

LOCKHART SOLAR PV II PROJECT

DRAFT ENVIRONMENTAL IMPACT REPORT

SCH# 2021070070

Lead Agency:



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NOVEMBER 16, 2021

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Appendix I-1: 2020 Phase I Environmental Site Assessment

Appendix I-2: 2021 Phase I Environmental Site Assessment

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Appendix J: Preliminary Hydrology Report

Appendix K: Noise Technical Memorandum

Appendix L: Transportation Assessment Letter

Appendix M: Water Supply Assessment

1.0 INTRODUCTION AND PURPOSE

1.1 Purpose of the Environmental Impact Report

This Environmental Impact Report (EIR) addresses the environmental effects of the proposed Lockhart Solar PV II Project (Project). The California Environmental Quality Act (CEQA) requires that government agencies consider the environmental consequences of projects over which they have discretionary approval authority.

Compliance with CEQA

The County of San Bernardino (County) is the lead agency under CEQA and has determined that an EIR is required for the Project (State Clearinghouse No. 2021070070). An EIR is an informational document that provides both government decision-makers and the public with an analysis of the potential environmental consequences of a proposed project in their jurisdiction. This EIR has been prepared in accordance with the requirements of CEQA as set forth in Public Resources Code (PRC) Section 21000 et seq., and 14 California Code of Regulations (CCR) Section 15000 et seq. (CEQA Guidelines).

This EIR addresses the Project's potential environmental impacts, in accordance with CEQA Guidelines Section 15161. As referenced in CEQA Guidelines Section 15121(a), the primary purpose of an EIR is to inform decision makers and the public generally of the significant environmental effects of a project, identify possible ways to minimize the significant effects of a project, and describe reasonable alternatives to a project.

This document analyzes the Project's potential environmental effects to the degree of specificity appropriate, as required by CEQA Guidelines Section 15146. The analysis considers the activities associated with the Project to determine potential short- and long-term impacts associated with Project implementation. This EIR also considers the Project's potential direct and indirect impacts, and the cumulative impacts associated with other past, present, and reasonably foreseeable future projects.

Where potentially significant impacts are identified, the EIR specifies mitigation measures that are required to be adopted as conditions of approval or may be incorporated into the Project to avoid or minimize the significance of impacts resulting from the Project. In addition, this EIR is the primary reference document in the formulation and implementation of the Project's Mitigation Monitoring and Reporting Program (MMRP).

The Final EIR will be considered for certification and approval by the County. A decision to approve the Project would be accompanied by specific, written findings, in accordance with CEQA Guidelines Section 15091, and a specific, written Statement of Overriding Considerations, in accordance with CEQA Guidelines Section 15093, if potentially significant impacts remain significant and unavoidable.

1.2 Notice of Preparation/Early Consultation

Notice of Preparation

In accordance with CEQA Guidelines Section 15082, a Notice of Preparation (NOP) was distributed to initiate the County's CEQA review process for the Project, identify and seek public input for the Project's potential environmental effects, and identify a date for the Project's public scoping meeting. The NOP was distributed on July 14, 2021 and identified a public review period for the NOP through August 17, 2021 in compliance with the State's mandatory 30-day public review period.

Scoping Meeting

A virtual scoping meeting was held to discuss the Project on July 28, 2021, from 5:00 p.m. to 7:00 p.m. via Zoom. A presentation was provided, including an overview of the Project and the CEQA process. Following the presentation, participants were encouraged to provide oral or written comments to aid the County in refining the scope of issues to be addressed in the EIR.

One individual from the public attended the scoping meeting. In addition, a total of 4 written comment letters were received in response to the NOP and scoping meeting: The Native American Heritage Commission, Mojave Desert Air Quality Management District, the California Department of Fish and Wildlife, and the Southern California Association of Governments.

Key issues of environmental concern expressed by the commenters during the scoping period include:

- Impacts to cultural and tribal cultural resources
- Impacts related to dust and air quality
- Impacts to biological resources and natural habitat
- Compliance with the Regional Transportation Plan/Sustainable Communities Strategy

Appendix A includes a copy of the NOP and the comment letters received in response to the NOP and scoping meeting. The County has made a good faith effort to address all the identified environmental concerns in this EIR.

Draft EIR Public Review and Comment

This Draft EIR, with an accompanying Notice of Completion (NOC), is being circulated to the State Clearinghouse, trustee agencies, responsible agencies, other government agencies, and interested members of the public for a 45-day review period in accordance with CEQA Guidelines Sections 15087 and 15105. The review period will begin the day the document is released for public review and will end 45 calendar days thereafter.

During this period, public agencies and members of the public may submit written comments on the analysis and content of the EIR. In reviewing a Draft EIR, readers should focus on the sufficiency of the document in identifying and analyzing potential impacts on the environment and on ways in which significant effects of a proposed project, if any, might be avoided or mitigated.

Comment letters should be sent to:

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385 North Arrowhead Avenue, First Floor San Bernardino, CA 92415
Phone: (909) 387-3067
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Following the close of the public review period, a Final EIR will be prepared to respond to all substantive comments related to environmental issues. The Final EIR will be completed and made available prior to any public hearings on the Project.

1.3 Format of the EIR

The EIR is organized as follows:

- **Section 1.0, Introduction and Purpose.** Describes the process and purpose of the EIR and gives an overview of the EIR content.
- **Section 2.0, Executive Summary.** Summarizes the description and background of the Project, addresses the EIR format, discusses Project alternatives and identifies potential environmental impacts and mitigation measures for the Project.
- **Section 3.0, Project Description.** Describes the Project location, setting, objectives, and development components, and lists various agency approvals that are likely required in order for the Project to move forward.
- **Section 4.0, Introduction to the Environmental Analysis.** Contains a detailed analysis of existing (baseline) conditions, the Project's potential environmental impacts, and mitigation measures for the following environmental issue areas:
 - Aesthetics (Section 4.1)
 - Air Quality (Section 4.2)
 - Biological Resources (Section 4.3)
 - Cultural Resources (Section 4.4)
 - Energy (Section 4.5)
 - Geology and Soils (Section 4.6)
 - Greenhouse Gas Emissions (Section 4.7)
 - Hazards and Hazardous Materials (Section 4.8)
 - Hydrology and Water Quality (Section 4.9)
 - Noise (Section 4.10)
 - Transportation (Section 4.11)
 - Tribal Cultural Resources (Section 4.12)
 - Utilities and Service Systems – Water Supply (Section 4.13)

- **Section 5.0, Other CEQA Considerations.** Summarizes the Project’s potential significant and unavoidable impacts and significant irreversible environmental changes and addresses the issues of growth inducement and energy conservation.
- **Section 6.0, Alternatives to the Project.** Analyzes alternatives to the Project and their potential environmental effects.
- **Section 7.0, Effects Found Not to be Significant.** Describes effects of the Project found to have no or a less than significant impact.
- **Section 8.0, EIR Consultation and Preparation.** Identifies persons and organizations responsible for authoring the technical reports and EIR.
- **Section 9.0, References.** Identifies reference resources used during preparation of the EIR.
- **Appendices.** Contain the Project’s technical reports and documentation of the NOP and scoping process.

1.4 Incorporation by Reference

In accordance with CEQA Guidelines Section 15150, this EIR incorporates by reference the following documents (available for review at the San Bernardino County Planning Department, 385 North Arrowhead Avenue, San Bernardino, CA 92415; or online at www.sbcounty.gov):

Countywide Plan/Policy Plan (adopted October 2020)

The Countywide Plan/Policy Plan is a long-range policy-planning document that defines the framework by which the County’s physical and economic resources are to be managed over time. The goals and policies in the Policy Plan are intended to guide the County’s decision-makers. The following elements are included in the Policy Plan: Land Use, Infrastructure & Utilities, Transportation and Mobility, Natural Resources, Hazards, Personal & Property Protection, Economic Development, and Health & Wellness. Information contained in the Policy Plan is incorporated herein because it is the primary source for County policies, objectives, and countywide planning analysis.

The County Board of Supervisors adopted an amendment to the Renewable Energy and Conservation Element on February 28, 2019 prohibiting utility-scale renewable energy development on lands designated as Rural Living or on lands located within the boundary of an existing community plan, unless an application for development of a renewable energy project has been accepted as complete in compliance with California Government Code Section 65943 before the effective date of the resolution.

County of San Bernardino General Plan Final EIR (SCH No. 2005101038, February 2007)

The General Plan EIR was prepared to assess the potential environmental impacts associated with the proposed General Plan. The EIR summarizes potential environmental impacts associated with implementation of the County’s General Plan, including growth-inducing and cumulative impacts. Information from the General Plan EIR is incorporated herein because it contains relevant environmental information that pertains to the Project.

County of San Bernardino Zoning Ordinance

The San Bernardino County Development Code implements the goals and policies of the Countywide Plan/Policy Plan by regulating land uses within the unincorporated areas of the County. Each piece of property is within a "zone" or "land use district" which describes the rules under which that land may be used. These districts generally cover the range of uses allowable within the land use district. The Code also establishes specific development standards for each district and the procedures to follow in order to approve a particular use. In 2013, the County of San Bernardino passed an ordinance amending Chapter 84.29, Renewable Energy Generation Facilities, and Chapter 810.01, Definitions, of the San Bernardino County Development Code, relating to the regulation of commercial solar energy generation facilities. The ordinance requires that the County make findings for solar renewable energy projects prior to approving such projects. The findings require that prior to approval of a commercial solar facility, it must be determined that the location of the proposed commercial facility is appropriate in relation to the desirability and future development of communities, neighborhoods, and rural residential uses.

