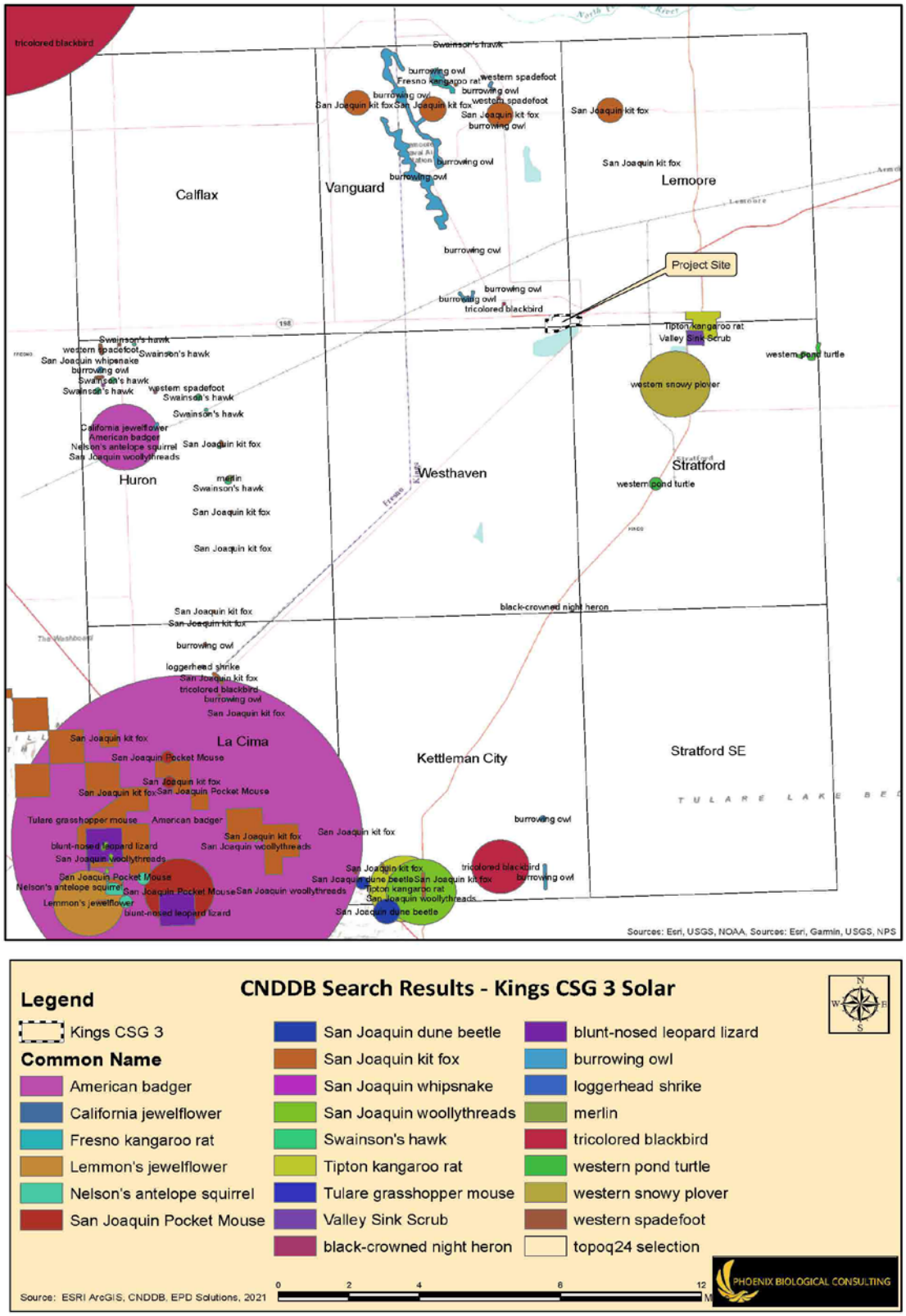


Exhibit 7: Proposed Project Area & Potential Sensitive Habitat Areas

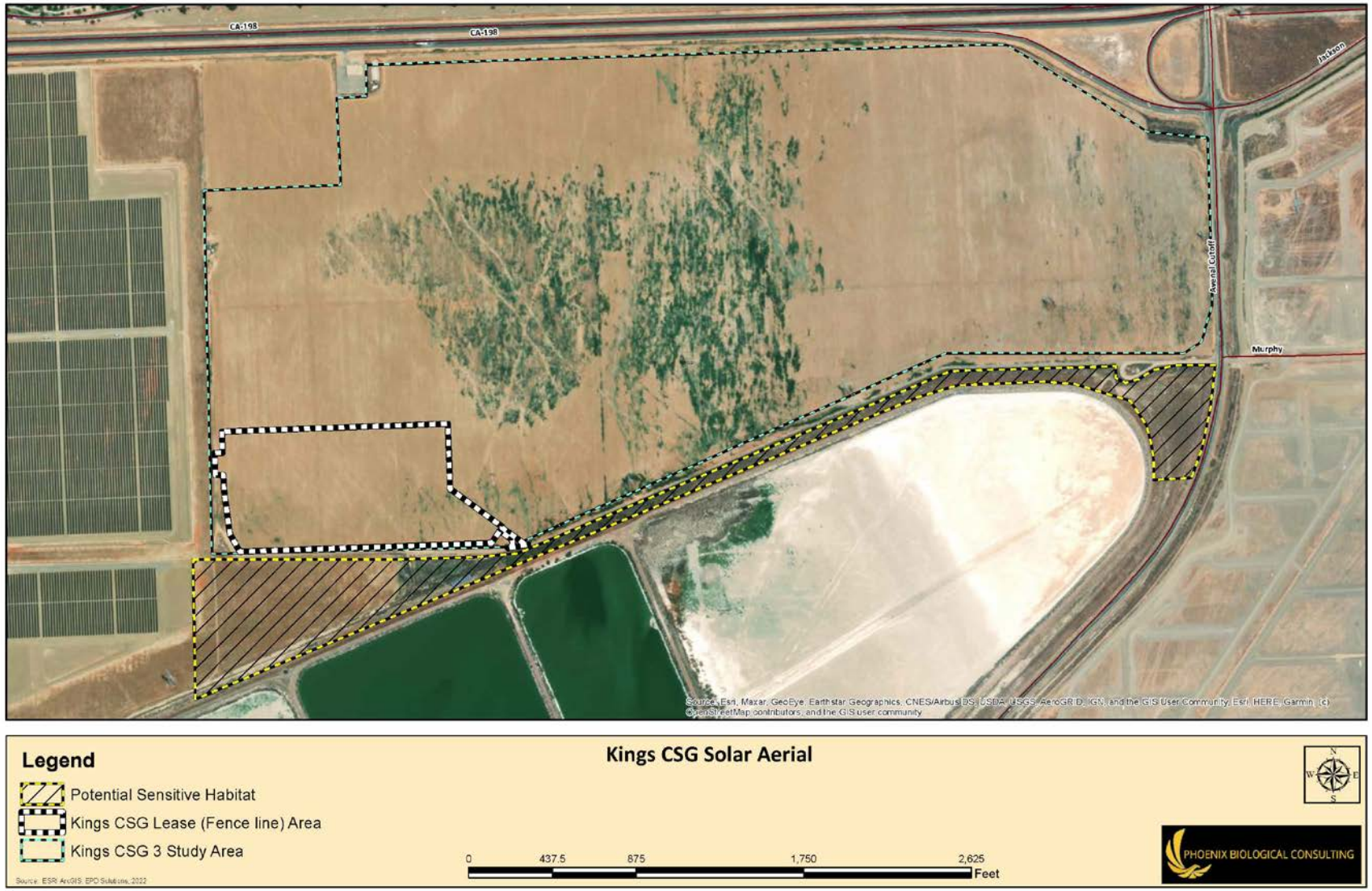


Exhibit 8: Preliminary Site Plan

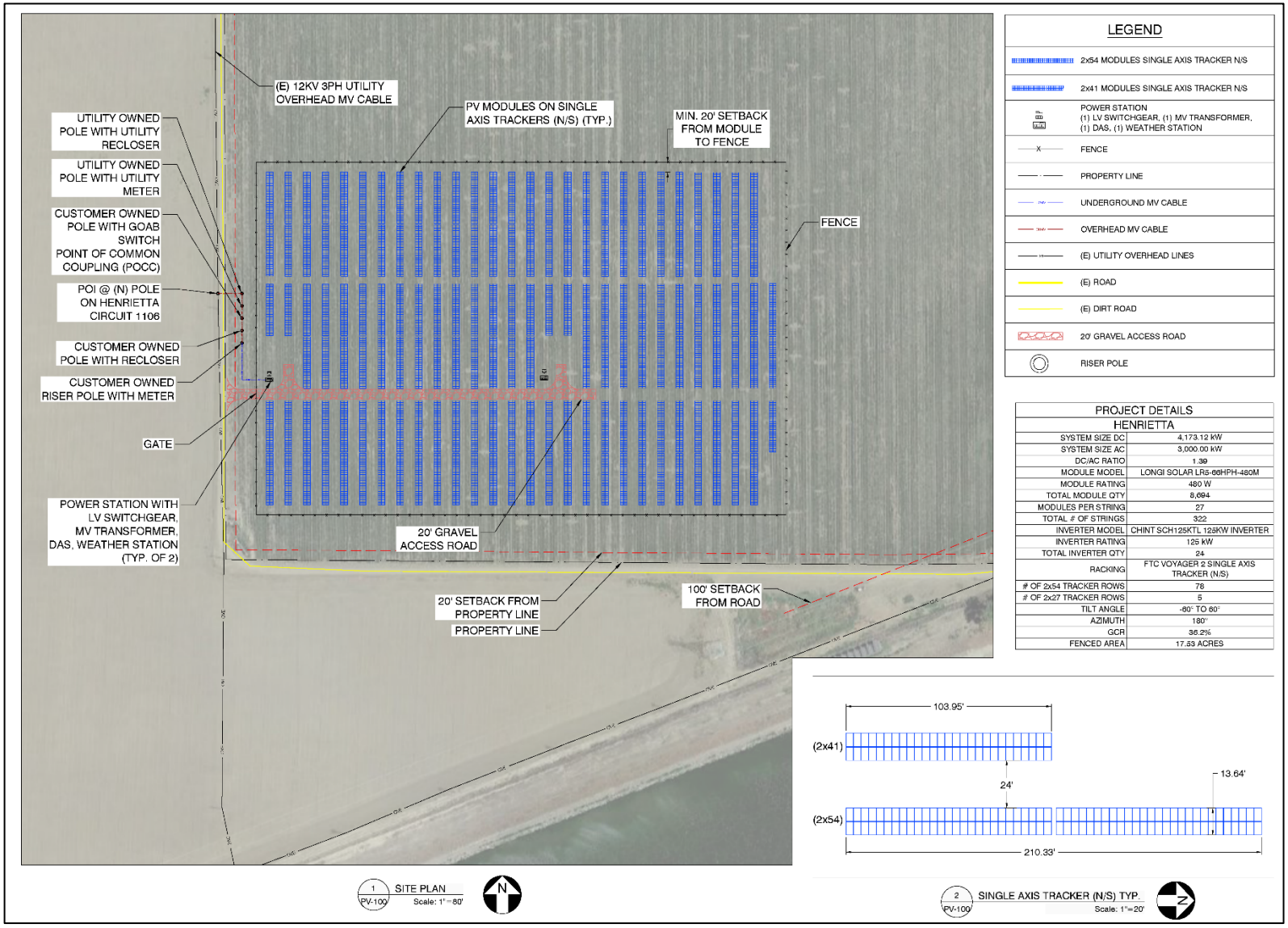
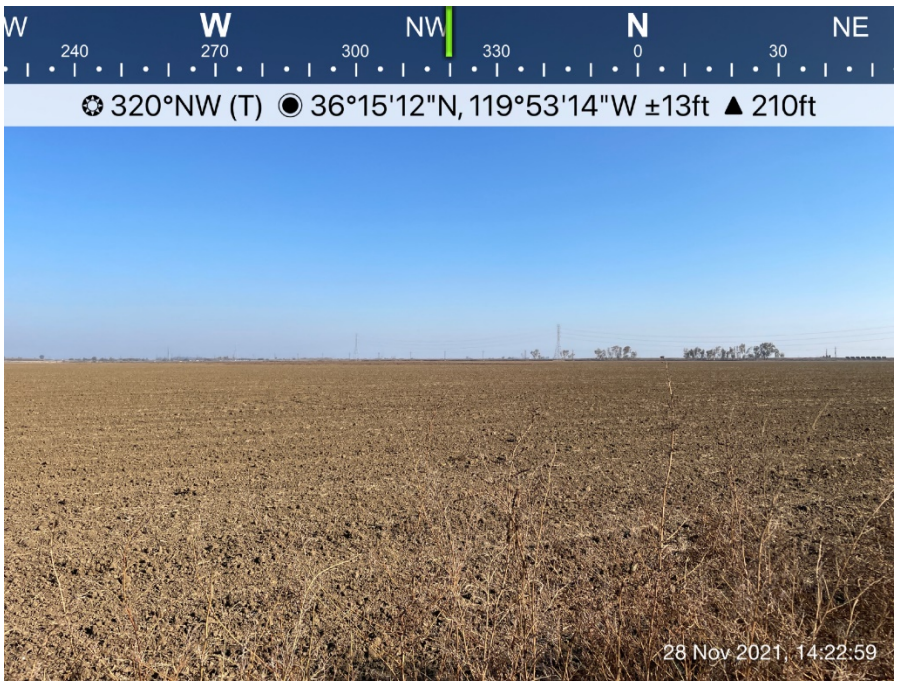
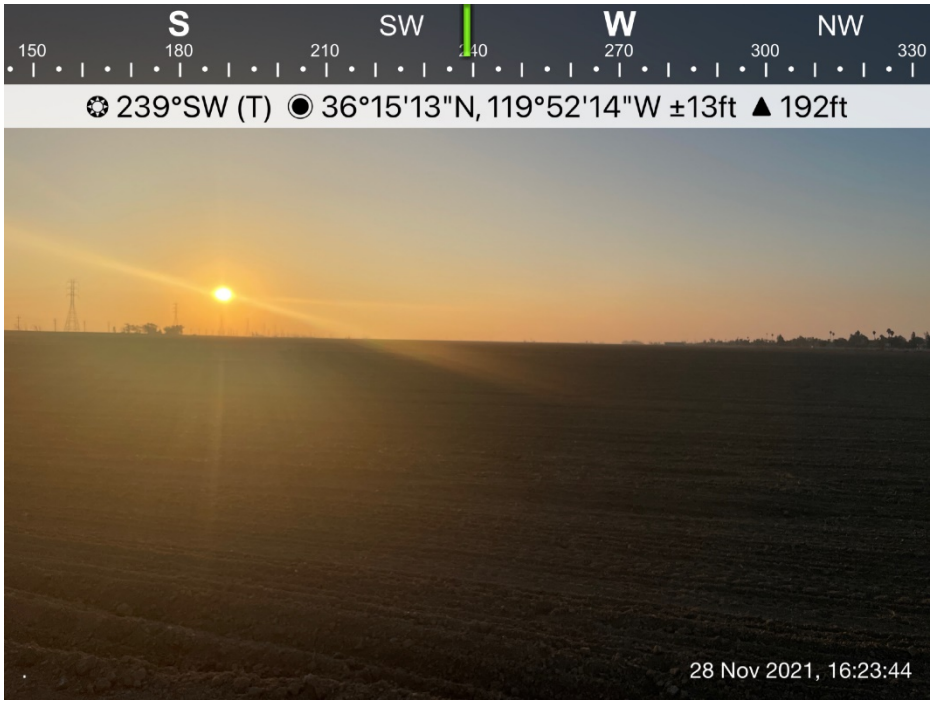
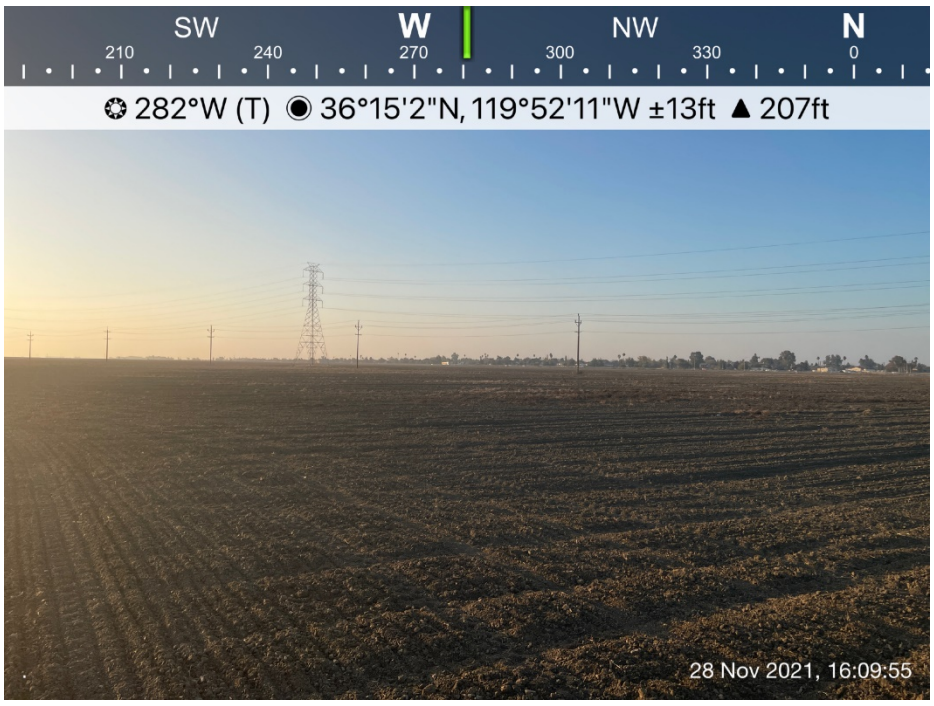


Exhibit 9: Site Photos

	**SW Corner Facing NE.**
	**SE Corner Facing NW.**



NE Corner Facing SW.



NW Corner Facing SE.

	**Potential kit fox burrow.**
	**Potential small mammal kangaroo rat burrow.**

Table 3: Vertebrates Detected During Site Visit

Birds
Common raven (*Corvus corax*)
Horned lark (*Eremophila alpestris*)
Morning dove (*Zenaida macroura*)
Northern mockingbird (*Mimus polyglottos*)
Red-tailed hawk *(Buteo jamacensis)*

Table 4: Vascular Plants Detected During Site Visit

FAMILY Species	Common Name	Habit
BORAGINACEAE		
Amsinckia menziesii	Menzie's fiddleneck	annual herb
POACEAE		
Sorghum bicolor	grain sorghum	non-native annual grass
Bromus diandrus	ripgut brome	non-native annual grass
Phragmites australis	common reed	non-native wetland grass
Panicum virgatum	switchgrass	perennial grass
URTICACEAE		
Urtica urens	small nettle	herbaceous annual

Appendix A: IPAC Report

IPaC U.S. Fish & Wildlife Service

IPaC resource list

This report is an automatically generated list of species and other resources such as critical habitat (collectively referred to as *trust resources*) under the U.S. Fish and Wildlife Service's (USFWS) jurisdiction that are known or expected to be on or near the project area referenced below. The list may also include trust resources that occur outside of the project area, but that could potentially be directly or indirectly affected by activities in the project area. However, determining the likelihood and extent of effects a project may have on trust resources typically requires gathering additional site-specific (e.g., vegetation/species surveys) and project-specific (e.g., magnitude and timing of proposed activities) information.

Below is a summary of the project information you provided and contact information for the USFWS office(s) with jurisdiction in the defined project area. Please read the introduction to each section that follows (Endangered Species, Migratory Birds, USFWS Facilities, and NWI Wetlands) for additional information applicable to the trust resources addressed in that section.

NOT FOR CONSULTATION

Location

Kings County, California



Local office

Sacramento Fish And Wildlife Office

(916) 414-6600
(916) 414-6713

Federal Building
2800 Cottage Way, Room W-2605
Sacramento, CA 95825-1846

Endangered species

This resource list is for informational purposes only and does not constitute an analysis of project level impacts.

The primary information used to generate this list is the known or expected range of each species. Additional areas of influence (AOI) for species are also considered. An AOI includes areas outside of the species range if the species could be indirectly affected by activities in that area (e.g., placing a dam upstream of a fish population even if that fish does not occur at the dam site, may indirectly impact the species by reducing or eliminating water flow downstream). Because species can move, and site conditions can change, the species on this list are not guaranteed to be found on or near the project area. To fully determine any potential effects to species, additional site-specific and project-specific information is often required.

Section 7 of the Endangered Species Act **requires** Federal agencies to "request of the Secretary information whether any species which is listed or proposed to be listed may be present in the area of such proposed action" for any project that is conducted, permitted, funded, or licensed by any Federal agency. A letter from the local office and a species list which fulfills this requirement can **only** be obtained by requesting an official species list from either the Regulatory Review section in IPaC (see directions below) or from the local field office directly.

For project evaluations that require USFWS concurrence/review, please return to the IPaC website and request an official species list by doing the following:

1. Draw the project location and click CONTINUE.
2. Click DEFINE PROJECT.
3. Log in (if directed to do so).
4. Provide a name and description for your project.
5. Click REQUEST SPECIES LIST.

Listed species[1] and their critical habitats are managed by the Ecological Services Program of the U.S. Fish and Wildlife Service (USFWS) and the fisheries division of the National Oceanic and Atmospheric Administration (NOAA Fisheries[2]).

Species and critical habitats under the sole responsibility of NOAA Fisheries are **not** shown on this list. Please contact NOAA Fisheries for species under their jurisdiction.

