

Environmental Assessment

Lockhart and Harper Solar Projects Hinkley, San Bernardino County, California

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**U.S Department of Agriculture
Rural Utilities Service (RUS)**

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Table of Contents

| | | |
|------------|---|----|
| 1.0 | Purpose and Need for Proposal..... | 1 |
| 1.1. | Introduction..... | 1 |
| 1.2. | Purpose and Need..... | 2 |
| 2.0 | Alternatives Evaluated Including the Proposed Action..... | 3 |
| 2.1. | Proposed Action..... | 3 |
| 2.1.1. | Introduction..... | 3 |
| 2.1.2. | Site Description..... | 3 |
| 2.1.3. | The Solar PV Generation System Layout..... | 4 |
| 2.1.4. | Construction Activities..... | 5 |
| 2.1.5. | Operations & Maintenance..... | 5 |
| 2.1.6. | Project Decommissioning..... | 6 |
| 2.2. | Site Alternatives..... | 6 |
| 2.3. | No Action Alternative..... | 8 |
| 3.0 | Affected Environment and Environmental Consequences..... | 8 |
| 3.1. | Land Use..... | 8 |
| 3.1.1. | General Land Use..... | 8 |
| 3.1.1.1. | Affected Environment..... | 8 |
| 3.1.1.2. | Environmental Consequences..... | 9 |
| 3.1.1.2.1. | No Action..... | 9 |
| 3.1.1.2.1. | Proposed Action..... | 9 |
| 3.1.1.3. | Mitigation..... | 10 |
| 3.1.2. | Important Farmland..... | 10 |
| 3.1.2.1. | Affected Environment..... | 10 |
| 3.1.2.2. | Environmental Consequences..... | 10 |
| 3.1.2.2.1. | No Action..... | 10 |
| 3.1.2.2.2. | Proposed Action..... | 10 |
| 3.1.2.1. | Mitigation..... | 11 |
| 3.1.3. | Formally Classified Lands..... | 11 |
| 3.1.3.1. | Affected Environment..... | 11 |
| 3.1.3.2. | Environmental Consequences..... | 11 |
| 3.1.3.2.1. | No Action..... | 11 |
| 3.1.3.2.2. | Proposed Action..... | 11 |
| 3.1.3.3. | Mitigation..... | 11 |
| 3.2. | Floodplains..... | 11 |
| 3.2.1. | Affected Environment..... | 12 |
| 3.2.2. | Environmental Consequences..... | 12 |
| 3.2.2.1. | No Action..... | 12 |
| 3.2.2.2. | Proposed Action..... | 13 |
| 3.2.3. | Mitigation..... | 13 |

| | | |
|------------|--|----|
| 3.3. | Wetlands and Other Waters of the U.S..... | 13 |
| 3.3.1. | Affected Environment | 14 |
| 3.3.2. | Environmental Consequences | 15 |
| 3.3.2.1. | No Action..... | 15 |
| 3.3.2.2. | Proposed Action | 15 |
| 3.3.3. | Mitigation..... | 15 |
| 3.4. | Water Resources..... | 15 |
| 3.4.1. | Affected Environment | 16 |
| 3.4.2. | Environmental Consequences | 16 |
| 3.4.2.1. | No Action..... | 16 |
| 3.4.2.2. | Proposed Action | 16 |
| 3.4.3. | Mitigation..... | 17 |
| 3.5. | Coastal Resources | 17 |
| 3.5.1. | Affected Environment | 17 |
| 3.6. | Biological Resources | 17 |
| 3.6.1. | General Fish, Wildlife, and Vegetation Resources..... | 18 |
| 3.6.1.1. | Affected Environment..... | 18 |
| 3.6.1.2. | Environmental Consequences..... | 21 |
| 3.6.1.2.1. | No Action..... | 21 |
| 3.6.1.2.2. | Proposed Action | 22 |
| 3.6.1.3. | Mitigation..... | 22 |
| 3.6.2. | Federally Listed Threatened and Endangered Species..... | 22 |
| 3.6.2.1. | Affected Environment..... | 23 |
| 3.6.2.1.1. | Southwestern Willow Flycatcher..... | 23 |
| 3.6.2.1.2. | Mojave Desert Tortoise (<i>Gopherus agassizii</i>) | 23 |
| 3.6.2.1.3. | Western Snowy Plover (<i>Charadrius alexandrinus nivosus</i>)..... | 24 |
| 3.6.2.1.4. | Monarch Butterfly (<i>Danaus plexippus</i>) | 24 |
| 3.6.2.2. | Environmental Consequences..... | 25 |
| 3.6.2.2.1. | No Action..... | 25 |
| 3.6.2.2.2. | Proposed Action | 25 |
| 3.6.2.3. | Mitigation..... | 26 |
| 3.6.3. | Migratory Birds | 26 |
| 3.6.3.1. | Affected Environment..... | 26 |
| 3.6.3.2. | Environmental Consequences..... | 26 |
| 3.6.3.2.1. | No Action..... | 26 |
| 3.6.3.2.2. | Proposed Action | 26 |
| 3.6.3.3. | Mitigation..... | 26 |
| 3.6.4. | Bald and Golden Eagles..... | 27 |
| 3.6.4.1. | Affected Environment..... | 27 |
| 3.6.4.2. | Environmental Consequences..... | 27 |
| 3.6.4.2.1. | No Action..... | 27 |
| 3.6.4.2.2. | Proposed Action | 28 |
| 3.6.4.3. | Mitigation..... | 28 |
| 3.6.5. | Invasive Species | 28 |
| 3.6.5.1. | Affected Environment..... | 28 |

| | | |
|------------|---|----|
| 3.6.5.2. | Environmental Consequences..... | 28 |
| 3.6.5.2.1. | No Action..... | 28 |
| 3.6.5.2.2. | Proposed Action..... | 28 |
| 3.6.5.3. | Mitigation..... | 29 |
| 3.7. | Cultural Resources and Historic Properties | 29 |
| 3.7.1. | Affected Environment | 29 |
| 3.7.1.1. | Cultural Resources | 30 |
| 3.7.1.2. | Historic Buildings | 30 |
| 3.7.1.3. | Consultation..... | 31 |
| 3.7.2. | Environmental Consequences | 31 |
| 3.7.2.1. | No Action..... | 31 |
| 3.7.2.2. | Proposed Action..... | 31 |
| 3.7.3. | Mitigation..... | 32 |
| 3.7.3.1. | Unanticipated Discovery of Archaeological Resources..... | 32 |
| 3.7.3.2. | Unanticipated Discovery of Human Remains..... | 33 |
| 3.7.3.3. | Archaeological & Tribal Monitoring..... | 33 |
| 3.8. | Aesthetics..... | 33 |
| 3.8.1. | Affected Environment | 33 |
| 3.8.2. | Environmental Consequences | 34 |
| 3.8.2.1. | No Action..... | 34 |
| 3.8.2.2. | Proposed Action..... | 34 |
| 3.8.3. | Mitigation..... | 35 |
| 3.9. | Air Quality | 35 |
| 3.9.1. | Affected Environment | 36 |
| 3.9.2. | Environmental Consequences | 38 |
| 3.9.2.1. | No Action..... | 38 |
| 3.9.2.2. | Proposed Action..... | 38 |
| 3.9.3. | Mitigation..... | 41 |
| 3.10. | Socio-Economic Impact Assessment / Environmental Justice..... | 41 |
| 3.10.1. | Affected Environment | 42 |
| 3.10.2. | Environmental Consequences | 43 |
| 3.10.2.1. | No Action..... | 43 |
| 3.10.2.2. | Proposed Action..... | 43 |
| 3.10.3. | Mitigation..... | 43 |
| 3.11. | Noise | 44 |
| 3.11.1. | Affected Environment | 44 |
| 3.11.2. | Environmental Consequences | 44 |
| 3.11.2.1. | No Action..... | 44 |
| 3.11.2.2. | Proposed Action..... | 44 |
| 3.11.3. | Mitigation..... | 46 |
| 3.12. | Transportation | 46 |
| 3.12.1. | Affected Environment | 46 |
| 3.12.2. | Environmental Consequences | 46 |
| 3.12.2.1. | No Action..... | 46 |
| 3.12.2.2. | Proposed Action..... | 46 |

| | |
|---|----|
| 3.12.3. Mitigation..... | 47 |
| 3.13. Human Health and Safety | 47 |
| 3.13.1. Electromagnetic Fields and Interference..... | 47 |
| 3.13.1.1. Affected Environment..... | 47 |
| 3.13.1.2. Environmental Consequences..... | 47 |
| 3.13.1.2.1. No Action..... | 47 |
| 3.13.1.2.2. Proposed Action | 47 |
| 3.13.1.3. Mitigation..... | 48 |
| 3.13.2. Hazards and Hazardous Materials..... | 48 |
| 3.13.2.1. Affected Environment..... | 48 |
| 3.13.2.2. Environmental Consequences..... | 49 |
| 3.13.2.2.1. No Action..... | 49 |
| 3.13.2.2.2. Proposed Action | 49 |
| 3.13.2.3. Mitigation..... | 49 |
| 4.0 Cumulative Effects | 49 |
| 4.1. Land Use..... | 51 |
| 4.2. Wetlands | 51 |
| 4.3. Water Resources..... | 52 |
| 4.4. Biological Resources..... | 52 |
| 4.5. Aesthetics..... | 52 |
| 4.6. Summary of Mitigation | 52 |
| 5.0 Coordination, Consultation and Correspondence | 53 |
| 5.1. Tribal Consultation..... | 53 |
| 5.2. Agency Consultation | 54 |
| 5.3. Public Involvement..... | 55 |
| 6.0 References | 56 |
| 7.0 Preparers | 62 |

List of Tables

| | |
|--|----|
| Table 1. Wildlife Species on the Project Site | 18 |
| Table 2. Plant Species on the Project Site | 19 |
| Table 3. Vegetation Communities and Land Covers within the Project Site | 21 |
| Table 4. Special-Status Wildlife Species | 23 |
| Table 5. Effect Determinations for Endangered Species Act-listed Species Potentially Occurring at Project Site and Surrounding Vicinity | 25 |
| Table 6. Ambient Air Background Pollutant Concentrations / Exceedances/Standards | 37 |
| Table 7. Significant Emissions Thresholds | 39 |
| Table 8. Maximum Daily Construction Emissions with Control Measures | 40 |
| Table 9. Maximum Annual Construction Emissions with Control Measures..... | 40 |
| Table 10. Construction GHG Emissions | 41 |
| Table 11. Comparative Data for Environmental Justice Analysis | 43 |
| Table 12. Typical Construction Equipment Notice levels, dBA..... | 45 |
| Table 13. Summary of Cumulative Impacts Assessment..... | 50 |
| Table 14. Summary of Current and Future Projects in Vicinity | 51 |

Appendices

A. Figures

Figure 1. Project Location

Figure 2. Vicinity Map

Figure 3. Site Plan

Figure 4. Site Plan (2nd part)

Figure 5. Sites Subject to Further Evaluation

Figure 6. Sites Subject to Further Evaluation (Expanded View)

Figure 7. Zoning Map

Figure 8. Soils and Hydrology Map

Figure 9. Existing Conditions - Key Map

Figure 10. Existing Conditions – Project Site

Figure 11. Existing Conditions – Surrounding Area

B. NRCS AD-1006 Form

C. Floodplain Information

Eight-Step Decision Document

Preliminary Drainage Report, Lockhart Solar (August 2024)

Flood Insurance Rate Map (FIRM# 06071C3250H and 06071C3875H)

NRCS Flooding Frequency Class Report

D. Approved Jurisdictional Determination, March 17, 2023, U.S. Army Corps of Engineers

E. Application to Rezone Property and for Conditional Use Permit

F. Biological Technical Report, October 2022, Dudek

IPaC Official Species List November 20, 2024

G. Visual Impact Analysis, September 23, 2022, Dudek

H. Air Quality & Greenhouse Gas Study dated October 17, 2022, BlueScape Environmental

I. Construction Management Plan, dated February 16, 2023, Partners Engineering and Science, Inc.

J. Agency Consultation

List of Acronyms and Abbreviations

| | |
|----------------|--|
| APCD | Air Pollution Control District |
| APE | Area of Potential Effects |
| BMPs | Best management practices |
| CARB | California Air Resources Board |
| CDFW | California Department of Fish and Wildlife |
| CRHR | California Register of Historical Resources |
| CEQ | Council of Environmental Quality |
| CEQA | California Environmental Quality Act |
| CFS | Cubic Feet per Second |
| CNPS | California Native Plant Society |
| CNDDDB | California Natural Diversity Database |
| CO | Carbon Monoxide |
| DPR | Department of Parks and Recreation |
| EA | Environmental Assessment |
| EIS | Environmental Impact Statement |
| EO | Executive Order |
| FMMP | Farmland Mapping and Monitoring Program |
| FEMA | Federal Emergency Management Agency |
| FONSI | Finding of No Significant Impact |
| GHG | greenhouse gas emissions |
| kV | kilovolt (1000 volts) |
| LESA | Land evaluation and site assessment |
| MW | Megawatt |
| MWac | Megawatts Alternating Current |
| MDAB | Mohave Desert Air Basin |
| MDAQMD | Mojave Desert Air Quality Management District |
| NAAQS | National Ambient Air Quality Standards |
| NEPA | National Environmental Policy Act |
| NRHP | National Register of Historic Places |
| NRCS | Natural Resources Conservation Service |
| NO | nitric oxide |
| PM | particulate matter |
| PV | photovoltaic |
| RPS | Renewable Portfolio Standard |
| RUS | Rural Utilities Service |
| RWQCB | California Regional Water Quality Control Boards |
| SB | Senate Bill |
| SB Zoning Code | San Bernardino Zoning Code |
| SCCIC | South-Central Coastal Information Center |
| SCE | Southern California Edison |
| SHPO | California State Historic Preservation Office |
| SO | Sulfur Oxides |
| THPO | Tribal Historic Preservation Officer |

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| USEPA | United States Environmental Protection Agency |
| USDA | United States Department of Agriculture |
| USFWS | United States Fish and Wildlife Service |
| USGS | United States Geological Survey |
| VOC | Volatile Organic Compounds |

1.0 Purpose and Need for Proposal

1.1. Introduction

US Department of Agriculture (USDA), Rural Development is a mission area that includes three federal agencies – Rural Business-Cooperative Service, Rural Housing Service, and Rural Utilities Service (RUS). The agencies have more than 50 programs that provide financial assistance and a variety of technical and educational assistance to eligible rural and tribal populations, eligible communities, individuals, cooperatives, and other entities with a goal of improving the quality of life, sustainability, infrastructure, economic opportunity, development, and security in rural America. Financial assistance can include direct loans, guaranteed loans, and grants to accomplish program objectives.

Juniper Energy LLC (Juniper Energy or applicant) intends on applying to RUS, for a loan through the Electric Infrastructure Loan and Loan Guarantee Program. The loan would finance the two solar electric generating systems plus storage (Lockhart Solar and Harper Solar) (collectively, the Proposed Action) using photovoltaic (PV) panel arrays mounted on single-axis tracker equipment. The Proposed Action will be constructed on a single undeveloped parcel located at 315 Roy Rd., Hinkley, California (APN 0490-171-01) (the Project Site).