Stipulated Judgment

A Stipulated Judgment was issued by the Superior Court in January of 1996 (Superior Court, Judgment after Trial for City of Barstow, et al Vs. City of Adelanto, et al Case No. 208568, January 10, 1996) to address water supply shortages in the Mojave Basin Area where the Project is located. The Adjudication of the Mojave Basin Area was the legal process that allocated the right to produce water from the natural water supply. As mandated in the Judgment, the Mojave Water Agency was appointed as the Basin Watermaster and tasked with the responsibility of sustainably managing water supplies in the Basin.

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2.0 EXECUTIVE SUMMARY

This Draft Environmental Impact Report (EIR) has been prepared pursuant to the requirements of the California Environmental Quality Act (CEQA), Public Resources Code (PRC) Sections 21000 et. seq. In accordance with CEQA Guidelines Section 15123, this section of the Draft EIR includes (1) a brief description of the Project; (2) areas of controversy known to the Lead Agency and issues raised during the Notice of Preparation (NOP) process; (3) significant and unavoidable impacts; (4) identification of alternatives that would reduce or avoid environmental impacts; and (5) summary of Project impacts, with proposed mitigation measures.

2.1 Project Description

Lockhart Solar PV II, LLC (Applicant) proposes a zoning amendment to change the current zoning designation to Resource Conservation (RC) from Rural Living (RL), as well as four (4) Conditional Use Permits (CUPs) to develop the Lockhart Solar PV II Project (Project), a utility scale, solar photovoltaic (PV) electricity generation and energy storage facility that would produce up to 150 megawatts (MW) of solar power and include up to 4 gigawatt hours (GWh) of energy storage capacity rate in a battery energy storage system (BESS) within an approximately 755 acre Project Site. The Project is located in unincorporated Hinkley, CA, approximately 7 miles north of the intersection of Harper Lake Road and Mojave-Barstow Highway 58, and is within the County of San Bernardino (County). The Project is largely sited on land previously approved by the California Energy Commission (CEC) for development of Solar Energy Generating System (SEGS) X, a solar thermal power facility which was never fully constructed. The Project is bordered on the south by the approved Lockhart Solar I Facility and the existing SEGS VIII and IX Solar Thermal Plants. The Project would share existing operations and maintenance (O&M) facilities with the Lockhart Solar I Facility (i.e., O&M building, warehouse and employee building), water and septic systems, switchyard and electrical transmission infrastructure, and a new collector substation (approved and to be constructed) within the approximately 110-acre “Shared Facilities Area” to connect the Project to the existing transmission line which runs to the Southern California Edison (SCE)-owned Kramer Junction substation.

2.2 Project Objectives

The Project would provide the County and the State with additional renewable energy sources on land previously disturbed for the construction of renewable solar energy that would assist the State in complying with the Renewables Portfolio Standard under Senate Bill (SB) 100 which requires that by December 31, 2030, 60 percent of all electricity sold in the State shall be generated from renewable energy sources. The following are the Project objectives:

- Site photovoltaic (PV) solar power-generating facilities and energy storage on previously graded and disturbed land, near existing utility infrastructure, thereby achieving economies of scale to maximize shared operation and maintenance facilities with existing solar operations.
- Establish solar PV power-generating facilities and energy storage of sufficient size and

configuration to produce and deliver reliable electricity in an economically feasible and commercially financeable manner that can be marketed to different power utility companies.

- Use proven and established PV and energy storage technology that is efficient and requires low maintenance.
- Assist California in meeting greenhouse gas emission reduction goals by 2030 as required by the California Global Warming Solutions Act (Assembly Bill 32), as amended by Senate Bill 32 in 2016 to address the effects of climate change on the environment and the economy.
- Promote the County's Renewable Energy and Conservation Element (RECE) policies and be sited in an area identified as suitable for utility oriented renewable energy generation projects.
- Develop a PV solar power generation facility in San Bernardino County, which would support the economy by investing in the local community, creating local construction jobs, and increasing tax and fee revenue to the County.

2.3 Unavoidable Significant Impacts

Based on the analysis contained in Section 4.1, *Aesthetics*, through Section 4.13, *Utilities and Service Systems – Water Supply*, of this Draft EIR, the Project would not result in any significant and unavoidable impacts and would not result in any cumulatively considerable impacts.

2.4 Alternatives to the Project

Alternative 1: No Project Alternative

The CEQA Guidelines require EIRs to include a No Project Alternative for the purpose of allowing decision makers to compare the effects of approving the Project versus a No Project Alternative. Accordingly, Alternative 1, the No Project Alternative, assumes that development of a utility scale solar PV electricity generation and energy storage facility that would produce up to 150 MW of solar power and include up to 4 GWh of energy storage capacity rate in a BESS within an approximately 755-acre Project Site would not occur. The No Project Alternative would not require County approval of Conditional Use Permits (CUPs) and would result in no change in land use classifications for the Project Site. Existing land uses on the Project Site would remain in the current condition, which consist mostly of vacant, previously disturbed land, miscellaneous concrete foundations, various electrical lines and poles, as well as existing facilities within the Shared Facilities Area as well as an existing 6-foot-tall chain link fence with desert tortoise exclusion fencing that currently surrounds the perimeter of the Project Site. No physical changes would be made to the Project Site and the remnants of the partially developed structures left from initial construction of the SEGS X project would remain.

Alternative 2: Reduced Acreage Alternative

Under the Reduced Acreage Alternative, the Project Site would be reduced to only include CUP Areas 1, 3, and 4. This alternative would reduce the Project's footprint from 755 acres to 675 acres and would restrict construction of Project facilities to CUP Areas 1, 3, and 4 (see **Figure 6-1**). Restricting construction

of Project facilities in this 80-acre area (CUP 2 area) would keep this portion of the Project Site in its current state. This area is the closest portion of the Project to known habitat for special status bird species such as western snowy plover, mountain plover, and burrowing owls farther to the east around Harper Dry Lake; see **Figure 4.3-4**. Although this 80-acre area is currently fenced, excluding development within the CUP 2 area would provide additional distance between the Project and these offsite populations.

Solar panels and associated infrastructure would be restricted to the reduced development area. The Reduced Acreage Alternative would diminish Project energy generation production by approximately 15 MW due to reduction of the 80-acre CUP 2 area. This would result in the corresponding reduction in renewable energy output from the Project by approximately 10 percent. As the BESS system will be designed to store energy generated from the Project's PV panels as well as energy delivered via the grid, and it is possible to charge from either source, no reduction in storage would be anticipated.

Solar panels and associated infrastructure would be restricted to the reduced development area. The Reduced Acreage Alternative would diminish Project energy generation production by approximately 15 MW due to reduction of the 80-acre CUP 2 area. This would result in the corresponding reduction in renewable energy output from the Project by approximately 10 percent. As the BESS system will be designed to store energy generated from the Project's PV panels as well as energy delivered via the grid, and it is possible to charge from either source, no reduction in storage would be anticipated. Under this Alternative, the existing 6-foot-tall chain link perimeter fence with desert tortoise exclusion fencing would remain in place and the 80-acre area of land with CUP 2 area would remain in the current undeveloped condition. This alternative would require County approval of three CUPs instead of four as under the Project.

Alternative 3: Alternative Site Alternative

Alternative 3, includes use of approximately 1,386 acres on Bureau of Land Management (BLM)-administered land, located west of the U.S. Highway 395 and north of U.S. Route 58, just north of the community of Boron as shown on **Figure 6-2**. Given the land area, this Alternative could allow for development of a utility-scale renewable energy facility with similar generation and storage capacity as the Project. The Alternative 3 site is designated as a Development Focus Area (DFA) for renewable energy in the Desert Renewable Energy Conservation Plan (DRECP). Due to development constraints associated with topography and natural drainages of the Alternative site, it was assumed that a larger area than the 755-acre Project Site would be required (approximately 1,386 acres) to achieve development of a similar utility-scale renewable energy facility as proposed under the Project.

The DRECP requires the California Department of Fish and Wildlife (CDFW) to develop a county-wide conservation strategy that addresses Mohave ground squirrel (MGS), prior to developing land in DFA-designated areas. In 2019, the CDFW completed *A Conservation Strategy for the Mojave Ground Squirrel* (MGS Conservation Strategy). The MGS Conservation Strategy goals provide guidance on the conservation of MGS and ultimately recover it from its vulnerable and Threatened status. To help achieve these goals, the MGS Conservation Strategy:

1. Assesses the conservation status of the MGS;
2. Identifies achievable objectives intended to ensure the continued existence of the species; and
3. Provides conservation measures that may realistically be implemented to achieve the objectives.

The MGS Conservation Strategy and DRECP consider the Alternative 3 site a feasible location for solar development and solar development is an allowable use; however, further evaluation is required on the MGS conservation requirements for the area before it can be opened to renewable energy applications for individual projects.

This Alternative would require construction of a new generation transmission line (gen-tie) to transmit the power generated from the facility to the existing SCE-owned substation at Kramer Junction. A potentially feasible route for the Alternative 3 gen-tie is shown on Figure 6-2 but has not been fully determined at this time. It is assumed that interconnection would require an approximately 6-mile-long gen-tie line and use right-of-way within existing roadways from the southeast corner of the site to the point of interconnection at the Kramer Junction Substation.

The viability of this Alternative is uncertain given the need to obtain permission to utilize land under the control of another jurisdiction (BLM). Depending on the final route of the gen-tie, additional new rights-of-way may be required for the entirety, or a portion of the gen-tie line if existing rights of way are not available or the gen-tie route requires new access points to build and maintain the gen-tie line. The Applicant does not currently have land rights to place a gen-tie line in this alternative alignment.