1. Species listed under the Endangered Species Act are threatened or endangered; IPaC also shows species that are candidates, or proposed, for listing. See the listing status page for more information. IPaC only shows species that are regulated by USFWS (see FAQ).
2. NOAA Fisheries, also known as the National Marine Fisheries Service (NMFS), is an office of the National Oceanic and Atmospheric Administration within the Department of Commerce.

The following species are potentially affected by activities in this location:

Mammals

NAME	STATUS

NOT FOR CONSULTATION

Fresno Kangaroo Rat Dipodomys nitratoides exilis — **Endangered**
Wherever found
There is final critical habitat for this species. The location of the critical habitat is not available.
https://ecos.fws.gov/ecp/species/5150

Giant Kangaroo Rat Dipodomys ingens — **Endangered**
Wherever found
No critical habitat has been designated for this species.
https://ecos.fws.gov/ecp/species/6051

San Joaquin Kit Fox Vulpes macrotis mutica — **Endangered**
Wherever found
No critical habitat has been designated for this species.
https://ecos.fws.gov/ecp/species/2873

Tipton Kangaroo Rat Dipodomys nitratoides nitratoides — **Endangered**
Wherever found
No critical habitat has been designated for this species.
https://ecos.fws.gov/ecp/species/7247

Reptiles

NAME	STATUS

Blunt-nosed Leopard Lizard Gambelia silus — **Endangered**
Wherever found
No critical habitat has been designated for this species.
https://ecos.fws.gov/ecp/species/625

Giant Garter Snake Thamnophis gigas — **Threatened**
Wherever found
No critical habitat has been designated for this species.
https://ecos.fws.gov/ecp/species/4482

Amphibians

NAME	STATUS

California Red-legged Frog Rana draytonii — **Threatened**
Wherever found
There is final critical habitat for this species. The location of the critical habitat is not available.
https://ecos.fws.gov/ecp/species/2891

Fishes

NAME	STATUS

NOT FOR CONSULTATION

Delta Smelt Hypomesus transpacificus — **Threatened**
Wherever found
There is final critical habitat for this species. The location of the critical habitat is not available.
https://ecos.fws.gov/ecp/species/321

Insects

NAME	STATUS
Monarch Butterfly Danaus plexippus Wherever found No critical habitat has been designated for this species. https://ecos.fws.gov/ecp/species/9743	**Candidate**

Crustaceans

NAME	STATUS
Vernal Pool Fairy Shrimp Branchinecta lynchi Wherever found There is final critical habitat for this species. The location of the critical habitat is not available. https://ecos.fws.gov/ecp/species/498	**Threatened**
Vernal Pool Tadpole Shrimp Lepidurus packardi Wherever found There is final critical habitat for this species. The location of the critical habitat is not available. https://ecos.fws.gov/ecp/species/2246	**Endangered**

Critical habitats

Potential effects to critical habitat(s) in this location must be analyzed along with the endangered species themselves.

THERE ARE NO CRITICAL HABITATS AT THIS LOCATION.

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Migratory birds

Certain birds are protected under the Migratory Bird Treaty Act[1] and the Bald and Golden Eagle Protection Act[2].

Any person or organization who plans or conducts activities that may result in impacts to migratory birds, eagles, and their habitats should follow appropriate regulations and consider implementing appropriate conservation measures, as described below.

1. The Migratory Birds Treaty Act of 1918.
2. The Bald and Golden Eagle Protection Act of 1940.

Additional information can be found using the following links:

- Birds of Conservation Concern http://www.fws.gov/birds/management/managed-species/birds-of-conservation-concern.php
- Measures for avoiding and minimizing impacts to birds http://www.fws.gov/birds/management/project-assessment-tools-and-guidance/conservation-measures.php
- Nationwide conservation measures for birds http://www.fws.gov/migratorybirds/pdf/management/nationwidestandardconservationmeasures.pdf

The birds listed below are birds of particular concern either because they occur on the USFWS Birds of Conservation Concern (BCC) list or warrant special attention in your project location. To learn more about the levels of concern for birds on your list and how this list is generated, see the FAQ below. This is not a list of every bird you may find in this location, nor a guarantee that every bird on this list will be found in your project area. To see exact locations of where birders and the general public have sighted birds in and around your project area, visit the E-bird data mapping tool (Tip: enter your location, desired date range and a species on your list). For projects that occur off the Atlantic Coast, additional maps and models detailing the relative occurrence and abundance of bird species on your list are available. Links to additional information about Atlantic Coast birds, and other important information about your migratory bird list, including how to properly interpret and use your migratory bird report, can be found below.

For guidance on when to schedule activities or implement avoidance and minimization measures to reduce impacts to migratory birds on your list, click on the PROBABILITY OF PRESENCE SUMMARY at the top of your list to see when these birds are most likely to be present and breeding in your project area.

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NAME	BREEDING SEASON (IF A BREEDING SEASON IS INDICATED FOR A BIRD ON YOUR LIST, THE BIRD MAY BREED IN YOUR PROJECT AREA SOMETIME WITHIN THE TIMEFRAME SPECIFIED, WHICH IS A VERY LIBERAL ESTIMATE OF THE DATES INSIDE WHICH THE BIRD BREEDS ACROSS ITS ENTIRE RANGE. "BREEDS ELSEWHERE" INDICATES THAT THE BIRD DOES NOT LIKELY BREED IN YOUR PROJECT AREA.)
Black Skimmer *Rynchops niger* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/5234	Breeds May 20 to Sep 15
Black Tern *Chlidonias niger* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/3093	Breeds May 15 to Aug 20
Clark's Grebe *Aechmophorus clarkii* This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds Jun 1 to Aug 31

Common Yellowthroat Geothlypis trichas sinuosa This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA https://ecos.fws.gov/ecp/species/2084	Breeds May 20 to Jul 31
Marbled Godwit Limosa fedoa This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9481	Breeds elsewhere
Nuttall's Woodpecker Picoides nuttallii This is a Bird of Conservation Concern (BCC) only in particular Bird Conservation Regions (BCRs) in the continental USA https://ecos.fws.gov/ecp/species/9410	Breeds Apr 1 to Jul 20
Short-billed Dowitcher Limnodromus griseus This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/9480	Breeds elsewhere
Tricolored Blackbird Agelaius tricolor This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska. https://ecos.fws.gov/ecp/species/3910	Breeds Mar 15 to Aug 10
Willet Tringa semipalmata This is a Bird of Conservation Concern (BCC) throughout its range in the continental USA and Alaska.	Breeds elsewhere

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Probability of Presence Summary

The graphs below provide our best understanding of when birds of concern are most likely to be present in your project area. This information can be used to tailor and schedule your project activities to avoid or minimize impacts to birds. Please make sure you read and understand the FAQ "Proper Interpretation and Use of Your Migratory Bird Report" before using or attempting to interpret this report.

Probability of Presence (■)

Each green bar represents the bird's relative probability of presence in the 10km grid cell(s) your project overlaps during a particular week of the year. (A year is represented as 12 4-week months.) A taller bar indicates a higher probability of species presence. The survey effort (see below) can be used to establish a level of confidence in the presence score. One can have higher confidence in the presence score if the corresponding survey effort is also high.

How is the probability of presence score calculated? The calculation is done in three steps:

1. The probability of presence for each week is calculated as the number of survey events in the week where the species was detected divided by the total number of survey events for that week. For example, if in week 12 there were 20 survey events and the Spotted Towhee was found in 5 of them, the probability of presence of the Spotted Towhee in week 12 is 0.25.
2. To properly present the pattern of presence across the year, the relative probability of presence is calculated. This is the probability of presence divided by the maximum probability of presence across all

weeks. For example, imagine the probability of presence in week 20 for the Spotted Towhee is 0.05, and that the probability of presence at week 12 (0.25) is the maximum of any week of the year. The relative probability of presence on week 12 is 0.25/0.25 = 1; at week 20 it is 0.05/0.25 = 0.2.

3. The relative probability of presence calculated in the previous step undergoes a statistical conversion so that all possible values fall between 0 and 10, inclusive. This is the probability of presence score.

To see a bar's probability of presence score, simply hover your mouse cursor over the bar.

Breeding Season (■)
Yellow bars denote a very liberal estimate of the time-frame inside which the bird breeds across its entire range. If there are no yellow bars shown for a bird, it does not breed in your project area.

Survey Effort (|)
Vertical black lines superimposed on probability of presence bars indicate the number of surveys performed for that species in the 10km grid cell(s) your project area overlaps. The number of surveys is expressed as a range, for example, 33 to 64 surveys.

To see a bar's survey effort range, simply hover your mouse cursor over the bar.

No Data (–)
A week is marked as having no data if there were no survey events for that week.

Survey Timeframe
Surveys from only the last 10 years are used in order to ensure delivery of currently relevant information. The exception to this is areas off the Atlantic coast, where bird returns are based on all years of available data, since data in these areas is currently much more sparse.



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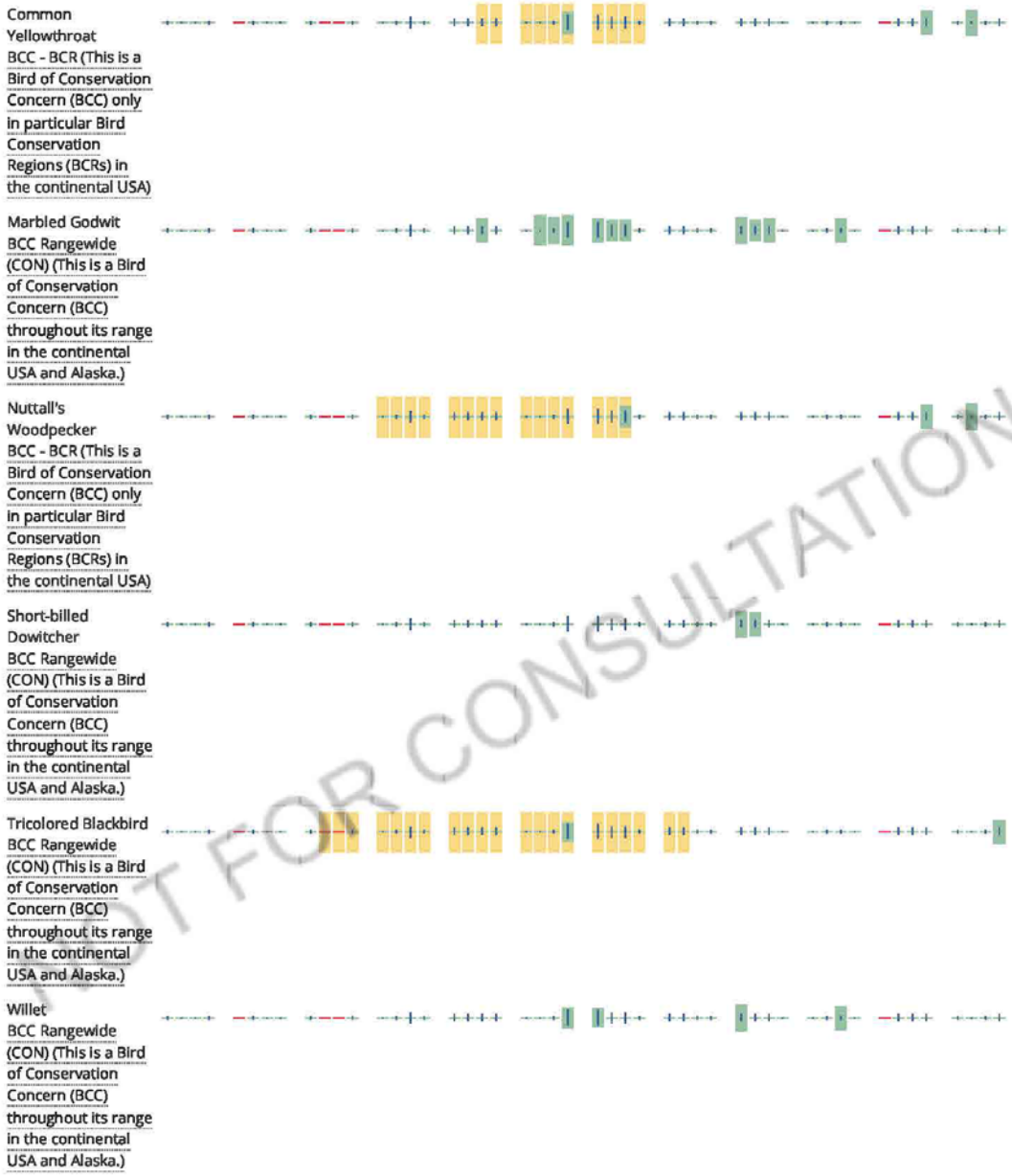

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Tell me more about conservation measures I can implement to avoid or minimize impacts to migratory birds.

Nationwide Conservation Measures describes measures that can help avoid and minimize impacts to all birds at any location year round. Implementation of these measures is particularly important when birds are most likely to occur in the project area. When birds may be breeding in the area, identifying the locations of any active nests and avoiding their destruction is a very helpful impact minimization measure. To see when birds are most likely to occur and be breeding in your project area, view the Probability of Presence Summary. Additional measures or permits may be advisable depending on the type of activity you are conducting and the type of infrastructure or bird species present on your project site.

What does IPaC use to generate the migratory birds potentially occurring in my specified location?

The Migratory Bird Resource List is comprised of USFWS Birds of Conservation Concern (BCC) and other species that may warrant special attention in your project location.

The migratory bird list generated for your project is derived from data provided by the Avian Knowledge Network (AKN). The AKN data is based on a growing collection of survey, banding, and citizen science datasets and is queried and filtered to return a list of those birds reported as occurring in the 10km grid cell(s) which your project intersects, and that have been identified as warranting special attention because they are a BCC species in that area, an eagle (Eagle Act requirements may apply), or a species that has a particular vulnerability to offshore activities or development.

Again, the Migratory Bird Resource list includes only a subset of birds that may occur in your project area. It is not representative of all birds that may occur in your project area. To get a list of all birds potentially present in your project area, please visit the AKN Phenology Tool.

What does IPaC use to generate the probability of presence graphs for the migratory birds potentially occurring in my specified location?

The probability of presence graphs associated with your migratory bird list are based on data provided by the Avian Knowledge Network (AKN). This data is derived from a growing collection of survey, banding, and citizen science datasets .

Probability of presence data is continuously being updated as new and better information becomes available. To learn more about how the probability of presence graphs are produced and how to interpret them, go the Probability of Presence Summary and then click on the "Tell me about these graphs" link.

How do I know if a bird is breeding, wintering, migrating or present year-round in my project area?

To see what part of a particular bird's range your project area falls within (i.e. breeding, wintering, migrating or year-round), you may refer to the following resources: The Cornell Lab of Ornithology All About Birds Bird Guide, or (if you are unsuccessful in locating the bird of interest there), the Cornell Lab of Ornithology Neotropical Birds guide. If a bird on your migratory bird species list has a breeding season associated with it, if that bird does occur in your project area, there may be nests present at some point within the timeframe specified. If "Breeds elsewhere" is indicated, then the bird likely does not breed in your project area.

What are the levels of concern for migratory birds?

Migratory birds delivered through IPaC fall into the following distinct categories of concern:

1. "BCC Rangewide" birds are Birds of Conservation Concern (BCC) that are of concern throughout their range anywhere within the USA (including Hawaii, the Pacific Islands, Puerto Rico, and the Virgin Islands);
2. "BCC - BCR" birds are BCCs that are of concern only in particular Bird Conservation Regions (BCRs) in the continental USA; and
3. "Non-BCC - Vulnerable" birds are not BCC species in your project area, but appear on your list either because of the Eagle Act requirements (for eagles) or (for non-eagles) potential susceptibilities in offshore areas from certain types of development or activities (e.g. offshore energy development or longline fishing).

Although it is important to try to avoid and minimize impacts to all birds, efforts should be made, in particular, to avoid and minimize impacts to the birds on this list, especially eagles and BCC species of rangewide concern. For more information on conservation measures you can implement to help avoid and minimize migratory bird impacts and requirements for eagles, please see the FAQs for these topics.

Details about birds that are potentially affected by offshore projects

For additional details about the relative occurrence and abundance of both individual bird species and groups of bird species within your project area off the Atlantic Coast, please visit the Northeast Ocean Data Portal. The Portal also offers data and information about other taxa besides birds that may be helpful to you in your project review. Alternately, you may download the bird model results files underlying the portal maps through the NOAA NCCOS Integrative Statistical Modeling and Predictive Mapping of Marine Bird Distributions and Abundance on the Atlantic Outer Continental Shelf project webpage.

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Bird tracking data can also provide additional details about occurrence and habitat use throughout the year, including migration. Models relying on survey data may not include this information. For additional information on marine bird tracking data, see the Diving Bird Study and the nanotag studies or contact Caleb Spiegel or Pam Loring.

What if I have eagles on my list?

If your project has the potential to disturb or kill eagles, you may need to obtain a permit to avoid violating the Eagle Act should such impacts occur.

Proper Interpretation and Use of Your Migratory Bird Report

The migratory bird list generated is not a list of all birds in your project area, only a subset of birds of priority concern. To learn more about how your list is generated, and see options for identifying what other birds may be in your project area, please see the FAQ "What does IPaC use to generate the migratory birds potentially occurring in my specified location". Please be aware this report provides the "probability of presence" of birds within the 10 km grid cell(s) that overlap your project; not your exact project footprint. On the graphs provided, please also look carefully at the survey effort (indicated by the black vertical bar) and for the existence of the "no data" indicator (a red horizontal bar). A high survey effort is the key component. If the survey effort is high, then the probability of presence score can be viewed as more dependable. In contrast, a low survey effort bar or no data bar means a lack of data and, therefore, a lack of certainty about presence of the species. This list is not perfect; it is simply a starting point for identifying what birds of concern have the potential to be in your project area, when they might be there, and if they might be breeding (which means nests might be present). The list helps you know what to look for to confirm presence, and helps guide you in knowing when to implement conservation measures to avoid or minimize potential impacts from your project activities, should presence be confirmed. To learn more about conservation measures, visit the FAQ "Tell me about conservation measures I can implement to avoid or minimize impacts to migratory birds" at the bottom of your migratory bird trust resources page.

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Facilities

Wildlife refuges and fish hatcheries

REFUGE AND FISH HATCHERY INFORMATION IS NOT AVAILABLE AT THIS TIME

Wetlands in the National Wetlands Inventory

Impacts to NWI wetlands and other aquatic habitats may be subject to regulation under Section 404 of the Clean Water Act, or other State/Federal statutes.

For more information please contact the Regulatory Program of the local U.S. Army Corps of Engineers District.

WETLAND INFORMATION IS NOT AVAILABLE AT THIS TIME

This can happen when the National Wetlands Inventory (NWI) map service is unavailable, or for very large projects that intersect many wetland areas. Try again, or visit the NWI map to view wetlands at this location.

Data limitations

The Service's objective of mapping wetlands and deepwater habitats is to produce reconnaissance level information on the location, type and size of these resources. The maps are prepared from the analysis of high altitude imagery. Wetlands are identified based on vegetation, visible hydrology and geography. A margin of error is inherent in the use of imagery; thus,

detailed on-the-ground inspection of any particular site may result in revision of the wetland boundaries or classification established through image analysis.

The accuracy of image interpretation depends on the quality of the imagery, the experience of the image analysts, the amount and quality of the collateral data and the amount of ground truth verification work conducted. Metadata should be consulted to determine the date of the source imagery used and any mapping problems.

Wetlands or other mapped features may have changed since the date of the imagery or field work. There may be occasional differences in polygon boundaries or classifications between the information depicted on the map and the actual conditions on site.

Data exclusions

Certain wetland habitats are excluded from the National mapping program because of the limitations of aerial imagery as the primary data source used to detect wetlands. These habitats include seagrasses or submerged aquatic vegetation that are found in the intertidal and subtidal zones of estuaries and nearshore coastal waters. Some deepwater reef communities (coral or tuberficid worm reefs) have also been excluded from the inventory. These habitats, because of their depth, go undetected by aerial imagery.

Data precautions

Federal, state, and local regulatory agencies with jurisdiction over wetlands may define and describe wetlands in a different manner than that used in this inventory. There is no attempt, in either the design or products of this inventory, to define the limits of proprietary jurisdiction of any Federal, state, or local government or to establish the geographical scope of the regulatory programs of government agencies. Persons intending to engage in activities involving modifications within or adjacent to wetland areas should seek the advice of appropriate federal, state, or local agencies concerning specified agency regulatory programs and proprietary jurisdictions that may affect such activities.

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January 2022

MATERIAL CULTURE
CONSULTING

Submitted to:

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Irvine, CA 92614

CULTURAL AND PALEONTOLOGICAL RESOURCES ASSESSMENT

KINGS CSG 3 LLC SOLAR PROJECT

Unincorporated Kings County, California

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MATERIAL CULTURE
CONSULTING

PHASE I CULTURAL AND PALEONTOLOGICAL RESOURCES ASSESSMENT: KINGS CSG 3 LLC SOLAR PROJECT, UNINCORPORATED KINGS COUNTY, CALIFORNIA

Prepared for:
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Betsy Kruk, M.S.