In accordance with the National Environmental Policy Act (NEPA), RUS has prepared this Environmental Assessment (EA) for the Proposed Action. Juniper Energy will develop, own, and operate the Proposed Action through two subsidiaries. Once constructed, the Proposed Action's solar PV generating systems will each generate up to four (4) megawatts (MW) of electricity for a total combined output of eight (8) MW_{ac} of electricity at peak output. Some of the energy produced will be stored in accompanying battery storage systems for distribution throughout the day. The Proposed Action will be constructed on a couple of abandoned structures and vacant land in a desert region characterized by utility-scale solar facilities and transmission lines, which is approximately 10 miles northwest of Hinkley, California.

This EA will serve as a detailed written record of the environmental analysis completed for the proposal and will be used along with other considerations to determine whether RUS provides the requested financing.

This EA was prepared in accordance with NEPA as amended (42 United States Code [U.S.C.] § 4321, et seq.) and its implementing regulations (40 Code of Federal Regulations [CFR] 1500–1508) as well as Rural Development's NEPA Regulations (7 CFR Part 1970—Environmental Policies and Procedures) and RD Instructions 1970-Subpart C. The purpose of an EA is to assess whether the Proposed Action would pose a potential significant impact on the environment and to determine whether either

an Environmental Impact Statement (EIS) or a Finding of No Significant Impact (FONSI) is appropriate for the Proposed Action. The specific needs and the Proposed Action or purpose to be evaluated in this EA are described Sections 2.1–2.3 below.

The Proposed Action and No Action (defined below) are evaluated to determine the direct, indirect, and cumulative impacts or changes that may occur on both people and the environment because of the potential effects of the proposed improvements. Effects can be ecological, aesthetic, historic, cultural, economic, social, or health related. The following are the interest factors to be evaluated in this EA:

- Land Use
- Floodplains
- Wetlands
- Water Resources
- Coastal Resources
- Biological Resources
- Cultural Resources
- Aesthetics
- Air Quality
- Socioeconomics and Environmental Justice
- Noise
- Transportation
- Hazardous Materials
- Health & Human Safety

The purpose of this EA is to inform decision makers and the public of the likely environmental consequences of the Proposed Action. To that end, the EA identifies, documents, and evaluates potential effects of construction and operation of a solar PV generating and storage system on the natural and human environment using a period of analysis from 2024 (facility opening) through 2044 (expiration of the initial proposed useful life of the Proposed Action).

An interdisciplinary team has described the existing environment and analyzed the Proposed Action with respect to the no-action alternative in the study area (defined as the area that may be directly and indirectly affected, as explained in Chapter 3), and has identified relevant beneficial and adverse effects associated with the Proposed Action. The impacts can be direct effects (those caused by the action that occur at the same time and place), indirect effects (those caused by the action that take place later in time or farther removed in distance), or cumulative effects (the incremental impacts of the Proposed Action when combined with past, present, and reasonably foreseeable future activities).

1.2. Purpose and Need

The power generated by the Proposed Action would be sold to Pioneer Community Energy in accordance with its mission to provide the residents and businesses of Placer and El Dorado County, California with clean energy from renewable resources. In addition, the Proposed Action would enable Pioneer Energy to meet its targets for selling power derived from eligible renewable energy sources generally in accordance with California Senate Bill (SB) 100. California law requires that private

and municipal electric utilities have at least 60% of their retail sales derived from eligible renewable energy resources by 2030. SB 100 also established the target that 100% of all retail sales come from eligible renewable energy resources by 2045.

The purpose of and need for the Proposed Action are as follows:

- Assist in achieving the state's Renewable Portfolio Standard (RPS) and greenhouse gas emissions (GHG) reduction objectives, approved under Senate Bill (SB) 1078 (Sher, 2002), which established renewable energy targets of 20% total electricity sold to retail customers by the end of 2013, 25% by the end of 2016, and 33% of total electricity sold to retail customers by 2020, and later by Senate Bill 100, which established renewable energy targets of 60% by the end of 2030 and 100% by the end of 2045.
- Pioneer Energy could not meet the increasing demand for electricity by the residents and businesses in its service territory, covering most of Placer and El Dorado Counties with renewably sourced energy. In addition, without the Proposed Action, Pioneer Energy could not meet the RPS requirements instituted by the State of California. It would continue to use existing (and potentially other planned) power sources, the great majority of which rely on fossil fuels.
- Create utility-scale solar energy to improve reliability of energy for the citizens of California.
- Locate solar power plant facilities as near as possible to existing or planned electrical transmission facilities, including co-locating with existing transmission facilities when feasible in accordance with the San Bernardino County General Plan.
- Supporting the goals in the San Bernardino County General Plan to create renewable energy.
- Locate solar power plant facilities in areas within regions with excellent solar attributes, including but not limited to high direct normal irradiance, to maximize productivity.
- Produce power through means with no net additional emission of GHGs, including GHG emissions from employee transportation, consistent with the methodology employed by the California Air Resources Board (CARB) pursuant to Division 25.5 (commencing with Section 38500) of the Health and Safety Code.

2.0 Alternatives Evaluated Including the Proposed Action

2.1. Proposed Action

2.1.1. Introduction

Juniper Energy seeks RUS funding to construct, own, and operate the Proposed Action located on a parcel in San Bernadino County, California (Figure 1). All figures referenced throughout are provided in Appendix A. The Proposed Action would consist of two solar PV generating systems coupled with long-duration battery storage systems, able to generate up to 8 Megawatts Alternating Current (MW_{ac}) at peak capacity. The solar generating systems will use PV modules arranged in north-south arrays, which will rotate to track the Sun as it moves across the sky.

2.1.2. Site Description

The Project Site is located in the Mohave Desert area of San Bernardino County, California approximately nine miles northwest of the City of Hinkley (See Figure 1, Project Location). The approximate geographic coordinates of the Project Site are Latitude, Longitude 34.999732, -117.323827. The Project Site is located on a single, approximately 80-acre parcel owned by Lockhart Solar. The topography of the Project Site is level desert land with small bushes, a few trees, and no other vegetation.

From Harper Lake Road, the Project Site is accessed via Roy Road, which has been designated by the County of San Bernardino as a future County maintained road. To secure rights to access the Project Site, an easement (the Access Easement) granted by the owner of an adjacent parcel (APN 0490-171-30) has been recorded with the County of San Bernardino (Assessor No. 2023-0027268). The Access Easement provides for, among other things, access to the Project Site from Harper Lake Road over the area designated as Roy Road and to pave the road and install utilities (See Figure 1).

Surrounding parcels range from 5 acres to 1,750 acres, with the average parcel size of approximately 106 acres. The Project Site is bound on the north by a two privately owned and developed rural residences and a solar thermal solar power plant. (Figure 2, Vicinity Map). None of the adjacent parcels on the eastern or western borders have been developed. Several high-voltage electric transmission lines operated by Southern California Edison (SCE), the California Independent System Operator and the Los Angeles Department of Water and Power run along the southern border.

The remains of a former home sit at the northern corner of the parcel. Presently, the remnants of a few structures are present. The southern half of the Project Site has not been developed and is currently vacant.

2.1.3. The Solar PV Generation System Layout

The Proposed Action would design and construct two 4MW_{ac} solar PV power generating facilities with battery storage capabilities on approximately 73 acres. Arrays of solar modules approximately three to nine feet in height would be arranged in rows spanning on a north-south axis, will cover almost the entire Project Site with a few exceptions. Solar modules mounted to metal beams, which can pivot east to west, would sit atop pile driven supports posts. The posts supporting the solar arrays and approximately four equipment pads would create less than one acre of impervious surface. Figures 4 and 5 show the site plan for the Proposed Action.

Power from the modules would connect to the battery system, switchgear and other equipment via electrical wiring laid in 30-inch wide by 42-inch-deep trenches. Pads would be constructed to hold switchgear, inverters, transformers, and the battery system. An interior perimeter all-weather unpaved road will provide access to the system. Minimal grading would be required to construct the equipment and storage pads and to lay the access road. A water detention basin to collect runoff from a 100-year storm event would be located along the northern border. Security fencing would be installed along the perimeter of the Project Site.

Each solar PV generation system would connect to a battery storage system. Each battery storage system would be mounted on one or two pads, which will create approximately 6,000 square feet of impervious surface (a combined 0.27 acres of impervious surface for both projects). The battery storage systems will employ nickel-hydrogen batteries. The batteries do not present any risk of fire, explosion, or release of hazardous materials.

The battery storage system, inverters, medium-voltage transformers, and other electrical equipment would be housed in enclosures throughout the Project Site. The inverter and medium-voltage transformer units would be mounted on concrete foundation pads. All electrical equipment would be either outdoor rated or mounted within electrical enclosures designed specifically for outdoor installation. The proposed equipment poses no electrical shock risk and would be safe to touch.

Power generated by the PV systems would interconnect to the SCE controlled grid via 33 kilovolt (kV) distribution lines running for approximately 0.25 miles from Harper Lake Road to the Project Site. (See Figure 4). The PV generation system located on the southern portion of the Project Site would interconnect to a new line, to be constructed by SCE, which would run along a right-of-way controlled by SCE to the southwestern corner of the Project Site. For the PV system located on the northern portion of the Project Site, a new 33kV line would run along Roy Road from the northwestern corner of the Project Site to an interconnection point next to Harper Lake Road. Costs to upgrade the distribution system controlled by SCE would be borne by the Applicant and accordingly are part of the funding request. Each distribution line would run above ground for approximately 0.25 miles (the distance

from Harper Lake Road to the western border of the Project Site) where they would interconnect to the two respective projects. The lines would be supported by approximately six utility poles, which would range between 30 to 60 feet in height.

Poles would be installed by direct embedment. Each pole would be placed into an augured hole lined with gravel then back filled with native soils, stone dust or cement depending on the soil conditions.

2.1.4. Construction Activities

Earthwork would be required to construct the battery storage system and equipment pads, and access roads. Anticipated grading would be minimal as the slope for the Project Site is level, allowing for installation of the solar arrays with little or no land disturbance. No export or import of cut or fill material is proposed.

While construction and installation would require vegetation removal within necessary areas of disturbance. During construction, the Project Site would be stabilized to minimize wind and storm water erosion and protect topsoil and nearby drainages. In addition, watering and other approved measures would be used to control dust onsite. Following grading and installation of the Project's components, stockpiled topsoil would be redistributed across the Project Site for revegetation efforts and other needs.

A temporary laydown area would be established onsite during construction. Standard best management practices (BMPs) would be employed to prevent construction pollutants, including erosion of soils (such as topsoil), from moving off-site and in compliance with County requirements for construction related erosion and sediment control.

Construction equipment to be used onsite would include scrapers, motor graders, backhoe/loaders, excavators, dozers, smooth drum compactors, vibratory hammers, water trucks, pile driving machines, and lightweight trucks. The posts would be installed by driving steel pipes into the ground using a hydraulic vibratory post driver. After construction has been completed, all equipment would be removed and the construction contractor would be required to stabilize and restore all the Project Site areas disturbed during construction, including laydown, parking, temporary roadways, temporary office trailers, etc., to original conditions.

2.1.5. Operations & Maintenance

Operation and security would be conducted from an off-site location, and maintenance crews would be dispatched to the Project Site (as needed) during operation. Periodically, personnel would visit the Project Site for inspection, security, maintenance, and system monitoring purposes. For example, staff would periodically visit the Project Site to clean solar panels and would truck in water for periodic panel

washing throughout the year. No full-time staffing, however, would be required to operate the facility. Replacement parts and components would be warehoused off-site and deployed as needed.

All lighting installed on the Project Site would be directed downward and shielded to focus illumination on the desired areas only and to minimize light trespass onto adjacent properties. If lighting at individual PV modules or other equipment were needed for nighttime maintenance or during emergencies, personnel would use portable lighting.

2.1.6. Project Decommissioning

The Proposed Action would be in operation for a minimum of 25-30 years, with the possibility of a subsequent re-powering of the solar PV generation system for additional years of operation. If the solar PV generating system is decommissioned at the end of its expected life span or upon its eventual decommissioning, whenever that occurs, the Project owner would be responsible for the removal, recycling, or disposal of all solar arrays, inverters, transformers, and other structures on the Project Site. Juniper Energy anticipates using the best available recycling measures at the time of decommissioning.

The Proposed Action would be constructed with numerous recyclable materials, including glass, semiconductor material, steel, and wiring. When the Proposed Action reaches the end of its operational life, the component parts would be dismantled and recycled as practicable. All waste resulting from the decommissioning of the facility would be transported by a certified and licensed contractor and taken to a landfill/recycling facility in accordance with all local, State, and federal regulations.

2.2. Site Alternatives

Proper siting of a solar generation system requires substantial evaluation and due diligence. Appropriate evaluation and analysis of factors influential in siting a large facility such as the proposed 8 MW_{ac} Proposed Action can reduce costs, eliminate delays, minimize potential impacts and opposition, and streamline the regulatory process. Conversely, improper siting can have the opposite effect. The consequences of improper siting can result in dollars lost and/or material schedule delays. Thus, site selection criteria need to be developed that reflect both the purpose and need of the Proposed Action as well as the local setting.

Among the constraints of siting a solar PV generation facility is proximity to suitable electrical transmission lines. While the cost to construct miles of transmission lines may represent a smaller percentage of the total construction cost for a large generation facility (hundreds or more MWs), the same infrastructure represents a larger percent of the cost for a relatively small utility scale generating facility such as the Proposed Action. Another constraint of siting, especially during the construction

phase of the Proposed Action, is the need for suitable surface transportation infrastructure (roads/highways) the presence of which minimizes the need for access road construction. In addition to being costly, infrastructure construction also represents additional development risks to a project. Construction of this infrastructure may involve negotiating property acquisitions with multiple owners, which can be a long and expensive process. Therefore, proximity of the site to transmission and transportation infrastructure is important, as well as the avoidance of negative social, and environmental impacts.

A suitable site will also have sufficient developable land to meet the objectives for the proposed development. Several considerations can affect how much of any given site may be developed cost effectively. The property should have a relatively level topography to minimize grading. Single axis tracking systems like the one proposed for the Proposed Action have limited slope tolerances. In addition, sites should allow for a clear southern facing exposure to maximize solar coverage throughout the day. Shading from nearby hills, trees or structures must be evaluated too, as they can adversely limit production levels and undermine a potential site's economic viability.

Finally, local land use laws, guidelines and policies can impact the selection of a particular site. For example, the County of San Bernardino County (County) Code of Ordinances (SBC Code; County of San Bernardino, 2010), as amended, imposes certain siting restrictions for any new commercial solar development specifically related to aesthetics; biologic resources; cultural and historic resources; farmlands; parks; military bases and other Special Districts; and proximity to utility transmission lines.

Juniper Energy engaged in preliminary feasibility studies for over 180 sites. Many sites were immediately rejected due to costs, multiple zoning issues or geography. Approximately 13 sites, having passed certain initial screens were evaluated in-depth. (See Figures 4 and 5).

In one case (Site SB-13) the Proposed Action was located within the city limits of Twentynine Palms, which presented several developmental hurdles due to its proximity to residential neighborhoods. Site SB-2 is near a residential community, which would result in aesthetic concerns from the County.

Sites SB-2, SB-3, SB-4, SB-5, SB-6, SB-7, and SB-11 would require either substantial interconnection upgrades or the installation of new distribution lines. An initial review of the interconnection capacity and potential upgrades identified these sites as presenting significant challenges and likely resulting in unsupportable costs. Another site (SB-12) sits on a floodway and could be subject to damage or unforeseen operating costs.