This Alternative 3 is proposed to reduce the number of solar generating facilities concentrated within the Lockhart area at a location that is designated for renewable energy development and is as near as possible to existing interconnection infrastructure.

Environmentally Superior Alternative

CEQA requires that an environmentally superior alternative be identified; that is, an alternative that would result in the fewest or least significant environmental impacts. If the No Project Alternative is the environmentally superior alternative, CEQA Guidelines Section 15126.6(e)(2) requires that another alternative that could feasibly attain most of the project's basic objectives be chosen as the environmentally superior alternative.

The No Project Alternative is the environmentally superior alternative. However, in accordance with CEQA Guidelines Section 15126.6(e)(2), a secondary alternative must be chosen since the No Project Alternative is environmentally superior. Alternative 2, the Reduced Acreage Alternative, is conservatively considered as the environmentally superior alternative because it would incrementally reduce certain impacts associated with the Project due to the reduced footprint (e.g., air quality, biological resources, cultural resources, geology and soils, hydrology, and utilities). However, the Project would not result in any significant and unavoidable impacts, so environmental impacts would be less than significant for all resource areas under either the Project or Alternative 2. Further, Alternative 2 would not realize certain environmental benefits and would not meet the Project objectives to the same extent as the Project. Alternative 2 would leave undeveloped underutilized land that has been planned for a solar energy facility,

within an existing fenced area surrounded by similar renewable energy development. Alternative 2 would also contribute less than the Project in assisting California reach its renewable energy generation goals under Senate Bill 100. Alternative 2 would attain most of the Project Objectives, although it would not do so to the same extent as the Project.

2.5 Areas of Controversy

The following lists potential environmental issues or concerns raised in response to the NOP, and where these issues are addressed in the Draft EIR:

- Impacts to cultural and tribal cultural resources, addressed in Section 4.4, *Cultural Resources*, and Section 4.12, *Tribal Cultural Resources*;
- Impacts related to dust and air quality, addressed in Section 4.2, *Air Quality*;
- Impacts to biological resources and natural habitat, addressed in Section 4.3, *Biological Resources*; and
- Compliance with the Regional Transportation Plan/Sustainable Communities Strategy, addressed in Section 4.2, *Air Quality*, and Section 4.7, *Greenhouse Gas Emissions*.

Appendix A includes a copy of the NOP and the comment letters received in response to the NOP and scoping meeting. The issues raised during the NOP and scoping meeting are addressed as part of the Draft EIR in the respective sections listed above. As described in the respective sections, the Project would be consistent with regulations raised in the comment letters.

2.6 Issues to be Resolved by the Decision-Making Body

An EIR is an informational document intended to inform decision-makers and the public of the significant effects of a project, identify possible ways to minimize the significant effects, and describe reasonable alternatives to a proposed project. As the Lead Agency, the County must respond to each significant effect identified in this EIR by making “findings” for each significant effect. As part of the decision-making process, the County must determine whether or how to mitigate the associated significant effects of the Project. The potential impacts of the Project are summarized in **Table 2-1**, below.

2.7 Summary of Environmental Impacts & Mitigation Measures

Table 2-1: Summary of Significant Impacts and Proposed Mitigation Measures is a summary of significant impacts and proposed mitigation measures associated with the Project as identified in this Draft EIR. Refer to Sections 4.1 through 4.13 in this Draft EIR for a detailed description of the environmental impacts and mitigation measures for the Project. As shown in the table, all impacts of the Project can be mitigated to less than significant levels.

2.8 References

California Department of Fish and Wildlife. 2019. A Conservation Strategy for the Mojave Ground Squirrel.

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Table 2-1: Summary of Significant Impacts and Proposed Mitigation Measures

Resource Impact	Level of Significance	Mitigation Measure(s)	Level of Significance After Mitigation
Section 4.1, Aesthetics			
Impact 4.1-1 Would the Project have a substantial adverse effect on a scenic vista?	No Impact	No mitigation measures are required.	N/A
Impact 4.1-2 Would the Project substantially damage scenic resources including, but not limited to, trees, rock outcroppings, and historic buildings within a State Scenic Highway?	Less than Significant Impact	No mitigation measures are required.	N/A
Impact 4.1-3 Would the Project substantially degrade the existing visual character or quality of public views of the site and its surroundings?	Less than Significant Impact	No mitigation measures are required.	N/A
Impact 4.1-4 Would the Project create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?	Less than Significant Impact	No mitigation measures are required.	N/A
Section 4.2, Air Quality			
Impact 4.2-1 Would the Project conflict with or obstruct implementation of the applicable air quality plan?	Potentially Significant Construction Impact Less than Significant Operation Impact	Mitigation Measure AQ-1	Less than Significant with Mitigation for Construction N/A for Operation
Impact 4.2-2 Would the Project result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard?	Potentially Significant Construction Impact Less than Significant Operation Impact	Mitigation Measure AQ-1	Less than Significant with Mitigation for Construction N/A for Operation
Impact 4.2-3 Would the Project expose sensitive receptors to substantial pollutant concentrations?	Potentially Significant Construction Impact Less than Significant Operation Impact	Mitigation Measure AQ-2	Less than Significant with Mitigation for Construction N/A for Operation
Impact 4.2-4 Would the Project result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?	Less than Significant Impact	No mitigation measures are required.	N/A

Resource Impact	Level of Significance	Mitigation Measure(s)	Level of Significance After Mitigation
Section 4.3, Biological Resources			
<p>Impact 4.3-1 Would the Project have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?</p>	Potentially Significant Impact	Mitigation Measure BIO-1 Mitigation Measure BIO-2 Mitigation Measure BIO-3 Mitigation Measure BIO-4 Mitigation Measure BIO-5 Mitigation Measure BIO-6 Mitigation Measure BIO-7 Mitigation Measure BIO-8 Mitigation Measure BIO-9	Less than Significant with Mitigation
<p>Impact 4.3-2 Would the Project have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?</p>	No Impact	No mitigation measures are required.	N/A
<p>Impact 4.3-3 Would the Project have a substantial adverse effect on State or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?</p>	No Impact	No mitigation measures are required.	N/A
<p>Impact 4.3-4 Would the Project interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?</p>	Less than Significant Impact	No mitigation measures are required.	N/A
<p>Impact 4.3-5 Would the Project conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?</p>	Less than Significant Impact	No mitigation measures are required.	N/A
<p>Impact 4.3-6 Would the Project conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or State habitat conservation plan?</p>	No Impact	No mitigation measures are required.	N/A

Resource Impact	Level of Significance	Mitigation Measure(s)	Level of Significance After Mitigation
Section 4.4, Cultural Resources			
Impact 4.4-1 Would the Project cause a substantial adverse change in the significance of a historical resource pursuant to Section 15064.5?	Less than Significant Impact	No mitigation measures are required.	N/A
Impact 4.4-2 Would the Project cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?	Potentially Significant Construction Impact No Operation Impact	Mitigation Measure CUL-1 Mitigation Measure CUL-2	Less than Significant with Mitigation for Construction N/A for Operation
Impact 4.4-3 Would the Project disturb any human remains, including those interred outside of dedicated cemeteries?	Less than Significant Impact	No mitigation measures are required.	N/A
Section 4.5, Energy			
Impact 4.5-1 Would the Project result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during Project construction or operation?	Less than Significant Impact	No mitigation measures are required.	N/A
Impact 4.5-2 Would the Project conflict with or obstruct a State or Local plan for renewable energy or energy efficiency?	Less than Significant Impact	No mitigation measures are required.	N/A
Section 4.6, Geology and Soils			
Impact 4.6-1 Would the Project directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving: i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42?	Less than Significant Impact	No mitigation measures are required.	N/A
Impact 4.6-2 Would the Project directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving: ii) Strong seismic ground shaking?	Less than Significant Impact	No mitigation measures are required.	N/A

Resource Impact	Level of Significance	Mitigation Measure(s)	Level of Significance After Mitigation
<p>Impact 4.6-3 Would the Project directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving: iii) Seismic-related ground failure, including liquefaction?</p>	Less than Significant Impact	No mitigation measures are required.	N/A
<p>Impact 4.6-4 Would the Project directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving: iv) Landslides?</p>	Less than Significant Impact	No mitigation measures are required.	N/A
<p>Impact 4.6-5 Would the Project result in substantial soil erosion or the loss of topsoil?</p>	Less than Significant Impact	No mitigation measures are required.	N/A
<p>Impact 4.6-6 Would the Project be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the Project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse?</p>	Less than Significant Impact	No mitigation measures are required.	N/A
<p>Impact 4.6-7 Would the Project be located on expansive soil, as defined in Table 181B of the Uniform Building Code (1994), creating substantial risks to life or property?</p>	Less than Significant Impact	No mitigation measures are required.	N/A
<p>Impact 4.6-8 Would the Project have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems in areas where sewers are not available for the disposal of wastewater?</p>	Less than Significant Impact	No mitigation measures are required.	N/A
<p>Impact 4.6-9 Would the Project directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?</p>	<p>Potentially Significant Construction Impact</p> <p>No Operation Impact</p>	<p>Mitigation Measure GEO-1</p> <p>Mitigation Measure GEO-2</p>	<p>Less than Significant with Mitigation for Construction</p> <p>N/A for Operation</p>
Section 4.7, Greenhouse Gas Emissions			
<p>Impact 4.7-1 Would the Project generate GHG emissions, either directly or indirectly, that could have a significant impact on the environment?</p>	Less than Significant Impact	No mitigation measures are required.	N/A