January 2022

Type of Study: Cultural and paleontological resources assessment
Cultural/ Paleontological Resources within Area of Potential Impact: One, historic-age transmission line
Geologic Units: Quaternary (Holocene- to Pleistocene-aged) alluvium
USGS 7.5-minute Quadrangle(s): Section 26 of Township 19S, Range 19E; Lemoore, Vanguard, and Westhaven
Survey Area: 230 acres
APN(s): 0241900550000
Date of Fieldwork: December 20-21, 2021
Key Words: Archaeology, Paleontology, CEQA, Phase I Survey, Positive Report, Quaternary alluvium, Low to Moderate Paleontological Potential, Low Cultural Sensitivity, Kings County

MANAGEMENT SUMMARY

The Kings CSG 3 LLC Solar Project (hereafter referred to as Project or Project Area) proposes the development of a solar energy grid on a 230-acre parcel (APN 024190055000) at the southwest corner of State Route 98 and Avenal Cutoff Road in unincorporated Kings County. The Project Area is bounded by a solar farm on the west, residential development to north, and agricultural land to the east and south. Material Culture Consulting, Inc. (MCC) was retained by E|P|D Solutions, Inc. (EPD) to conduct a Phase I cultural and paleontological resources investigation of the Project Area. These assessments were conducted in accordance with the California Environmental Quality Act (CEQA), along with local regulations and guidelines. This assessment included a California Historical Resources Information System (CHRIS) records search at the Southern San Joaquin Valley Information Center (SSJVIC), a review of pertinent literature, a locality search at the Natural History Museum of Los Angeles County (LACM), an examination of geological maps and paleontological literature, a search of the Native American Heritage Commission's (NAHC) Sacred Lands File (SLF), outreach to eight Native American tribal representatives, and an intensive reconnaissance survey of the Project Area conducted by qualified archaeologists and cross-trained paleontologists.

A cultural resources records search was conducted on November 8, 2021, by staff at the SSJVIC, located at the California State University, Bakersfield, Kern County, California. The records search identified 12 previously conducted cultural resources investigations within 0.5-mile of the Project Area, three of which included a portion of the Project Area. Six previously recorded cultural resources were identified within 0.5-mile of the Project, all of which are of historic-age. Only one previously recorded resource, P-16-000362, was identified in the southern portion of the Project Area. This resource consists of a historic-age transmission line. A review of historical aerial photographs and maps show the Project Area has been consistently used for agricultural activities since the 1950s.

The SLF search identified sacred lands within or in the vicinity of the Project Area. The NAHC provided MCC with contact information for the Santa Rosa Rancheria Tachi-Yokut Tribe and recommended reaching out directly for information regarding sacred lands. The NAHC provided contact information for seven additional tribes/individuals who have identified cultural affiliation with the geographic area in the vicinity of the Project. MCC sent letters to the Santa Rosa Rancheria Tachi-Yokut Tribe, as well as the additional seven Native American contacts, requesting any information related to cultural resources or heritage sites within or adjacent to the Project Area. Additional attempts at contact by letter, email, or phone call were made. As a result of this outreach effort, MCC received two responses from tribes/contacts. Of these responses, the Santa Rosa Rancheria Tachi-Yokut Tribe stated an interest in the Project and provided comments. Table Mountain Rancheria stated the Project is outside of the Tribe's jurisdiction and defers to the Santa Rose Rancheria Tachi-Yokut Tribe. MCC did not conduct formal consultation, pursuant to AB 52, with the Native American representatives.

The Project Area is comprised of Holocene- to Pleistocene-aged alluvium, derived broadly from lake and river sediments. These deposits have a low potential to yield significant fossil localities at the surface in Holocene-aged portions of the deposits and moderate potential if the Pleistocene-aged sediments are encountered at depth during construction activities. No previously recorded fossil localities are located within 1-mile of the Project Area. However, several localities were identified from similar sedimentary deposits within the surrounding area.

MCC Archaeologists and Cross-trained Paleontologists, Carmell Dennis and Scott De La Torre, conducted the cultural and paleontological reconnaissance survey of the Project Area on December 20 and 21, 2021. During the field survey, conditions were good, with excellent ground visibility. The Project Area currently exists as an open

field. Disturbances to the Project Area include bioturbation, agricultural activities, transmission line activities, and modern refuse. Historic-age resource P-16-000362, a transmission line, was relocated during the survey. The transmission line runs east to southwest and is in the southern area of the Project Area. No changes to the resource were identified and it remains the same as previously recorded. No additional cultural or paleontological resources were observed during the survey.

The potential for encountering significant cultural resources within the Project Area is considered low due to lack of historic development in the vicinity of the Project Area, the agricultural disturbances, and previous studies concluding the Project Area is located in a moderately low sensitivity area for buried resources. However, the Santa Rose Rancheria Tachi-Yokut Tribe expressed concern regarding construction activities within the Project Area. Based on the above findings, MCC does not recommend archaeological monitoring. Nevertheless, if Native American monitoring is required as a project mitigation measure, we recommend retaining a qualified archaeologist to assist in the assessment of inadvertent discoveries. This work will occur in a collaborative manner with the Tribe. Prior to the start of construction, a cultural resources management plan (CRMP) should be implemented to address an inadvertent discovery plan to expediently address discoveries should they be encountered during any phase of development associated with the Project.

Although no paleontological localities were identified within the Project Area, the potential for paleontologically sensitive older Quaternary (Pleistocene-aged) sediments to be encountered during project-related ground disturbance is considered moderate, particularly during excavations extending more than 6 feet below ground surface (bgs). Therefore, if excavations associated with the Project extend deeper than 6 feet bgs, MCC recommends that a paleontological resource mitigation program be put in place that includes paleontological monitoring to confirm the presence or absence of sensitive paleontological sediments or deposits in the subsurface, and methods to salvage and curate any fossils unearthed during ground disturbance within the Project Area.

A copy of this report will be permanently filed with the SSJVIC at California State University, Bakersfield. All notes, photographs, correspondence, and other materials related to this Project are located at MCC, Inc located in Pomona, California.

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INTRODUCTION

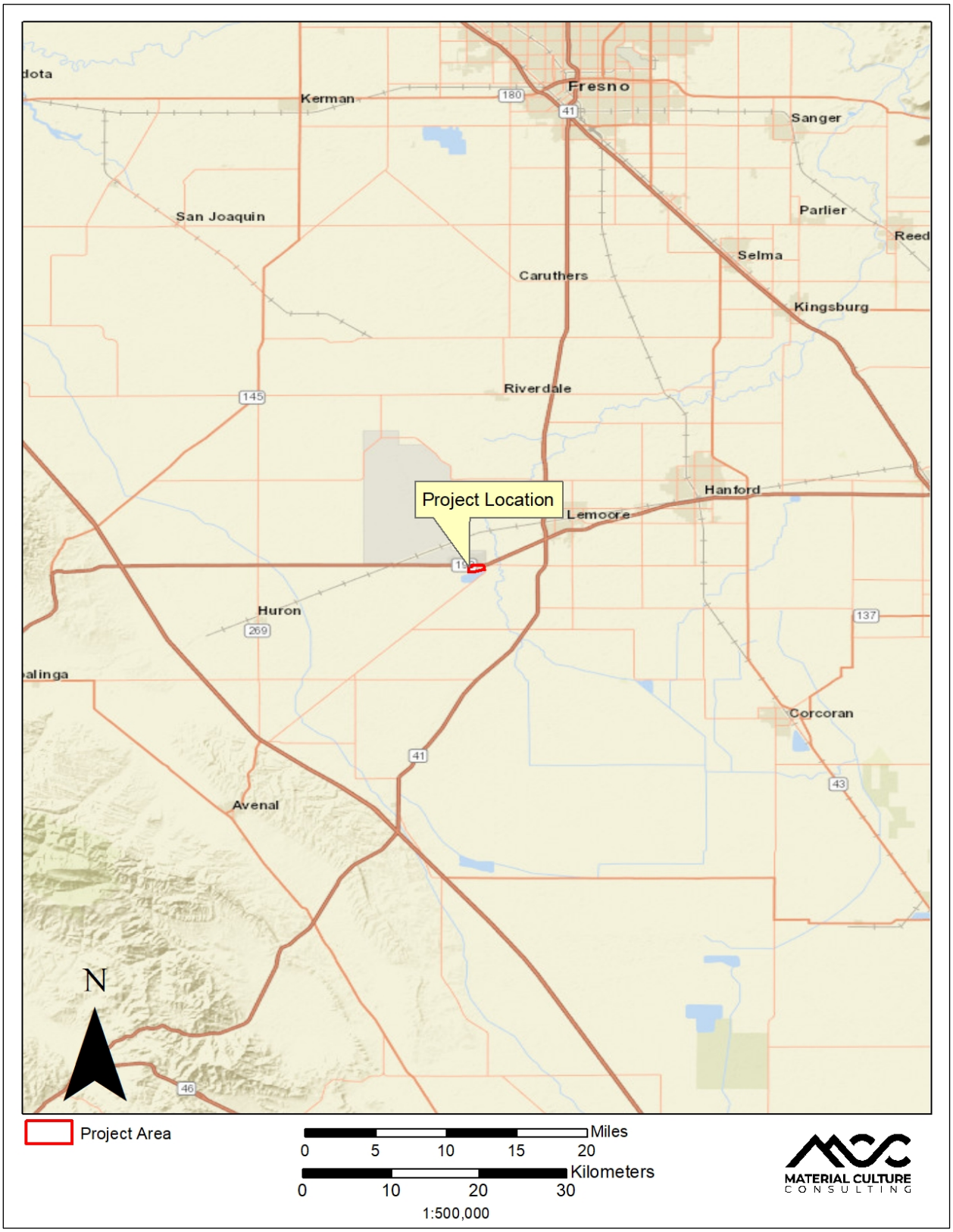
The Kings CSG 3 LLC Solar Project proposes the development of a solar energy grid (hereafter referred to as Project or Project Area) on a 230-acre parcel (APN 024190055000) at the southwest corner of State Route 98 and Avenal Cutoff Road in unincorporated Kings County. Material Culture Consulting, Inc. (MCC) was retained by EPD Solutions, Inc. (EPD) to conduct a Phase I cultural and paleontological resource investigation of the Project Area. These assessments were conducted in accordance with the California Environmental Quality Act (CEQA), as well as all local regulations and guidelines.

PROJECT LOCATION

The Project Area is located southwest of the City of Lemoore in unincorporated Kings County (Figures 1 and 2). The Project Area is bounded by a solar farm on the west, residential development to north, and agricultural land to the east and south (Figure 3). The Project Area can be found in Section 26 of Township 19S, Range 19E on the USGS 7.5-minute Lemoore, Vanguard, Westhaven, and Stratford, California topographic map (Figure 2). The Project Area consists of one parcel, identified as Assessor's Parcel Numbers (APN) 024190055000. Presently, the Project Area is utilized as an open field. The Project proposes the construction of a solar energy grid.

PROJECT PERSONNEL

Tria Belcourt, M.A., RPA, President of MCC, served as the Principal Archaeologist for the study. Ms. Belcourt oversaw the Project and performed editorial review of this report. Ms. Belcourt is a Registered Professional Archaeologist (RPA) with a M.A. in Anthropology from the University of Florida, a B.A. in Anthropology from the University of California at Los Angeles with over 17 years of experience in California archaeology (See Appendix A). Courtney Richards, M.S., served as the Principal Investigator for Paleontology for the study and performed a technical review of the paleontological sections of the report. Ms. Richards has a M.S. in Biological Sciences (paleontology emphasis) from Marshall University and has over 18 years of paleontological experience (See Appendix A). MCC Paleontologist Betsy Kruk, M.S. provided co-authorship of the report. MCC Archaeologists Alyssa Perew, B.A., Antonio Ramirez, B.A., and Erika McMullin, B.A., provided co-authorship of the report. Cultural Resources Project Manager Lily Arias, M.A., provided GIS support for this study. MCC Archaeologists and Cross-trained Paleontologists Carmell Dennis, B.A., and Scott De La Torre, B.A., conducted the field survey.


Fresno
Kerman
Sanger
San Joaquin
Parlier
Reed
Selma
Caruthers
Kingsburg
Riverdale
Project Location
Hanford
Lemoore
Huron
Corcoran
Avenal
N
Project Area
Miles
0 5 10 15 20
Kilometers
0 10 20 30
1:500,000
MATERIAL CULTURE CONSULTING

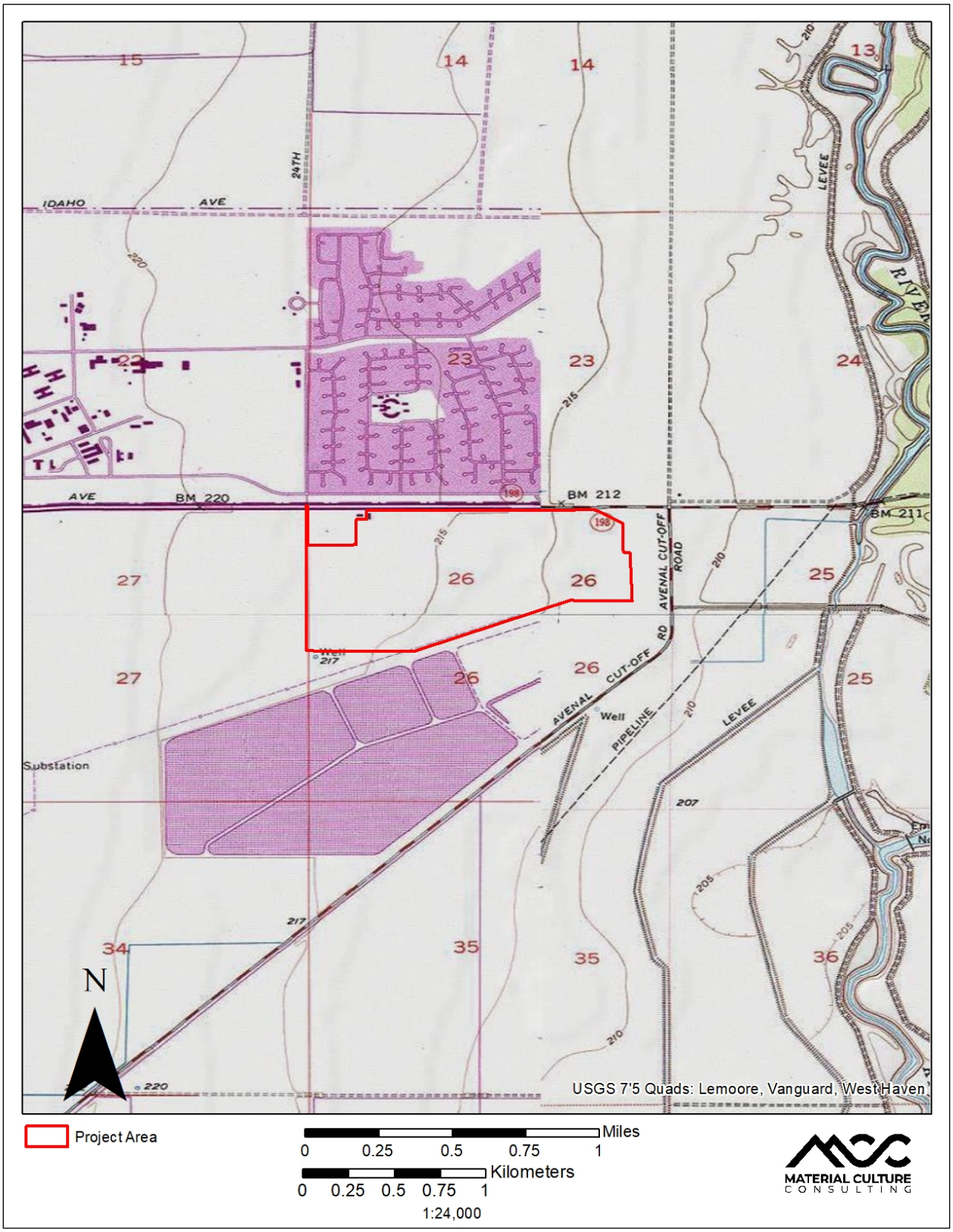


Figure 2. Kings CSG 3 LLC Solar Project Area (1:24,000, as depicted on Lemoore, Vanguard, Westhaven, and Stratford USGS 7.5-Minute Quadrangle)

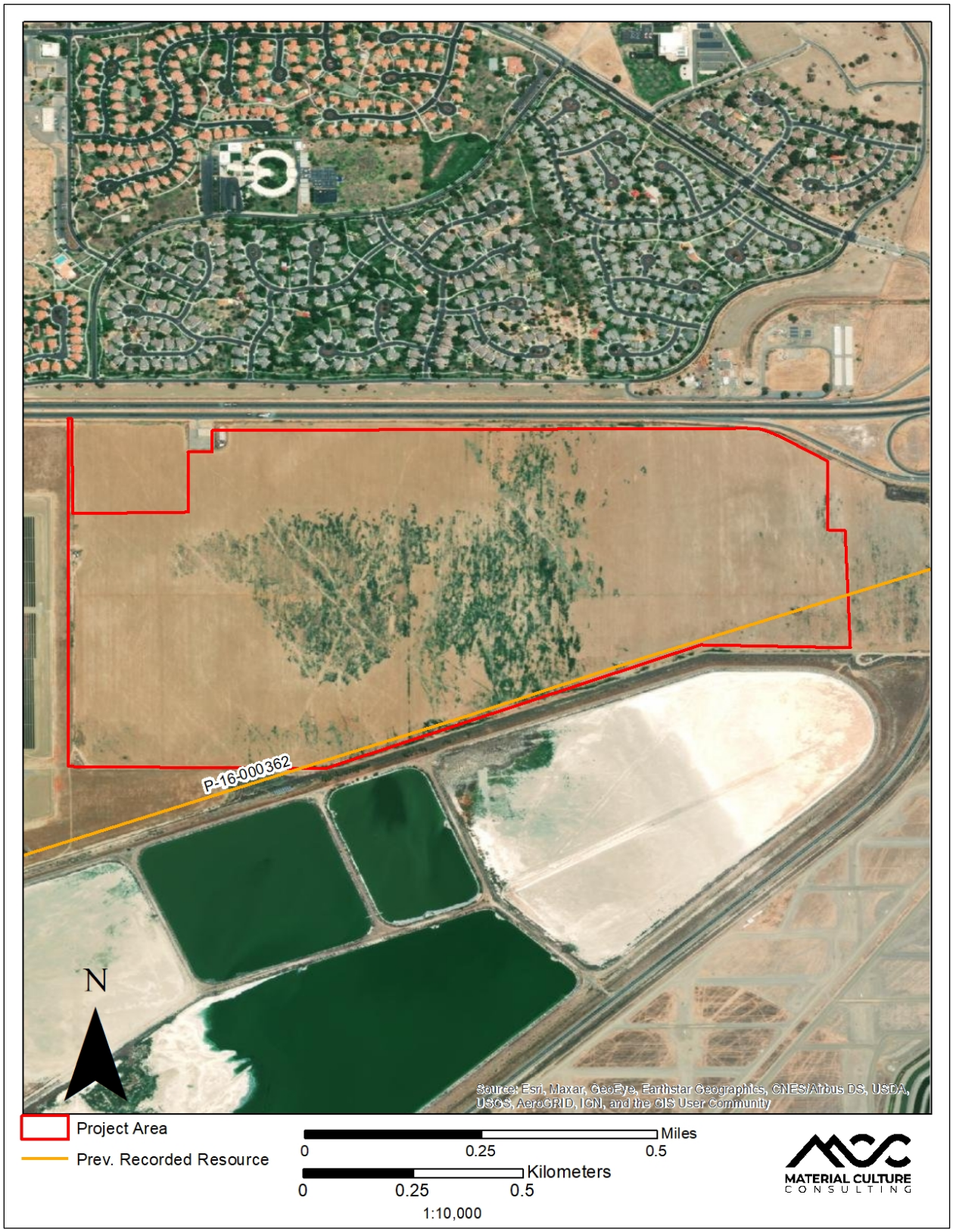


Figure 3. Kings CSG 3 LLC Solar Project Area (1:10,000, as depicted on aerial photograph)

REGULATORY ENVIRONMENT

This project is subject to local and state laws and regulations regarding cultural and paleontological resources. These regulations require the identification of cultural and paleontological resources during the planning stage of new projects; include application review for projects that would potentially involve land disturbance; provide project-level standard conditions of approval that address unanticipated discoveries; and provide requirements to develop specific mitigation measures if resources are encountered during any development activity. Specific governing legislation and regulations include the following:

CULTURAL RESOURCES

CALIFORNIA ENVIRONMENTAL QUALITY ACT (CEQA)

CEQA declares that it is state policy to "take all action necessary to provide the people of this state with...historic environmental qualities." It further states that public or private projects financed or approved by the state are subject to environmental review by the state. All such projects, unless entitled to an exemption, may proceed only after this requirement has been satisfied. CEQA requires detailed studies that analyze the environmental impacts of a proposed project. In the event that a project is determined to have a potential significant environmental impact, CEQA requires that alternative plans and mitigation measures be considered. CEQA includes historic and archaeological resources as integral features of the environment.

CEQA requires a designated lead agency to determine whether a project may have a significant impact on historical resources. A historical resource is defined as a resource listed in, or determined to be eligible for listing in, the California Register of Historical Resources (CRHR) (Section 21084.1); a resource included in a local register of historical resources (Section 15064.5(a)(2)); or any object, building, structure, site, area, place, record, or manuscript which a lead agency determines to be historically significant (Section 15064.5(a)(3)). Public Resources Code (PRC) Section 5024.1, Section 15064.5 of the Guidelines, and Sections 21083.2 and 21084.1 of the Statutes of CEQA were used as one of the basic guidelines for the current cultural resources study. PRC Section 5024.1 directs evaluation of historical resources to determine their eligibility for listing on the CRHR.

The purpose of the register is to maintain listings of the state's historical resources. The criteria for listing resources on the CRHR were expressly developed to be in accordance with previously established criteria developed for listing on the National Register of Historic Places (NRHP), enumerated above, and require similar protection to what National Historic Preservation Act (NHPA) Section 106 mandates for historic properties. According to PRC Section 5024.1(c)(1-4), a resource is considered historically significant if it meets at least one of the following criteria:

1. Associated with events that have made a significant contribution to the broad patterns of local or regional history or the cultural heritage of California or the United States;
2. Associated with the lives of persons important to local, California or national history;
3. Embodies the distinctive characteristics of a type, period, region, or method of construction or represents the work of a master or possesses high artistic values; or
4. Has yielded, or has the potential to yield, information important to the prehistory or history of the local area, California, or the nation.