Finally, sites SB-6 and SB-7 met the environmental criteria and were located near distribution lines. These sites, however, covered over 100 acres, materially larger

than required for the current Proposed Action. Also, each site sits next to or near very high-voltage lines, which would require the construction of a substation to interconnect a generation system to the grid. Given the site's size and the costs of interconnection, these sites are better suited for larger projects than being contemplated for this project. After conducting preliminary feasibility studies for these selected sites, only one site meets the criteria for continuing with development of the Proposed Action as initially envisioned.

2.3. No Action Alternative

Under the "No Action" alternative (No Action), the proposed solar PV generating system would not be constructed. Without this facility, Pioneer Energy could not meet the increasing demand for electricity by the residents and businesses in its service territory. The No Action alternative would not achieve the objectives of the Proposed Action. Consequently, it is not considered a feasible or desirable alternative and is included in this EA solely to fulfill the legal requirements of NEPA and to provide a baseline against which to measure the impacts of the Proposed Action.

3.0 Affected Environment and Environmental Consequences

This chapter describes the existing conditions and potential environmental consequences of the Proposed Action. The chapter is organized by resource area (e.g., land use, floodplains, water resources, biological resources, etc.). The discussion distinguishes between short-term construction impacts and those that may result from the system's continuing long-term presence, including impacts associated with operation, maintenance, or decommissioning. Where appropriate, measures that Juniper Energy proposes to minimize or mitigate potential impacts are included.

3.1. Land Use

3.1.1. General Land Use

This section describes existing land use, land use plans, and zoning in the project area, and the effects of the Proposed Action and No Action on these resources.

3.1.1.1. Affected Environment

The Project Site is located on one parcel and existing land use is a former abandoned and uninhabitable residence and undeveloped land. The Project Site is located adjacent to two rural residential developments and a large thermal solar farm along the northern boundary; and undeveloped land along the eastern, southern, and western boundaries. In addition, the Proposed Action may affect land running along rights of way leading from existing utility lines to the Project Site in which new or

upgraded distribution lines will be constructed to connect the Project to the electric grid.

The Project Site is located in a Rural Living (RL) zoning district as designated by the San Bernardino County Code of Ordinances (the “SB Zoning Code”). See Figure 7. The County of San Bernardino has advised that it will follow recent guidance set forth in the updated general plan, which prevents development of commercial solar in the RL zoning district (San Bernadino County Policy Plan Land Use Element 2020).

3.1.1.2. Environmental Consequences

3.1.1.2.1. No Action

The No Action alternative would not impact land use. The existing land use in the analysis area (abandoned structures and vacant land) would continue.

3.1.1.2.1. Proposed Action

The Proposed Action would change the land use of the Project Site from vacant and undeveloped land to a solar PV facility. This change in use would be consistent with other existing land uses in the surrounding area which include solar generation facilities. The proposed land use change would not be consistent with a recommendation (Policy RE-4.10) in the Renewable Energy and Conservation Element of the County General Plan, however.

While the SB Zoning Code has not yet been amended to reflect this policy, the applicant is seeking approval of a general plan amendment changing the zoning designation of the Project Site to Resource Conservation (RC), which allows for construction of solar energy facilities (See SB Code of Ordinances § 82.03.040). A copy of the letter of intent to rezone, along with the application for conditional use permit, is attached as part of Appendix E. The Proposed Action would meet all the requirements under the County Code for development if the property is redesignated to an RC zoning district (See SB Zoning Code, § 84.29.035(a)&(b)). Renewable energy generation facilities in San Bernardino County are governed by Section 84.29 of the SB Zoning Code (County of San Bernardino, 2010).

In connection with the application for a conditional use permit and to rezone the property, the County of San Bernardino requested that application prepare (a) a drainage study (Appendix C); (b) comply with certain setback and road construction requirements (Appendix E); and (c) a construction management plan (Appendix I). A copy of the request for further documentation is attached hereto at Appendix E. Finally, the County requested an updated site plan. All of the reports and documents requested have been prepared and submitted to the County as part of the conditional use permit and rezone application process and are pending review by the County.

The Proposed Action would not conflict with any other applicable goals, objectives, and policies of the County of San Bernardino General Plan or Development Code.

3.1.1.3. Mitigation

The applicant will obtain a conditional use permit and approval of a general plan amendment from San Bernadino County changing the zoning designation of the Project Site to Resource Conservation (RC). The Proposed Action would meet all the requirements under the County Code for development if the property is redesignated to an RC zoning district.

3.1.2. Important Farmland

The goal of the Farmland Protection Policy Act (FPPA), the regulation implementing the FPPA (7 CFR part 658), and USDA Departmental Regulation 9500-3, Land Use Policy, is to minimize the impact federal programs have on the unnecessary and irreversible direct or indirect conversion of farmlands to nonagricultural uses. Areas that have been designated as “prime and unique farmland,” “farmland of statewide or local importance,” or “unique farmland” by the Natural Resources Conservation Service (NRCS) are classified as important farmland. Form AD-1006, Farmland Conversion Impact Rating, is used to determine whether a site is farmland subject to the FPPA. The NRCS Web Soil Survey tool was used to determine whether important farmland exists in the analysis area, and the NRCS was also contacted directly.

3.1.2.1. Affected Environment

The analysis area for assessing potential impacts to important farmland is the 80-acre Project Site. According to the Web Soil Survey and a review of the project by NRCS, approximately 49 acres of the analysis area is designated by the NRCS as Farmland of Statewide Importance (NRCS 2019). The remaining 31 acres of the analysis area is not classified by the NRCS as important farmland.

3.1.2.2. Environmental Consequences

3.1.2.2.1. No Action

The No Action alternative would not impact any important farmland. No development would occur on important farmland.

3.1.2.2.2. Proposed Action

Under the Proposed Action, approximately 40 acres of Farmland of Statewide Importance will be converted to non-agricultural use. Assistance from the NRCS was requested on March 1, 2022, to complete the AD-1006 and on March 4, 2022, the NRCS determined the total points for the Proposed Action to be 100. Pursuant to 7

CFR § 658.4 (c)(2), sites that receive a total score of less than 160 need not be given further consideration for protection and no additional sites need to be evaluated. This report is provided as Appendix B. Construction of the transmission lines would not result in the conversion of important farmland.

3.1.2.1. Mitigation

No mitigation measures are proposed for important farmland.

3.1.3. Formally Classified Lands

Certain land areas have been accorded special protection through formal legislative designations and are either administered by federal, state, or local agencies, tribes, or private parties. These properties have been termed “formally classified lands”, including, but not limited to, national parks and monuments; national forests and grasslands; national historic landmarks; national wildlife refuges; state parks; state fish and wildlife management areas; Bureau of Land Management administered lands; and Native American owned lands.

3.1.3.1. Affected Environment

The Project Site is not located in or adjacent to a formally classified land area.

3.1.3.2. Environmental Consequences

3.1.3.2.1. No Action

The No Action alternative would not impact any formally classified lands.

3.1.3.2.2. Proposed Action

The Proposed Action would not directly or indirectly impact any formally classified lands.

3.1.3.3. Mitigation

No mitigation measures are proposed for formally classified lands.

3.2. Floodplains

Executive Order (EO) 11988 Floodplain Management requires federal agencies “avoid to the extent possible the long- and short-term adverse impacts associated with the occupancy and modification of floodplains and . . . avoid direct or indirect support of floodplain development wherever there is a practicable alternative.”

A floodplain is defined as a low-lying area adjoining a river or body of water that is subject to periodic flooding. Floodplains provide risk reduction benefits such as storing flood water and slowing runoff as well as environmental value such as erosion control, groundwater recharge, and fish and wildlife habitat protection (Federal Emergency Management Agency (FEMA) 2020a). A 100-year floodplain, or Special Flood Hazard Area, is defined as an area with a 1 percent probability of flooding in a given year, and a 500-year floodplain is an area with a 0.2 percent probability of flooding in a given year (FEMA 2020b).

Floodplains include river or stream flood hazard areas, and areas with a 1 percent or greater chance of shallow flooding each year, usually in the form of sheet flow, with an average depth ranging from 1 to 3 feet. FEMA identifies these areas on Flood Insurance Rate Maps (FIRM) as “Zone AO.”

3.2.1. Affected Environment

A review of the FEMA Flood Insurance Rate Map (FIRM) of the area revealed that the Project Site is located in an Area of Undetermined Flood Hazard (Zone D). The FIRM is provided in Appendix C. The Hazard Overlays Map (Ridgecrest/Cuddeback Lake region) of the San Bernardino County General Plan 2020 indicates that the Project Site is not located in a 100- year flood hazard area (See Appendix C for a copy of the map). The Hazards Overlay Map also shows that the Project Site is not in an area subject to flooding because of dam failure.

An NRCS Web Soil Survey Flooding Frequency Class Report was also created to evaluate if the Project Site is located in a floodplain. The Flooding Frequency Class Report indicates that the Project Site is located in an area where “flooding is not probable. The chance of flooding is nearly 0 percent in any year. Flooding occurs less than once in 500 years” (see Appendix C).

To better understand the risk of flooding in the area and on the Project Site, a preliminary drainage report was prepared in August 2024 (see Appendix C). The drainage report determined that the project area contains areas of shallow flooding (three foot depths or less) during a 100-year flood event. The report determined that the Project Site, which spans approximately 80 acres could potentially receive peak discharge during a 100-year storm event of approximately 41.34 cubic feet per second (cfs).

3.2.2. Environmental Consequences

3.2.2.1. No Action

The No Action alternative would not impact any floodplains or affect any flood zones. No development would occur in the Project area; therefore, there would be no

activities that would impact floodplains or flood zones downstream of the analysis area.

3.2.2.2. Proposed Action

The preliminary drainage report determined that the Proposed Action would slightly increase the volume of runoff generated by a 100-year storm event. The Proposed Action could increase peak flows during a 100-year storm event from 41.34 cfs to approximately 44.38 cfs.

3.2.3. Mitigation

To mitigate impacts during a 100-year storm event, the proposed drainage report recommends the construction of two water detention basins to collect runoff from a 100-year storm event. The preliminary drainage report determined that approximately 28,902 cubic feet of storage is required for the change in runoff due to the increase in imperviousness of the proposed site design. The site plan for the Project includes two detention basins, which can retain approximately 29,197 cubic feet of water with a mitigated peak discharge rate of 41.33 cfs. The batteries, electrolyte storage tanks, and critical electrical equipment would be mounted on concrete pads and placed above the 100-year water surface elevation or have secondary containment to avoid potential damage from a flood.

3.3. Wetlands and Other Waters of the U.S.

E.O. 11990, Protection of Wetlands, states that it is federal policy to avoid to the extent possible the long and short-term adverse impacts associated with the destruction or modification of wetlands, and to avoid direct or indirect support of new construction in wetlands wherever there is a practicable alternative. In addition, federal agencies were ordered to take actions to minimize the destruction, loss or degradation of wetlands, and to preserve and enhance the natural and beneficial values of wetlands in carrying out their responsibilities and programs.

Regulatory oversight of wetlands falls under Section 404 of the Clean Water Act and permits are administered by the U.S. Army Corps of Engineers (USACE) with oversight by the U.S. Environmental Protection Agency (USEPA). Section 404 established a Federal permitting program that requires anyone who is proposing to place dredged or fill material into waters of the United States which includes wetlands, to obtain a permit from the USACE.

The following databases were reviewed prior to the jurisdictional delineation: historical aerial photographs (Google Earth Pro 2021; Historic Aerials 2021); U.S. Geological Survey's National Hydrography Dataset (USGS 2021); U.S. Department of Agriculture Natural Resources Conservation Service Web Soil Survey (USDA 2022a); and the USFWS National Wetland Inventory (USFWS 2022a). Google Earth was also

used to assess current and historical presence or absence of flows and/or ponding on the Project Site (Google Earth Pro 2021).

3.3.1. Affected Environment

The Project Site is located within the Coyote–Cuddeback Lakes Hydrological Unit (HUC 18090207) in the Harper Valley Groundwater Basin. Surface flows within the immediate watershed of the Project Site drains into Harper Lake playa. However, the existing solar thermal generation facility (located to the north of the Project Site) may prevent surface flow within the Project Site from reaching Harper Lake. The Harper Lake playa is at the lowest part of an undrained desert basin, generally devoid of vegetation per the U.S. Geological Survey (USGS 2021). Additionally, there is a riverine U.S. Fish and Wildlife Service (USFWS) National Wetland Inventory classification (USFWS 2022a) and an unnamed ephemeral USGS National Hydrography Dataset flowline occurring within the Project Site (Figure 8). According to the Web Soil Survey the soils had ratings of either 5 or 2 percent, indicating very low hydric levels at the Project Site.

A system of braided ephemeral channels flows from the southwest corner to the northeast corner across the Project Site carrying surface flows. The braided channels dissipate within the middle of the Project Site and dissipate off-site prior to reaching Harper Lake (surface flow may be blocked by an existing solar facility). (See Figure 8). The Harper Valley is considered a closed basin and functions as an isolated intrastate watershed system lacking the presence of traditional navigable water.

The results of the delineation concluded that there are non-wetland California Regional Water Quality Control Boards (RWQCB) jurisdictional waters of the state and California Department of Fish and Wildlife (CDFW) jurisdictional streambeds within the project site. The project site does not contain any streams, wetland waters, or other waters that are subject to federal jurisdiction under Section 404 of the Clean Water Act. Ephemeral channels within the project site either dissipate, evaporating or infiltrating into the groundwater basin, or may continue to flow to Harper Lake during larger storm events. Harper Valley is considered a closed basin and functions as an isolated intrastate watershed system lacking the presence of a traditional navigable water.

The USACE evaluated the Project Site in response to a request for jurisdictional determination (File No. SPL-2022-00380-DLC). In a letter dated March 17, 2023, the USACE determined that aquatic resources identified at the Project Site are excluded from the Clean Water Act Section 404 jurisdiction (See Appendix D).

3.3.2. Environmental Consequences

3.3.2.1. No Action

The No Action alternative would not impact any wetlands.

3.3.2.2. Proposed Action

The Proposed Action would not impact any jurisdictional wetlands or other jurisdictional waters of the U.S. Based on Dudek's Aquatics Resources Delineation, the proposed project would permanently impact 0.86 acres of non-wetland waters of the state under the jurisdiction of RWQCB and 0.86 acres of streambeds under the jurisdiction of CDFW. The National Wetlands Inventory does not identify any wetlands on or near areas where the proposed distribution lines would be constructed to interconnect the Project to the grid. Note that the final boundaries of each agency's jurisdiction are determined by the aquatic resource agency and, therefore, impacts may be slighter higher or lower than what is stated herein.

3.3.3. Mitigation

No mitigation measures are proposed for impacts on jurisdictional wetlands.

3.4. Water Resources

This section addresses water quantity and quality issues related to: discharges to or appropriations from surface or ground water; ground water protection programs (e.g., sole source aquifers and recharge areas); and water quality degradation from temporary construction activities. Water quantity and quality changes can impact other (and sometimes quite distant) environmental resources such as: groundwater and drinking water supplies; threatened or endangered species; other fish and wildlife species; and wetlands, among others. Water Resources are protected under federal law such as the Clean Water Act (CWA).