Resource Impact	Level of Significance	Mitigation Measure(s)	Level of Significance After Mitigation
<p>Impact 4.7-2 Would the Project conflict with an applicable plan, policy, or regulation of an agency adopted for the purpose of reducing GHG emissions?</p>	Less than Significant Impact	No mitigation measures are required.	N/A
Section 4.8, Hazards and Hazardous Materials			
<p>Impact 4.8-1 Would the Project create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?</p>	Less than Significant Impact	No mitigation measures are required.	N/A
<p>Impact 4.8-2 Would the Project create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?</p>	Less than Significant Impact	No mitigation measures are required.	N/A
<p>Impact 4.8-3 Would the Project emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?</p>	No Impact	No mitigation measures are required.	N/A
<p>Impact 4.8-4 Would the Project be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code §65962.5 and, as a result, would it create a significant hazard to the public or the environment?</p>	No Impact	No mitigation measures are required.	N/A
<p>Impact 4.8-5 For a Project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the Project result in a safety hazard or excessive noise for people residing or working in the Project area?</p>	No Impact	No mitigation measures are required.	N/A
<p>Impact 4.8-6 Would the Project impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?</p>	Less than Significant Impact	No mitigation measures are required.	N/A
<p>Impact 4.8-7 Would the Project expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires?</p>	Less than Significant Impact	No mitigation measures are required.	N/A

Resource Impact	Level of Significance	Mitigation Measure(s)	Level of Significance After Mitigation
Section 4.9, Hydrology and Water Quality			
<p>Impact 4.9-1 Would the Project violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or groundwater quality?</p>	Less than Significant Impact	No mitigation measures are required.	N/A
<p>Impact 4.9-2 Would the Project substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the Project may impede sustainable groundwater management of the basin?</p>	Less than Significant Impact	No mitigation measures are required.	N/A
<p>Impact 4.9-3 Would the Project substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would result in substantial erosion or siltation on- or off-site?</p>	Less than Significant Impact	No mitigation measures are required.	N/A
<p>Impact 4.9-4 Would the Project substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would substantially increase the rate or amount of surface run-off in a manner which would result in flooding on- or off-site?</p>	Less than Significant Impact	No mitigation measures are required.	N/A
<p>Impact 4.9-5 Would the Project substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?</p>	Less than Significant Impact	No mitigation measures are required.	N/A
<p>Impact 4.9-6 Would the Project substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or</p>	Less than Significant Impact	No mitigation measures are required.	N/A

Resource Impact	Level of Significance	Mitigation Measure(s)	Level of Significance After Mitigation
through the addition of impervious surfaces, in a manner which would impede or redirect flood flows?			
Impact 4.9-7 Would the Project, in flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?	No Impact	No mitigation measures are required.	N/A
Impact 4.9-8 Would the Project conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?	Less than Significant Impact	No mitigation measures are required.	N/A
Section 4.10, Noise			
Impact 4.10-1 Would the Project generate a substantial temporary or permanent increase in ambient noise levels in the vicinity of the Project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	Less than Significant Impact	No mitigation measures are required.	N/A
Impact 4.10-2 Would the Project generate excessive groundborne vibration or groundborne noise levels?	Less than Significant Impact	No mitigation measures are required.	N/A
Impact 4.10-3 For a Project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the Project expose people residing or working in the Project area to excessive noise levels?	No Impact	No mitigation measures are required.	N/A
Section 4.11, Transportation			
Impact 4.11-1 Would the Project conflict with a program, plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities?	Less than Significant Impact	No mitigation measures are required.	N/A
Impact 4.11-2 Would the Project conflict or be inconsistent with CEQA Guidelines §15064.3, subdivision (b)?	Less than Significant Impact	No mitigation measures are required.	N/A

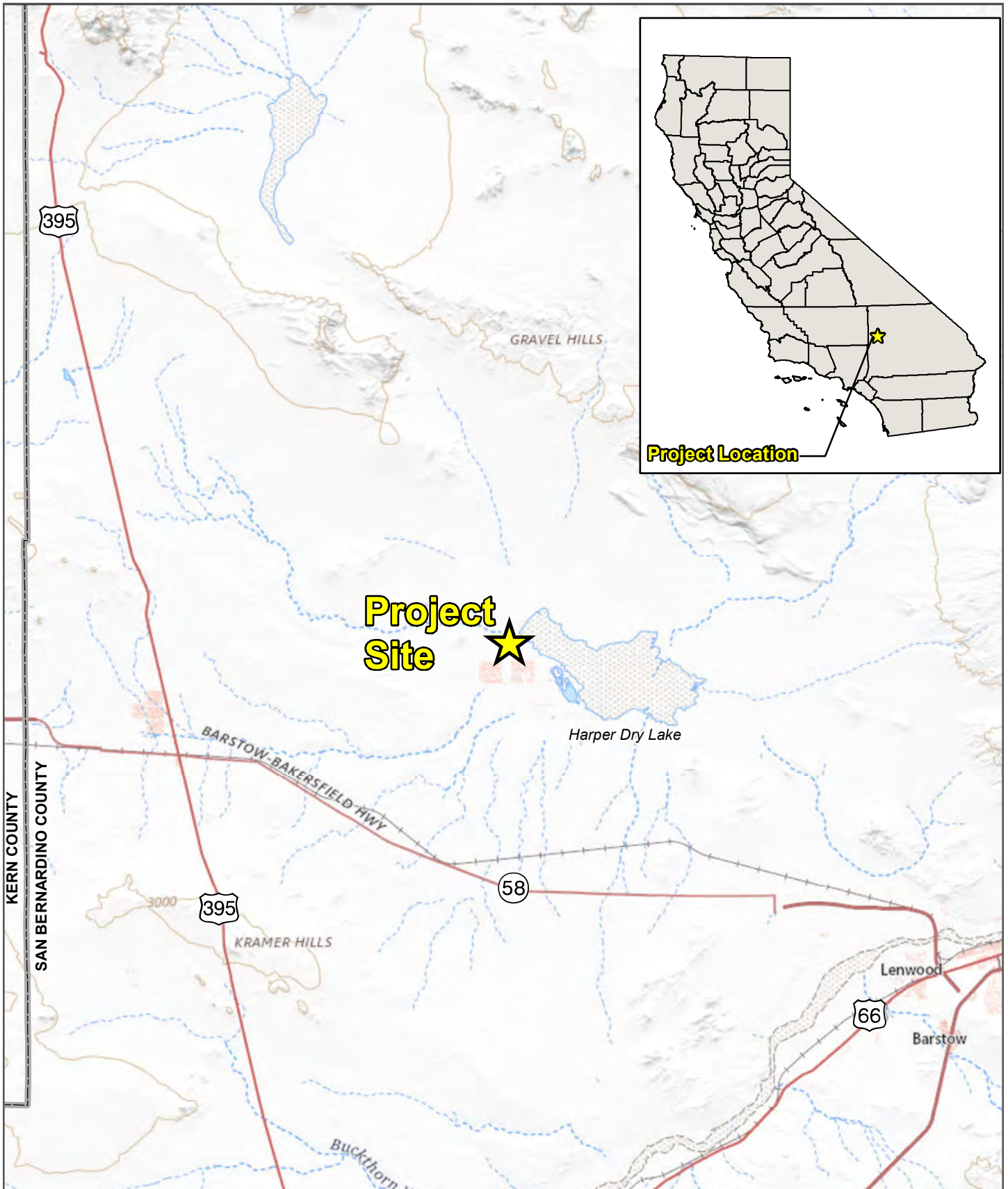
Resource Impact	Level of Significance	Mitigation Measure(s)	Level of Significance After Mitigation
<p>Impact 4.11-3 Would the Project substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?</p>	Less than Significant Impact	No mitigation measures are required.	N/A
<p>Impact 4.11-4 Would the Project result in inadequate emergency access?</p>	Less than Significant Impact	No mitigation measures are required.	N/A
<p>Section 4.12, Tribal Cultural Resources</p>			
<p>Impact 4.12-1 Would the Project be developed in an area listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code §5020.1(k)?</p>	Potentially Significant Impact	Mitigation Measure TCR-1 Mitigation Measure TCR-2	Less than Significant with Mitigation
<p>Impact 4.12-2 Would the Project contain a resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code §5024.1. In applying the criteria set forth in subdivision (c) of Public Resources Code §5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe?</p>	Potentially Significant Impact	Mitigation Measure TCR-1 Mitigation Measure TCR-2	Less than Significant with Mitigation
<p>Section 4.13, Utilities and Service Systems – Water Supply</p>			
<p>Impact 4.13-1 Would the Project require or result in the relocation or construction of new or expanded water, wastewater treatment, or storm water drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects?</p>	Less than Significant Impact	No mitigation measures are required.	N/A
<p>Impact 4.13-2 Would the Project have sufficient water supplies available to serve the Project and reasonably foreseeable future development during normal, dry, and multiple dry years?</p>	Less than Significant Impact	No mitigation measures are required.	N/A

3.0 PROJECT DESCRIPTION

Lockhart Solar PV II, LLC (Applicant) proposes a zoning amendment to change the current zoning designation to Resource Conservation (RC) from Rural Living (RL), as well as four (4) Conditional Use Permits (CUPs) to develop the Lockhart Solar PV II Project (Project), a utility scale, solar photovoltaic (PV) electricity generation and energy storage facility that would produce up to 150 megawatts (MW) of solar power and include up to 4 gigawatt hours (GWh) of energy storage capacity rate in a battery energy storage system (BESS) within an approximately 755-acre Project Site. The Project is located within the County of San Bernardino (County) and is largely sited on land previously approved by the California Energy Commission (CEC) for development of Solar Energy Generating System (SEGS) X, a solar thermal power facility which was never fully constructed. The Project is bordered on the south by the approved Lockhart Solar I Facility and the existing SEGS VIII and IX Solar Thermal Plants. The Project would share existing operations and maintenance (O&M) facilities with the Lockhart Solar I Facility (i.e., O&M building, warehouse and employee building), water and septic systems, switchyard and electrical transmission infrastructure, and a new collector substation (approved and to be constructed) within the approximately 110-acre “Shared Facilities Area” to connect the Project to the existing transmission line which runs to the Southern California Edison (SCE)-owned Kramer Junction substation.