In addition to having significance, resources must retain integrity. Integrity is the authenticity of a historical resource’s physical identity as evidenced by the survival of characteristics or historic fabric that existed during the resource’s period of significance. Alterations to a resource or changes in its use over time may have historical, cultural, or architectural significance. Simply, resources must retain enough of their historic character or appearance to be recognizable as historical resources and to convey the reasons for their significance. A resource

that has lost its historic character or appearance may still have sufficient integrity for the California Register, if, under Criterion 4, it maintains the potential to yield significant scientific or historical information or specific data. Note that California Historical Landmarks with numbers 770 or higher are automatically included in the CRHR.

Under CEQA, if an archeological site is not a significant "historical resource" but meets the definition of a "unique archeological resource" as defined in PRC Section 21083.2, then it should be treated in accordance with the provisions of that section. A unique archaeological resource is defined in PRC Section 21083.2(g) as follows:

An archaeological artifact, object, or site about which it can be clearly demonstrated that, without merely adding to the current body of knowledge, there is a high probability that it meets any of the following criteria:

1. Contains information needed to answer important scientific research questions and that there is a demonstrable public interest in that information.
2. Has a special and particular quality such as being the oldest of its type or the best available example of its type.
3. Is directly associated with a scientifically recognized important prehistoric or historic event or person.

Resources that neither meet any of these criteria for listing on the NRHP or CRHR nor qualify as a "unique archaeological resource" under CEQA PRC Section 21083.2 are viewed as not significant. Under CEQA, "A non-unique archaeological resource need be given no further consideration, other than the simple recording of its existence by the lead agency if it so elects" [PRC Section 21083.2(h)].

Impacts to historical resources that alter the characteristics that qualify the historical resource for listing on the CRHR are considered to be a significant impact. Impacts to a historical resource are considered significant if the Project activities physically destroy or damage all or part of a resource; change the character of the use of the resource or physical feature within the setting of the resource which contribute to its significance; or introduce visual, atmospheric, or audible elements that diminish the integrity of significant features of the resource. If it can be demonstrated that a Project will cause damage to a unique archaeological resource, the lead agency may require reasonable efforts to be made to permit any or all of these resources to be preserved in place or left in an undisturbed state. To the extent that they cannot be left undisturbed, mitigation measures are required (Section 21083.2 (a), (b), and (c)).

ASSEMBLY BILL 52

Assembly Bill (AB) 52 (Gatto; Stats. 2014, ch. 532), enacted in September 2014, sets forth both procedural and substantive requirements for analysis of tribal cultural resources as defined in PRC Section 21074, and consultation with California Native American tribes. Tribal cultural resources include sites, features, places, cultural landscapes, and sacred places or objects that have cultural value or significance to a tribe. A tribal cultural resource is one that is either: (1) listed on, or eligible for listing on the CRHR or local register of historical resources (see section below); or (2) a resource that the CEQA lead agency, at its discretion and supported by substantial evidence, determines is significant pursuant to the criteria in PRC Section 5024.1, subdivision (c) (see PRC Section 21074). Further, because tribes traditionally and culturally affiliated with a geographic area may have specific expertise concerning their tribal cultural resources, AB 52 sets forth requirements for notification and invitation to government to government consultation between the CEQA lead agency and geographically affiliated tribes (PRC Section 21080.3.1[a]). Under AB 52, lead agencies must avoid damaging effects to tribal cultural resources, when feasible, regardless of whether consultation occurred or is required.

Tribal cultural resources per PRC 21074 (A)–(B) are defined as either of the following:

1) Sites, features, places, cultural landscapes, sacred places, and objects with cultural value to a California Native American tribe that are either of the following:

    a) Included or determined to be eligible for inclusion in the California Register of Historical Resources.
    b) Included in a local register of historical resources as defined in subdivision (k) of Section 5020.1.

2) A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Section 5024.1. In applying the criteria set forth in subdivision (c) of Section 5024.1 for the purposes of this paragraph, the lead agency shall consider the significance of the resource to a California Native American tribe.

    a) A cultural landscape that meets the criteria of subdivision (a) is a tribal cultural resource to the extent that the landscape is geographically defined in terms of the size and scope of the landscape.

California Historical Landmarks and Points of Historical Interest

Historical landmarks are sites, buildings, features, or events that are of statewide significance and have anthropological, cultural, military, political, architectural, economic, scientific, or technical, religious, experimental, or other value. In order to be considered a California Historical Landmark, the landmark must meet at least one of the following criteria:

1) Associated with events that have made a significant contribution to the broad patterns of local or regional history or the cultural heritage of California or the United States;
2) Associated with the lives of persons important to local, California, or national history;
3) Embodies the distinctive characteristics of a type, period, region, or method of construction; represents the work of a master; or possesses high artistic values;
4) Has yielded, or has the potential to yield, information important to the prehistory or history of the local area, California, or the nation.

If a site is primarily of local or countywide interest, it may meet the criteria for the California Point of Historical Interest Program. Points of Historical Interest are sites, buildings, features, or events that are of local (city or county) significance and have anthropological, cultural, military, political, architectural, economic, scientific, or technical, religious, experimental, or other value. To be eligible for designation as a Point of Historical Interest, a resource must meet at least one of the following criteria:

1. The first, last, only, or most significant of its type in the local geographic region (city or county);
2. Associated with an individual or group having a profound influence on the history of the local area;
3. A prototype of, or an outstanding example of, a period, style, architectural movement, or construction; or
4. One of the more notable works or the best surviving work in the local region of a pioneer architect, designer, or master builder.

Points of Historical Interest designated after December 1997 and recommended by the State Historical Resources Commission are also listed in the California Register. No historical resource may be designated as both a Landmark and a Point of Interest. If a Point of Interest is subsequently granted status as a Landmark, the Point of Interest designation will be retired.

Kings County General Plan

The Kings County General Plan (2009) provides guidance for the protection of natural and cultural resources. Cultural resources are defined to include prehistoric resources, historic resources, and Native American resources.

Prehistoric resources represent the remains of human occupation prior to European settlement and Historic resources represent remains of human occupation after European settlement. Native American resources include ethnographic elements pertaining to Native American issues and values (2035 King County General Plan EIR 2009). The Kings County General Plan contains the following policies aimed at preserving and protecting cultural resources:

RC GOAL I1 Preserve significant historical and archaeological sites and structures that represent the ethnic, cultural, and economic groups that have lived and worked in Kings County.

RC OBJ I1.1 Promote the rehabilitation or adaptation to new uses of historic sites and structures.

RC Policy I1.1.2 Direct proposed developments that may affect proposed or designated historic sites or County landmarks to the Kings County Museum Advisory Committee or other similarly purposed advisory body under the Kings County Parks and Recreation Advisory Commission for review and comment.

RC Policy I1.1.3 Encourage the protection of cultural and archaeological sites with potential for placement on the National Register of Historic Places and/or inclusion in the California Inventor of Historic Resources.

RC Policy I1.1.4 Refer applications that involve the removal, destruction, or alteration of proposed or designated historic sites or County landmarks to the Kings County Museum Advisory Committee or its successor for recommended mitigation measures.

RC OBJ I1.2 Identify potential archaeological and historical resources and, where appropriate, protect such resources.

RC Policy I1.2.1 Participate in and support efforts to identify significant cultural and archaeological resources and protect those resources in accordance to Public Resources Code 5097.9 and 5097.993.

RC Policy I1.2.2 Continue to solicit input from local Native American communities in cases where development may result in disturbance to sites containing evidence of Native American Activity and/or to sites of cultural importance.

RC Policy I1.2.3 Address archaeological and cultural resources in accordance with the California Environmental Quality Act (CEQA) for discretionary land use applications.

RC Policy I1.2.4 The County will respectfully comply with Government Code §65352.3 (SB18) by conducting formal consultations with tribes as identified by the Native American Heritage Commission on all general plan and specific plan amendments.

RC Policy I1.2.5 The County will respectfully comply with Government Code §6254.(r) and 6254.10 by protecting confidential information concerning Native American cultural resources. For example, adopting internal procedures such as keeping confidential archaeological reports away from public view or discussion in public meetings.

RC Policy I1.2.1.6 The County shall work in good faith with the Santa Rosa Rancheria Tachi-Yokut Tribe (“Tribe”), the developer and other parties if the Tribe requests return of certain Native American

artifacts from private development projects (e.g., for interpretive or educational value). The developer is expected to act in good faith when considering the Tribe's request for artifacts. Artifacts not desired by the Tribe shall be placed in a qualified repository as established by the California State Historical Resources Commission. If no facility is available, then all artifacts shall be donated to the Tribe.

PALEONTOLOGICAL RESOURCES

CALIFORNIA ENVIRONMENTAL QUALITY ACT (CEQA)

CEQA declares that it is state policy to "take all action necessary to provide the people of this state with...historic environmental qualities." It further states that public or private projects financed or approved by the state are subject to environmental review by the state. All such projects, unless entitled to an exemption, may proceed only after this requirement has been satisfied. CEQA requires detailed studies that analyze the environmental effects of a proposed project. In the event that a project is determined to have a potential significant environmental effect, the act requires that alternative plans and mitigation measures be considered.

The CEQA Environmental Checklist includes one question regarding paleontological resources: "Would the project directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?" (CEQA Guidelines Appendix G, Section VII, Part F). If paleontological resources are identified as being within a proposed project area, the sponsoring agency must take those resources into consideration when evaluating project impacts. The level of consideration may vary with the importance of the resource.

CEQA does not provide a definition for unique paleontological resource. Therefore, many paleontologists and agencies utilize the Society of Vertebrate Paleontology (SVP) criteria, which define significant (i.e., unique) paleontological resources as:

> "Fossils and fossiliferous deposits…consisting of identifiable vertebrate fossils, large or small, uncommon invertebrate, plant, and trace fossils, and other data that provide taphonomic, taxonomic, phylogenetic, paleoecologic, stratigraphic, and/or biochronologic information (SVP 2010)."

CALIFORNIA PUBLIC RESOURCES CODE

PRC Division 5, Chapter 1.7, Section 5097.5 and Division 20, Chapter 3, Article 5, Section 30244 include state level requirements for the assessment and management of paleontological resources. Section 5097.5 states that a person shall not knowingly and willfully excavate upon, or remove, destroy, injure, or deface, any historic or prehistoric ruins, burial grounds, archaeological or vertebrate paleontological site, including fossilized footprints, inscriptions made by human agency, rock art, or any other archaeological, paleontological, or historical feature, situated on public lands, except with the express permission of the public agency having jurisdiction over the lands. As defined in PRC Section 5097.5, public lands include any lands owned by, or under the jurisdiction of the state, county, district, authority, or public corporation, or any agency thereof. Section 30244 requires reasonable mitigation measures where development would adversely impact archaeological or paleontological resources as identified by the State Historic Preservation Officer.

KINGS COUNTY GENERAL PLAN

The Kings County General Plan (2009) does not contain paleontological goals, objectives, or policies applicable to this project. The Resource Conservation Element does identify the Kettleman Hills fossil beds as a historic site of local importance, and historic sites are addressed in RC Objective I1.1 and Policies I1.1.1 through I1.1.4. However, the fossil beds are not within the current Project Area.

BACKGROUND

ENVIRONMENTAL SETTING

The Project Area is located near the City of Lemoore in northern Kings County in the San Joaquin Valley. Kings County is located in a diverse region, with the Sierra Nevada Mountains to the east, the Tehachapi Mountains to the south, and the Coast Ranges to the west. The central and eastern portions of the county occupy the relatively flat valley floor (Kings County 2009). The San Joaquin Valley is a fertile region with a thriving agricultural industry and the area surrounding the Project Area is subject to extensive agricultural use. Additionally, the Naval Air Station Lemoore is located north of the Project Area. The Project Area is mostly flat with a slope of less than 10 degrees and elevation averaging approximately 111 meters (m) (364 feet) above mean sea level (AMSL).

PALEONTOLOGICAL SETTING

The Project Area is located in the San Joaquin Valley, which is located within the southern region of the Great Valley Geomorphic Province. The Great Valley Geomorphic Province is an elongated basin, approximately 430 miles long and 50 miles wide, bounded by the Coast Ranges Geomorphic Province to the west and the Sierra Nevada Geomorphic Province to the east. Rocks from both provinces extend beneath the Great Valley, the folded and faulted sediments of the Coast Ranges extending eastward, and the igneous and metamorphic rocks of the Sierra Nevada extending westward. Sediments have accumulated in the Great Valley since the Jurassic (160 million years ago), starting with upper Jurassic-aged metamorphic and igneous rocks associated with the neighboring provinces that are overlain by Cretaceous-aged Great Valley Sequence shales and sandstones (CGS 2002). During the Cenozoic and at least the later Mesozoic, the region persisted as a lowland or shallow marine embayment, with much of the area occupied by shallow brackish and freshwater lakes in the late Cenozoic (Norris and Webb 1976). The accumulated Holocene- to Jurassic-aged sediments are 6 vertical miles thick, with Holocene- to Paleocene-aged continental rocks and deposits making up the majority. The Pleistocene Lake Tulare is southeast of the Project Area. The fertile soils of the Great Valley were formed in wetlands as floodplain deposits refilled by sediment carried in the Sierran rivers during periodic floods (Fuller et al. 2015). The Project Area is underlain entirely by Holocene- to Pleistocene-age basin deposits (Qb) (Figure 4; Matthews and Burnett 1965).

Basin Deposits (Qb): Holocene to Pleistocene-age alluvial deposits that typically consist of river and stream derived sediments deposited during flood stages of major streams in the area between natural stream levees and fans. The sediments are comprised of unconsolidated to semi-consolidated sedimentary sand and gravel (Jennings et al. 2010; Matthews and Burnett 1965). The shallower, Holocene-aged sediments are unlikely to produce significant paleontological resources due to their relatively young age; however, the Pleistocene-age sediments have the potential to produce significant vertebrate and/or invertebrate resources in this area.

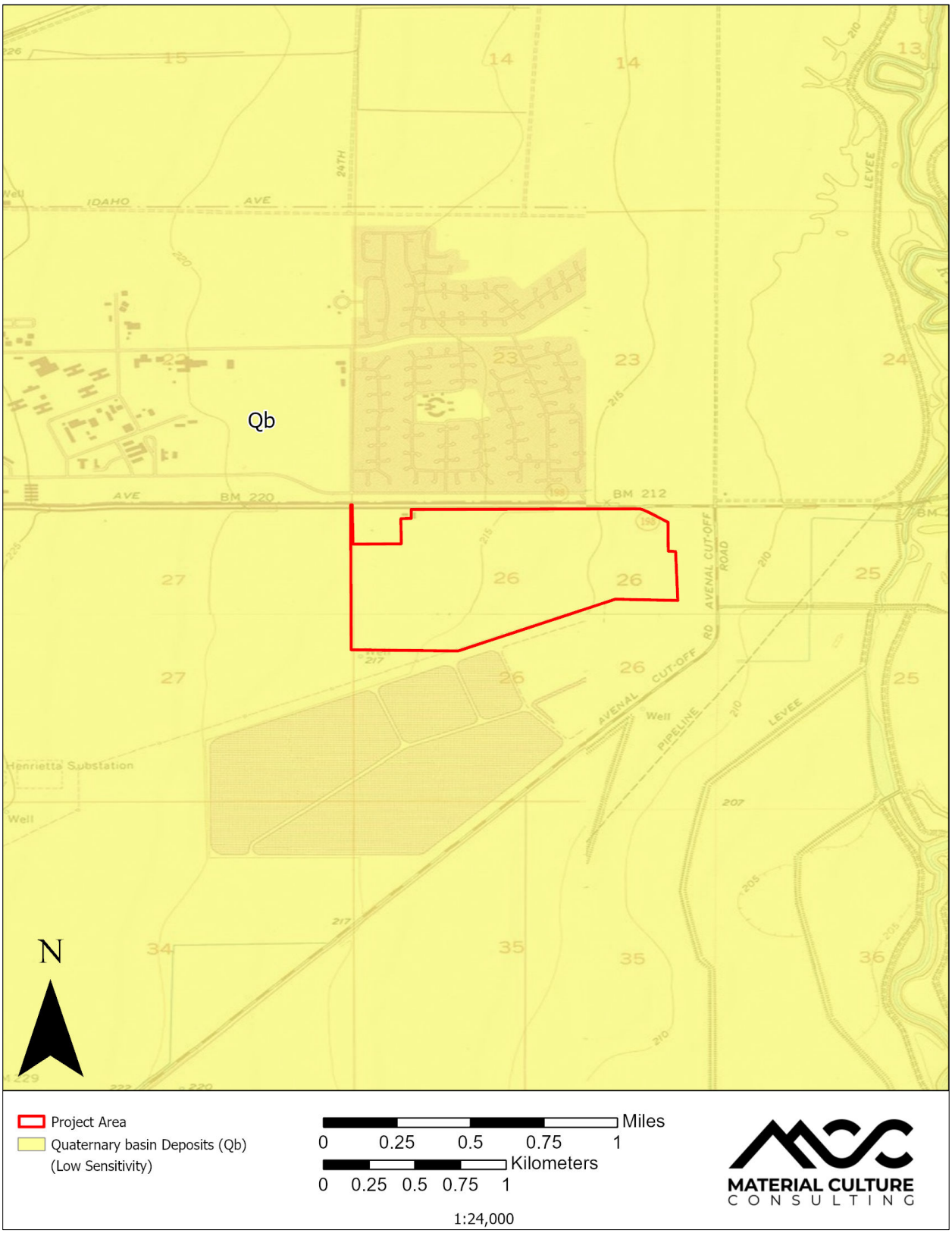


Figure 4. Geologic Map of the Project Area (1:24,000; Matthews and Burnett 1965)

PREHISTORIC CONTEXT

A precise chronological framework for Central California archaeology has yet to be defined. Previous attempts based on taxonomic framework, few radiocarbon dates, diagnostic artifacts, and cultural patterns/traditions do not fully cover regional nuances. Rosenthal et al. (2007) updates Fredrickson's three basic periods into five divisions: Paleoindian (11,550 to 8,550 cal B.C.); Lower, Middle and Upper Archaic (8,550 to 500 cal B.C.) and Emergent (500 cal B.C. to present).

The Paleo Indian Period

The Paleo Indian Period is associated with the terminus of the late Pleistocene (12,000 to 10,000 B.C.). The environment during the late Pleistocene was cool and moist, which allowed for glaciation in the mountains and the formation of deep, pluvial lakes in the deserts and basin lands (Moratto 1984). However, by the terminus of the late Pleistocene, the climate became warmer, which caused glaciers to melt, sea levels to rise, greater coastal erosion, large lakes to recede and evaporate, extinction of Pleistocene megafauna, and major vegetation changes (Moratto 1984; Martin 1967, 1973; Fagan 1991). Periodic episodes of erosion and deposition during the Holocene have removed or buried large segments of the late Pleistocene landscape, which in turn has either destroyed or buried archaeological sites from this period (Rosenthal and Meyer 2004; White 2003). The earliest accepted evidence of human occupation within the Central Valley derives from surficial discoveries of basally thinned and fluted projectile points, primarily within the southern portion of the region (Moratto 1984:81; Rosenthal et al. 2007). These points have been dated between 11,550 to 9,550 cal B.C. (Fiedel 1999). The Witt site (CA-KIN-32), located in the southern San Joaquin Valley, has yielded hundreds of early concave base points along a remnant shoreline that was occupied during a late Pleistocene low stand of Tule Lake (Davis 1999; Haynes 1991; Willig 1991). Despite the presence of human and faunal bone at the site, there has been no clear association between the extinct fauna, human bone, and projectile points from this area (Fenenga 1992; West et al. 1991).

Lower, Middle, and Upper Archaic (8,550 to 500 cal B.C.)

The Lower Archaic Period (8,550 to 5,550 cal B.C.) is associated with climatic changes at the end of the Pleistocene which significantly altered the environment. Multiple episodes facilitated the natural development of alluvial fans and floodplains, which buried early archaeological deposits within the Central Valley. This period signifies the beginning of trade networks across California. Shell beads from the California coast have been found within Great Basin Holocene sites, and obsidian from the eastern Sierras have been found within sites across the Central Valley (Rosenthal et al. 2007). Artifacts from this period include stemmed series points such as Lake Mojave and Silver Lake forms. Flaked stone crescents and distinctive, formalized, flaked stone tools comprise the key elements found in archaeological assemblages from this period. Examples of such remains are represented in the deeply buried sites found along the ancient shoreline of Tulare Lake (Moratto 1984; Sutton et al. 2016).

The beginning of the Middle Archaic saw another shift in climate, with increasingly warmer and drier conditions affecting Pleistocene-era lakes and bringing about a fans and floodplains stabilization in the region. This stabilization is represented by middle Holocene buried soils found in alluvial landforms, which contain some of the best documentation of Middle Archaic deposits (Rosenthal et al. 2007). During the early part of the Middle Archaic, burial mounds of the classic Windmiller Pattern occur. Windmiller settlements represent a riverine adaptation with permanent, year-round habitation sites. These sites often represent a highly diverse material culture. Burials featured west-facing extended burials. Paleobotanical studies from sites of this time period demonstrate the early use of acorn and pine nut crops. Faunal assemblages reflect intense use of marshes, grasslands, and riverine forests, including the appearance of elk, deer, pronghorn, rabbit, hare, waterfowl, a variety of fish and small rodent species. Baked clay impressions of basketry and cordage, bone awls, stone plummets, bone tubes, *Olivella biplicata* and abalone (*Haliotis* spp.) shell beads and ornaments, charmstones, gorge hooks, bone hooks, and heavy-stemmed dart points have all been identified in the archaeological assemblages dating to this time period. Trading is also evident, with obsidian artifacts and toolstone sourced from the eastern Sierra from Coso and Casa

Diablo with obsidian from Coso dominating the obsidian assemblages (Moratto 1984; Sutton and Des Lauriers 2002; Rosenthal et al. 2007).