California's Porter-Cologne Water Quality Control Act of 1970 and its implementing regulations established the RWQCB as the agency responsible for implementing CWA and Porter-Cologne requirements in the Mohave River Basin Watershed. These requirements include adoption of a Water Quality Control Plan ("Basin Plan") to protect inland freshwaters and estuaries. The Basin Plan identifies the beneficial uses for waterbodies in the Mohave River Basin watershed, establishes the water quality objectives required to protect those uses, and provides an implementation plan to protect water quality in the region (RWQCB 2016 and subsequent amendments).

A Sole Source Aquifer (SSA) is an aquifer that has been designated by the United States Environmental Protection Agency (EPA) as the sole or principal source of drinking water for an area and are protected by the Safe Drinking Water Act. An SSA

is an aquifer that supplies at least 50% of the drinking water consumed in the area overlying the aquifer.

3.4.1. Affected Environment

The Project Site is not located in an area served by public sewer and no septic system would be required as this is an unmanned facility. In addition, no irrigation lines would be installed at the Project Site.

The Project Site is located within the Coyote-Cuddeback Lakes Hydrological Unit (HUC 18090207) in the Harper Valley Groundwater Basin (Figure 8). Significant surface flow is both unpredictable and scarce in the arid desert environment. Substantial surface water is typically ephemeral and usually the result of flash-flood events.

The Project Site is not located atop an SSA designated by the EPA.

3.4.2. Environmental Consequences

3.4.2.1. No Action

The No Action alternative would have no impact on groundwater. Groundwater conditions would remain unchanged and there would be no use of groundwater in the project area. The No Action alternative would not impact any groundwater in the Harper Valley Groundwater Basin and have any effect on an SSA.

3.4.2.2. Proposed Action

The Proposed Action would not use groundwater either during the construction process or in connection with operation of the Proposed Action. Water would be trucked to the Project Site during construction. Once operational, water would be trucked to the Project Site for periodic panel washing. The Proposed Action would have no effect on an SSA.

A Preliminary Drainage Report, Lockhart Solar, dated August 2024, was prepared by Kimley-Horn for the Proposed Action. The report compared the peak discharge and peak depth in the combined stream during a 25-year event before construction with a 100-year event after construction of the Proposed Action. The proposed roads within the Project Site will be compacted soil and were considered 30 percent impervious in the analysis. The intent of the Proposed Action's design is to use existing grades to the extent practicable and to minimize required grading. The battery storage system and related equipment, mounted on equipment pads, covering approximately 0.3 acres, were considered new impervious areas, and therefore contributed additional runoff to the combined stream.

Hydrologic and hydraulic analyses were used to determine inundation limits and depths of flow for the 100-year storm in the existing conditions. The hydrologic analyses and water quality calculations were used to determine detention basin sizes for the subject tract.

The drainage report determined that approximately 28,902 cubic feet of storage would be required to account for the increase in runoff due to the 6.1% increase in imperviousness of the proposed site design. Approximately 29,197 cubic feet would be provided as stormwater storage areas in the form of a shallow detention basin. Therefore, the detention basin would accommodate the potential increase in stormwater such that development of the Project would not result in an increase of surface runoff.

3.4.3. Mitigation

No mitigation measures are proposed for water resources.

3.5. Coastal Resources

3.5.1. Affected Environment

The Project Site is located approximately 95 miles from a coastal area or barrier system.

3.6. Biological Resources

An analysis of biological resources was completed in accordance with federal law including the Endangered Species Act (ESA), Migratory Bird Treaty Act (MBTA), and Bald and Golden Eagle Protection Act (BGEPA).

Dudek biologists conducted literature reviews and field surveys of the Project Site in 2022 and prepared the Biological Technical Report (Appendix F). Prior to conducting field surveys, Dudek biologists reviewed the USFWS Critical Habitat and Occurrence Data (USFWS 2022b) databases to identify special-status species and critical habitat that are known to occur or may potentially occur within the Project Site based on the physical characteristics of the Project Site (including biogeography, elevation, soils, and vegetation communities). Field surveys conducted within the Project Site included a wildlife habitat assessment, vegetation mapping, a formal jurisdictional delineation, rare plant survey, and a protocol-level survey for the desert tortoise (*Gopherus agassizii*).

An evaluation of known records of special status plant species in the Twelve Gauge and Lockhart quadrangles and the ten surrounding quadrangles (CDFW 2022a; USFWS 2022b) was also conducted using CDFW information sources (CDFW 2022a).

3.6.1. General Fish, Wildlife, and Vegetation Resources

This section evaluates the general vegetative composition, fish and wildlife species that are present on the Project Site based on the literature review and field surveys conducted by Dudek in April 2022. The survey methods conformed to the California Native Plant Society’s Botanical Survey Guidelines (CNPS 2001), Protocols for Surveying and Evaluating Impacts to Special- Status Native Plant Populations and Sensitive Natural Communities (CDFW 2018), and the USFWS General Rare Plant Survey Guidelines (Cypher 2002).

3.6.1.1. Affected Environment

The field surveys identified 14 vascular plant species consisting of 10 native species (71 percent) and 4 nonnative species. A total of 11 wildlife species were observed within the project site consisting of eight bird species and three reptile species. These species are summarized in Table 1 and 2.

Table 1. Wildlife Species on the Project Site

| Common Name (<i>Scientific Name</i>) | Description |
|--|--|
| Birds | |
| Say’s phoebe <i>Sayornis saya</i> | Say's phoebe is a passerine bird in the tyrant flycatcher family, Tyrannidae. A common bird across western North America, it prefers dry, desolate areas. It was named for Thomas Say, an American naturalist. |
| common raven <i>Corvus corax</i> | The common raven is a large all-black passerine bird. It is the most widely distributed of all corvids, found across the Northern Hemisphere. |
| northern mockingbird <i>Mimus polyglottos</i> | The northern mockingbird is a mockingbird commonly found in North America. This bird is mainly a permanent resident, but northern birds may move south during harsh weather. This species has rarely been observed in Europe. |
| LeConte’s thrasher <i>Toxostoma lecontei</i> | LeConte's thrasher is a pale bird found in the southwestern United States and northwestern Mexico. It prefers to live in deserts with very little vegetation, where it blends in with the sandy soils. LeConte's thrashers are nonmigratory birds that reside in the same territory annually. |
| house sparrow <i>Passer domesticus</i> | The house sparrow is a bird of the sparrow family Passeridae, found in most parts of the world. It is a small bird that has a typical length of 16 cm and a mass of 24–39.5 g. Females and young birds are coloured pale brown and grey, and males have brighter black, white, and brown markings. |

| Common Name (<i>Scientific Name</i>) | Description |
|---|--|
| mourning dove <i>Zenaida macroura</i> | The mourning dove is a member of the dove family, Columbidae. The bird is also known as the American mourning dove, the rain dove, colloquially as the turtle dove, and it was once known as the Carolina pigeon and Carolina turtledove. |
| European starling <i>Sturnus vulgaris</i> | The common starling, also known as the European starling in North America and simply as the starling in Great Britain and Ireland, is a medium-sized passerine bird in the starling family, Sturnidae. |
| sagebrush sparrow <i>Artemisiospiza nevadensis</i> | The sagebrush sparrow is a medium-sized sparrow of the western United States and northwestern Mexico. It used to be placed in the genus <i>Amphispiza</i> , but evidence from 2007 and 2009 suggested it be placed in its own genus. |
| Reptiles | |
| common side-blotched lizard <i>Uta stansburiana</i> | The common side-blotched lizard is a species of side-blotched lizard in the family Phrynosomatidae. The species is native to dry regions of the western United States and northern Mexico. |
| tiger whiptail <i>Aspidoscelis tigris</i> | The western whiptail is a species of lizard in the family Teiidae. The species is found throughout most of the southwestern United States and northern Mexico. Most of its populations appear stable, and it is not listed as endangered in any of the states comprising its range. |
| long-nosed leopard lizard <i>Gambelia wislizenii</i> | The long-nosed leopard lizard is a species of relatively large North American lizard in the family Crotaphytidae. <i>Gambelia wislizenii</i> ranges in snout-to-vent length from 8.3 to 14.6 cm. It has a large head, a long nose, and a long round tail that can be longer than its body. |

Table 2. Plant Species on the Project Site

| Common Name (<i>Scientific Name</i>) | Description |
|--|--|
| cheesebush <i>Ambrosia salsola</i> | <i>Ambrosia salsola</i> , commonly called cheesebush, winged ragweed, burrobush, white burrobrush, and desert pearl, is a species of perennial shrub in the family Asteraceae native to deserts of the southwestern United States and northwestern Mexico. |
| pincushion flower <i>Chaenactis fremontii</i> | <i>Chaenactis fremontii</i> , with the common names Frémont's pincushion and desert pincushion, is a species of annual |

| Common Name (<i>Scientific Name</i>) | Description |
|---|--|
| | wildflower in the daisy family. Both the latter common name, and the specific epithet are chosen in honor of John C. Frémont. |
| smooth desert dandelion <i>Malacothrix glabrata</i> | Malacothrix glabrata, commonly known as the smooth desert dandelion or desert dandelion, is an annual plant in the family Asteraceae. It is common to the southwestern deserts of North America and has showy pale-yellow to white flowers. |
| cryptantha sp. <i>Cryptantha sp</i> | Small annual, with small, brilliant white flowers. Several species of this genus occur in the Santa Monica Mountains, and they are difficult to distinguish. There appear to be three species on CI habitats. |
| Tournefort's mustard <i>Brassica tournefortii</i> | Brassica tournefortii is a species of plant known by the common names Asian mustard, pale cabbage, African mustard, and Sahara mustard, and is well known as an invasive species, especially in California. |
| Wiggins' cholla <i>Cylindropuntia echinocarpa</i> | Cylindropuntia echinocarpa is a species of cactus known by the common names silver cholla, golden cholla, and Wiggins' cholla. It was formerly named Opuntia echinocarpa. |
| allscale <i>Atriplex polycarpa</i> | Atriplex polycarpa (Allscale, Cattle spinach, Allscale saltbush, Cattle saltbush) is a plant in the Amaranthaceae family. It is native to the southwestern United States and northern Mexico. |
| redstem stork's bill <i>Erodium cicutarium</i> | Erodium cicutarium, also known as common stork's-bill, redstem filaree, redstem stork's bill or pinweed, is a herbaceous annual – or in warm climates, biennial – member of the family Geraniaceae of flowering plants. |
| Great Basin langloisia <i>Langloisia setosissima</i> | Langloisia setosissima, the bristly langloisia, bristly-calico, Great Basin langloisia or lilac sunbonnets, is a flowering plant, the sole species in the genus Langloisia in the family Polemoniaceae. |
| Anderson's boxthorn <i>Lycium andersonii</i> | Lycium andersonii is a species of flowering shrub in the nightshade family, Solanaceae. Its common names include water-jacket, redberry desert-thorn, Anderson thornbush, Anderson's desert thorn, Anderson boxthorn, Anderson lycium, Anderson wolfberry, and squawberry. |
| peach thorn <i>Lycium cooperi</i> | Lycium cooperi is a species of flowering plant in the nightshade family known by the common name peach thorn. It is native to the southwestern United States, where it grows in a variety of desert and mountain habitat types. |

| Common Name (<i>Scientific Name</i>) | Description |
|--|---|
| tamarisk <i>Tamarix ramosissima</i> | Tamarix ramosissima, commonly known as saltcedar salt cedar, or tamarisk, is a deciduous arching shrub with reddish stems, feathery, pale green foliage, and characteristic small pink flowers. The cultivar 'Pink Cascade' has gained the Royal Horticultural Society's Award of Garden Merit. |
| creosote bush <i>Larrea tridentata</i> | Larrea tridentata, called creosote bush and greasewood as a plant, chaparral as a medicinal herb, and gobernadora in Mexico, due to its ability to secure more water by inhibiting the growth of nearby plants. In Sonora, it is more commonly called hediondilla; Spanish hediondo = "smelly". |
| Arabian schismus <i>Schismus arabicus</i> | Schismus arabicus is a species of grass known by the common name Arabian schismus. It is native to northern Africa, temperate Asia, and it is also known as an introduced species in the southwestern United States. It grows in many types of habitat, including disturbed areas. |

Table 3. Vegetation Communities and Land Covers within the Project Site

| Vegetation Community/Land Cover Type | Ranking | Total Acreage |
|---|--------------|---------------|
| Allscale scrub (<i>Atriplex polycarpa</i> , 36.340.04) | G4, S4 | 77.69 |
| Unvegetated Wash | GNR, SNR | 0.86 |
| Disturbed Habitat | GNR, SNR | 0.56 |
| | Total | 82.97 |

The Project Site does not provide for regional wildlife movement or serve as a regional wildlife corridor. Ephemeral channels within the project site either dissipate, evaporating or infiltrating into the groundwater basin, or may continue to flow to Harper Dry Lake during larger storm events. There are no established wildlife corridors or habitat linkages within the Project Site. As a result, the Project Site provides open space for wildlife movement while migrating or foraging but does not appear to serve as a significant regional wildlife corridor.

3.6.1.2. Environmental Consequences

3.6.1.2.1. No Action

The No Action alternative would not impact general fish, wildlife, and vegetation resources. The habitat would not be altered, and current land use would continue.

3.6.1.2.2. Proposed Action

The Proposed Action would result in the removal of vegetation across the 80-acre Project Site as part of the initial site preparation phase, as described in Chapter 2. It is anticipated that little or no vegetation would be removed from right of ways used to interconnect the Project to the electrical grid. Other than access roads and equipment pads for batteries, switchgear, and transformers, vegetation would be allowed to grow back through natural reclamation. One re-established, existing vegetation would not interfere with normal operations of the Project and accordingly no vegetation management activities are planned. There are no vegetation communities considered sensitive biological resources by CDFW within the Project Site. Therefore, no impacts to sensitive biological resources would occur.

Furthermore, the Proposed Action is not expected to contribute to the impediment of local or seasonal movement of wildlife through the surrounding habitat.

3.6.1.3. Mitigation

No mitigation measures are proposed for general fish, wildlife, and vegetation resources.

3.6.2. Federally Listed Threatened and Endangered Species

The Endangered Species Act (16 U.S.C Ch. 35) is enforced by the U.S. Fish & Wildlife Service (USFWS) and provides the protection and recovery of species threatened with extinction and ensures federal agencies use their authorities to further the purpose of the ESA to protect and conserve endangered and threatened species. The following terms are used in the evaluation:

- *Endangered species* are defined as “any species that is in danger of extinction throughout all or a significant portion of its range” [16 U.S.C. § 1532(6)].
- *Threatened species* are defined as “any species which is likely to become an endangered species within the foreseeable future throughout all or a significant portion of its range” [16 U.S.C. § 1532(20)].
- *Candidate species* are any species being considered by USFWS for listing as threatened or endangered but not yet listed pursuant to 16 U.S.C 1533. Although candidate species have no legal status and are accorded no protection under ESA, these species receive consideration for possible listing in the future.
- *Critical habitat* is defined as “(i) the specific areas within the geographical area occupied by the species, at the time it is listed in accordance with the provisions of section 4 of this Act, on which are found those physical or biological features (I) essential to the conservation of the species and (II) which may require special management considerations or protection; and (ii) specific areas outside the geographical area occupied by the species at the time

it is listed in accordance with the provisions of section 4 of this Act, upon a determination by the Secretary that such areas are essential for the conservation of the species” [16 U.S.C. § 1532(5)].