3.1 Project Location and Settings

As shown in **Figure 3-1: Regional Vicinity Map**, the Project Site is in unincorporated Hinkley, CA, approximately 7 miles north of the intersection of Harper Lake Road and Mojave-Barstow Highway 58. The Project Site consists of area within three parcels, each of which contain vacant, previously disturbed land, miscellaneous concrete foundations, various electrical lines and poles, as well as existing facilities within the Shared Facilities Area (County Assessor’s Parcel Numbers: 0490-101-56, 0490-101-54, and 0490-223-33). The Project Site is bordered on the south by the existing SEGS VIII and IX Solar Thermal Power Plants, which the County approved for repowering to PV solar and battery storage in 2019 as part of the Lockhart Solar I Facility (Conditional Use Permit [CUP] Project #201900125); Harper Lake Road to the east; Hoffman Road to the west; and vacant land to the north. Vehicular access to the Project Site is currently provided via existing access gates off of Hoffman Road at the southern end of the Shared Facilities Area, as well as an existing access gate off of Harper Lake Road at the eastern end of the Project Site. Please see **Figure 3-2: Local Vicinity Map** and **Figure 3-3 Aerial Map**.



SOURCE: ArcGIS Online, 2018



FIGURE 3-1: Regional Vicinity Map

LOCKHART SOLAR PV II PROJECT

Kimley»Horn

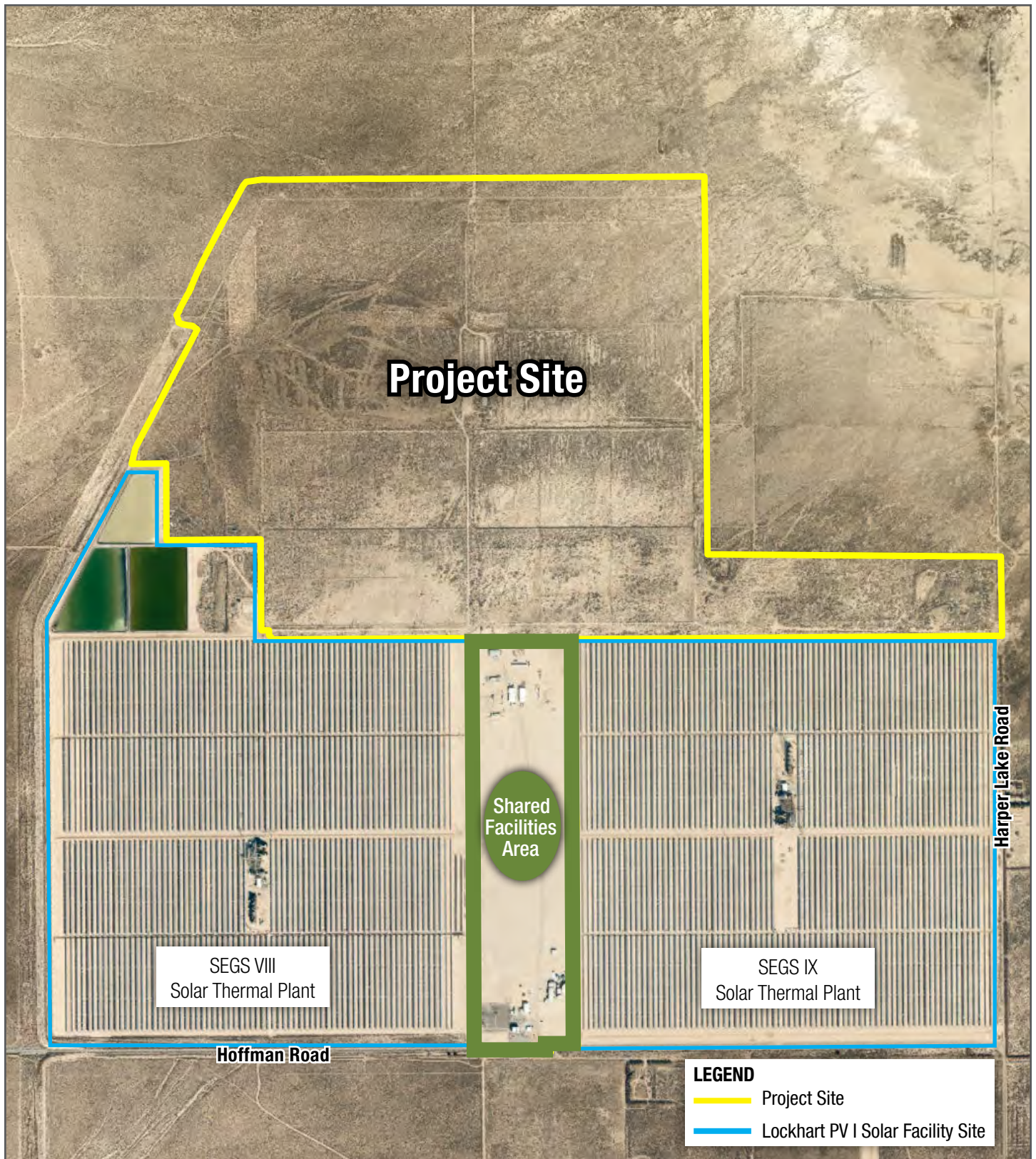


SOURCE: ArcGIS Pro

FIGURE 3-2: Local Vicinity Map

LOCKHART SOLAR PV II PROJECT

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SOURCE: Google Earth Pro



FIGURE 3-3: Aerial Map

LOCKHART SOLAR PV II PROJECT

3.2 Project Background

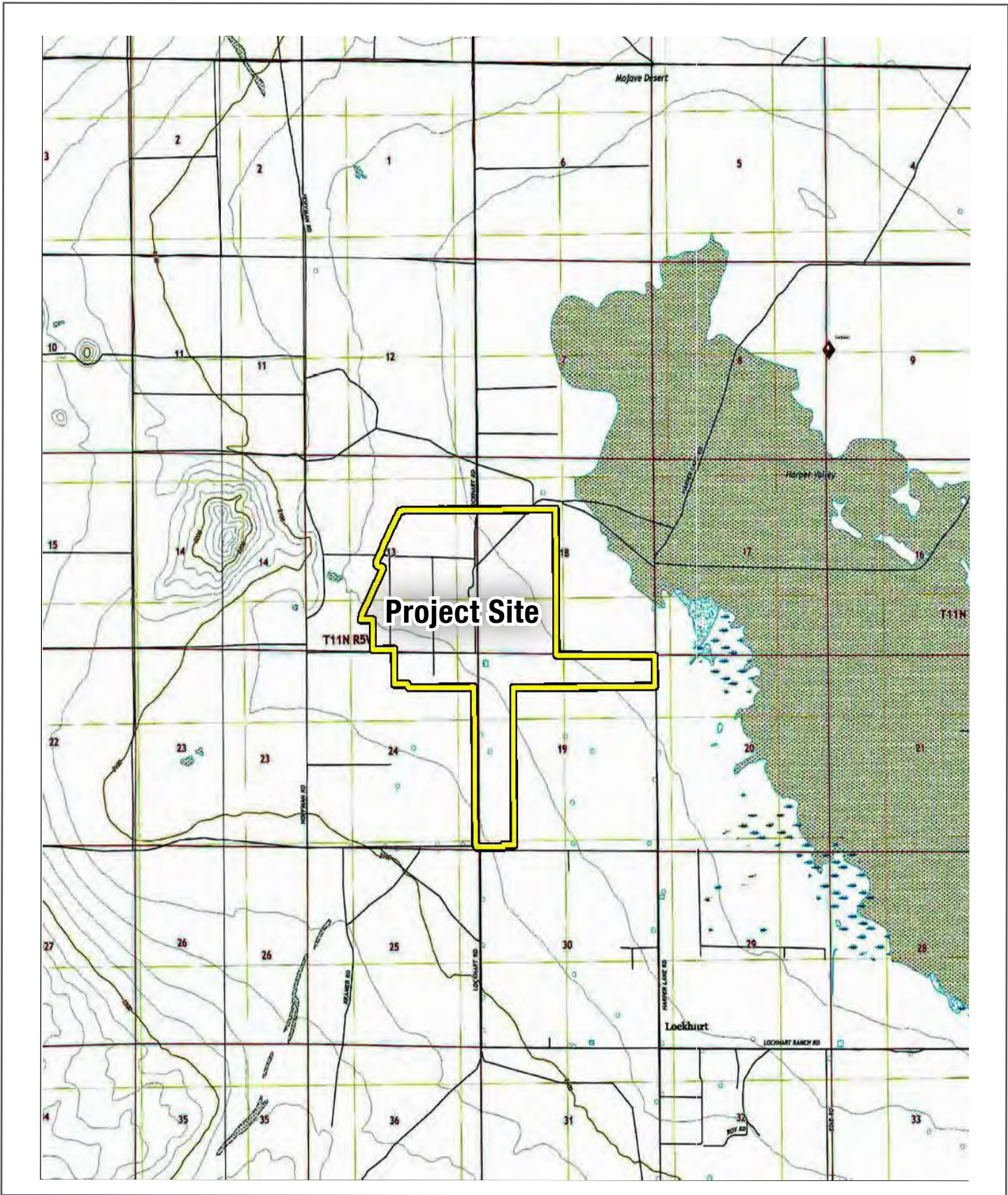
During the early 1990s, construction of the SEGS X solar thermal facility was initiated on the Project Site. SEGS X was part of a series of three solar thermal power plants certified by the CEC which were to be built adjacent to each other to share supporting facilities. SEGS X was fully permitted and certified as an 80 MW solar thermal facility. Approximately 600-acres were identified for the SEGS X facility including land for associated facilities to be shared with the two adjacent solar thermal power plants (SEGS VIII and IX). Per the SEGS IX and X CEC certification, permanent impacts to loss of the then-existing high-quality habitats were mitigated through purchase of 1,680 acres of conservation land at a 5 to 1 ratio for both Mohave ground squirrel and desert tortoise, pursuant to the California Department of Fish and Game (CDFG), now known as the California Department of Fish and Wildlife (CDFW), requirements and approvals. All these mitigation lands were protected even though the SEGS X facility was never fully constructed.