The Upper Archaic saw environmental conditions shift once again to a cooler climate. Little is known concerning the cultures of the southern San Joaquin during this period; however, year-round villages at Buena Vista Lake have been identified. Similar to the Middle Archaic, these sites exhibit a diverse array of artifacts, as well as presence of architectural features including house floors and significant refuse deposits from both land and water subsistence activities. Cultural materials include temporally diagnostic forms of beads and ornaments manufactured from *Haliotis* and *Olivella* shell. Spindle-shaped charmstones, cobble mortars, chisel-ended pestles and heavy dart points are also identified. Additionally, an extensive inventory of bone tools, including awls, fish spears, saws, and flakers are diagnostic to this period. Burial positions shift during this time to supine semi-flexed, and mortuary artifacts are present, including bifacial obsidian blanks sourced at Coso or Casa Diablo (Moratto 1984; Rosenthal et al. 2007).

Emergent Period (500 cal B.C. to Present)
The archaeological record for the Emergent period is the most well documented and ethnographically documented cultural traditions are readily identifiable in the archaeological record. The cultural traditions of each region within the Central Valley began to exhibit similarities due to European American contact. Complex social practices are evident with changes in burial practices, and the decentralization of shell bead production and use as a monetary system of exchange. Burial posture is tightly flexed on the side or supine with a moderate amount of associated mortuary related offerings. The bow and arrow replace the atlatl, and Cottonwood-style arrow points are recognized by about 500 years ago. The importance of plant resources, small game, and fishing also increased steadily during this period. Typical artifact assemblages from this era include stone beads and cylinders, clamshell disks, tubular smoking pipes, arrow shaft straighteners, flat-bottomed mortars, cylindrical pestles, and small side-notched arrow points. Protohistoric and historic-era sites contain Euroamerican trade items, such as glass beads, brass buttons, and other introduced artifacts (Moratto 1984; Bennyhoff and Fredrickson 1994; Rosenthal et al. 2007).

ETHNOGRAPHY
At first European contact, between 1772 and 1821, the Central Valley was home to an estimated 100,000 native Americans (Moratto 1984). The Project Area is considered ancestral territory for Yokuts, specifically the Southern Valley Yokut, including Tachi-Yokut. The Yokuts inhabited the San Joaquin Valley, as well as within the lower Sierra Nevada foothills, and are usually divided into three large general groups- Northern Valley, Southern Valley, and Foothills-which at the time of contact were composed of approximately sixty tribelets (Figure 5; Moratto 1984). Southern Valley Yokut traditionally occupied the area within Kern, Buena Vista, and Tulare Lakes, along with the Kern River, Cahuilla River Tulare River, and Kings River that issue from the Southern Sierra Nevada Mountain range (Pearce et al. 2016). At time of European contact, it is believed at least 15 different Southern Valley Yokut groups inhabited the southern San Joaquin Valley (Kroeber 1976). Southern Valley Yokut lived in high-ground, permanent villages and subsistence strategy were based on fishing, hunting, and gathering (Moratto 1984). Southern Valley Yokut basketry is characterized by coiled jar-like vessel with flat shoulder and constricted or re-flaring neck, commonly referred as “Tulare bottlenecks” (Kroeber 1976). Pottery is sporadic with some regions conducting pottery and others with limited or no information regarding pottery (Kroeber 1976). Social organization appears centered in moiety-based unilineal kin groups (Kroeber 1976). Tribal groups that surrounded the Southern Valley Yokut often engaged in socialization, trade, intermarriage, and conflict, with a long history of trade and interaction between the Southern Valley Yokut and the Kawaiisu tribe (Orfila 2011; Pearce et al. 2016). Warfare appears to be infrequent, both internal and with their neighbors, with the Southern Valley Yokut being described as “on the whole a peaceable people” (Kroeber 1976).

European contact marked the end of the Southern Valley Yokut's traditional way of life. The introduction of the Spanish mission system started the erosion of the Southern Valley Yokut's culture through introduction of non-local habits and decrease of population due to foreign diseases by natives fleeing missionary control (Wallace 1978). The takeover of California by the United States from Mexico did not improve conditions for the Southern Valley Yokut. Land grants passed quickly to incoming settlers for agricultural use. This forced many Southern Valley Yokut to resort to wage labor on farms and ranches, where they were held in low esteem to their employers. Others were settled on land set aside for them on the Fresno and Tule River Reserves (Wallace 1978). The annexation of California signaled a rapid collapse of Southern Valley Yokut culture, displacing members across the San Joaquin Valley. The Southern Valley Yokuts were displaced temporarily onto the Tejon Reservation until the U.S. Government permanently set aside Rancheria's and Reservations on their native lands. The Santa Rosa Rancheria Tachi-Yokut tribe was established in 1921. The greater population of remaining Southern Valley Yokut still reside and practice traditional ceremonies within those reservations.

HISTORICAL SETTING

California remained isolated from European and Asian occupation and influence until the early sixteenth century. In 1521, Spain sent explorer and conquistador Hernan Cortes and his army into what is now Mexico to conquer the indigenous Aztecs and capture the wealth of the land and its people. "New Spain," as the region soon became known, quickly became the hub of Spanish colonial efforts in the New World. Cortes, hopeful of finding comparable wealth in the northern Pacific, authorized the first explorations, and in 1535, founded the first nonnative settlement in Baja (or Lower) California. Inspired by Cortes' success in the New World and hoping to find a waterway from the Pacific to the Atlantic, the Spanish dispatched Juan Rodriguez Cabrillo in 1542 to explore the northwest coast of New Spain. It is believed that Cabrillo sailed as far north as the Oregon border, and that he became the first European to see what was then termed "Alta (or Upper) California" (Paddison 1999: xi).

Spanish Period (1769 to 1821) to Mexican Period (1821 to 1848)

The first Europeans to come to the Central Valley were led by Captain Pedro Fages in 1772, followed shortly by an expedition lead by Father Francisco Garcés in 1776 (Hoover et al. 2002). Thirty years later, Lieutenant Gabriel Moraga led a Spanish expedition in 1806 that entered the San Joaquin Valley seeking sites for new missions and tracking runaway Native neophytes from the missions (Johnson 1964). Expansion into the interior regions of the San Joaquin Valley was slow during the Spanish period due to fears of unrest among native populations and a desire to stay close to shipping routes. American exploration of the San Joaquin Valley began in the 1820s, with the arrival of Jedediah Smith via the Tejon Pass, who trapped beaver along the San Joaquin and Kings Rivers, as well as other tributaries in the area (ICF International 2012). Once the secularization of California under Mexican control occurred, most of the lands under the mission rule were granted to individuals by the Mexican government for ranching endeavors, known as ranchos. The Mexican government distributed numerous land grants within the Central Valley, to distribute settlement away from the coast.

American Period (1848 to present)

In the 1870s and early 1880s, the construction of a Southern Pacific Railroad throughout the San Joaquin Valley fostered the early growth of rail centers and cities located along the rail path. By establishing towns along the railroad path, the railroad and associated firms shaped local settlement in the area and through elaborate advertising, enticed settlers to fill those settlements but settling the area was complicated by land grand disputes, land squatters and land speculators (Orsi 2005). With the presence of the railroads, agriculture and livestock industries began to expand throughout the San Joaquin Valley, which spurred the development of large-scale irrigation in the early twentieth century (Osri 2005).

Kings County

During the mid to late 19th century, Kings County's economy was centered on agriculture. The abundance of land

and the prospect of making a living off the land brought in settlers to the area. The influx of new settlers and notions of Manifest Destiny severely decimated the local Tachi-Yokut population. It was estimated by Kroeber that the population of the Yokut was down to 600 individuals by 1910 which was a decline to just 7% of their original population between 1850 and 1900 (Moreno 2018). Similarly, the influx of people to the area also instigated problems between the Southern Pacific Railroad and settlers. In 1880, the Mussel Slough Tragedy, resulted in the death of five homesteaders and two legal property owners over land disputes between settlers and the railroad. This event is characterized as one of the "deadliest shootouts in the 'American West' (Kings County 2009)."

Kings County was changed drastically by the development of comprehensive irrigation systems bringing in and diverting water for agriculture and consequently Tulare Lake eventually dried out (The Leader 2015). Additionally, the expansion of the railroad made it so farmers could easily sell and transport their yields across the San Joaquin Valley which attracted more settlers to the greater Central Valley. Today, just as when settlements in Kings County were established, agriculture remains central to the local economy as well as the way of life in the area.

City of Lemoore

In 1856, Daniel Rhoads and his brothers drove their cattle to the area now known as Lemoore to free graze along the banks of the Kings River. Members of the Rhoads family would continue to settle the area over the next ten years (Sarah Mooney Museum 2021). In 1877 the Southern Pacific Railroad developed a line near Lemoore which caused the town to prosper. A post office was approved in 1875 and was named after the Lemoore family. A cluster of shops opened around the post office and the Southern Pacific Railroad line (Sarah Mooney Museum 2021).

The expansion of the railroad to the region continued to spur population growth in Lemoore, which steadily increased into the early 20th century. In the 1940s, just before the beginning of the Second World War, Lemoore Army Airfield was established to help train fliers. The base was decommissioned within two months of the victory over Japan. The Navy established a Naval Air Station just outside of the city of Lemoore in 1961, and it is still in service today (United States Navy 2021).

METHODS

CALIFORNIA HISTORIC RESOURCES INVENTORY SYSTEM AND CULTURAL BACKGROUND RESEARCH

A records search was conducted on November 8, 2021, by staff at the Southern San Joaquin Valley Information Center (SSJVIC) located at California State University, Bakersfield, Kern County. The records search reviewed the California Historical Resources Information System (CHRIS) database for previously conducted cultural resources studies and previously identified cultural resources within 0.5-mile of the Project Area. The search included any previously recorded cultural resources and investigations within a 0.5-mile radius of the Project Area. MCC conducted a supplemental review of the NRHP, the CRHR, the California Points of Historical Interest list, the California Historical Landmarks list, the Archaeological Determinations of Eligibility list, and the California State Inventory of Historic Resources. Additional background research included historical aerial photos, historical topographical maps, and a search of the Bureau of Land Management General Land Office Records (BLM GLO).

NATIVE AMERICAN OUTREACH AND BACKGROUND RESEARCH

MCC requested a search of the Sacred Lands File (SLF) from the Native American Heritage Commission (NAHC) on October 19, 2021. The NAHC responded on November 30, 2021, stating that the SLF search yielded positive results for known sacred lands in the vicinity of the Project Area. The NAHC provided MCC with contact information for the Santa Rosa Rancheria Tachi-Yokut Tribe and recommended reaching out directly to obtain additional information about sacred lands in the area. MCC subsequently sent letters the Santa Rosa Rancheria Tachi-Yokut Tribe, as well as the additional seven Native American contacts on December 1, 2021, requesting any information related to cultural resources or heritage sites within or adjacent to the Project Area. Additional attempts at contact by letter, email, or phone call were made on December 23, 2021, and January 4,2022 (Appendix C). MCC did not conduct formal consultation, pursuant to AB 52, with the Native American representatives.

PALEONTOLOGICAL LITERATURE REVIEW AND RECORDS SEARCH

The literature review included an examination of geologic maps of the Project Area and a review of relevant published and unpublished geological and paleontological literature to determine which geologic units are present within the Project Area and whether fossils have been recovered from those geologic units elsewhere in the region. As geologic units may extend over large geographic areas and contain similar lithologies and fossils, the literature review includes areas well beyond the Project Area.

The purpose of a locality search is to establish the status and extent of previously recorded paleontological resources within and adjacent to the study area for a given project. On October 28, 2021, a locality search was conducted through the Natural History Museum of Los Angeles County (LACM). This search identified any fossil localities in the LACM records that exist near the Project Area in the same or similar deposits.

PALEONTOLOGICAL POTENTIAL ASSESSMENT

The federal Potential Fossil Yield (PFYC) system (BLM 2016) was used to assess the paleontological potential within the Project Area. The PFYC system provides baseline guidance for assigning the paleontological potential of geologic units, on a scale of 1 (very low potential) to 5 (very high potential), based on the abundance of significant paleontological resources and their sensitivity to impacts:

1 = Very Low Potential Geologic units are not likely to contain recognizable paleontological resources; units are igneous or metamorphic, excluding air-fall and reworked volcanic ash units; units are Precambrian in age; the management concern is usually negligible, and impact mitigation is unnecessary except in rare or isolated circumstances.

2 = Low Potential Geologic units are not likely to contain paleontological resources; field surveys have

verified that significant paleontological resources are not present or very rare; units are generally younger than 10,000 years before present; recent eolian deposits; sediments exhibit significant physical and chemical changes (i.e., diagenetic alteration) that make fossil preservation unlikely; management concern is generally low, and impact mitigation is usually unnecessary except in occasional or isolated circumstances.

3 = Moderate Potential Sedimentary geologic units where fossil content varies in significance, and abundance, and predictable occurrence; marine in origin with sporadic known occurrences of paleontological resources; paleontological resources may occur intermittently, but these occurrences are widely scattered; the potential for authorized land use to impact a significant paleontological resource is known to be low-to-moderate; management concerns are moderate. Management options could include record searches, pre-disturbance surveys, monitoring, mitigation, or avoidance. Opportunities may exist for hobby collecting. Surface-disturbing activities may require sufficient assessment to determine whether significant paleontological resources occur in the area of a proposed action and whether the action could affect the paleontological resources.

4 = High Potential Geologic units that are known to contain a high occurrence of paleontological resources; significant paleontological resources have been documented but may vary in occurrence and predictability; surface-disturbing activities may adversely affect paleontological resources; rare or uncommon fossils, including nonvertebrate (such as soft body preservation) or unusual plant fossils, may be present; illegal collecting activities may impact some areas; management concern is moderate to high depending on the proposed action. A field survey by a qualified paleontologist is often needed to assess local conditions. On-site monitoring or spot-checking may be necessary during land disturbing activities. Avoidance of known paleontological resources maybe necessary.

5 = Very High Potential Highly fossiliferous geologic units that consistently and predictably produce significant paleontological resources; significant paleontological resources have been documented and occur consistently; paleontological resources are highly susceptible to adverse impacts from surface disturbing activities; unit is frequently the focus of illegal collecting activities; management concern is high to very high. A field survey by a qualified paleontologist is almost always needed and on-site monitoring may be necessary during land use activities. Avoidance or resource preservation through controlled access, designation of areas of avoidance, or special management designations should be considered.

U = Unknown Potential Geologic units that cannot receive an informed PFYC assignment; geologic units may exhibit features or preservation conditions that suggest significant paleontological resources could be present, but little information about the actual paleontological resources of the unit or area is unknown; geologic units represented on a map are based on lithologic character or basis of origin, but have not been studied in detail; scientific literature does not exist or does not reveal the nature of paleontological resources; reports of paleontological resources are anecdotal or have not been verified; area or geologic unit is poorly or under-studied; BLM staff has not yet been able to assess the nature of the geologic unit; until a provisional assignment is made, geologic units with unknown potential have medium to high management concerns. Field surveys are normally necessary, especially prior to authorizing a ground-disturbing activity.

CULTURAL AND PALEONTOLOGICAL FIELD SURVEY

The survey stage is important in a project's environmental assessment phase to verify the exact location of each identified cultural or paleontological resource, the condition or integrity of the resource, and the proximity of the Project Area to areas determined to have increased cultural resources sensitivity. In addition, the field survey provides invaluable information on the type of sediment present within the Project Area, which informs the assessment of paleontological potential. Due to the Project Area's highly disturbed agricultural nature, the survey consisted of a mixed intensive pedestrian and reconnaissance survey, with focused efforts on accessible and higher potential areas. The survey consisted of walking in parallel transects spaced at approximately 10- to 20-meter intervals over the Project parcel, while closely inspecting the ground surface. All undeveloped ground surface areas within the ground-disturbance portion of the Project Area were examined for artifacts (e.g., flaked stone tools, tool-making debris, stone milling tools or fire-affected rock) and fossils, soil discoloration that might indicate the presence of a cultural midden, soil depressions and features indicative of the former presence of structures or buildings (e.g., postholes, foundations), or historic-era debris (e.g., metal, glass, ceramics). Existing ground disturbances (e.g., cutbanks, ditches, animal burrows) were visually inspected for any potential presence of the above-mentioned indicators of cultural or paleontological resources. Representative photographs were taken of the entire Project Area and are included in the Results section below.

RESULTS

CALIFORNIA HISTORIC RESOURCES INVENTORY SYSTEM AND CULTURAL BACKGROUND RESEARCH

The CHRIS records search identified a total of 12 previously conducted cultural resources investigations within0.5-mile of the Project Area (Table 1). The studies were conducted between 1985 and 2016 and include six telecommunications projects, three cultural resource reconnaissance surveys, two utility projects, two transmission line projects, and one Caltrans project. Three studies are located within or directly adjacent to the Project Area and are summarized below:

KI-00159: This study, titled *Proposed Cellular Tower Project in Kings County, California. Site Number/Name: Highway 198-Duty/SC-10576A,* was conducted in 2006 by EarthTouch, Inc. on the behalf of T-Mobile USA, Inc. The study area encompasses the same parcel as the Project. It concluded there were no archaeological sites within the study area and there will be no effects from the installation of the cellular tower (Billat 2006).

KI-00197: This study titled, *Fresno Reliability Transmission Project,* was conducted in 2010 by Far Western Anthropological Research Group, Inc. on behalf of Pacific Gas and Electric Company (PG&E). The study area extends along the alignment of a transmission line that runs through the southern portion of the Project Area. The study concluded the Project Area is located in moderately low sensitivity for buried cultural resources (Kaijankoski 2010).

KI-00287: This study titled, *Cultural Resources Inventory and Evaluation for the Central Valley Power Connect Project, Fresno, Kings, and Madera Counties, California,* was conducted in 2011 by Applied Earthworks, Inc. on behalf of PG&E. A portion of the study is located in the southern area of the Project Area along the transmission line. It concluded the study area located within the Project Area has a low potential for buried cultural resources (Asselin et al. 2016).

Table 1. Previously Conducted Cultural Resources Studies within 0.5-mile of Project Area

CHRIS Report Number	Authors	Year	Title of Study	Affiliation	Distance from Project Area
KI-00053	Van Bueren, T.M. and Moratto, M.J.	1985	*Archaeological Reconnaissance of the South Fork Kings River Watershed Project, Kings County, California. Volume 1: Narrative.*	INFOTEC Research Incorporated	Within ½-mile radius
KI-00060	Office of Environmental Quality	1983	*Class II Archaeological Survey, San Luis Drain and Alternatives, Central Valley Project, San Luis Unit, California.*	Office of Environmental Quality. Mid-Pacific Region. Bureau of Reclamation. Sacramento, Ca.	Within ½-mile radius
KI-00159	Billat, L.	2006	*Proposed Cellular Tower Project in Kings County, California. Site Number/Name: Highway 198-Duty/SC-10576A*	EarthTouch, Inc.	Within Project Area
KI-00166	Jones, K. and Holson, J.	2005	*Lemoore NAS Cell Site, 967 Community Center., Lemoore, CA.*	Pacific Legacy, Inc.	Within ½-mile radius
KI-00196	Leach-Palm, L., Brandy, P., King, J., Mikkelson, P., Seil, L., Hartman, L., and Bradeen, J.	2010	*Cultural Resources Inventory of Caltrans District 6 Rural Conventional Highways in Fresno, Western Kern, Kings, Madera, and Tulare Counties, Summary of Methods and Findings Contract No. 06A1106, Expenditure Authorization No. 06-0A7408*	Far Western and JRP Historical Consulting	Within ½-mile radius
KI-00197	Kaijankoski, P.	2010	*Fresno Reliability Transmission Project*	Far Western Anthropological Research Group, Inc.	Within Project Area

CHRIS Report Number	Authors	Year	Title of Study	Affiliation	Distance from Project Area
KI-00209	Coleman, J.	2012	*Cultural Resources Survey Report for the Nederend South WRP Project, Kings County, California.*	Solano Archaeological Services, Suisun City	Within ½-mile radius
KI-00233	Supernowicz, D.	2013	*Cultural Resources Study of the Lemoore NAS Project, AT&T Mobility Site No. CNU2387, 22999 Jackson Avenue, Lemoore, Kings County, California 93245*	Historic Resources Associates	Within ½-mile radius
KI-00247	Losee, C.	2009	*Cultural Resources Analysis for AT&T Mobility Site CN2387-B "Lemoore NAS" 22999 Jackson Avenue, Lemoore, Kings County, California 93245*	Archaeological Resources Technology	Within ½-mile radius
KI-00264	Peterson, C., Wills, C., and Crawford, K.	2014	*Cultural Resources Records Search and Site Visit Results for T-Mobile West, LLC Candidate SC10576D (PG&E Naval Air), 22970 Jackson Avenue, Lemoore, Kings County, California*	Environmental Assessment Specialists, Inc.	Within ½-mile radius
KI-00264A	Wills, C. and Crawford, K.	2014	*Direct APE Historic Architectural Assessment for T-Mobile West, LLC Candidate SC10576D (PG&E Naval Air), 22970 Jackson Avenue, Lemoore, Kings County, California*	Environmental Assessment Specialists, Inc.	Within ½-mile radius
KI-00287	Asselin, K., Baloian, R., Morlet, A., Mirro, M., Whiteman, J., Tibbet, J., and Baloian, M.	2016	*Cultural Resources Inventory and Evaluation for the Central Valley Power Connect Project, Fresno, Kings, and Madera Counties, California*	Applied Earthworks, Inc.	Within Project Area
KI-00287A	Asselin, K., Mirro, M., and Baloian, M. C.	2016	*Supplemental Cultural Resources Inventory for the Central Valley Power Connect Project, Madera, Fresno, and Kings Counties, California*	Applied Earthworks, Inc.	Within Project Area
KI-00292	LSA Associates	2014	*Cultural Resources Study American Kings Solar Project, Lemoore, Kings County, California*	LSA Associates	Within ½-mile radius

The records search identified one previously recorded cultural resource, P-16-000362, within the Project Area.