3.6.2.1. Affected Environment

To identify the potential presence of federally protected species, a search of Project Site was completed using the USFWS Information for Planning and Consultation (IPaC) consultation tool. The IPaC Official Species List generated from the search is provided in Appendix F. IPaC identified one endangered species, two threatened species and one candidate species as potentially present on the Project Site which are summarized in Table 4. There is no USFWS-designated critical habitat for any listed, proposed, or candidate species within or directly adjacent to the Project Site (USFWS 2022b).

Table 4. ESA Listed and Candidate Species

| Scientific Name | Common Name | Federal Status |
|--|--------------------------------|----------------|
| <i>Empidonax traillii extimus</i> | Southwestern Willow Flycatcher | Endangered |
| <i>Gopherus agassizii</i> | Mojave desert tortoise | Threatened |
| <i>Charadrius alexandrinus nivosus (nesting)</i> | western snowy plover | Threatened |
| <i>Danaus plexippus</i> | Monarch Butterfly | Candidate |

3.6.2.1.1. Southwestern Willow Flycatcher

The southwestern willow flycatcher (*Empidonax traillii extimus*) is a small neotropical migratory bird, whose nesting habitat is restricted to relatively dense growths of trees and shrubs in riparian ecosystems in the arid southwestern United States and possibly extreme northwestern Mexico. The riparian habitats for the species are associated with rivers, swamps, and other wetlands, including lakes and reservoirs. Most of these habitats are classified as wetlands including palustrine and lacustrine forested wetlands and scrub-shrub wetlands. Some are non-wetland riparian forests. Surface water or saturated soil are typically, but not always, present year-round or seasonally and ground water is generally at a depth of less than 6.5 to 9 feet within or adjacent to nesting habitat (USFWS 2002). Field surveys of the Project Site did not identify suitable habitat for the species in the area.

3.6.2.1.2. Mojave Desert Tortoise (Gopherus agassizii)

The Mojave population of desert tortoise (*Gopherus agassizii*) includes all tortoises north and west of the Colorado River in Arizona, Utah, Nevada, and California. Listed

as threatened in 1990, these tortoises are impacted by ongoing threats, including loss, degradation, and fragmentation of habitat due to development. They are also impacted by increased wildfire due to non-native invasive vegetation, disease, road mortality and predation of their eggs and hatchlings.

Desert tortoise is a federally and state-listed threatened species. Throughout most of the Mojave Desert, desert tortoises occur most commonly on gently sloping terrain with sandy gravel soils and where there is sparse cover of low-growing shrubs, which allows for the establishment of herbaceous plants. Soils must be friable enough for digging burrows, but firm enough so that burrows do not collapse (USFWS 2008).

The Mojave Desert Tortoise has a moderate potential to occur in the Project area. Therefore, protocol-level surveys were conducted within the Project Site for desert tortoise. There are local, recent records of the Mojave Desert Tortoise and suitable habitat is present; however, no recent sign of the species were observed during the initial survey of the site by biologists. No desert tortoise signs (e.g., feathers, whitewash, scat, carapace), individuals, or suitable tortoise burrows were observed. Five burrows were mapped during the initial survey. However, these burrows were all partially collapsed, inactive (i.e., cobwebs present), and deemed not suitable for desert tortoise.

The USFWS has identified a Desert Tortoise Conservation Area/Least Cost Corridor approximately 1,330 feet west of the Project Site. The Corridor can provide a habitat mosaic containing viable populations of smaller terrestrial species (e.g., desert tortoise) and allow for gene flow through diffusion of populations over a period of generations.

3.6.2.1.3. Western Snowy Plover (*Charadrius alexandrinus nivosus*)

The Western Snowy Plover (*Charadrius alexandrinus nivosus*) is a small shorebird with moderately long legs and a short neck. Their back is pale tan while their underparts are white and have dark patches on the sides of their neck which reach around onto the top of their chest. Juveniles are similar to nonbreeding adults but have scaly pale edging on their back feathers. The bird's habitat occurs on coasts nests on sandy marine and estuarine shores, in the interior nests on sandy, barren, or sparsely vegetated flats near saline or alkaline lakes, reservoirs, and ponds.

Suitable habitat for the Western Snowy Plover is not present on the Project Site or in the vicinity. Western Snowy Plovers are unlikely to occur in the Project area.

3.6.2.1.4. Monarch Butterfly (*Danaus plexippus*)

Adult monarch butterflies during breeding and migration require a diversity of blooming nectar resources, which they feed on throughout their migration routes and breeding grounds (spring through fall). Monarchs also need milkweed (for both

oviposition and larval feeding) embedded within this diverse nectaring habitat. The correct phenology, or timing, of both monarchs and nectar plants and milkweed is important for monarch survival. The position of these resources on the landscape is important as well. In western North America, nectar and milkweed resources are often associated with riparian corridors, and milkweed may function as the principal nectar source for monarchs in more arid regions. Field surveys of the Project Site did not identify suitable habitat for the species in the area.

3.6.2.2. Environmental Consequences

3.6.2.2.1. No Action

The No Action alternative would not impact listed threatened, endangered, candidate, or proposed species. The habitat would not be altered, and current management would continue.

3.6.2.2.2. Proposed Action

The Proposed Action alternative would have no effect on the Mojave Desert Tortoise as protocol level surveys found no desert tortoise signs (e.g., feathers, whitewash, scat, carapace), individuals, or suitable tortoise burrows present on the Project Site. Once the site re-vegetates it would be suitable for the Mojave Desert Tortoise, should the species attempt to populate the area.

The Proposed Action alternative would have no direct or indirect effects on the Western Snowy Plover because there is no suitable habitat present on the Project Site.

The Proposed Action alternative would have no direct or indirect effects on the Monarch Butterfly because there is no suitable habitat present on the Project Site.

Table 5. Effect Determinations for Endangered Species Act-listed Species Potentially Occurring at Project Site and Surrounding Vicinity

| Common Name | Potential for Occurrence in Project Area | Determination of Effect |
|--------------------------------|---|-------------------------|
| Southwestern Willow Flycatcher | Unlikely to occur | No effect |
| Mojave desert tortoise | Moderate likelihood to occur. Protocol level survey found no species present. | No effect |
| Western snowy plover | Unlikely to occur | No effect |
| Monarch Butterfly | Unlikely to occur | No effect |

3.6.2.3. Mitigation

No mitigation measures are proposed for ESA-listed threatened or endangered species.

3.6.3. Migratory Birds

The Migratory Bird Treaty Act (MBTA) regulates or prohibits taking, killing, possession of, or harm to migratory bird species listed in Title 50, Section 10.13 of the Code of Federal Regulations (CFR). The MBTA is an international treaty for the conservation and management of bird species that migrate through more than one country and is enforced in the United States by USFWS.

3.6.3.1. Affected Environment

No active or inactive nests for migratory birds were identified during the field surveys. There is a potential for birds to nest on the Project Site, however, including the special-status species LeConte's thrasher.

3.6.3.2. Environmental Consequences

3.6.3.2.1. No Action

The No Action alternative would not impact migratory birds. The site would maintain its current habitat and management, and no additional alteration would occur.

3.6.3.2.2. Proposed Action

Breeding birds could be affected by short-term construction-related noise, which can result in the disruption of foraging, nesting, and reproductive activities. Some bird species present or potentially present adjacent to work areas may nest within the shrubs on site and within 250 to 500 feet of work areas.

Under the Proposed Action, impacts to migratory birds are expected to be negligible based on the lack of migratory birds expected to utilize or otherwise visit the Project Site, as well as the lack of suitable nesting and foraging habitat, and with mitigation incorporated. Ground mounted solar arrays also pose little to no risk to migratory birds. Additionally, the solar panels proposed for use at this facility are designed to absorb the sunlight (photovoltaic panels) versus reflect the light; therefore, a reflective glare is not a concern for this facility.

3.6.3.3. Mitigation

In the event that construction activities occur during the nesting bird breeding season (February 1 through September 1), a qualified biologist shall conduct pre-

construction survey within 7 days prior to any on-site grading and construction activities in accordance with the Migratory Bird Treaty Act and California Fish and Game Code Sections 3503, 3503.5, and 3513. Pre-construction nesting bird surveys shall also cover a 500-foot buffer around the Project Site, as feasible.

If occupied nests are found, then limits of construction to avoid occupied nests shall be established by the qualified biologist in the field with flagging, fencing, or other appropriate barriers (e.g., 250 feet around active passerine nests to 500 feet around active non-listed raptor nests), and construction personnel shall be instructed on the sensitivity of nest areas. The nest area shall be avoided until the nest is vacated and the juveniles have fledged and are no longer reliant upon the nest or parental care for survival, construction may proceed in the setback areas. If migratory birds are not detected during the pre-construction survey, no further measures would be required, and construction activities may proceed.

3.6.4. Bald and Golden Eagles

The Bald and Golden Eagle Protection Act (BGEPA) is enforced by the USFWS and makes it illegal for anyone to take, possess, import, export, transport, sell, purchase, barter, or offer for sale, purchase, or barter any bald or golden eagle or the parts, nests, eggs of such bird except under the terms of a valid permit issued. The BGEPA also prohibits any activity that could cause injury to the species, nest abandonment or a decrease in productivity.

3.6.4.1. Affected Environment

Golden Eagles nest and winter in hilly, open/semi-open areas, including shrublands, grasslands, pastures, riparian areas, mountainous canyon land, open desert rimrock terrain; nests in large trees and on cliffs in open areas and forages in open habitats. Suitable habitat for the Golden Eagle is not present on the Project Site or in the vicinity. Therefore, Golden Eagles are unlikely to occur in the Project area.

Bald eagles live within two and a half miles of the coast, bays, rivers, lakes, or other bodies of water, reflecting the availability of their main food source (Center for Biological Diversity undated). Suitable habitat for the Bald Eagle is not present on the Project Site or in the vicinity. Therefore, Bald Eagles are unlikely to occur in the Project area.

3.6.4.2. Environmental Consequences

3.6.4.2.1. No Action

The No Action alternative would not impact Bald or Golden Eagles. The site would maintain its current habitat and management, and no additional alteration would occur.

3.6.4.2.2. Proposed Action

The Proposed Action alternative would have no direct or indirect effects on the Golden Eagle or Bald Eagles because there is no suitable habitat present on the Project Site.

3.6.4.3. Mitigation

No mitigation measures are proposed for the Bald or Golden Eagle, other than the proposed affecting all migratory birds set forth in Section 3.6.3.3.

3.6.5. Invasive Species

EO 13112, Invasive Species, directs federal agencies to not authorize, fund or carry out actions believed to cause or promote the introduction or spread of invasive species unless the Agency determines that the benefits of such actions outweigh the potential harm caused by invasive species.

3.6.5.1. Affected Environment

The field surveys identified four non-native species in the project areas, including *Brassica tournefortii* (Tournefort's mustard); *Erodium cicutarium* (Redstem stork's bill); *Tamarix ramosissima* (saltcedar/tamarisk); and *Schismus arabicus* (Arabian schismus).

Saltcedar (also called tamarisk) is a non-native invasive plant species regulated as a noxious weed under the California Code of Regulations (3 CCR § 4500). Saltcedar is a shrubby tree that was brought to the U.S. in the nineteenth century. One mature plant is capable of producing 500,000 seeds per year. It can be found along streams and lake shores, throughout California (University of California 2010). The most common native plants displaced by a saltcedar invasion are cottonwoods, mesquites, and willows growing along rivers and streams (University of California 2010). Saltcedar can also negatively affect native wildlife because it impedes access to water.

3.6.5.2. Environmental Consequences

3.6.5.2.1. No Action

The No Action alternative would not impact invasive species. No significant invasive species have been identified in the Project area, and it is not anticipated that new such species will be introduced into the nearby environment.

3.6.5.2.2. Proposed Action

Site preparation and grading will require clearing of vegetation remaining in the Project Site. While ground disturbance creates an opportunity for noxious weeds or

invasive species populations to increase, potential colonization by noxious weeds or invasive species would be considered temporary because the Allscale Scrub will be allowed to repopulate throughout the Project Site, other than along access roads and where equipment pads are located. Moreover, due to the lack of invasive species observed in the review of the literature and from site surveys and the abundance of Allscale Scrub throughout the surrounding region, it is not anticipated that temporary disturbances from construction will result in invasive species supplanting current ground cover.

3.6.5.3. Mitigation

The Project contractor would implement standard best management practices to minimize the introduction of invasive species, including using weed free straw for erosion control; avoid or minimize use of mulch, and fiber rolls must be premanufactured and filled with weed-free rice or wheat straw, wood excelsior, or coconut fiber.

3.7. Cultural Resources and Historic Properties

3.7.1. Affected Environment

This section addresses the evaluation and consideration of the proposal's potential effects on cultural resources and historic properties. NEPA mandates the integration of the NHPA (54 USC 300101 et seq) and its implementing regulations (36 CFR 800,). Section 106 of the NHPA (54 USC 306108) requires any federal agency that has direct or indirect jurisdiction over an undertaking consider the effect of the undertaking on historic properties.

The objective of this section is to evaluate and document the project's potential impacts to cultural resources as required under NEPA and to consider the project's effects on historic properties under Section 106 of the NHPA. In addition this section summarizes Tribal consultation efforts for the proposed project.

Cultural resources refer to historic, aesthetic, and cultural aspects of the human environment. The NHPA defines historic properties as a subset of cultural resources that includes prehistoric or historic districts, sites, buildings, structures, or objects included in or eligible for the National Register of Historic Places (NRHP), which the U.S. Secretary of the Interior maintains.

A property is significant if it meets at least one of the following four criteria (36 CFR 60):

- a) It is associated with events that have made a significant contribution to the broad patterns of our history.
- b) It is associated with the lives of persons significant in our past

- c) It embodies the distinctive characteristics of a type, period, or method of construction, or that represent the work of a master, or that possess high artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinction.
- d) It has yielded or may be likely to yield, information important in prehistory or history.

To convey its significance, a property must retain aspects of integrity that contribute to its eligibility. Aspects of integrity include location, setting, design, workmanship, materials, feeling, and association (36 CFR 60). The Area of Potential Effects (APE) is used as the area of analysis to assess potential impacts and effects of the proposed project on cultural resources and historic properties.

3.7.1.1. Cultural Resources

A Cultural Resources Inventory and Evaluation Report dated November 2022 was prepared for the Proposed Action by Dudek. The report is on file at RUS. On May 18, 2022, Dudek requested a search of the California Historical Resources Information System CHRIS records held at the South-Central Coastal Information Center (SCCIC), located on the campus of California State University, Fullerton. On August 25, 2022, the staff at the SCCIC returned the results of the search to Dudek. The search of the proposed Project Site and a 1-mile radius included collections of mapped pre-contact, post-contact, and built environment resources; Department of Parks and Recreation (DPR) site records; technical reports; and ethnographic references. The search also included historical maps of the Project Site, the NRHP, the California Register of Historical Resources (CRHR), the California Historic Property Data File, the lists of California State Historical Landmarks, California Points of Historical Interest, the Archaeological Determinations of Eligibility, and the Built Environment Resources Directory.

The archival research identified three previously recorded resources on the Project Site. All three of these resources were isolated finds. Dudek was unable to relocate these resources on the Project Site. The intensive survey identified two previously unidentified archaeological resources on the Project Site: an isolated find and a historic-era refuse scatter. These resources are determined not eligible for listing in the NRHP or the CRHR.