In 1991, the SEGS X owner was unable to continue construction due to lack of financing and construction was halted. Prior to work stoppage, several concrete foundations for the power block as well as concrete foundations for solar racking had been installed in portions of the Project Site. The Project proposes to use these already disturbed parcels to construct a solar PV and BESS facility.

3.3 Existing Site Conditions

The Project Site is relatively flat with surface elevations varying between approximately 2,035 feet above mean sea level (amsl) to 2,075 feet amsl along the Harper Valley floor. General topography in the area is shown in **Figure 3-4: Topographic Map**. The Project Site has been subject to near complete surface disturbance associated with past agricultural use, grading during partial construction of the SEGS X facility, as well as construction of the Shared Facilities Area for the existing SEGS VIII and IX Solar Thermal Power Plants.

The SEGS X site itself was largely graded during initial construction of the SEGS X facility before construction was halted in 1991. While the land was under alfalfa cultivation prior to grading for SEGS X, the site has largely sat undisturbed since SEGS X construction was halted and some of the historically cultivated acreage has become revegetated. The Project Site now contains some native vegetation with portions composed of disturbed habitat, bare ground, and development within the Shared Facilities Area. As stated above, the Project Site currently also includes several concrete foundations for the power block as well as concrete foundations for solar racking piers that were installed as part of initial construction for the SEGS X facility. Existing facilities within the Shared Facilities Area include the O&M building, warehouse, employee building, switchyard, other supporting facilities and electrical transmission infrastructure. Additionally, an existing 6-foot-tall chain link fence with desert tortoise exclusion fencing currently surrounds the perimeter of the Project Site. The desert tortoise exclusion fencing was previously installed during initial construction of the former SEGS X project in 1990, but was damaged in several areas along the fence. The fence has been repaired and reinforced, and is inspected and maintained by site operation personnel on a regular basis.



SOURCE: USGS 7.5-Minute Topographic Quadrangle Maps: Lockhart, CA (2018) & The Buttes CA (2018)



FIGURE 3-4: Topographic Map

LOCKHART SOLAR PV II PROJECT



The Project Site is currently almost entirely pervious. There is an existing earthen berm outside the western boundary of the Project Site, constructed as part of the SEGS VIII and IX facilities, that protects a major portion of the Project Site by diverting the off-site flow to the northwest corner. The existing berm does not currently extend along the full length of the western boundary of the Project Site.

3.4 Surrounding Land Uses

As shown in Figure 3-2, the Project Site is bordered on the south by the existing SEGS VIII and IX Solar Thermal Power Plants, the Abengoa Mojave Solar Project (MSP) located further to the south across Hoffman Road, the Black Mountain Wilderness Area 9 miles to the northeast, Harper Lake to the east, and vacant land to the north and west. The SEGS VIII, SEGS IX and MSP facilities are existing utility-scale solar thermal power facilities that include solar arrays, steam turbines, wet cooling towers, gas-fired auxiliary boilers, and other appurtenant infrastructure for solar thermal power generation. The SEGS VIII and IX facilities have been operational since the early 1990s and MSP has been operational since 2014. The Project Site is also located in proximity to existing high-voltage transmission lines that serve the existing facilities as well as the region, including the existing 13.8-mile transmission line that extends from the Shared Facilities Area to the SCE-owned Kramer Junction substation to the southwest.

Land Use Designations and Zoning

The Project Site is located in unincorporated Hinkley, CA and is designated as RLM (Resource Land Management) in the Countywide Plan, which permits natural resource conservation, mineral resource extraction, and renewable energy facilities consistent with the Renewable Energy and Conservation Element. The implementing land use/Zoning Districts within the RLM designation include Resource Conservation (RC), and Agriculture (AG). The existing land use designation and zoning classifications for the Project Site and the surrounding properties are shown in **Table 3-1: Project Site and Surrounding Uses**.

Table 3-1: Project Site and Surrounding Uses

	Existing Land Use	Existing Land Use Category	Existing Zoning Designation	Future Zoning Designation
Project Site	Partially developed solar facility; largely Vacant Land	RLM – Resource Land Management	RL - Rural Living/RC- Resource Conservation	RC- Resource Conservation
North	Undeveloped Vacant Land	RLM – Resource Land Management	RL - Rural Living adjacent to the Project Site, RC- Resource Conservation farther to the north	RC- Resource Conservation
South	Solar facilities	RLM – Resource Land Management	RL - Rural Living	RC- Resource Conservation
East	Undeveloped Vacant Land	RLM – Resource Land Management/RL-Rural Living	RL - Rural Living adjacent to the Project Site, RC - Resource Conservation farther to the east	RC- Resource Conservation/RL-Rural Living

	Existing Land Use	Existing Land Use Category	Existing Zoning Designation	Future Zoning Designation
West	Undeveloped Vacant Land	RLM – Resource Land Management	Rural Living adjacent to the Project Site, RC - Resource Conservation RC - Resource Conservation farther to the west	RC- Resource Conservation

Source: San Bernardino County. 2020. LU-1 Land Use Map. Available at <https://www.arcgis.com/apps/webappviewer/index.html?id=f23f04b0f7ac42e987099444b2f46bc2>. Accessed September 10, 2021.

Solar generation facilities are allowed under the RLM/RC land use designation and zoning district with a Conditional Use Permit. As shown above in Table 3-1, the existing zoning for the Project Site is RL; however, the zoning is expected to be changed to RC with Board approval of an upcoming County-initiated Zoning ordinance and map update. In the event the Project is considered prior to the adoption of the County-initiated zoning ordinance and map update, the Project includes a site-specific zone change request for the Project Site from RL to RC. The RC land use zoning district provides sites for open space and recreational activities, single-family homes on very large parcels and similar and compatible uses. Utility scale Renewable Energy Facilities are allowed in this zone. Please see a more detailed discussion of this zoning update in Section 7.3, *Land Use and Planning*, of this Draft EIR.

3.5 Project Objectives

The Project would provide the County and the State with additional renewable energy sources on land previously disturbed for the construction of renewable solar energy that would assist the State in complying with the Renewables Portfolio Standard under Senate Bill 100 which requires that by December 31, 2030, 60 percent of all electricity sold in the State shall be generated from renewable energy sources. The following are Project objectives:

- Site photovoltaic (PV) solar power-generating facilities and energy storage on previously graded and disturbed land, near existing utility infrastructure, thereby achieving economies of scale to maximize shared operation and maintenance facilities with existing solar operations.
- Establish solar PV power-generating facilities and energy storage of sufficient size and configuration to produce and deliver reliable electricity in an economically feasible and commercially financeable manner that can be marketed to different power utility companies.
- Use proven and established PV and energy storage technology that is efficient and requires low maintenance.
- Assist California in meeting greenhouse gas emission reduction goals by 2030 as required by the California Global Warming Solutions Act (Assembly Bill 32), as amended by Senate Bill 32 in 2016 to address the effects of climate change on the environment and the economy.
- Promote the County’s Renewable Energy and Conservation Element (RECE) policies and be sited in an area identified as suitable for utility oriented renewable energy generation projects.

- Develop a PV solar power generation facility in San Bernardino County, which would support the economy by investing in the local community, creating local construction jobs, and increasing tax and fee revenue to the County.

3.6 Proposed Project

The Project includes the development of solar PV facilities, BESS, and associated infrastructure with the capacity to generate up to 150 MW of solar energy and up to 4 GWh of energy storage capacity rate. The previously installed SEGS X concrete foundations will be removed if the foundations conflict with installation of Project facilities; they will otherwise be left in place. Concrete from SEGS X foundations would be demolished and exported from the site for proper disposal at a licensed landfill. Previously constructed concrete solar racking piers in the southwest portion of the site will remain in place as newer steel foundation piles can be driven around the old piers further reducing soil disturbance and offsite hauling and landfilling of debris.

Existing O&M buildings, warehouse and the employee building within the approximately 110-acre Shared Facilities Area would be shared by Lockhart Solar I Facility and Project operations staff. The Project would also be served by shared, and already approved, water and septic systems within the adjacent Lockhart Solar I Facility site. The Shared Facilities Area includes the permitted, but not yet constructed, BESS for Lockhart Solar I (County permitted), BESS for SEGS IX (CEC permitted), and would include the BESS for the Project, as these facilities are integral to the collector substation. In addition, the already approved collector substation and the existing switchyard located within the Shared Facilities Area will be upgraded, as necessary, to connect the Project to the existing transmission line which runs to SCE-owned Kramer Junction substation.