P-16-000362: The resource consists of a historic-age Gates-Gregg 230kV transmission line dating between 1912-1921. The resource does not appear to be eligible for the listing on the NRHP or CRHR, and as such, the linear property is not a historical resource for the purpose of CEQA (Asselin 2016).

Five additional previously recorded cultural resources were identified within 0.5-mile of the Project Area (see Table 2). Four of the resources are within 0.25-mile of the Project Area. All five of the resources are historic-aged and are comprised of three engineering structures, two military properties, and one ancillary building.

Table 2. Previously Recorded Cultural Resources within 0.5-mile of the Project Area

Primary Number	Trinomial	Age	Type	Attributes	NRHP/CRHR	Distance from Project Area
P-16-000223	n/a	Historic	Building	HP34	NRHP Code 6Z	Within ¼-mile
P-16-000224	n/a	Historic	Building	HP34	NRHP Code 6Z	Within ¼-mile
P-16-000275	n/a	Historic	Structure	HP11	Not evaluated	Within ¼-mile
P-16-000299	n/a	Historic	Structure	HP11	Not evaluated	Within ½-mile
P-16-000357	n/a	Historic	Building	HP04	NRHP Code 7R	Within ¼-mile

Primary Number	Trinomial	Age	Type	Attributes	NRHP/CRHR	Distance from Project Area
P-16-000362	CA-KIN-000134H	Historic	Structure	HP11	NRHP Code 6Z	Within Project Area

The complete results of the CHRIS records search are included as Confidential Appendix B of this report.

Several additional sources were consulted for this Project (Table 3). The BLM GLO research was positive for two land grants issued under the Homestead Act of 1862. The Homestead Act of 1862 was signed by President Abraham Lincoln on May 20, 1862, and gave citizens up to 160 acres of public land provided they live on it, improve it, and pay a registration fee (Potter and Schamel 1997). While the law was in effect, the U.S. government granted more than 270 million acres of land. Serial Patent CACAAA 118725 was issued to John G. Clanton for 176 acres on August 16, 1899 (BLM GLO 2008). Serial Patent CACAAA 611048 was issued to Joel Hunt, Alfred Johnson, Joe Lemon, and John Svendiman for 46 acres on December 7, 1917 (BLM GLO 2008). No other significant potential for historic-era or prehistoric cultural resources were identified during the additional background research.

Table 3. Additional Sources Consulted for the Project

Source	Results
National Register of Historic Places (1979-2002 & supplements) within ½-mile	Negative
Historical United States Geological Survey topographic maps (USGS 2012)	Project Area used for agricultural activities in the 1950s.
Historical United States Department of Agriculture aerial photos	Project Area used for agricultural activities in the 1950s
California Register of Historical Resources (1992-2010) within ½-mile	Negative
California Inventory of Historic Resources (1976-2010) within ½-mile	Negative
California Historical Landmarks (1995 & supplements to 2010) within ½-mile	Negative
California Points of Historical Interest (1992-2010) within ½-mile	Negative
Local Historical Register Listings within 1/2-mile	Negative
Bureau of Land Management General Land Office Records (BLM GO 2008)	Positive, CACAAA 118725 State Volume-Patent issued on August 16, 1899, for 176 -acres. 611048 – Patent issued on December 7, 1917, for 46 -acres.

A review of historical aerial photographs and maps show the Project Area, and vicinity, has been consistently utilized for agricultural activities since as late as the 1950's (Figures 9). The Project Area has remained relatively unchanged. In the late 1960s had a slight increase in development with the construction of the Naval Air Station Lemoore (Figure 10). By 2016, a solar panel farm was developed directly west of the Project Area (Figure 11).



Figure 5. Project Area existing as an Agricultural Field
(depicted on 1955 historic aerial photograph)



Figure 6. Project Area existing as Agricultural Field with
increased development to the north and south
(as depicted on 1994 historic aerial photograph)



Figure 7. Project Area on 1952 aerial photograph, with existing structures present

NATIVE AMERICAN OUTREACH AND BACKGROUND RESEARCH

As a result of the outreach efforts to the eight Native American Tribes or individuals identified by the NAHC, MCC received two responses.

On December 13, 2021, MCC received an email from Samantha McCarty, Cultural Specialist II of the Santa Rosa Rancheria Tachi-Yokut Tribe stating the Tribe requests a cultural presentation be provided to all construction staff and to have monitors present during ground-disturbance activities. Additionally, the Tribe requests to have a Curation Agreement and a Burial Treatment Plan set in place. This request was provided to EPD.

On January 4, 2022, MCC spoke to Mr. Pennell who stated the Project is outside of the Tribe's jurisdiction and defers to the Santa Rosa Rancheria Tachi-Yokut Tribe and will send an email with the Tribe's response as well.

As of January 12, 2021, no additional responses have been received from the remaining NAHC-listed Native American Tribes or individuals contacted for information. Should MCC receive additional responses once the final report is submitted, the information will be passed on to EPD to be added to the report as an addendum. The outreach was conducted as an informational purpose only and formal consultation will be conducted by the Lead Agency. Additionally, all requests were acknowledged and will be provided to the Lead Agency. All NAHC and Native American correspondence materials, including our communication attempts, are provided as Appendix C.

PALEONTOLOGICAL RECORDS SEARCH

The locality search at LACM did not yield any fossil localities within the Project (Appendix D) (Bell 2021). However, the record search identified 36 fossil localities from similar sedimentary deposits that occur within the Project Area (Table 4). The closest vertebrate fossil localities from similar sediments are located approximately 20-miles south-southwest of the Project in Kettleman Hills from the Tulare Formation. The localities consist of six vertebrate and 25 invertebrates. The localities produced a fossil specimen of horse (*Equus*), borophagine canid (*Hyaenognathus pachyodon*), camel family (Camelidae), rabbit /pika order (Lagomorpha), fish (Teleostei, Osteichthyes), and abundant freshwater invertebrates at surface level (Bell 2021). Additional literature was consulted, including published reports in journals and media reports, resulting in no recorded fossil localities within the direct area of the Project. See Table 4 below for a complete list of the closest known localities from the LACM record search results.

Table 4. LACM Paleontological Record Search Results

Locality Number	Location	Geologic Unit	Taxa	Depth
6 Vertebrate, 25 Invertebrate Localities	Kettleman Hills, sites mostly around North Dome with fewer at Middle Dome and very few at South Dome	Tulare Formation	horse (*Equus*), borophagine canid (*Hyaenognathus pachyodon*), camel family (Camelidae); rabbit /pika order (Lagomorpha), fish (Teleostei, Osteichthyes); abundant freshwater invertebrates	Surface
LACM VP CIT117	Near intersection of Road 80 and Avenue 120, east of Angiola	Unknown formation (Pleistocene, blue shale)	horse (*Equus*)	425 feet bgs, in well boring
LACM VP 3505 – 3506	Little Panoche Valley	Tulare Formation	short-faced bear (Tremarctinae), horse (*Equus*), camel family (Camelidae)	Surface, as float
LACM VP 4087	3 miles east of Terra Bella	Unknown formation (Pleistocene)	mammoth (*Mammuthus*)	Unknown
LACM VP 6701	Flynn Ranch, 14 km southeast of Ducor	Unknown formation (Pleistocene; green sand)	mammoth (*Mammuthus*)	6 feet bgs

VP: Vertebrate Paleontology; IP: Invertebrate Paleontology; bgs: below ground surface

CULTURAL AND PALEONTOLOGICAL FIELD SURVEY RESULTS

MCC Archaeologists and Cross-trained Paleontologists Carmell Dennis and Scott De La Torre conducted the cultural and paleontological survey of the Project Area on December 20 and 21, 2021. During the field survey, conditions were good, with high ground visibility (excellent 90-100%). The Project Area currently exists as an open field, with high disturbance occurring from agricultural activities, including recent machinery plowing and mowing. Additional disturbances to the Project Area include modern agricultural activities, refuse, and bioturbation. Observed vegetation included dry grasses and shrubs. Soils observed included a dark brown silty loam, with poorly sorted pebble- to cobble-sized subangular inclusions. One previously recorded resource, P-16-000362, was relocated. The historic-age transmission line has not been altered and remains consistent with the previous record. No additional cultural resources were observed, and no paleontological resources were identified during the survey.



Figure 8. Overview of Project Area from southwest corner, view east



Figure 9. Overview of Project Area from southwest corner, view northeast



Figure 10. Overview of southwest area, view north



Figure 11. Overview of Project Area from center of site, view north



Figure 12. Overview of Project Area from center of site, view southwest



Figure 13. Overview from southern border, view north



Figure 14. Overview of northeast corner, view east



Figure 15. Representative photograph of soil, brown silty loam, plan view

CONCLUSIONS AND RECOMMENDATIONS

CULTURAL RESOURCES CONCLUSIONS

The Phase I cultural resource assessment of the Project Area included a CHRIS records search, background research, NAHC and Native American tribal group outreach, and a pedestrian survey. The records search identified one previously recorded resource within the Project Area. This resource, P-16-000362, consists of a historic-age transmission line and is not anticipated to be impacted by the Project. The resource was relocated during survey and remains consistent with the previous record. P-16-000362 line was previously evaluated for the listing on the NRHP and CRHR and was deemed not eligible, thus the line is not considered a historic resource for CEQA purposes. An additional five historic-era resources are located within a 0.5-mile of the Project Area. During the field survey, ground visibility excellent due to vegetation being recently mowed, allowing the ground surface to be observed. The Project Area is highly disturbed due to continued agricultural use. . . No additional cultural resources were observed during pedestrian survey. A search of the NAHC's SLF did identify sacred lands within the Project Area. During outreach to the Santa Rosa Rancheria Tachi-Yokut Tribe, the Tribe expressed concerns regarding this project and would like to have a Native American monitor on-site during all project-related ground disturbance.

CULTURAL RESOURCES RECOMMENDATIONS

The potential for encountering significant cultural resources within the Project Area is considered low due to lack of historic development in the vicinity of the Project Area, the agricultural disturbances, and previous studies concluding the Project Area is located in a moderately low sensitivity area for buried resources. However, the Santa Rose Rancheria Tachi-Yokut Tribe expressed concern regarding construction activities within the Project Area. Based on the above findings, MCC does not recommend archaeological monitoring. Nevertheless, if Native American monitoring is required as a project mitigation measure, we recommend retaining a qualified archaeologist to assist in the assessment of inadvertent discoveries. This work will occur in a collaborative manner with the Tribe. Prior to the start of construction, an inadvertent discovery plan should be implemented to expediently address discoveries should they be encountered during any phase of development associated with the Project.

It is recommended the inadvertent discovery plan implement the following procedures:

- Prior to the issuance of a grading permit, the Developer shall retain a professional archaeologist stating that the archaeologist has been retained to provide on-call services in the event archaeological resources are discovered.
- Development and implementation of an inadvertent discovery plan to expediently address archaeological and/or tribal cultural resource discoveries should they be encountered during any phase of development associated with the Project. In the event that resources are inadvertently discovered during ground-disturbing activities, work must be halted within 100 feet of the find until it can be evaluated by a qualified archaeologist. Construction activities could continue in other areas. If the discovery proves to be significant, additional work, such as data recovery excavation, may be warranted and would be discussed in consultation with the appropriate regulatory agency(ies).
- Procedures of conduct following the discovery of human remains on non-federal lands have been mandated by California Health and Safety Code §7050.5, PRC §5097.98 and the California Code of Regulations (CCR) §15064.5(e). According to the provisions in CEQA, should human remains be encountered, all work in the immediate vicinity of the burial must cease, and any necessary steps to ensure the integrity of the immediate area must be taken. The Kings County Coroner shall be immediately notified and must then determine whether the remains are Native American. If the Coroner determines the remains are Native American, the Coroner has 24 hours to notify the NAHC, who will in turn, notify the person they identify as the Most-Likely-Descendent (MLD) of any human remains. Further actions will

be determined, in part, by the desires of the MLD. The MLD has 48 hours to make recommendations regarding the disposition of the remains following notification from the NAHC of the discovery. If the MLD does not make recommendations within 48 hours, the owner shall, with appropriate dignity, reinter the remains in an area of the property secure from further disturbance. Alternatively, if the owner does not accept the MLD's recommendations, the owner or the descendent may request mediation by the NAHC.

PALEONTOLOGICAL RESOURCES CONCLUSIONS

The Phase I paleontological resource assessment of the Project Area included a locality records search, literature review, and a pedestrian survey. No paleontological resources were identified directly within the Project Area during the locality search or the field survey. However, multiple fossil localities have been identified near the Project Area from similar sedimentary deposits. The geological unit mapped within the Project Area is comprised of Quaternary alluvium dating from the Holocene to Pleistocene. These sediments are considered to have a low paleontological potential at the surface, however the potential increases with depth if older Pleistocene-aged sediments are encountered.

PALEONTOLOGICAL RESOURCES RECOMMENDATIONS

MCC recommends the Project Area be considered to have a low potential for impacts to paleontological resources at the surface in the Holocene-aged deposits and a moderate potential in Pleistocene-aged deposits in the subsurface. Based on the above findings, MCC recommends initial paleontological monitoring be conducted when excavation exceeds depths of 6 feet. The following mitigation measures or conditions of approval are recommended to avoid potential impacts to significant paleontological resources if they are encountered during the course of construction activities:

- A trained and qualified paleontological monitor should perform initial spot checking of any excavations on the Project that have the potential to impact paleontological resources in undisturbed native sediments below 6 feet in depth. The monitor will have the ability to redirect construction activities to ensure avoidance of potential paleontological resources unearthed during ground-disturbing activities.
- The Project Paleontologist may re-evaluate the necessity for paleontological monitoring after examination of the affected sediments during excavation, with approval from Lead Agency and Client representatives.
- Any potentially significant paleontological resources observed shall be collected and recorded in accordance with best management practices and SVP professional standards.
- Any fossils recovered during mitigation should be prepared, identified, and deposited in an accredited and permanent scientific institution for the benefit of current and future generations.
- A report documenting the results of the monitoring, including any salvage activities and the significance of any fossils, will be prepared, and submitted to the appropriate personnel.

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Appendix A:
Qualifications

Tria Belcourt, M.A., RPA
President and Principal Environmental Specialist

Tria Belcourt oversees and is responsible for the entire work process at Material Culture Consulting. She is responsible for planning, supervising, and overseeing field projects, including responsibility for the professional quality of evaluations and recommendations. Tria has primary accountability for the technical completeness and competence of work conducted by her staff. She is responsible for development of work plans and/or research designs, for performance of crew chiefs, for selection standards and limitations on work assignments of crew members, for analysis and interpretation of field data, for integration of fieldwork results into comparative regional perspectives, and for preparation of reports. Tria's advanced academic training and more than sixteen years of professional archaeological experience has included rigorous training and application of anthropological and archaeological theory and methods, and in recording, collecting, handling, analyzing, evaluating, and reporting cultural property data, relative to the type and scope of work proposed.

Tria has been an archaeological project manager and principal investigator for over nine years, leading and managing several complex compliance projects throughout the State of California and in Southern Nevada, which have involved each step of cultural resource compliance and management. Prior to this, she spent six years as a field technician and crew chief on projects throughout California and the Southeastern United States. Her experience includes conducting background research, field survey, resource testing and formal NRHP/CRHR evaluation, data recovery plan development and implementation. She has prepared hundreds of technical reports for all of the above to state and federal standards, including following BLM standards for GIS spatial data management and technical reporting – ranging from simple clearance forms, to letter reports, to extensive data recovery reports. She was the lead preparer of the Fort Irwin Integrated Cultural Resource Management Plan (2009-2013) and has also prepared several cultural resource management plans for state regulated projects. She has overseen and conducted archaeological monitoring and management of unanticipated discovery of resources, including Native American human remains on federal lands (and repatriation of the remains), and reported the results and outcomes of cultural resource monitoring efforts in lengthy technical reports. Finally, Tria regularly provides third party and QA/QC review of cultural resource technical documents, due to her keen understanding of state and federal regulations and laws governing the management of cultural resources throughout the state of California.

EDUCATION

2014 Graduate Certificate in Environmental Management of Military Lands, Colorado State University
2010 Professional Certification in CEQA/NEPA, ICF International Corporation
2009 M.A. in Anthropology, University of Florida Gainesville, Florida
Professional Certification in GIS
2006 B.A. in Anthropology, Magna Cum Laude, University of California, Los Angeles, California

AFFILIATIONS/CERTIFICATIONS/TRAINING

- Society for Historical Archaeology (SHA)
- Society for California Archaeology (SCA)

UTILITY SECTOR EXPERIENCE

SCE Transmission Line Rating and Remediation Project (TLRR) – Control Silver Peak 66kV Subtransmission, Kern and Los Angeles Counties, California. Cultural Resource Inventory Assessment (October 2016- present). Ms. Belcourt provides project management and leadership for this SCE project, as the Principal Investigator for Archaeology, under contract to Arcadis (2016-2018) and Environmental Intelligence (2018-present). MCC is tasked with all aspects of cultural resources assessments including records searches, surveys, maintaining and generating GIS data according to SCE Schema, obtaining federal and state permits for cultural resources studies, and technical reporting.

SCE Transmission Line Rating and Remediation Project (TLRR) - Kern River 66kV, Kern and Los Angeles Counties, California. Cultural Resource Inventory Assessment (October 2016- present). Ms. Belcourt provides project management and leadership for this SCE project, as the Principal Investigator for Archaeology, under contract to Arcadis (2016-present). MCC is tasked with all aspects of cultural resources assessments including records searches, surveys, maintaining and generating GIS data according to SCE Schema, obtaining federal and state permits for cultural resources studies, and technical reporting.

SCE Transmission Line Rating and Remediation Project (TLRR) – Eldorado Pisgah Lugo 220kV Subtransmission, Kern and Los Angeles Counties, California. Cultural Resource Inventory Assessment (October 2016- present). Ms. Belcourt provides project management and leadership for this SCE project, as the Principal Investigator for Archaeology, under contract to Arcadis (2016-present). MCC is tasked with all aspects of cultural resources assessments including records searches, surveys, maintaining and generating GIS data according to SCE Schema, obtaining federal and state permits for cultural resources studies, and technical reporting.

SCE Transmission Line Rating and Remediation Project (TLRR) – Control Haiwee 115kV Subtransmission, Kern and Los Angeles Counties, California. Cultural Resource Inventory Assessment (April 2017- present). Ms. Belcourt provides project management and leadership for this SCE project, as the Principal Investigator for Archaeology, under contract to Arcadis (2016-2018) and to SWCA (2018-present). MCC is tasked with all aspects of cultural resources assessments including records searches, surveys, maintaining and generating GIS data according to SCE Schema, obtaining federal and state permits for cultural resources studies, and technical reporting.

SCE Transmission Line Rating and Remediation Project (TLRR) – Ivanpah Coolwater Kramer Inyokern 115kV Subtransmission, Kern and Los Angeles Counties, California. Cultural Resource Inventory Assessment (April 2017- present). Ms. Belcourt provides project management and leadership for this SCE project, as the Principal Investigator for Archaeology, under contract to Arcadis (2016-2018) and to SWCA (2018-present). MCC is tasked with all aspects of cultural resources assessments including records searches, surveys, maintaining and generating GIS data according to SCE Schema, obtaining federal and state permits for cultural resources studies, and technical reporting.

Pacific Gas and Electric Company (PG&E), NERC Alert Program – Archaeological Principal Investigator; throughout California; 2015 – Present. Belcourt provides oversight of all task orders and project management of on-call task orders involving cultural resource desktop reviews, records searches and field reviews for the PG&E NERC Alert program: tracking and reporting efforts, maintaining project schedule, and timely submittal of data to prime contractor (Arcadis).

Southern California Edison (SCE), On-Call and Emergency Projects – Archaeological Principal Investigator and Project Manager; throughout California, 2013 – Present. Belcourt has provided oversight of over 200 task orders for on-call and emergency projects to date, involving cultural resource desktop reviews, records searches and field reviews for deteriorated poles, system upgrades, initial studies to support capital projects, and monitoring support to replace facilities due to natural disasters. This high-volume program includes preparing and submitting budgets, managing support staff and overseeing work, tracking and reporting efforts, maintaining project schedules, and preparing technical reports and GIS datasets for submittal to prime contractor (SWCA).

Southern California Edison (SCE), Large Capital Projects – Archaeological Principal Investigator and Project Manager; throughout California, 2014 – Present. Belcourt has provided oversight of over 20 task orders for major projects to date, involving cultural resources for this contract with SWCA, Environmental Intelligence and ICF. This includes preparing and submitting budgets, managing support staff and overseeing work, tracking and reporting efforts, maintaining project schedule, and preparing technical reports and GIS datasets for submittal to prime contractors.

Southern California Edison (SCE), Small Capital Projects – Archaeological Principal Investigator and Project Manager; throughout California, 2014 – Present. Belcourt provides oversight of all task orders and project management of task orders involving cultural resources for this contract with Environmental Intelligence and ICF. This includes preparing and submitting budgets, managing support staff and overseeing work, tracking and reporting efforts, maintaining project schedule, and preparing technical reports and GIS datasets for submittal to prime contractors.