3.7.1.2. Historic Buildings

A Built Environment Inventory and Evaluation Report, dated November 2022, was prepared for the Proposed Action by Dudek. The report is on file at RUS. The Project Site contains buildings and structures over the age of 45, including a former residence, agricultural outbuilding, Quonset Hut and shed. All of these resources have been determined not eligible for the NRHP or CRHR.

3.7.1.3. Consultation

Section 106 of the NHPA requires federal agencies to consult with the relevant Tribal Historic Preservation Officer (THPO) or official Tribal designees on historic properties of religious or cultural significance that may be affected by the Proposed Action (undertaking). Federal agencies are also required to consult with SHPO regarding effects on historic properties.

On September 20, 2023, RUS submitted a finding of No Historic Properties Affected to the SHPO; Kern Valley Indian Community; Morongo Band of Mission Indians; Quechan Tribe of the Fort Yuma Reservation; San Fernando Band of Mission Indians; San Manuel Band of Mission Indians (Yuhaaviatam of San Manuel Nation); Serrano Nation of Mission Indians; and Twenty-Nine Palms Band of Mission Indians. On October 6, 2023, Yujaaviatam of San Manuel Nation responded concurring with the recommendation for archaeological and Tribal monitoring during construction. On December 15, 2023, SHPO responded with no objections. On March 18, 2024, Kern Valley Indian Community (KVIC) responded, concurring with the recommendation for archaeological and tribal monitoring during construction, which has been addressed in the mitigation described Section 3.7.3. RUS received no objections from any of the other consulting parties. All correspondence is on file at RUS.

3.7.2. Environmental Consequences

3.7.2.1. No Action

The No Action alternative would not change the current conditions. Ground disturbance from potential farming could occur and may further affect existing cultural resources within the Project Site. Effects on cultural resources such as those known to exist in the Project's physical and visual Area of Potential Effect (APE) are considered long term. Weather would continue to cause structural deterioration of the abandoned and dilapidated structures, and erosion and vegetation growth would continue to alter cultural resources. Under the No Action alternative, these effects on cultural resources in the APE would continue at the existing rate. As there are no known historic properties in the APE, the No Action alternative will have no effect on historic properties.

3.7.2.2. Proposed Action

No significant cultural resources were identified on the Project Site. The resources identified within the Project Site are not eligible for listing in the NRHP, CRHR, or local registers as a significant cultural resource under any of the criteria. These resources have been documented on DPR forms and are assigned a California Historical Resource Status Code of 6Z (found ineligible for the NRHP, CRHR, or local designation through survey evaluation).

Due to the low and insignificant finds made during the records search, sacred lands file search, and pedestrian survey, it is unlikely that unanticipated intact subsurface cultural resources will be identified during construction. In the unlikely event that resources are encountered during construction, local regulations outlined in Section 2.2 for cultural resources under the County of San Bernardino General Plan's Conservation Element, Goal CO-3, in addition to standard protection measures pursuant to 36 CFR § 800.13, will be implemented to ensure that unanticipated archaeological resources or human remains are treated properly. Additionally, archaeological and Tribal monitors will be present during construction to ensure appropriate measures are taken in the event of a post-review discovery.

The Proposed Action will not adversely affect potential cultural resources with implementation of the mitigation measures in Section 3.7.3. No historic properties will be affected as a result of the Proposed Action. If cultural resources (e.g., lithic tools, pottery, human remains, etc.) are discovered during construction, then earth - moving activity within and around the immediate discovery area will be diverted until a qualified archaeologist can assess the nature and significance of the find in consultation with interested Native American tribes (as applicable). Unexpected discoveries will be handled pursuant to 36 CFR § 800.13 and applicable California laws, which prohibit the destruction or desecration of human remains including Native American burial grounds or mounds.

3.7.3. Mitigation

3.7.3.1. Unanticipated Discovery of Archaeological Resources.

A worker environmental awareness program training shall be prepared and conducted prior to ground-disturbing activities to inform all construction personnel working on the Proposed Action about the archaeological sensitivity of the area. The purpose of the worker environmental awareness program training is to provide specific details on the kinds of archaeological materials that may be identified during construction of the Proposed Action and explain the importance of and legal basis for the protection of cultural resources. Each worker shall also learn the proper procedures to follow in the event that cultural resources or human remains are uncovered during ground-disturbing activities. These procedures include work curtailment or redirection and immediately contacting the appropriate County of San Bernardino personnel upon discovery or suspected discovery of cultural resources and RUS historic preservation staff.

In the event that potential archaeological resources (sites, features, or artifacts) are exposed during construction activities for the Proposed Action, all construction work occurring within 100 feet of the find shall immediately stop until a qualified archaeologist, meeting the Secretary of the Interior's Professional Qualification Standards, can evaluate the significance of the find and determine whether additional study is warranted. Furthermore, the archaeologist responding must report their

assessment to RUS and RUS shall determine if work can continue or if consultation is needed with Indian tribes/SHPO.

3.7.3.2. Unanticipated Discovery of Human Remains.

In accordance with Section 7050.5 of the California Health and Safety Code, if human remains are found, the county coroner, local law enforcement and RUS shall be immediately notified of the discovery. No further excavation or disturbance of the Project Site or any nearby area reasonably suspected to overlie adjacent remains shall occur until the county coroner has determined the appropriate treatment and disposition of the human remains.

3.7.3.3. Archaeological & Tribal Monitoring.

At the recommendation of interested Tribes, archaeological and Tribal monitors shall be present at the discretion of the tribes for all ground-disturbing activities that occur within the proposed project area (which includes, but is not limited to, tree/shrub removal and planting, clearing/grubbing, grading, excavation, trenching, compaction, fence/gate removal and installation, drainage and irrigation removal and installation, hardscape installation, benches, signage, boulders, walls, seat walls, fountains, etc., and archaeological work). At the discretion of the consulting tribes, a reasonable number of tribal monitors may be present each workday to ensure that simultaneously occurring ground disturbing activities receive thorough levels of monitoring coverage. Prior to ground-disturbing activities, a Monitoring Plan prepared by the applicant will be developed and submitted to RUS and Yuhaaviatam of San Manuel Nation for review and approval.

3.8. Aesthetics

3.8.1. Affected Environment

A Visual Impact Analysis was prepared for the Proposed Action in September 2022 (see Appendix G). The Project Site comprises primarily undeveloped, flat desert terrain. Specifically, the southern portion of the Project Site (approximately 45 acres) is undeveloped (a single steel lattice tower supporting a regional transmission line is located in the southwest corner) and covered by low and dry desert shrubs (generally no taller than 2-4 feet high) that present as a stippled appearance across the Project Site. (See Photos A and B on Figure 10). A desert wash/drainage also occurs on the southern portion and generally extends from the southwest to the northeast corner of the Project Site. The northern portion of the Project Site displays a similar terrain and vegetation character as the southern portion however, a former housing compound comprised of two dilapidated structures (and the remnants of up to four others) is also present. (See Photo C on Figure 10). The northern portion is also crossed by several dirt access roads associated with the former compound and several trees ostensibly planted to provide wind breaks. In addition to electrical

transmission infrastructure, existing trees and dirt roads on the northern portion of the Project Site are shown on Photos C and D (Figure 10).

Land uses in the surrounding area include flat undeveloped terrain (to the immediate east and west of the Project Site), electrical transmission lines, limited scattered residences (to the north, northwest, and west, Harper Dry Lake, and solar farm development. Existing terrain and electrical transmission lines are shown in Photos E and F, Figure 11. Specifically, multiple utility- scale solar farm developments are located to the east (along Roy Road), north, and northeast and include the 250 MW Mojave Solar Project (a concentrated solar power facility featuring solar steam generators and auxiliary boilers) and the Solar Energy Generating System VIII-IX (Solar Energy Generating System VIII-IX) solar power plants. In total, there is over 2,000 acres of operating solar farm development within a 5-mile area from the Project Site (See Photos F and G), which include surrounding solar development to the east and north. Lastly, existing residences along Edie Road to the north of the Project Site are captured in Photo G. (Figure 11).

Lighting and Glare

In addition, new light and glare sources within the Project Site would generally be limited to low-elevation security lighting at the site's ingress/egress gate(s). All lighting installed on the Project Site would be directed downwards and shielded to control illumination of off-site areas (including nearby residential lands) and reduce skyglow. Regarding glare, panels would be angled such that reflected light from inbound sun rays would be projected at a similar angle and would generally be "above" the typical height of nearby residences and motorists on roads in the immediate surrounding area of the Project Site.

3.8.2. Environmental Consequences

3.8.2.1. No Action

The No Action alternative would not impact the aesthetics of the surrounding landscape and would therefore have no short- or long-term impacts on the existing visual environment.

3.8.2.2. Proposed Action

Solar arrays ranging from three to nine feet in height would cover the Project Site. Also, two small sheds approximately ten feet in height, housing the battery storage systems, and two equipment pads with transformers and switchgear would be present. Two transmission line would also be constructed. The presence of Project components in future views from local roads in the surrounding area would not substantially interrupt views to distant hillside and ridgeline terrain the region.

The Project Site is not adjacent to a state scenic highway and would not be readily visible from the nearest state scenic highway (State Route 58; located nearly 5 miles to the south of the Project Site). Due to the presence of existing solar development in the immediate area (approximately 2,000 acres of solar development is present within a 5-mile distance of the Project Site), construction and operation of the Proposed Action would not degrade the existing character of the landscape.

3.8.3. Mitigation

No mitigation measures are proposed for aesthetics.

3.9. Air Quality

The EPA Office of Air Quality Planning and Standards set National Ambient Air Quality Standards (NAAQS). Ambient air quality standards define the allowable concentrations of criteria pollutants in ambient air. The EPA has set air quality standards for the following criteria pollutants: nitrogen dioxide (NO₂), sulfur dioxide (SO₂), carbon monoxide (CO), particulate matter smaller than 10 microns in aerodynamic diameter (PM₁₀), particulate matter smaller than 2.5 microns in aerodynamic diameter (PM_{2.5}), ozone (O₃), and lead (Pb).

The federal and state governments have been empowered by the federal and state Clean Air Acts to regulate the emission of airborne pollutants and have established NAAQS for the protection of public health. The USEPA is the federal agency designated to administer national air quality regulations, while CARB is the state equivalent in the California Environmental Protection Agency. Local control over air quality management is provided by CARB through multi-county and county-level Air Pollution Control Districts (APCDs) (also referred to as Air Quality Management Districts). Under the Clean Air Act, San Bernadino County is non-attainment for the 8-hour Ozone 2008 standard and 8-hour Ozone 2015 standard.

CARB establishes statewide air quality standards and is responsible for the control of mobile emission sources, while the local APCDs are responsible for enforcing standards and regulating stationary sources. CARB has established 15 air basins statewide. The Project Site is located in the Mojave Desert Air Basin (MDAB), which is under the jurisdiction of the Mojave Desert Air Quality Management District (MDAQMD). The MDAQMD has developed regional significance thresholds for regulated pollutants, shown in Table 7.

The EPA assigns classifications to geographic areas based on monitored ambient air quality conditions. Areas that meet both the primary and secondary standards of a pollutant subject to NAAQS are classified as being in attainment for that pollutant. Areas that do not meet the NAAQS for a pollutant are designated as being in nonattainment for that pollutant. Areas that cannot be classified based on available information for a pollutant are designated as being unclassified. An area's attainment

status is designated separately for each criteria pollutant; one area may have all three classifications. Previously designated nonattainment areas for one of the NAAQS that have since met the NAAQS standards are referred to as attainment areas with a maintenance plan. Ensuring that the air quality in those areas continues to meet the standards requires the development and implementation of a maintenance plan. As of May 20, 2021, the EPA designates Beaverhead County as in attainment or unclassified for all criteria pollutants, meaning that the air in Beaverhead County meets the NAAQs (EPA 2021b).

3.9.1. Affected Environment

Existing air quality is measured at established MDAQMD air quality monitoring stations. The purpose of the monitoring stations is to measure ambient concentrations of pollutants, including criteria pollutants, ozone precursors and TACs, and to determine whether the CAAQS and the NAAQS are met. Monitored air quality is evaluated in the context of ambient air quality standards. These standards are the levels of air quality that are considered safe, with an adequate margin of safety, to protect the public health and welfare.

Relative to the Project Site, the nearest long-term air quality monitoring site for NO₂, O₃ and PM₁₀ was obtained from the MDAQMD Barstow monitoring station, located approximately 18 miles southeast of the Project site. Data for PM_{2.5} was obtained from the MDAQMD Victorville-Park Avenue, located approximately 35 miles South of the Project site. The most recent three (3) years of data available is shown in Table 6 and identifies the number of days ambient air quality standards were exceeded for the study area, which is considered to be representative of the local air quality at the Project site. Data for CO and SO₂ has been omitted as attainment is regularly met and few monitoring stations in the area measure CO or SO₂ concentrations.

Table 6. Ambient Air Background Pollutant Concentrations / Exceedances/Standards

| Pollutant | 2019 | 2020 | 2021 |
|---|-------|-------|-------|
| Ozone (O₃) | | | |
| State maximum 1-hour concentration (ppm) | 0.090 | 0.117 | 0.099 |
| National maximum 8-hour concentration (ppm) | 0.082 | 0.098 | 0.087 |
| State maximum 8-hour concentration (ppm) | 0.082 | 0.098 | 0.088 |
| <i>Number of Days Standard Exceeded</i> | | | |
| CAAQS 1-hour (>0.09 ppm) | 0 | 3 | 2 |

| Pollutant | 2019 | 2020 | 2021 |
|---|-------|-------|-------|
| CAAQS 8-hour (>0.070 ppm)/NAAQS 8-hour (>0.070 ppm) | 10/9 | 26/25 | 21/20 |
| Respirable Particulate Matter (PM₁₀) | | | |
| National maximum 24-hour concentration (ug/m ³) | 209.5 | 213.5 | 372.7 |
| State maximum 24-hour concentration (ug/m ³) | * | * | * |
| Annual federal average concentration (ug/m ³) | 24.8 | 33.3 | 29.9 |
| <i>Annual or Days Standard Exceeded</i> | | | |
| NAAQS 24-hour (>150 ug/m ³) | 1 | 1 | 1 |
| Fine Particulate Matter (PM_{2.5}) | | | |
| National maximum 24-hour concentration (ug/m ³) | 17.8 | 48.4 | 87.1 |
| State maximum 24-hour concentration (ug/m ³) | 20.0 | 48.7 | 87.1 |
| <i>Annual average concentration (ug/m³)</i> | 7.0 | 9.7 | 10.2 |
| <i>Annual or Days Standard Exceeded</i> | | | |
| NAAQS 24-hour (>35 ug/m ³) | 0/No | 4 | 1 |
| CAAQS Annuyal (>12 ug/m ³) | 7 | 10.4 | 10.3 |
| Nitrogen Dioxide (NO₂) | | | |
| National maximum 1-hour concentration (ppb) | 59.8 | 62.8 | 62.4 |
| State maximum 1-hour concentration (ppb) | 59 | 62 | 62 |
| Annual average concentration (ppb) | 13 | 14 | 14 |

Source: Air Quality & Greenhouse Gas Study dated October 17, 2022, BlueScape Environmental

3.9.2. Environmental Consequences

3.9.2.1. No Action

Under the No Action alternative, the solar facility would not be developed. No surface disturbance would occur, and air resources would not be affected. Climate change would continue under current trends.