The Project is subject to CUP approval. In anticipation that power from the Project may be sold to different off-takers and/or may be financed by separate entities, the Applicant is requesting four CUPs be approved (please see **Figure 3-5: Conditional Use Permit (CUP) Areas**). This will better allow multiple off-takers to receive power from the Project Site as well as enable multiple investors and/or lenders to finance the Project. **Table 3-2: CUP Acreages** provides a breakdown of the acreage of each CUP area.

Table 3-2: CUP Acreages

CUP Area	Acreage
CUP 1	565
CUP 2	80
CUP 3	27
CUP 4	83

The facilities within each CUP area will share interconnection and other support facilities, as described above, within the Shared Facilities Area.

The Project consists of the following components:

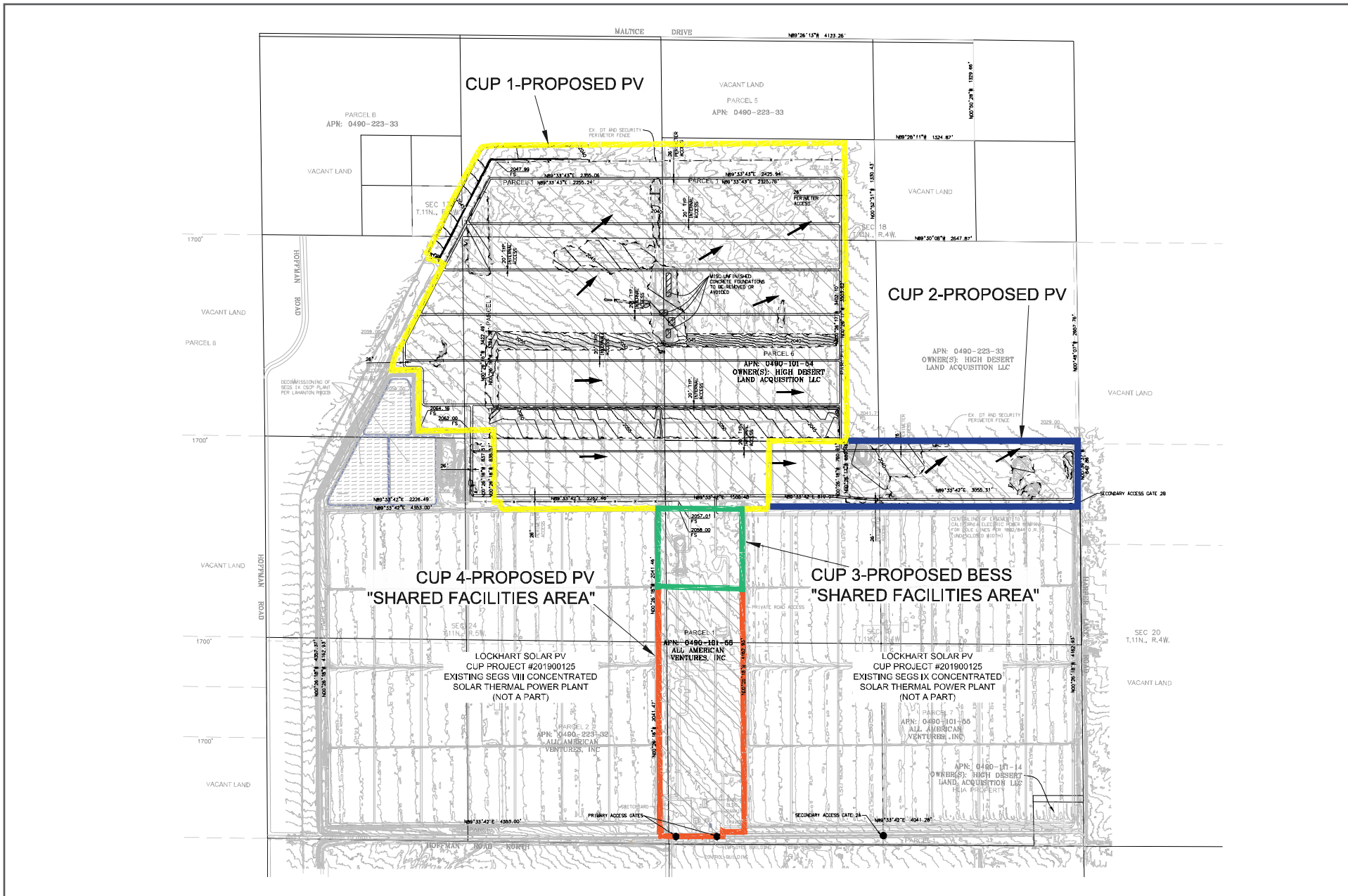
- **Zoning Amendment:** The Project includes a zoning amendment to change the zoning designation to Resource Conservation (RC) from Rural Living (RL) in order to be in compliance with the Countywide Plan/Policy Plan adopted October 27, 2020, and the Renewable Energy Conservation Element adopted August 8, 2017 (amended February 28, 2019).
- **CUP 1: Solar PV Generating Facilities and Solar Modules:** CUP 1 covers an approximately 565-acre area and includes installation of solar facilities capable of generating approximately 129 MW of renewable electrical energy. The energy is generated via PV modules made of thin film or polycrystalline silicon material covered by glass, mounted on a single-axis tracking system and connected to inverters and to the BESS. Depending on the type of modules used, panels would measure between approximately 4 and 7 feet in length, and the total height of the panel system measured from the ground surface would be approximately 7 to 12 feet. Spacing between each solar panel row would be between 10 to 24 feet. Single-axis systems would employ a motor mechanism that would allow the arrays to track the path of the sun throughout the day. In the morning, the panels would face the east. Throughout the day, the panels would slowly move to the upright position at noon and on to the west at sundown. The panels would reset to the east in the evening or early morning to receive sunlight at sunrise. CUP 1 also includes the area required for extension of the existing open channel located outside the Project fence line along the western and northern boundary of the CUP 1 area for collection and routing of offsite run-on, if needed for Project design.
- **CUP 2: Solar PV Generating Facilities and Solar Modules:** CUP 2 covers an approximately 80-acre area and includes installation of solar facilities capable of generating approximately 15 MW of renewable electrical energy. Energy will be generated via PV modules made of thin film or polycrystalline silicon material covered by glass, mounted on a single-axis tracking system and connected to inverters and to the BESS. Depending on the type of modules used, panels would measure between approximately 4 and 7 feet in length, and the total height of the panel system measured from the ground surface would be approximately 7 to 12 feet. Spacing between each panel row would be between 10 and 24 feet. Single-axis systems would employ a motor mechanism that would allow the arrays to track the path of the sun throughout the day. In the morning, the panels would face the east. Throughout the day, the panels would slowly move to the upright position at noon and on to the west at sundown. The panels would reset to the east in the evening or early morning to receive sunlight at sunrise.
- **CUP 3: Battery Energy Storage System (BESS):** The BESS system is proposed on approximately 27 acres of the 110-acre Shared Facilities Area. The BESS and associated equipment would provide the ability to store up to 4 GWh of energy storage capacity rate for the electric grid. The BESS system will be designed to store energy generated from the Project's PV panels as well as energy delivered via the grid. While possible to charge from either, the BESS would only charge from the Project's PV panels during the first 5 years of facility operations. The Applicant proposes to install

the BESS components in phases over the life of this CUP, for an installed capacity of up to 4 GWh of energy storage capacity rate.

Dimensions for batteries are based on battery technologies currently under consideration, however, a vendor has not yet been selected and component details may vary between vendors and technologies. The batteries would be stored in individual containers; dimensions of the containers would be approximately 51 feet in length, 14 feet in width and 21.6 feet in height, including height needed for heating, ventilation, and air conditioning (HVAC). The batteries would be housed in open-air-style racking within its enclosed container (similar to computer racking). The associated inverters, transformers, and switchgear would be located immediately adjacent to the individual containers on concrete pads or on pier mounted skids.

The BESS containers would have a fire rating in conformance with National Fire Protection Association (NFPA) and County standards and specialized fire suppression systems. The containers would also have HVAC cooling to maintain energy efficiency and to protect the batteries. Power to the HVAC, lighting, etc. would be provided via a connection to the permitted, but not yet constructed, collector substation within the Shared Facilities Area with connection lines installed above ground and/or below ground. The BESS would be operated primarily via remote control with on-site periodic inspections and maintenance performed, as necessary. The BESS component manufacturer has not been determined at this time but could include any commercially available and proved large-scale battery technology, including but not limited to lithium ion, sodium sulfur, and sodium or nickel hydride. Power stored by the BESS would be gathered into 34.5 kilovolt (kV) circuits and be stepped-up to 220 kV at the substation.

- **CUP 4: Solar PV Generating Facilities and Solar Modules:** CUP 4 is proposed on approximately 83 acres of the 110-acre Shared Facilities Area and includes installation of solar facilities capable of generating approximately 6 MW of renewable electrical energy. Energy will be generated via PV modules made of thin film or polycrystalline silicon material covered by glass, mounted on a single-axis tracking system and connected to inverters and to the BESS. Depending on the type of modules used, panels would measure between approximately 4 and 7 feet in length, and the total height of the panel system measured from the ground surface would be approximately 7 to 12 feet. Spacing between each panel row would be between 10 and 24 feet. Single-axis systems would employ a motor mechanism that would allow the arrays to track the path of the sun throughout the day. In the morning, the panels would face the east. Throughout the day, the panels would slowly move to the upright position at noon and on to the west at sundown. The panels would reset to the east in the evening or early morning to receive sunlight at sunrise.