Southern California Edison (SCE), Coolwater Lugo Transmission Project —- Environmental Project Manager; San Bernardino County, California; 2014 – 2015. Belcourt provided oversight of all project management on CWLTP: tracking and reporting efforts of subconsultants (Pacific Legacy, Paleo Solutions and Urbana Preservation and Planning), maintaining project schedule and timely submittal of project deliverables to agency reviewers. Served as communication facilitator between SCE and BLM/CPUC agency reviewers. Provided final review of the Cultural Resources Technical Report (which included over 1,000 cultural resources) and the Historic Built Environment Report - prior to draft submittal to BLM.

SCE, Eldorado Ivanpah Transmission Project – In-house Consultant for Archaeology; San Bernardino County, California and Clark County, Nevada; 2010-2012. Belcourt provided complex regulatory oversight and project management regarding cultural and paleontological resource management. She developed compliance training to inform and guide construction activities and major capital project teams. She also developed and implemented internal cultural resource management programs based on project migitation measures. Tria coordinated with BLM archaeologists on discovery and management of previously unknown cultural resources identified during construction. She provided environmental analyses, technical reports, and clearance documentation for over 20 project modifications during construction without delay to project. Developed the cultural resources geodatabase for EITP and coordinated regularly with the project GIS team.

Silver State South Substation, In-house Consultant for Archaeology; Southern California Edison, Clark County, NV; 2010-2012. Provided regulatory oversight and project management regarding cultural and paleontological resource management during project licensing and scoping. Identified potential impacts to cultural and paleontological resources, developing appropriate mitigation measures in preparation for and projecting alternative conclusions.

Tehachapi Renewable Transmission Project, Multiple Roles; Southern California Edison, Segments 1-3 and Segments 6-11, Kern, Los Angeles and Orange County, CA; 2009 - Present. Tria provided service to this project over seven years in multiple roles – archaeological field monitor, project coordinator, in-house consultant at SCE, and principal investigator. She provided regulatory oversight and project management regarding cultural and paleontological resource management for all segments of TRTP. Developed and implemented internal cultural resource management programs based on the mitigation measures in the Final Environmental Impact Report/Environmental Impact Statement (FEIR/EIS) for TRTP, and for the existing Special Use Permits and Record of Decision for TRTP, issued by the Angeles National Forest (ANF). Oversaw preparation of the Historic Properties Treatment Plans, fieldwork and technical report preparation for two large-scale Phase III Data Recovery excavations on Angeles National Forest. Coordinated with ANF archaeologists on discovery and management of previously unknown cultural resources identified during construction. Provided cultural resources analyses and clearance documentation, including technical reports, for over 100 project modifications during construction without delay to project. Finally, Tria was responsible for maintaining the geospatial data for the project within the SCE cultural resources geodatabase TRTP and coordinated with the project GIS team.

Desert Tortoise Habitat Conservation Plan Area, Principal Investigator; Cadiz Inc., San Bernardino County, CA; 2013. Oversaw records search to identify the extent of previous cultural resources surveys and all previously recorded prehistoric and historic resources within the 7,500-acre Desert Tortoise Habitat Conservation Plan (HCP) area (Project Area) located on lands administered by the BLM Needles Field Office in unincorporated San Bernardino County, California.

SOLAR SECTOR EXPERIENCE

Ecoplexus California Correctional Institution Solar Project, Tehachapi, Kern County, California. Cultural and Paleontological Assessments (April 2018 – present). Belcourt provided oversight and project management for this project, involving cultural and paleontological resource desktop reviews, Native American outreach, coordinated AB52 consultation between the State of California and local tribes, arranged for the records searches and coordinated field surveys. She also oversaw production of the final technical report, project schedule, and timely submittal of data to prime contractor.

Ecoplexus Ironwood State Prison and Chuckawalla Valley State Prison Solar Project, City of Blythe, Riverside County. Cultural and Paleontological Assessments (June 2018 – present). Belcourt provided oversight and project management for this project, involving cultural and paleontological resource desktop reviews, Native American outreach, coordinated AB52 consultation between the State of California and local tribes, arranged for the records searches and coordinated field surveys. She also oversaw production of the final technical report, project schedule, and timely submittal of data to prime contractor.

Ecoplexus California State Prison Centinela Solar Project, City of Imperial, Imperial County, California. Cultural and Paleontological Assessments (August 2017 – April 2018). Belcourt provided oversight and project management for this project, involving cultural and paleontological resource desktop reviews, Native American outreach, coordinated AB52 consultation between the State of California and local tribes, arranged for the records searches and coordinated field surveys. She also oversaw production of the final technical report, project schedule, and timely submittal of data to prime contractor.

Ecoplexus Calipatiria State Prison Solar Project, City of Calipatria, Imperial County, California. Cultural and Paleontological Assessments (August 2017 – April 2018). Belcourt provided oversight and project management for this project, involving cultural and paleontological resource desktop reviews, Native American outreach, coordinated AB52 consultation between the State of California and local tribes, arranged for the records searches and coordinated field surveys. She also oversaw production of the final technical report, project schedule, and timely submittal of data to prime contractor.

Ecoplexus RJ Donovan State Prison Solar Project, San Diego, San Diego County, California. Cultural and Paleontological Assessments (March 2018 – April 2018). Belcourt provided oversight and project management for this project, involving cultural and paleontological resource desktop reviews, Native American outreach, arranged for the records searches and coordinated field surveys. She also oversaw production of the final technical report, project schedule, and timely submittal of data to prime contractor.

Ecoplexus Salinas Valley State Prison Solar Project, City of Soledad, Monterey County, California. Cultural and Paleontological Assessments (March 2018 – April 2018). Belcourt provided oversight and project management for this project, involving cultural and paleontological resource desktop reviews, Native American outreach, arranged for the records searches and coordinated field surveys. She also oversaw production of the final technical report, project schedule, and timely submittal of data to prime contractor.

Ecoplexus Correctional Training Facility Soledad Project, City of Soledad, Monterey County, California. Cultural and Paleontological Assessments (March 2018 – April 2018). Belcourt provided oversight and project management for this project, involving cultural and paleontological resource desktop reviews, Native American outreach, arranged for the records searches and coordinated field surveys. She also oversaw production of the final technical report, project schedule, and timely submittal of data to prime contractor.

SDG&E Cameron Substation Photovoltaic Project, San Diego, San Diego County, California. Cultural and Paleontological Assessments (September 2017 – present). Belcourt provided oversight and project management for this project, involving cultural and paleontological resource desktop reviews, Native American outreach, facilitated Native American consultation between County of San Diego and local tribes, arranged for the records searches and coordinated field surveys. She also oversaw production of the final technical report, project schedule, and timely submittal of data to prime contractor.

Forefront Power Beard Solar Project, Dustin Acres, Kern County, California. Cultural and Paleontological Assessments (March 2018- April 2018). Belcourt provided oversight and project management for this project, involving cultural and paleontological resource desktop reviews, Native American outreach, arranged for the records searches and coordinated field surveys. She also oversaw production of the final technical report, project schedule, and timely submittal of data to prime contractor.

Forefront Power Broadman Solar Project, Livermore, Alameda County, California. Cultural and Paleontological Assessments (February 2018- March 2018). Belcourt provided oversight and project management for this project, involving cultural and paleontological resource desktop reviews, Native American outreach, arranged for the records searches and coordinated field surveys. She also oversaw production of the final technical report, project schedule, and timely submittal of data to prime contractor.

Forefront Power Nachtigall Solar Project, Wasco, Kern County, California. Cultural and Paleontological Assessments (March 2018-April 2018). Belcourt provided oversight and project management for this project, involving cultural and paleontological resource desktop reviews, Native American outreach, arranged for the records searches and coordinated field surveys. She also oversaw production of the final technical report, project schedule, and timely submittal of data to prime contractor.

Forefront Power Rocha Solar Project, Fuller Acres, Kern County, California. Cultural and Paleontological Assessments (March 2018-April 2018). Belcourt provided oversight and project management for this project, involving cultural and paleontological resource desktop reviews, Native American outreach, arranged for the records searches and coordinated field surveys. She also oversaw production of the final technical report, project schedule, and timely submittal of data to prime contractor.

Forefront Power Shafter Solar Project, City of Shafter, Kern County, California. Cultural and Paleontological Assessments (March 2018-present). Belcourt provided oversight and project management for this project, involving cultural and paleontological resource desktop reviews, Native American outreach, arranged for the records searches and coordinated field surveys. She also oversaw production of the final technical report, project schedule, and timely submittal of data to prime contractor.

Forefront Power Anderson Twisselman Solar Project, Lost Hills, Kern County, California. California. Cultural and Paleontological Assessments (March 2018-April 2018). Belcourt provided oversight and project management for this project, involving cultural and paleontological resource desktop reviews, Native American outreach, arranged for the records searches and coordinated field surveys. She also oversaw production of the final technical report, project schedule, and timely submittal of data to prime contractor.

Forefront Power Weedpatch Solar Project, Kern County, California. Cultural and Paleontological Assessments (March 2018-present). Belcourt provided oversight and project management for this project, involving cultural and paleontological resource desktop reviews, Native American outreach, arranged for the records searches and coordinated field surveys. She also oversaw production of the final technical report, project schedule, and timely submittal of data to prime contractor.

Courtney Richards, M.S.
Paleontological Principal Investigator and
Paleontological Program Manager

Courtney Richards has over 16 years of professional experience in all aspects of paleontology throughout California and across the western United States. She has extensive experience with monitoring, salvage recover, project management, research, laboratory and report writing. Courtney maintains a comprehensive understanding of CEQA and NEPA regulations as they relate to paleontology, including Caltrans Standard Environmental Reference – Chapter 8, Federal Highway Administration (FHWA), Federal Transit Administration (FTA), Bureau of Land Management (BLM), Society of Vertebrate Paleontology, Riverside County, San Diego County, Los Angeles County, California High Speed Rail Authority (CHSRA), and other various laws (federal, state, and local) and regulations governing paleontological resources.

Courtney has conducted paleontological fieldwork in Mesozoic, Eocene, and Oligocene rock units in Montana, Utah, and Wyoming; and Pliocene, Miocene, and Pleistocene surficial deposits throughout California; and Paleocene and Eocene Coalmont Formation, the Eocene and Oligocene White River Formation, and the Miocene North Park Formation in Colorado. She is an expert at Caltrans and local project sponsors reporting, including Paleontological Identification Reports, Paleontological Evaluation Reports, Paleontological Mitigation Plans, and Paleontological Mitigation Reports. Her previous professional experiences include appointments as the vertebrate paleontology collection assistant at the Burke Museum of Natural History and Culture and Paleontology Field Director at a cultural resources firm in southern California.

EDUCATION

2011 M.S. in Biological Sciences, Marshall University, Huntington, West Virginia
2006 B.S., Earth and Space Science, University of Washington, Seattle, Washington

CERTIFICATIONS AND TRAINING

- Mine Safety & Health Administration: 24-hr New/Inexperienced Metal/Non-Metal Surface Miners Certification
- Riverside County Certified Paleontologist
- The Principal Academy 2.0, Zweigwhite, 2015
- First Aid/CPR Certified
- Advanced CEQA Workshop, Association of Environmental Professionals, Los Angeles, 2018
- Defensive Driver Training, California Department of General Services, 2017
- Society of Vertebrate Paleontology Affiliation

SELECTED PROFESSIONAL EXPERIENCE

FEDERAL SECTOR EXPERIENCE

Paleontologist, Paleontological Resource Overview of the Royal Gorge Field Office Planning Area, Bureau of Land Management, Central and Eastern Colorado. Ms. Richards conducted research and assisted in the preparation of a paleontological resources overview report and compiled an

accompanying fossil locality geodatabase in support of the Eastern Colorado Resource Management Plan for the BLM's Royal Gorge Field Office, which encompasses more than 35 million acres of central and eastern Colorado. The information about the areas paleontological resources will aide the agency in its consideration in resource management planning and decision making associated with revision of the Eastern Colorado Management Plan. More than 94 named and unnamed geologic units within the RGFO Planning Area, and then re-arranged, combined, and/or further subdivided them according to the USGS stratigraphic lexicon into 16 igneous and metamorphic rock units, 72 bedrock sedimentary rock units, and 14 surficial sedimentary deposits for more through paleontological analysis and PFYC assignment evaluation.

Paleontologist, Crooked Canyon Basin Heritage Values Protection and Hill Climb Area Recreation Project, Bureau of Land Management, Uinta County, Wyoming. Ms. Richards participated in a paleontological inventory, evaluation, and collection of scientifically significant paleontological resources from the 1,230-acre inventory area located in the middle Eocene Blacks Fork Member of the Bridger Formation in southwestern Wyoming. The paleontological resource inventory and evaluation was completed in order to formulate resource management decisions and analysis under requirements of the National Environmental Policy Act and the National Historic Preservation Act.

***Paleontological Principal Investigator, Desert Sunlight Solar Farm,* First Solar, Bureau of Land Management, Riverside County, California.** Ms. Richards assisted with overseeing paleontological monitoring and co-authored the Final Paleontological Monitoring Report for this 550 MW photovoltaic power station in the Mojave Desert spanning over 6-square miles of creosote bush-dominated desert habitat next to Joshua Tree National Park.

Paleontological Principal Investigator, Stateline Solar Farm Project, First Solar, Bureau of Land Management, San Bernardino County, California and Primm, Nevada. Ms. Richards is overseeing paleontological monitoring, conducts site visits, and drafts paleontological discovery letters for a 300 MW solar photovoltaic energy generation project and its ancillary facilities on 1,999 acres of public land.

UTILITY SECTOR EXPERIENCE

Paleontologist, Basin to Lovell 115kV Transmission Line Rebuild Project, Western Area Power Administration, Bureau of Land Management, Big Horn County, Wyoming. Ms. Richards performed portions of the paleontological field survey and construction monitoring in the Eocene Willwood Formation for WAPA's project to update the existing Lovell to Yellowtail phase I and II and the Basin to Lovell 115 kV transmission lines within WAPA's existing Right-of-Way (ROW). The paleontological work was a Bureau of Land Management requirement and took place entirely on BLM managed lands.

Principal Paleontologist, Grid Communication System-Basilone, Las Pulgas, and Stuart Substations, Camp Pendleton, San Diego Gas & Electric (SDG&E), Unincorporated San Diego County, California. Ms. Richards oversaw paleontological monitoring and co-authored the final monitoring compliance report for this project that consisted of the installation of new structures, foundations, microwave electronics equipment, and under cable and conduit routes to support substation communications. The paleontological mitigation program was completed in compliance with NEPA, CEQA, and County of San Diego guidelines.

Principal Paleontologist, SDG&E Salt Creek Substation, San Diego Gas & Electric, San Diego County, California. Ms. Richards performed preconstruction coordination prior to the start of monitoring for SDG&E's construction of the Salt Creek Substation on an approximately 12- acre sites within the community of Otay Ranch in the City of Chula Vista. During monitoring, Ms. Richards will assist with oversight of approved CPUC paleontological monitors while in highly paleontological resource sensitive formations such as the Mission Valley and Otay Formations.

Principal Paleontologist, San Luis Rey Substation Modification Synchronous Condenser Project, San Diego Gas & Electric, Oceanside, San Diego County, California. Ms. Richards attended the pre-construction meeting and is overseeing paleontological monitoring during grading activity for construction of a new wall that will support the weight of a synchronous condenser for SDG&E's construction of a new synchronous condenser facility along with 230 kV Gas Insulated Switchgear that will be used to connect the condensers to SDG&E's 230 kV transmission system.

Principal Paleontologist, San Mateo Substation Landslide Evaluation Project, San Diego Gas & Electric, San Clemente, San Diego County, California. Ms. Richards provided quality control for paleontological monitoring and performed a technical review of the final paleontological monitoring report for SDG&E's geotechnical study of past landslide debris and slope stability of soils at the San Mateo Substation, Calle Bahia, San Clemente, CA. Paleontological monitoring was performed during drilling at three bore holes, which an initial geological review indicated that boring would impact paleontologically sensitive sediments of the Pliocene to Miocene aged San Mateo Formation. This project extended onto the Marine Corps Camp Pendleton Base and required Department of Defense security badges, in addition to California State Park permits.

Paleontologist, Aliso Canyon Turbine Replacement, Southern California Gas (SCG), California Public Utilities Commission, Los Angeles County, California. Ms. Richards assists with oversight of paleontological monitoring, authors fossil discovery letters, and revised the Paleontological Monitoring and Treatment Plan for SoCalGas's project to construct and operate major project components at the Aliso Canyon Storage Field, including a central compression station, a 12 kV plant power line, new access roads, rough grading of SCE's Natural Substation, a new main office and crew-shift buildings, and a new guardhouse.

Paleontologist, Alpine Interconnection, Southern California Edison (SCE), California Public Utilities Commission, Los Angeles County, California. Ms. Richards prepared the Workers' Environmental Awareness Program (WEAP) for paleontological resources to present to construction crew for earth-moving activities associated with the replacement of power poles.

Paleontological Principal Investigator and Project Manager, Contra Costa-Moraga 230 kV Reconductoring Project, Pacific Gas & Electric (PG&E), Contra Costa County, California. Ms. Richards authored a Paleontological Reconnaissance Survey Report for Crossing Structure 81F, Pull Site 57, Work Area 81, and Pull Site 96 for PG&E's Contra Costa-Moraga 230 kV Reconductoring Project in Contra Costa County. A pedestrian examination of newly added work areas was conducted in order to locate any fossil localities within the work areas and to search for paleontological resources and determine the paleontological sensitivity of the geological deposits underlying the new sites.

Paleontologist, Eldorado-Ivanpah Transmission Line, SCE, California Public Utilities Commission, Eldorado, Nevada to Ivanpah, California. Ms. Richards Attended the Workers' Environmental Awareness Program and Safety Training In preparation to respond in the event of a fossil find during monitoring of a 71-mile transmission line and telecommunication installation project.

Paleontologist, Fogarty Substation, SCE, Riverside County, California. Ms. Richards prepared representative invertebrate fossils that were collected during monitoring and sent them to experts for identification.

Paleontological Principal Investigator, Humboldt #1 60* kV *Reconductoring Project*, *PG&E, Humboldt County, California. Ms. Richards will assisted with a paleontological resource study in support of the Proponent's Environmental Assessment (PEA) for PG&E's Humboldt #1 60 kv Reconducting Project located in the Eureka area of Humboldt County. The previous PEA did not include a paleontological resource study. Ms. Richards will conduct a paleontological background research, including mapping the project area onto the highest resolution geologic maps available, conducting a paleontological record search to determine if previous fossil localities are known within or near the proposed project area, and a review of available online databases, literature, and geologic maps to determine the paleontological and geological context of the project area.

Paleontological Principal Investigator, Mesa 500 kV Substation Project, SCE, California Public Utilities Commission, Los Angeles County, California. Ms. Richards co-authored the Final Paleontological Resource Survey Report that addressed the results of the paleontological investigation to evaluate the expansion, upgrade, and loop-in of existing substation and associated facilities with respect to the paleontological resource potential of the project.

Paleontological Principal Investigator and Project Manager, Natural Substation*, *SCE, California Public Utilities Commission, Los Angeles County, California. Ms. Richards is responsible for identifying fossils, managing field crews, and composing monthly letters that address archaeological and paleontological activities occurring on-site for this project that includes construction of a new 56-megavolt-ampere, 66/12kV, Natural Substation at the Aliso Canyon Gas Storage Facility, modification of the existing 66kV electrical line, and the installation of new equipment and replacement of three existing towers with three new tubular steel poles within SCE's existing San Fernando Substation.

***Paleontologist, North Sky Wind River, SCE, California Public Utilities Commission, Kern County, California*.** Ms. Richards prepared key project information, including project background, for monitors to utilize during paleontological monitoring for the construction of transmission tower foundations, road construction and augering for the placement of transmission towers located on a 35-acre parcel.

Paleontological Principal Investigator, Parkway and Commerce Center Drive & Saugus-Elizabeth Lake Fillmore 66 kV*, *SCE, California Public Utilities Commission, Los Angeles County, California. Ms. Richards co-authored the Paleontological Survey Report that addressed the results of the paleontological inventory for the planned relocation of a section of the Saugus-Elizabeth Lake-Fillmore 66 kV, which present traverses private property within the town of Castaic. A paleontological assessment was required to support the G0131D assessment.

Paleontologist, Programmatic Spans, PG&E, Tulare County, California. Ms. Richards oversaw and took part in a pedestrian survey to check for the presence of significant paleontological resources and to confirm the project geology as mapped on Bureau of Land Management land. She was the co-author of the Final Paleontological Resources Report.

Paleontologist, Rio Hondo-Saugus 220 kV Idle Line Removal*, *SCE, Los Angeles County, California. Ms. Richards conducted a paleontological assessment that included a records search and recommendation for mitigation monitoring during removal of ~2.5-miles of idle transmission line and 13 towers alone with associated foundations and hardware.

***Paleontological Principal Investigator, San Joaquin Cross Valley Loop Project, SCE, California Public Utilities Commission, Tulare County, California*.** Ms. Richards co-authored the final Paleontological Monitoring Report for this 23-mile double-circuit 220 kV transmission line in Tulare County. The project included the drilling of 37 construction tower locations as part of the east-west trending portion of the Project. The route included excavations within orange and almond groves, and cattle grazing fields adjacent to the foothills of the Sierra Nevada Mountains.

Paleontologist, Sentinel Power Plant, SCE, Palm Springs, California. Ms. Richards oversaw paleontological and archaeological monitoring during construction of a 37-acre power plant site, 14-acre construction laydown area, 3,250 feet of transmission lines, and 2.5 miles of natural gas pipeline located north of Palm Springs.

Paleontological Principal Investigator, South of Palermo 115 kV Reinforcement Project, PG&E, Butte, Yuba, and Sutter Counties, California. Ms. Richards authored a stand-alone Proponent's Environmental Assessment (PEA) for Paleontological Resources for this proposed project by PG&E consisting of upgrading approximately 60-miles of existing 115 kV double-circuit (21 miles) and single-circuit (39 miles) power lines.