3.9.2.2. Proposed Action

An Air Quality & Greenhouse Gas Study dated October 17, 2022, was prepared for the Proposed Action. This is provided as Appendix H. As previously discussed, the MDAQMD has developed regional significance thresholds for regulated pollutants, shown below in Table 7. The MDAQMD's Guidelines indicate that any projects in the MDAB with daily regional emissions that exceed any of the indicated thresholds may be considered as having an individually and cumulatively significant air quality impact. The MDAQMD's Guidelines indicate that any projects in the MDAB with daily regional emissions that exceed any of the indicated thresholds may be considered as having an individually and cumulatively significant air quality impact.

Table 7. Significant Emissions Thresholds

| Criteria Pollutant | Annual Threshold (tons) | Daily Threshold (pounds) |
|---|-------------------------|--------------------------|
| Carbon Monoxide (CO) | 100 | 548 |
| Oxides of Nitrogen (NO _x) | 25 | 137 |
| Volatile Organic Compounds (VOC) | 25 | 137 |
| Sulfur Oxides (SO _x) | 25 | 137 |
| Particulate Matter (PM ₁₀) | 15 | 82 |
| Particulate Matter (PM _{2.5}) | 12 | 65 |

Source: Air Quality & Greenhouse Gas Study dated October 17, 2022, BlueScape Environmental

Air quality modeling was performed in general accordance with the methodologies outlined in the MDAQMD CEQA Guidelines (MDAQMD 2020) to identify construction emissions associated with the Proposed Action. Emissions were calculated using the California Emissions Estimator Model (CalEEMod) software version 2020.4.0 which incorporates current air emission data, planning methods and protocol approved by CARB (CAPCOA 2022). The purpose of this model is to calculate construction-source and operational-source criteria pollutant (VOC/ROG, NOX, CO, SOX, PM10, PM2.5) and Green House Gas (GHG) emissions from direct and indirect sources; and quantify applicable air quality and GHG reductions achieved from best management practices and project design features.

Construction of the Proposed Action would generate temporary air pollutant emissions. For the purpose of estimating emissions, it was assumed that 53 acres within the parcel would be disturbed and graded for overall development of the Project Site. No haul trips are expected because import or export of soils will not be required to achieve final grades. Construction phases would generally consist of demolition, the Project Site preparation and grading, and construction of the solar PV energy storage system and the associated racking system.

Construction is anticipated to occur over six months. As shown in Table 8, below, construction emissions for the Proposed Action would not exceed MDAQMD’s daily emissions thresholds as demonstrated in Table 8. Thus, the Proposed Action construction would not violate an air quality standard or result in a cumulatively considerable increase in particulate matter emissions or expose receptors to substantial pollutant concentrations.

Table 8. Maximum Daily Construction Emissions with Control Measures

| | Maximum Emissions (lbs/day) | | | | | |
|--------------------------------|-----------------------------|-----------------|------------|-----------------|------------------|-------------------|
| | VOC | NO _x | CO | SO ₂ | PM ₁₀ | PM _{2.5} |
| Summer Daily Maximum | 6.10 | 32.3 | 63.8 | .211 | 15.7 | 4.87 |
| Winter Daily Maximum | 5.98 | 33.1 | 57.1 | .201 | 15.7 | 4.87 |
| Significance Thresholds | 13 | 137 | 548 | 137 | 82 | 65 |
| Threshold Exceeded? | No | No | No | No | No | No |

Source: Air Quality & Greenhouse Gas Study dated October 17, 2022, BlueScape Environmental

Table 9 summarizes the Proposed Action maximum annual construction emissions, including dust control measures. Based on the emissions shown, construction of the Proposed Action would not exceed the MDAQMD regional construction emission thresholds for annual emissions.

Table 9. Maximum Annual Construction Emissions with Control Measures

| | Maximum Emissions (tons/year) | | | | | |
|--------------------------------|-------------------------------|-----------------|------------|-----------------|------------------|-------------------|
| | VOC | NO _x | CO | SO ₂ | PM ₁₀ | PM _{2.5} |
| Annual Maximum | 0.206 | 1.27 | 2.03 | 0.007 | 0.548 | 0.177 |
| Significance Thresholds | 25 | 25 | 100 | 25 | 15 | 12 |
| Threshold Exceeded? | No | No | No | No | No | No |

Source: Air Quality & Greenhouse Gas Study dated October 17, 2022, BlueScape Environmental

Therefore, construction of the Proposed Action would not violate an air quality standard or result in a cumulatively considerable increase in ozone or particulate matter emissions or expose receptors to substantial pollutant concentrations (MD thresholds 1 and 2).

In addition, the Proposed Action would involve the use of diesel-powered construction equipment. Diesel exhaust may be noticeable temporarily at adjacent properties; however, construction activities would be temporary. Construction activity, however, would cease to occur after construction is completed. No other sources of objectionable odors have been identified for the Proposed Action.

The Proposed Action could release localized odors during operations. The Proposed Action, however, does not include industrial or agricultural uses that are typically associated with objectionable odors. Moreover, such odors, if any, would be confined primarily to the Project Site and would readily dissipate.

The Proposed Action has also been evaluated to determine if it will result in a significant GHG impact. Land uses such as the Proposed Action affect GHGs through construction-source and operational-source emissions. The MDAQMD has established 100,000 tons of CO₂e per year or 548,000 pounds per day as the District's significant emissions threshold for greenhouse gases. The Proposed Action's construction activities would generate CO₂, CH₄, and N₂O emissions. As shown in Table 10, the Proposed Action would result in 21,958 lbs CO₂e per day and 725.2 tons CO₂e per year, without accounting for applicable regulatory requirements and renewable energy. GHG emission impacts before regulatory requirements are well below the MDAQMD significance thresholds.

Table 10. Construction GHG Emissions

| | GHG Emissions | | | |
|---|-----------------|-----------------|------------------|-------------------|
| | CO ₂ | CH ₄ | N ₂ O | CO ₂ e |
| Maximum Daily Construction Total (lb CO ₂ e/day) | 21,543 | 1.61 | 1.25 | 21,958 |
| Daily Construction Total (lb CO₂e/day) | 21,958 | | | |
| Significance Threshold (lb CO₂e/day) | 548,000 | | | |
| Annual Construction Total (MTCO ₂ e/year) | 645.1 | 0.056 | 0.038 | 657.9 |
| Total (MTCO ₂ e/year) | 657.9 | | | |
| Total (tons CO₂e/year) | 725.2 | | | |
| Significance Threshold (tons/year) | 100,000 | | | |

Source: Air Quality & Greenhouse Gas Study dated October 17, 2022, BlueScape Environmental

Over its lifetime, the Proposed Action will comply with the regulations set forth by the MDAQMD Rule Book and Federal Conformity Guidelines. Electricity generation via the use of photovoltaic solar systems does not generate chemical emissions that would negatively contribute to air quality. Once operational, the facility would be operated remotely, generating limited traffic. Periodic maintenance visits will not exceed once per month on average. Thus, potential emissions from operations would not likely adversely impact air quality.

3.9.3. Mitigation

No mitigation measures are proposed for air quality.

3.10. Socio-Economic Impact Assessment / Environmental Justice

EO 12898, *Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations*, requires federal agencies to consider impacts that may arise from human health or environmental effects of a project on minority and low-income populations. The EO states that, “each Federal agency shall make achieving environmental justice part of its mission by identifying and addressing, as appropriate, disproportionately high and adverse human health or environmental effects of its programs, policies, and activities on minority populations and low-income populations.” EO 12898 defines “minority” as individual(s) who are members of the following population groups: American Indian or Alaskan Native; Asian or Pacific Islander; Black, not of Hispanic origin; or Hispanic. The EO defines “low-income” using the US Census Bureau definition for poverty.

The Council on Environmental Quality (CEQ) has prepared guidance for federal agencies to comply with EO 12898 (CEQ 1997). The CEQ guidance advises agencies to define an area that could be affected by the Proposed Action, determine whether minority populations and low-income populations are present in the area, and evaluate if the Proposed Action would have any disproportionately high and adverse effects on those populations. The CEQ guidance provides thresholds for identifying minority and low-income populations in the affected area: when either 50 percent of the population of the affected area is minority or low income; or when the population of minority and low-income individuals in the area affected by an action is “meaningfully greater” when compared to larger comparison areas such as the county or state where the project is located. “Meaningfully greater” is defined by CEQ as exceeding 10 percent of the population of the larger comparison area used for the analysis (San Bernadino County, California).

3.10.1. Affected Environment

The EA used the census tract where the Project Site is located as the affected area for the analysis. The Project Site is located in Census Tract No. 06071011602 in San Bernardino County. The census tract extends from northern Barstow to the County’s borders in the west. The census tract encompasses a region of unincorporated San Bernardino County with little population. The Census Tract covers approximately 1,326 square miles with a total population of 1,871. Table 11 provides a comparison of racial and poverty data for the census tract and the larger comparison area of San Bernardino County.

As shown in Table 11, the total minority population in Census Tract 06071011602 is lower (27 percent) than the County as a whole (75 percent). The percentage of residents in the Census Tract that are below the poverty level (13 percent) is also below the County average (14 percent). Therefore, the affected area would not be considered a minority or low-income census tract using the CEQ definitions.

Table 11. Comparative Data for Environmental Justice Analysis

| <i>Race</i> | <i>Census Tract No. 06071011602</i> | <i>San Bernardino County</i> |
|--|---|------------------------------|
| | <i>Percentage</i> | <i>Percentage</i> |
| White | 73 | 25 |
| Black | n/a | 8 |
| Native American & Alaskan | n/a | 0 |
| Asian | 7 | 8 |
| Native Hawaiian & Pacific Islanders | n/a | 0 |
| Mixed | 1 | 3 |
| Hispanic | 19 | 56 |
| Other | n/a | 0 |
| <i>Total Minority</i> | <i>27</i> | <i>75</i> |
| <i>Percentage of Population with Income Below Poverty Level</i> | | |
| | 13 | 14 |

Source: U.S. Census Bureau, 2021 American Community Survey 5-Year Estimates

3.10.2. Environmental Consequences

3.10.2.1. No Action

Under the No Action alternative, RUS would not provide financial assistance for the proposed Project and no related socioeconomic impacts would occur. Population, employment, and income trends in San Bernardino County would be expected to follow existing trends under the No Action alternative. No environmental justice impacts would occur under the No Action alternative.

3.10.2.2. Proposed Action

The Proposed Action is not anticipated to have highly disproportionate and adverse effects on minority and low-income populations. It would not divide an established community. No long-term effects from noise, air quality, or traffic are anticipated. No residents or businesses would be displaced or relocated if the Proposed Action is implemented.

3.10.3. Mitigation

No mitigation measures are proposed for social resources or environmental justice.

3.11. Noise

Noise is defined as any loud, discordant or disagreeable sound or sounds. The proximity of construction and project activities to other land uses can produce sounds that could create noise impacts to sensitive sound receptors, such as schools, hospitals, or residences. San Bernadino County regulates noise through its Development Code. Section 83.01.080 of the Development Code provides a noise standard of 55 decibels (dBA; metric not stated) at residences from 7:00 am to 10:00 pm and 45 decibels from 10:00 pm to 7:00 am (San Bernardino County 2014).

3.11.1. Affected Environment

The largest contributors to the existing noise sources within the project area are from the neighboring solar thermal plants and vehicular traffic. The nearest residence is over 200 feet from the area designated for proposed construction work. The distance from the construction area to the other residence located north of the Project Site exceeds 300 feet. No other noise receptors, including additional residences, schools, hospitals or parks are located within 300 feet of the Project Site.

3.11.2. Environmental Consequences

3.11.2.1. No Action

Under the No Action alternative, the project would not be developed. No new noise would occur, and current noise levels would not be affected.

3.11.2.2. Proposed Action

Construction noise generated by the Proposed Action will be temporary. Noise generated by construction equipment will include a combination of trucks, concrete mixers, power tools, and portable generators that when combined can reach high levels. The number and mix of construction equipment are expected to occur during the Project Site preparation, grading and installation of the solar generation and battery storage equipment.

The degree of construction noise will vary depending on the phase of construction and type of construction activity. Table 12 shows the typical noise levels generated by construction equipment.

Table 12. Typical Construction Equipment Notice levels, dBA

| Equipment | 100 ft. | 200 ft. | 300 ft. |
|---------------------|---------|---------|---------|
| Excavator | 75 | 69 | 65 |
| Front End Loader | 73 | 67 | 63 |
| Pneumatic Tools | 79 | 73 | 69 |
| Dozer | 76 | 70 | 66 |
| Rollers | 74 | 68 | 64 |
| Trucks | 80 | 72 | 70 |
| Scrapers | 81 | 75 | 71 |
| Portable Generators | 74 | 68 | 64 |
| Backhoe | 80 | 74 | 70 |
| Grader | 80 | 74 | 70 |

Source: *Noise Control for Buildings and Manufacturing Plants*, Bolt, Beranek & Newman, 1987

Noise levels from construction would diminish with distance from the construction site at a rate of 6 dBA per doubling of distance. The nearest residence is over 200 feet from the area designated for proposed construction work. The distance from the construction area to the other residence located north of the Project Site exceeds 300 feet. All other surrounding properties are either industrial uses or vacant. Construction noise sources are regulated within San Bernardino County under Section 83.01.090 (G) of the Development Code, which states that temporary construction, maintenance, repair, or demolition activities between 7AM to 7PM, except Sundays and Federal Holidays are exempt from the County’s noise regulations. All construction activities would follow County regulations and guidelines.

Construction activity can also result in varying degrees of ground vibration, depending on the equipment and methods used, distance to the affected structures and soil type. It is expected that ground-borne vibration would result from the use of heavy construction equipment, pile drivers, and trucks during construction. Although all heavy mobile construction equipment has the potential of causing at least some perceptible vibration while operating close to buildings, the vibration is usually short-term and is not of sufficient magnitude to cause building damage. Temporary construction, maintenance, repair, or demolition activities would be limited to 7AM and 7PM, except Sundays and Federal holidays, however, are exempt from vibration standards, as defined in sub-section 83.01.090(c)(2) of the County Code.

Once in operation, the Proposed Action would not be a source of any noticeable increase in noise. The Proposed Action is not a manufacturing, earth moving and/or distracting business, and therefore is not anticipated to be a source of vibration. The

proposed solar generation and battery storage system would not likely adversely affect noise levels.

3.11.3. Mitigation

No mitigation measures are proposed for noise.

3.12. Transportation

3.12.1. Affected Environment

The Project area can be accessed from Harper Lake Road, a County maintained and paved road. The road serves multiple solar thermal facilities to the north of the Project Site and a few scattered residential residences. Roy Road, which is presently an unpaved dirt road, provides access from Harper Lake Road to the northern border of the Project Site. The County of San Bernardino and the California Department of Transportation (Caltrans) does not currently maintain average daily traffic counts for Harper Lake Road. In 2017, the average daily traffic count for State Highway 58, approximately 5.25 miles due south from the Project area was 12,000 vehicles.

3.12.2. Environmental Consequences

3.12.2.1. No Action

The No Action alternative would not impact transportation or associated facilities, as there would not be additional development or activities to generate additional traffic beyond current levels along Harper Lake Road.

3.12.2.2. Proposed Action

During construction, additional trips would be added to area roads including but not limited to Harper Lake Road. A Construction Management Plan, dated February 16, 2023, was prepared for the Proposed Action (See Appendix I). The Project Site borders established roadways and nearby thoroughfares are capable of providing adequate emergency access to the Project Site, and the surrounding areas. Accordingly, no special permits would be required in connection with construction of the Proposed Action.