***Paleontological Principal Investigator, Stockton-Weber 60 kV Project, PG&E, San Joaquin County, California*.** Ms. Richards co-authored the Paleontological Resource Inventory Letter Report for PG&E's proposed project to reconductor approximately 4.5 miles of the existing Santa Fe Junction to Weber and the Santa Fe Junction to Stockton "A" sections of the Weber 60 kV Line 1, and sections of the Santa Fe Junction to Weber section of the Weber 60 kV Line 2 in order to provide additional electric capacity and improve service reliability in the project area. Up to 150 existing wood poles will be replaced as part of the project.

Assistant Project Manager, Tehachapi Renewable Transmission Project, SCE, California Public Utilities Commission, Kern, San Bernardino, Los Angeles Counties, California. Ms. Richards has conducted paleontological monitoring, field supervision, and is the co-author for the Final Paleontological Monitoring Compliance Report for one of the largest green-energy projects in North America, involving the reconstruction of existing transmission facilities and new construction of 500 kV transmission lines to carry electricity from wind generation sites in the Tehachapi Mountains to the greater Los Angeles area, Kern County, and San Bernardino County covering more than 250 miles.

Paleontological Principal Investigator, Tehachapi Renewable Transmission Project – Antelope Transmission Project Segment 3B, SCE, California Public Utilities Commission, Kern and Los Angeles Counties, California. Ms. Richards co-authored the Paleontological Compliance Report for this project that involved construction of a new 9.6-mile 220 kV transmission line (Segment 3B) and construction of a new substation (Highwind Substation).

Principal Paleontologist, Transmission Line 13831 Pole Replacement, SDG&E, San Clemente, San Diego County, California. Ms. Richards oversaw a paleontological records search, paleontological monitoring, and co-authored the final memo report for SDG&E's improvement project to replace pole Z101553 with a steel weatherized pole and install new distribution pole P23423.

***Paleontologist, Valley South 115 kV Subtransmission Project, SCE, Riverside County, California*.** Ms. Richards assisted with a supplemental paleontological resources survey report for the proposed project to construction the Valley South 115 kV Subtransmission in portions of the cities of Murrieta, Menifee, Temecula, and the unincorporated communities of Winchester and Romoland.

Paleontological Principal Investigator, Westside Power Connect Project, PG&E, Merced County, California. Ms. Richards conducted paleontological background research as part of a paleontology study required to support the Routing and Constraints Analysis and the Proponent's Environmental Assessment (PEA) for PG&E's proposed project located in Merced County, CA. The project will involve the construction of a new 230/70 kV substation and interconnections to PG&E's existing 230 and 70 kV transmission system.

TRANSPORTATION SECTOR EXPERIENCE

Paleontologist, Elvira to Morena Double Track, San Diego Association of Governments SANDAG, San Diego, San Diego County, California. Ms. Richards was crucial in completing a paleontological resources sensitivity assessment and completed chapters of the final Paleontological Resources Report addressing potential impacts and mitigation measures as required by SANDAG and North County Transit District to meet their responsibilities as lead agencies under CEQA and NEPA. The project study areas covers 3.1 linear miles along the LOSSAN corridor adjacent to Interstate 5 and an additional 0.3-miles along the LOSSAN corridor to Rose Creek near Universal City.

Paleontologist, San Diego River Bridge Double Track, San Diego Association of Governments SANDAG, San Diego, San Diego County, California. Ms. Richards conducted a pedestrian survey of project alignment along a 1.1-mile-long segment of the LOSSAN corridor and authored sections of the subsequent Paleontological Identification Report in accordance with CEQA and NEPA.

Paleontologist, California High Speed Rail Project: Bakersfield to Palmdale Segment EIR/EIS, California High-Speed Rail Authority, Los Angeles County and Kern County, California. Ms. Richards conducted a five-day paleontological survey of the project study area that was determined to be sensitive for fossils. The survey aided the preparation of the paleontology section of the Bakersfield to Palmdale Segment EIR/EIS. This assessed the potential environmental effects associated with the construction, operation, and maintenance of the High-Speed Track system, including track and ancillary facilities along the State Route 58/14 corridor from Bakersfield to Palmdale.

Paleontological Principal Investigator, California High Speed Rail Project: Palmdale to Burbank Segment EIR/EIS, California High-Speed Rail Authority, Los Angeles County, California. Ms. Richards is overseeing all paleontological resources related services in conjunction with the Palmdale to Burbank Section. As the Paleontology Lead, she is managing the completion of a CEQA/NEPA level paleontology study to support development of the EIR/EIS. To date, she has co-authored a Paleontological Memo Report, which assessed the current work and recommendations for additional paleontological tasks.

Paleontologist, Caltrans Fossil Sensitivity Mapping for Central California, Caltrans Districts 6, 9, & 10, Central California, California. Ms. Richards evaluated geological rock units for paleontological resources with a 0.5-mile buffer on either side of the major highways and conducted comprehensive research on geological maps available, fossil localities and types of fossils known for over 3,000 miles of proposed construction activities. A comprehensive GIS based paleontology database application using ESRI's ArcGIS software was created. A sensitivity ranking, using a federally defined system, for each rock unit was then linked to the GIS map layer for the buffer.

Paleontological Principal Investigator, Crenshaw/LAX Mass-Transit Light Rail Line, Los Angeles County Metropolitan Transportation Authority, Los Angeles, California. Ms. Richards coordinates with field technicians while overseeing paleontological monitoring and laboratory preparation, completing weekly and monthly reports, and corresponds with agencies regarding fossil discoveries for Metro's 8.5-mile light rail line through southwest Los Angeles. The line will run generally north-south and will connect the

Crenshaw District and Leimert Park to Inglewood and Los Angeles International Airport (LAX). The line will be a part of the Los Angeles County Metro Rail System. She is also overseeing laboratory preparation of matrix samples for collection and screening to test for the presence of microvertebrate fossils.

Paleontologist, East San Fernando Valley Transit Corridor, Los Angeles County Metropolitan Transportation Authority, Los Angeles, California. Ms. Richards conducted a paleontological survey and co-authored the paleontological assessment and existing conditions reports for this Metro and the Federal Transit Administration project, in coordination with the Cities of Los Angeles and San Fernando, for improving north-south transit service in the East San Fernando Valley along Van Nuys Blvd. and San Fernando Rd.

Paleontologist, Exposition Light Rail Transit Phase II, Exposition Rail Construction Authority, Los Angeles County, California. Ms. Richards prepared fossil shell material that was collected during paleontological and archaeological monitoring during construction for an 8-mile extension of the Expo Light Rail System from Culver City to Santa Monica.

Paleontologist, Gene Autry Way/Interstate 5 Interchange Improvement, City of Anaheim, Orange County, California. Ms. Richards monitored excavations at depths exceeding 8 feet and processed soil samples recovered during monitoring for this improvement project to create an important east-west link within the City of Anaheim's Resort Area and provided direct access to the I-5 freeway for motorists entering and leaving the area during special events.

Paleontologist, Gilman Road Curve Realignment, Riverside County Transportation Commission, Riverside County, California. Ms. Richards contributed to a combined Paleontological Identification Report (PIR) and Paleontological Evaluation Report (PER) to assess the potential for impacting significant paleontological resources within the proposed alignment that included flattening the curvature and relocating utilities on Gilman Springs Road in the Moreno Valley.

Paleontologist, Interstate 205 & Chrisman New Interchange, City of Tracy, San Joaquin County, California. Ms. Richards conducted a record search, background search, and prepared a Paleontological Identification Report (PIR) to identify any sensitive resources that may be impacted by construction activities in support of the project-related Project Approval-Environmental Document (PA-ED) for the I-205/Chrisman Road New Interchange Project between MacArthur Drive and I-5 based on the direction of an approved Project Study Report/Project Development Support document. The PA&ED required close consultation with the City, as well as the City's engineering department, Caltrans District 10, FHWA, City of Lathrop, and the San Joaquin Council of Governments.

Paleontologist, Interstate 605 & Katella Avenue Interchange Constraints Analysis, Orange County Transportation Authority/Caltrans D12, Los Angeles County, California. Ms. Richards conducted an initial assessment of paleontological resources constraints for the proposed project in support of the Preliminary Environmental Analysis Report (PEAR) that included recommendations for the Standard Environmental Reference-compliant document. The project area consists of the PEAR project area and the Future City project area.

Paleontologist, Kettleman City Rehabilitation Improvement Project, Caltrans District 6, Kings County, California. Ms. Richards prepared and identified fossils recovered from construction monitoring of this project funded by the State Highway Operation and Protection Program, including grinding, cold planning, and shoulder widening of the existing asphalt concrete of approximately nine miles of existing roadway from Kettleman City at Quail Avenue to south of Interstate 5 at Utica Avenue.

***Paleontologist, Kings River Overflow Bridge Replacement*, *Caltrans District 6, Kings County, California*.** Ms. Richards prepared sections of the Paleontological Mitigation Plan to Caltrans District 6 requirements and conducted paleontological resources sensitivity training for construction personnel.

RENEWABLE ENERGY SECTOR EXPERIENCE

***Paleontologist, Longboat Solar Photovoltaic Project*, *EDF Renewable Energy, San Bernardino County, California*.** Ms. Richards wrote the paleontology sections of the Phase I and Extended Phase I cultural resources report to support the Mitigated Negative Declaration (MND) for this 235-acre site.

Paleontological Principal Investigator, Springbok 1 Solar Farm Project, 8minutenergy Renewables, LLC, Kern County, California. Ms. Richards is overseeing paleontological monitoring and co-author the final Paleontological Technical Report for this 951-acre solar farm facility in the western Mojave Desert in the vicinity of California City. She completed a paleontological Workers' Environmental Awareness Training that was presented to construction workers prior to breaking ground on construction.

Paleontological Principal Investigator, Springbok 2 Solar Farm Project, 8minutenergy Renewables, LLC, Kern County, California. Ms. Richards is overseeing paleontological monitoring and co-author the final Paleontological Technical Report for this 1,350-acre 350 MW solar photovoltaic electrical generating facility in Kern County.

PRIVATE DEVELOPMENT SECTOR EXPERIENCE

Paleontological Principal Investigator, Vue on 5th: Banker's Hill Residential Development, ColRich Communities, San Diego, San Diego County, California. Ms. Richards co-authored the Final Paleontological Monitoring Compliance Report in accordance with the City of San Diego regulations for ColRich Communities seven-story, luxury residence building on .46-acres one block from Balboa Park.

PUBLICATIONS

Murphey, P.C., Zubin-Stathopoulos, K.D., Richards, C.D., and Fontana, M.A., 2015, *Paleontological resource overview of the Royal Gorge Field Office Planning Area*, Colorado: U.S. Department of Interior Bureau of Land Management Report, 178 p., and standalone confidential fossil locality geodatabase.

Richards, C. D., 2011. *Plesiosaur Body Shape and its Impact on Hydrodynamic Properties*: Master's thesis, Marshall University, 68 pp.

O'Keefe, F. R., H. Street, B. Wilhelm, C. Richards, and H. Zhu, 2011. *A new skeleton of the cryptoclidid plesiosaur Tatenectes laramiensis reveals a novel body shape among plesiosaurs*. Journal of Vertebrate Paleontology 31(2):330-339.

Environment | Planning | Development Solutions, Inc.

To:	Rafik Albert
From:	Alex J. Garber
CC:	
Date:	3/18/2022
Re:	Kings CSG LLC 3 Solar Project Construction Trip Generation and VMT analysis

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The purpose of this memo is to quantify the vehicle trips that would be generated during the construction of the proposed Kings CSG LLC 3 Solar Project. The project is located approximately 5 miles southwest of the city of Lemoore, south of State Route 198 and Naval Air Station Lemoore in unincorporated Kings County. The project proposes to construct a 3,000 kW (AC) solar photovoltaic power generating facility. The project site plan is shown in Figure 1.

Construction Trip Generation

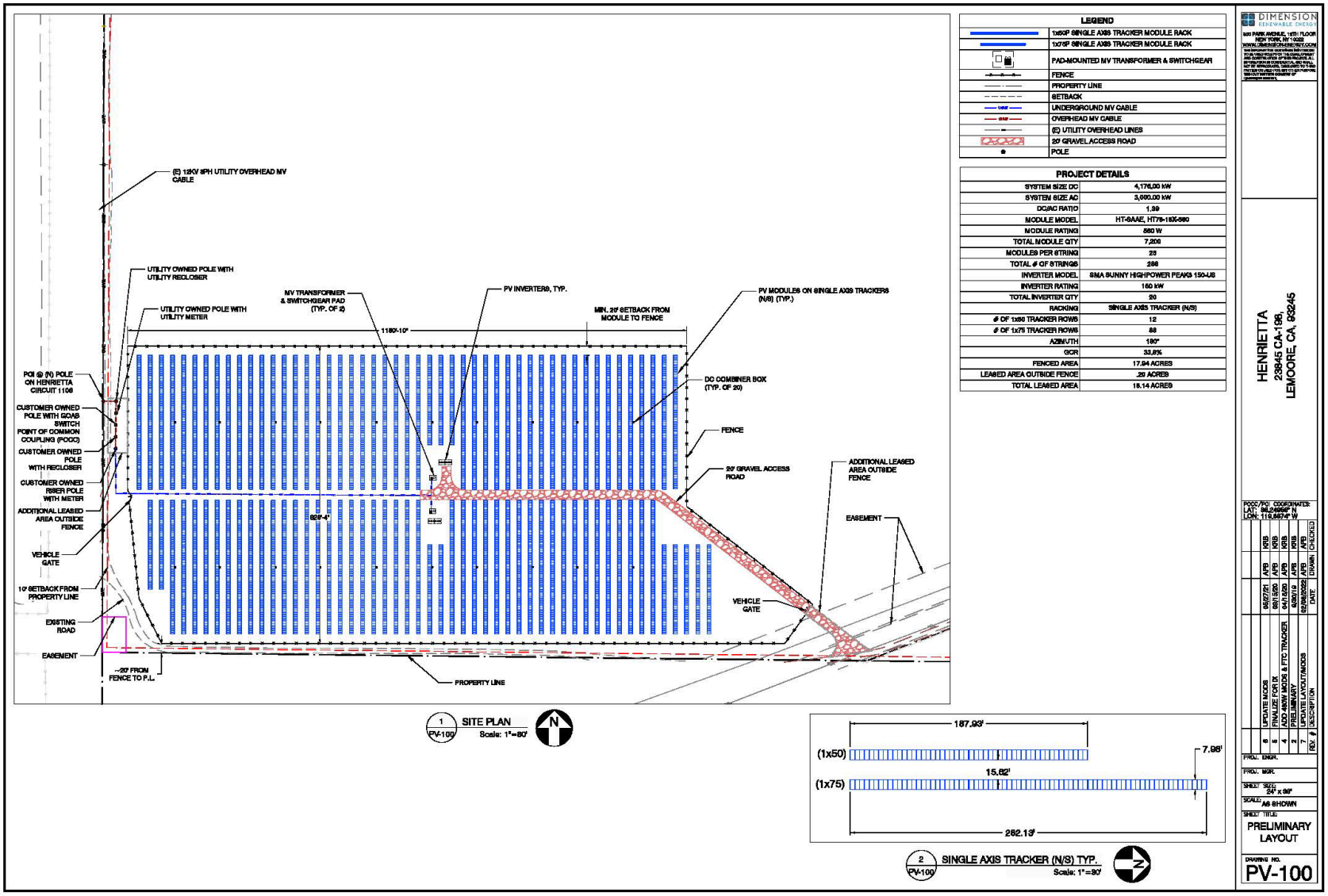
It is anticipated that construction activity would follow 3 major phases:

Phase 1 – Mobilization
Phase 2 – Site Improvements and Grading
Phase 3 – Panel Installation and Connection

Heavy construction equipment would be moved on-site at the beginning of construction and would remain on-site throughout as needed. These trips have not been included in the construction trip generation calculation, as they would not occur on a daily basis during construction. It is anticipated that daily vehicle traffic would be primarily made up of worker's passenger cars/light trucks, dump trucks during any soil import/export, concrete trucks and flatbed delivery trucks during on-site construction, water trucks and porta let trucks. The highest number of trips would likely be from construction workers traveling to and from the site each day. The number of workers required during each phase has been estimated based on the required workers and construction equipment that were required for the construction of other similar solar projects.

It is anticipated that construction of the project would occur Monday through Friday and that construction workers would arrive on-site before 7 AM to start work at 7 and would depart prior to the 4 PM to 6 PM peak commute period. However, the trip generation assumes that 25 percent of workers may arrive during the peak period between 7 AM and 9 AM and could depart between 4 PM and 6 PM. Most construction and delivery trucks would arrive and depart the site throughout the day. For the trip generation, it has been assumed that at least one of each type of off-site construction vehicle would arrive or depart the site during the peak hours.

Figure 1: Project Site Plan



The construction trip generation is shown in Table 1 and has been calculated for total trips and for passenger car equivalent (PCE). A PCE factor is applied to truck trips to account for the fact that trucks utilize more capacity on the roadway than a passenger car due to larger size and slower acceleration. PCE factors of 2.0 for medium trucks and 3.0 for heavy trucks were used for this analysis, and are conservative based on the guidance for passenger car equivalent factors found in the Highway Capacity Manual, 6th Edition.

As shown in Table 1, the phase with the highest construction trip generation would be during Phase 3 - On-Site Construction and Panel Installation with 192 daily and 24 peak hour trips. When adjusted to account for PCE, Phase 3 would generate 240 daily and 30 peak hour trips.

Table 1. Construction Trip Generation

		Vehicle Trips			PCE Trips		
	PCE	Daily	AM Peak Hour	PM Peak Hour	Daily	AM Peak Hour	PM Peak Hour
Phase 1 - Mobilization							
Workers (estimated 20 workers)	1.0	40	5	5	40	5	5
Flatbed Delivery Trucks	3.0	14	2	2	42	6	6
Porta Let Trucks	2.0	6	1	1	12	2	2
Phase 1 Total		60	8	8	94	13	13
Phase 2 - Site Preparation and Grading							
Workers (estimated 35 workers)	1.0	100	13	13	100	13	13
Water Trucks	2.0	10	1	1	20	2	2
Porta Let Trucks	2.0	6	1	1	12	2	2
Phase 2 Total		116	15	15	132	17	17
Phase 3 - On-Site Construction and Panel Installation							
Workers (estimated 60 workers)	1.0	160	20	20	160	20	20
Flatbed Delivery Trucks	3.0	16	2	2	48	6	6
Water Trucks	2.0	6	1	1	12	2	2
Porta Let Trucks	2.0	10	1	1	20	2	2
Phase 3 Total		192	24	24	240	30	30

PCE = Passenger Car Equivalent

[1] Worker trips are assumed to be outside of the peak hours. However, it is estimated that 25 percent of workers may arrive or depart the site during the AM or PM peak commute periods.

Operation Trip Generation

Operation of the project would require significantly fewer trips than generated during the construction phase. The project would not be permanently staffed during operation. The site would be accessed by maintenance personnel a few times per month to perform ongoing repair and maintenance of the facility.

In addition to routine maintenance, the solar panels would be washed approximately once per quarter. A crew of approximately 5 to 10 maintenance workers would perform the quarterly panel washing. No heavy equipment would be required.

Vehicle Miles Traveled

Senate Bill (SB) 743 was signed by Governor Brown in 2013 and required the Governor's Office of Planning and Research (OPR) to amend the CEQA Guidelines to provide an alternative to LOS for evaluating Transportation impacts. SB 743 specified that the new criteria should promote the reduction of greenhouse gas emissions, the development of multimodal transportation networks and a diversity of land uses. The bill also specified that delay-based level of service could no longer be considered an indicator of a significant impact on the environment. In response, Section 15064.3 was added to the CEQA Guidelines beginning January 1, 2019. Section 15064.3 - Determining the Significance of Transportation Impacts states that Vehicle Miles Traveled (VMT) is the most appropriate measure of transportation impacts and provides lead agencies with the discretion to choose the most appropriate methodology and thresholds for evaluating VMT. Section 15064.3(c) states that the provisions of the section shall apply statewide beginning on July 1, 2020.

The County of Kings has not adopted VMT analysis guidelines; therefore, guidelines from the OPR Technical Advisory on Evaluating Transportation Impacts In CEQA, December 2018, are applied. The OPR guidelines state that small projects that generate fewer than 110 average daily trips during project operation would be presumed to have a less than significant impact on VMT and are generally exempt from further analysis of VMT. The operation of the project would generate a maximum of 22 daily trips (10 panel washers and 1 maintenance worker to and from the project). For this reason, the project would have a less than significant impact on VMT and no further analysis is required.

Site Access

Access to the project site would be off of Avenal Cutoff Road via Murphy Ranch Road. These roadways are two-lane rural roads serving adjacent farms, residences, and other solar facilities. Apart from NAS Lemoore, there are no significant traffic generating land uses in the vicinity of the project and therefore traffic volumes on the adjacent roadways are expected to be low. The addition of 30 peak hour PCE trips (approximately one trip every 2 minutes) is not expected to cause any operational deficiency on any adjacent roadway.

Summary and Conclusions

Construction of Phase 3 of the proposed Kings CSG 3 Solar project is forecast to generate 192 daily and 24 peak hour trips. When adjusted to account for passenger car equivalent, Phase 3 would generate 240 daily and 30 peak hour trips. Operation of the project would not require any permanent staffing and would therefore not generate vehicle trips on a daily basis. Ongoing repair and maintenance of the project would require personnel to be on-site a few times per month. The addition of 30 peak hour PCE trips (approximately one trip every 2 minutes) is not expected to cause any operational deficiency on any adjacent roadway.