Delivery trucks would use CA-91, I215, I-15, CA-15, National Trails Highway, Helendale Rd, Harper Lake Rd, Lockhart Ranch Rd, and Edie Rd. to access the Project Site. It is anticipated that deliveries will principally be via Harper Lake Rd. It is anticipated that construction will occur over an eight (8) month period with two deliveries per week.

Construction would require a workforce, peaking at 60 persons at maximum deployment, which would not generate enough daily trips to noticeably alter existing conditions along the Project Site area roads. Construction workers would typically arrive at the Project Site in the morning and leave during the early afternoon during the work week. Also, the Project contractor would utilize traffic control (flaggers) on Harper Lake Road to the extent necessary during the construction phase.

Once operational, the facility will be operated remotely, generating limited traffic. Periodic maintenance visits would not exceed once per month on average. While the Project may minimally affect traffic patterns during construction, the increase in traffic once operational would likely not adversely affect traffic levels and impact the neighboring transportation infrastructure.

3.12.3. Mitigation

No mitigation measures are proposed for transportation.

3.13. Human Health and Safety

3.13.1. Electromagnetic Fields and Interference

3.13.1.1. Affected Environment

Land uses in the surrounding area include flat undeveloped terrain (to the immediate east and west of the Project Site), electrical transmission lines, limited scattered residences (to the north, northwest, and west, Harper Dry Lake, and solar farm development. Two residences are located north of the Project Site. One residence is located approximately 200 feet from Project Site's border. The other residence's location exceeds 300 feet from the Project Site border.

3.13.1.2. Environmental Consequences

3.13.1.2.1. No Action

The No Action alternative would not impact human health and safety. The existing transmission lines would continue to emit low levels of EMF radiation in the Project area and surrounding area.

3.13.1.2.2. Proposed Action

The International Commission on Non-Ionizing Radiation Protection has a recommended exposure limit of 4,200 V/m for the general public. In a study of several utility scale solar PV generation systems found electric field levels along the fenced PV array boundary, and at the locations set back 50 to 150 feet from the boundary, were not elevated above background levels (< 5 V/m). Electric fields near the

inverters were also not elevated above background levels (< 5 V/m) (Tech Environmental, Inc., Study of Acoustic and EMF Levels from Solar Photovoltaic Projects, December 17, 2012). The Project arrays and other equipment will be set back by at least 100 feet from the property lines.

The International Commission on Non-Ionizing Radiation Protection has a recommended exposure limit of 833 mG for the general public. At the utility scale sites, the study found magnetic field levels along the fenced PV array boundary were in the very low range of 0.2 to 0.4 mG. Magnetic field levels at the locations 50 to 150 feet from the array boundary were not elevated above background levels (<0.2 mG). There are significant magnetic fields at locations a few feet from inverters, in the range of 150 to 500 mG. At a distance of 150 feet from these utility-scale inverters, however, these fields drop back to very low levels of 0.5 mG or less, and in many cases to background levels (<0.2 mG). The variation of magnetic field with distance generally shows the field strength is proportional to the inverse cube of the distance from equipment. Thus, the Proposed Action would not generate electric and magnetic fields at levels higher than background levels in regions beyond the Project Site borders and accordingly it would have no impact.

3.13.1.3. Mitigation

No mitigation measures are proposed for electromagnetic fields and interference.

3.13.2. Hazards and Hazardous Materials

This section evaluates the presence of hazardous materials that may be present on the Project Site and evaluates substances or wastes that may be released at, generated by, or required for the operation of the Proposed Action in accordance with federal and state laws including the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), Resource Conservation and Recovery Act (RCRA), Toxic Substances Control Act (TSCA), Emergency Planning and Community Right-to-Know Act (EPCRA), and State of California hazardous materials laws.

3.13.2.1. Affected Environment

The Project Site was not identified on lists compiled by the U.S. Environmental Protection Agency, the California Environmental Protection Agency, the State Water Resources Control Board, the California Department of Toxic Substances Control, and the CalRecycle Waste Management Board Solid Development Waste Information System.

3.13.2.2. Environmental Consequences

3.13.2.2.1. No Action

The No Action alternative would not result in impacts from hazardous waste or other related environmental conditions.

3.13.2.2.2. Proposed Action

Small amounts of potentially hazardous materials would be used in this Proposed Action such as fuel, lubricants, and cleaning materials. The potential for accidental releases and spills of hazardous materials during construction is a standard risk on all construction sites, and there would be no greater risk for improper handling, transportation, or spills associated with the Project Site's development that would be of a reasonably greater consequence of the Proposed Action than would occur on any other similar construction site. Operational activities will not include handling, storage, or dispensing hazardous or potentially hazardous materials.

Under normal use, the battery storage system is not expected to expose users to hazardous materials. The battery is an "article" pursuant to 29 CFR 1910.1200 and, as such, is not subject to the OSHA Hazard Communication Standard requirement. The batteries have been designed for over 30 years use without rupture. The contents of the battery consists of Nickel dihydroxide, Nickel, Water, Potassium hydroxide and Polytetrafluorethylene.

Construction and long-term operation of the Proposed Action would be in compliance with local, state, and federal hazardous materials laws including RCRA and the EPCRA. Requirements in the construction documents would minimize the potential for accidental releases or emissions from hazardous materials. These procedures would minimize risks and potential adverse impacts to the human or biological environment.

3.13.2.2.3. Mitigation

No mitigation measures are proposed for hazards or hazardous materials.

4.0 Cumulative Effects

The CEQ Regulations (40 CFR Parts 1500-1508) implementing the procedural provisions of NEPA defines cumulative effects as:

The impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (federal or non-federal) or person undertakes such other action. (40 CFR § 1508.7).

The cumulative effects analysis presented in Table 13 is based on guidance provided by the CEQ (CEQ, 1997). The analysis uses natural ecological, regional, and sociocultural boundaries as well as temporal scales relevant to the regional vicinity of the Project. Cumulative impacts have been assessed in a qualitative manner and in the context of each inventoried resource, ecosystem, or human community that might be affected. Thus, this cumulative analysis evaluates the Project in the context of other development in the region, which are summarized in Table 14.

The Project is not a commitment to a larger action, and it is not intended to facilitate substantial population growth in the region. It is part of Juniper Energy’s renewable energy portfolio expansion.

The EA determined that the Proposed Action would have no long-term direct effects on floodplains, water resources, coastal resources, threatened and endangered species, cultural resources, air quality, environmental justice populations, noise, and transportation. Therefore, the project would have no cumulative effects and these resources are not evaluated further in this section.

Table 13. Summary of Cumulative Impacts Assessment

| Resource | Cumulative Impacts | Contribution to Proposed Action to Cumulative Effects |
|----------------------|---|--|
| Land use | Past, present and future conversion of land for development of solar generation facilities in the North Desert Region of San Bernadino County | 80 acres of undeveloped land converted for solar generation. |
| Wetlands | Past, present and future development of solar generation facilities in the watershed | 0.86 acres impact on non-jurisdictional ephemeral streams |
| Biological Resources | Past, present and future conversion of habitat for development of solar generation facilities in the area | Conversion of habitat for the solar facility |
| Aesthetics | Past, present and future construction of solar facilities in the area | 80 acres of solar arrays having minor effects |

Table 14. Summary of Current and Future Projects in the Vicinity

| Project | Location Relative to Project Site | Description |
|--|---|---|
| Solar Thermal Generation Systems | Northwest, North, Northeast, and East of Project Site | Three solar thermal generation systems covering over 2,382 acres |
| Northern Residences | North of Project Site | Four rural residences ranging from 200 feet to a half mile from site |
| Western Residences | West, Northwest, and Southwest of Project Site | Four rural residences at least 0.75 miles from the site |
| Multiple High-voltage Utility Transmission Lines | Southeast, South, and Southwest of Project Site | High-voltage transmission lines running along the site's southern border |
| Proposed Solar Generation System | Northwest of Project Site | Proposed 150 MW solar generation system on 822 acres |
| Proposed Manufacturing Plant | Northeast of Project Site | Proposed manufacturing plant east of existing solar thermal plants on 320 acres |
| Proposed Solar Generation System | East of Project Site | Proposed 150 MW solar generation system on 528 acres |

4.1. Land Use

Land in the cumulative effects analysis area is primarily either developed with solar facilities, undeveloped vacant agricultural land, or residences. Development of other solar facilities surrounding the Project Site converted land used for agriculture. The Proposed Action would convert an abandoned residence and vacant land to solar power generation. Additional projects, including a potential solar development, approximately 1.5 miles south of the Project Site, have or will convert vacant land to energy generation.

4.2. Wetlands

Cumulative effects on surface waters could occur from past, present and reasonably foreseeable future development in the watershed where the Project Site is located. Construction of past and future solar facilities have and could contribute cumulatively to impacts on wetland resources. The existing solar facility to the north of the Project Site may block the flow of water of an ephemeral stream bed. Construction of the Project, however, would not alter the existing stream bed.

4.3. Water Resources

Similar to the proposed Project, the majority of land areas affected by past and future projects have or would create small areas of impervious surface housing switchgear, inverters, transformers, and battery storage systems. These surfaces would be dispersed throughout the region and sufficiently separated from one and another to allow the surrounding groundcover to absorb runoff, minimizing impacts.

4.4. Biological Resources

Approximately 3,650 acres of natural desert habitat (e.g. allscale scrub and ephemeral surface waters) in the cumulative effects analysis area has been or will be converted for solar energy facilities (solar thermal and solar photovoltaic facilities). Other land in the analysis area has also been converted for agricultural uses in the past. The Proposed Action would have a minor incremental impact on biological resources through the conversion of 80 acres of habitat along with other past and future actions.

4.5. Aesthetics

Any projects that would result in modification of the landscape, such as new energy development, could contribute to the cumulative adverse impacts to visual quality and aesthetics when combined with other existing and planned development. Existing solar facilities and utility transmission lines have converted the aesthetics of the surrounding area from a natural desert environment to an area with thousands of acres of solar thermal or solar photovoltaic arrays. Existing solar generation systems have affected over 2,300 acres and proposed solar projects would affect an additional 1,350 acres. The Proposed Action would cover approximately 80 acres (2% of the land area of the existing solar thermal facilities). The Proposed Action would therefore have a minor incremental impact to a region already characterized by utility infrastructure.

4.6. Summary of Mitigation

As described in Chapter 3, Juniper Energy would implement numerous mitigation measures to aid in minimizing the potential environmental impacts arising from the construction and operation of the Proposed Action. The following list provides a summary of the mitigation measures that Juniper Energy would implement:

Land Use

- The applicant will obtain conditional use permit and approval of a general plan amendment from San Bernadino County changing the zoning designation of the Project Site to Resource Conservation (RC).

Floodplains

- To mitigate impacts during a flood event, two water detention basins to collect runoff from a 100-year storm event will be located within the project site in accordance with San Bernadino County requirements.
- The batteries, electrolyte storage tanks, and critical electrical equipment would also be mounted on concrete pads and placed above the 100-year water surface elevation or have secondary containment.

Biological Resources

- A qualified biologist shall complete a nesting bird survey two weeks prior to construction during the nesting season.
- The Project contractor would implement standard best management practices to minimize the introduction of invasive species.

Cultural Resources

- If human remains are found, the county coroner shall be immediately notified of the discovery.
- If previously unidentified paleontological resources are unearthed during construction activities, construction work in the immediate area of the find shall be halted and directed away from the discovery until a qualified Paleontologist assesses the significance of the resource.
- At the recommendation of interested Tribes, archaeological and Tribal monitors shall be present at the discretion of the tribes for all ground-disturbing activities that occur within the proposed project area.

5.0 Coordination, Consultation and Correspondence

5.1. Tribal Consultation

Consultation letters were sent to the following tribes who may have an interest in the Project as a part of the Section 106 consultation process described in Section 3.7:

- Kern Valley Indian Community
- Morongo Band of Mission Indians;
- Quechan Tribe of the Fort Yuma Reservation
- San Fernando Band of Mission Indians
- San Manuel Band of Mission Indians (Yuhaaviatam of San Manuel Nation)

- Serrano Nation of Mission Indians
- Twenty-Nine Palms Band of Mission Indians

These tribes are identified as having an ancestral interest in the area. The Yuhaaviatam of San Manuel Nation (formerly known as the San Manuel Band of Mission Indians) and the Kern Valley Indian Community responded, each requesting that certain mitigation be incorporated into the Environmental Assessment. No other tribe responded within the comment period.

5.2. Agency Consultation

The applicant has been coordinating with the County of San Bernadino on the project since 2022. The County is the lead agency for an environmental review being prepared under the California Environmental Quality Act (CEQA). The CEQA analysis is being prepared in connection with the general plan amendment and conditional use permit being sought by the applicant for the Proposed Action as described in Section 3.1. The County contacted the following agencies about the Proposed Action in December 2022.

- Surrounding Property Owners within 700 feet of the Project Site
- Supervisor District 1, San Bernardino County Board of Supervisors
- Jonathan Weldy, San Bernardino County Planning Commissioner
- San Bernardino County, EDA (Renewable Energy Projects): Soua Vang
- U.S. Military Bases located in San Bernardino County
- San Bernardino County Geothermal Projects
- Tribal Notification pursuant to AB 52, which governs California's tribal notification procedures

Responses from the agencies and property owners' comments have been incorporated to the EA. A copy of the notice sent is provided in Appendix J.

The consultant for the biological survey, Dudek, held a meeting with the USFWS and the CDFW on August 19, 2022. The purpose of the meeting was to discuss the field survey conducted and potential impacts of the project. A copy of the meeting notes is provided in Appendix J.

The applicant also consulted with the USACE Los Angeles District to obtain a Jurisdictional Determination (JD) for the Project Site as described in Section 3.3.1. The applicant obtained a JD from the USACE in March 2023 (see Appendix D for relevant correspondence).

5.3. Public Involvement

Public involvement is an integral part of the NEPA process. A local newspaper advertisement announcing the availability of the EA was published in the Victorville Daily Press in December 2024. An electronic copy of the EA was made available for public review at <https://www.rd.usda.gov/resources/environmental-studies/assessments> and a hardcopy of the EA was made available at the Hinkley Community & Senior Center, 35997 Mountain View Road, Hinkley, CA 92347. Comments were accepted by email at ruspubliccomments@usda.gov. The comment period for the EA was 14 days from publication of the notice of availability.

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APPENDIX A

Figures

APPENDIX B
NRCS AD-1006 Form

APPENDIX C

Floodplain Information

Preliminary Drainage Report, Lockhart Solar (August 2024)

Flood Insurance Rate Map (FIRM# 06071C3250H and 06071C3875H)

NRCS Flooding Frequency Class Report

APPENDIX D

**Approved Jurisdictional Determination, March 17, 2023,
U.S. Army Corps of Engineers**

APPENDIX E

**Letter of Intent for Application to Rezone Site from RL to RC and
for Conditional Use Permit**

APPENDIX F

Biological Technical Report, October 2022, Dudek

IPaC Official Species List dated November 20, 2024

APPENDIX G

Visual Impact Analysis, September 23, 2022, Dudek

APPENDIX H

**Air Quality & Greenhouse Gas Study dated October 17, 2022,
BlueScape Environmental**

APPENDIX I

**Construction Management Plan, dated February 16, 2023,
Partners Engineering and Science, Inc.**

APPENDIX J
Agency Consultation