SOURCE: Michael Baker International, 2021



FIGURE 3-5: Conditional Use Permit (CUP) Areas

LOCKHART SOLAR PV II PROJECT

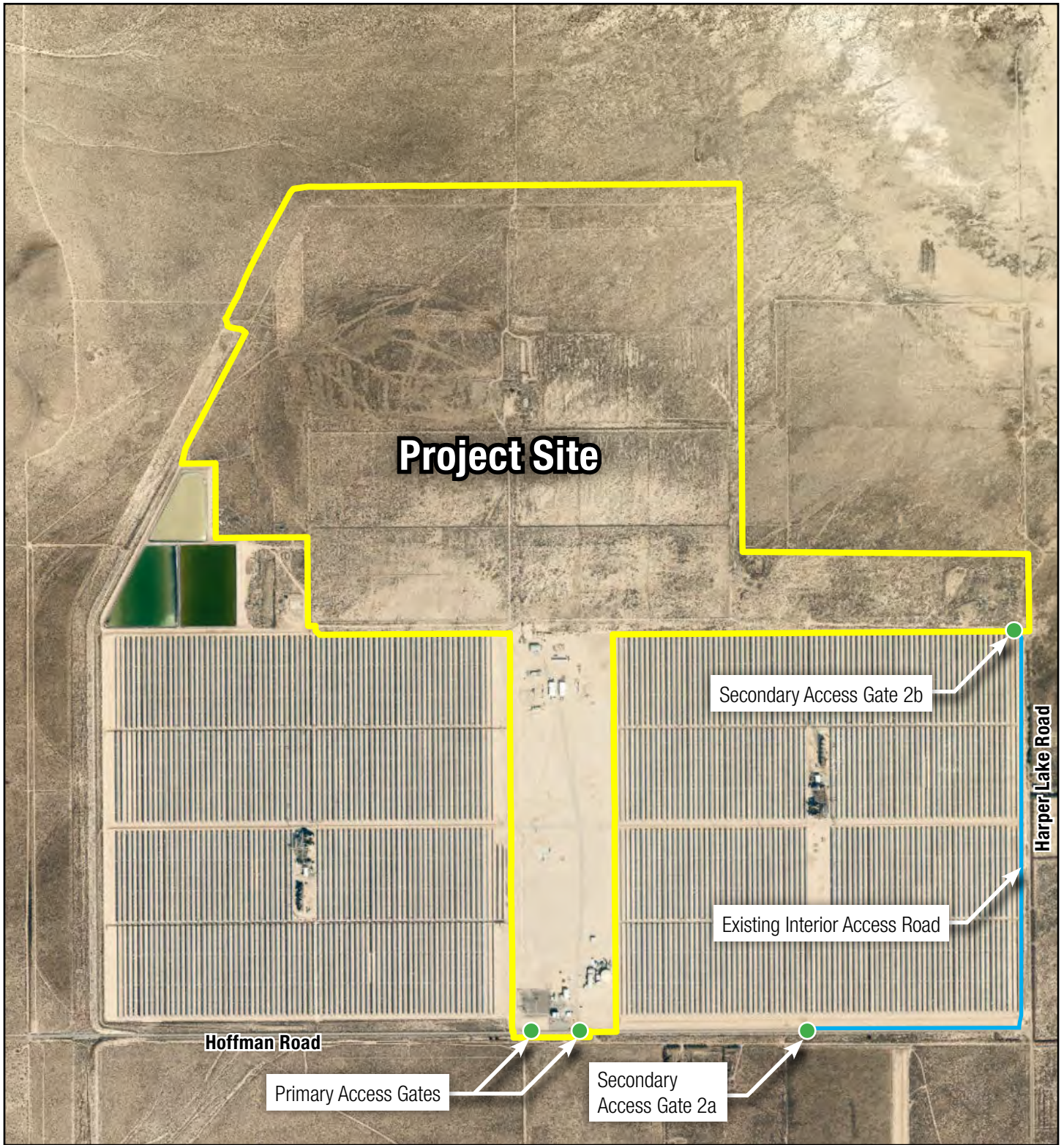


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- **Upgrade of Shared Collector Substation and Switchyard:** The collector substation permitted as part of the Lockhart Solar I Facility, but not yet constructed, and the existing switchyard located in the Shared Facilities Area will be upgraded, as necessary, to serve the Project. The existing switchyard currently serves the SEGS VIII and IX solar thermal facilities. This type of facilities sharing lessens the overall environmental impacts of this development and further reduces redundancy.
- **Electrical Collector System and Inverters:** Overhead and underground collection systems will be built throughout the Project Site. Collection systems would be aggregated at multiple circuit breakers or medium-voltage switchgear positions, leading to the permitted, but not yet constructed, shared collector substation located in the Shared Facilities Area.
- **Shared Gen-Tie Power Line and Interconnection with the Statewide Grid:** A 220 kV on-site gen-tie will connect the power generated from this Project to the existing switchyard located at the southern edge of the Shared Facilities Area. From there, an existing 13.8-mile gen-tie transmission line will be used to transmit the power generated from the Project to the existing SCE-owned substation at Kramer Junction.
- **Telecommunication Facilities:** Telecommunication equipment, including underground and overhead fiber optics, microwave, meteorological data collection systems, and supervisory control and data acquisition would be installed on the Project Site to connect the Project to remote monitoring locations and ultimately to the SCE substation at Kramer Junction via the existing gen-tie.
- **Site Access, Perimeter Fencing, and Lighting:** Security fencing, electronic gates, and installed nighttime directional lighting would provide site security. The existing 6-foot-tall chain link perimeter fence may be replaced or upgraded as needed with a similar security fence, preserving the required desert tortoise exclusionary fencing feature. The perimeter fence would continue to be maintained over the life of the Project.

Vehicular access to the Project Site will be provided via two existing primary and secondary access points (see **Figure 3-6: Site Access**):

- 1) Primary: existing access gates off of Hoffman Road at the southern end of the Shared Facilities Area, and
- 2) Secondary: an existing access gate off of the existing unnamed paved road along the southern property boundary of the SEGS IX facility site, traveling along the existing SEGS IX interior perimeter access road to a new gate at the southeastern corner of the Project Site.



SOURCE: Google Earth Pro



FIGURE 3-6: Site Access

LOCKHART SOLAR PV II PROJECT

Interior access roads would be located throughout the Project Site. All perimeter and interior road networks would be designed to comply with fire access roadway widths as required by County Fire Code and County Code requirements. A 26-foot-wide interior perimeter access road would be constructed along the Project fence line. All interior roads would consist of compacted native soil per San Bernardino County Fire Department requirements and would be stabilized with soil stabilization material, if necessary.

Construction

Schedule and Workforce

The Applicant is seeking four separate CUPs to facilitate Project financing. The four CUPs would share certain facilities, such as the BESS, the already approved shared collector substation, gen-tie power line, and other appurtenant energy generation facilities. Project construction is anticipated to be completed over a period of approximately 14 months. Project construction activities generally fall into three main categories: (1) site preparation, (2) system installation, and (3) testing, commissioning, and cleanup.

The on-site construction workforce is expected to peak at approximately 340 individuals; however, the average daily workforce on-site is expected to be between 225 and 250 construction, supervisory, support, and construction management personnel. Construction would primarily occur during daylight hours, Monday through Friday, between 7:00 a.m. and 7:00 p.m., as required to meet the construction schedule. Any construction work performed outside of the normal work schedule would be subject to pre-approval by County.

Site Grading and Earthwork

Site grading and earthwork activities are expected to include mowing, excavation, and piledriving. Grading of the Project Site would be limited to the greatest extent possible to control dust. Micro-grading would occur to maintain pile foundation tolerances and grading would be required for installation of site roads and preparation of equipment foundation pads. Solar panels are attached to driven piles and do not require foundation pads. The Project may require grading for extension of the existing open channel located outside the Project fence line along the western and northern boundary of the Project Site for the collection and routing of offsite stormwater that could otherwise potentially flow onto the site. If feasible, this channel may be constructed within the fence line to limit new disturbance associated with Project construction. Flows would drain to the existing watershed which flows toward Harper Dry Lake. Site preparation and construction would occur in accordance with all federal, State, and County zoning codes and requirements. Noise-generating construction activities would be limited to the construction hours noted above.

All applicable local, State, and federal requirements and best management practices (BMPs) would be incorporated into Project construction activities. The construction contractor would be required to incorporate BMPs consistent with the County zoning ordinance and with guidelines provided in the California Stormwater Quality Association's Construction Best Management Practice Handbook, including the preparation of a Stormwater Pollution Prevention Plan (SWPPP) and a Soil Erosion and Sedimentation Control Plan to reduce potential impacts related to construction of the Project.

Solar Array Assembly

Erection of the solar arrays would include support structures and associated electrical equipment and cabling. During this work, there would be multiple crews working on the site with various equipment and vehicles, including special vehicles for transporting the modules and other equipment. As the solar arrays are installed, the collection substation and switchyard facility upgrades would be constructed, as needed, and the electrical collection and communication systems would be installed. Within the solar fields, the electrical and communication wiring would be installed in underground trenches, although some of the mid-voltage collection runs and communication systems may be on overhead lines.

Construction Water Use

During Project construction, non-potable water would be required for common construction-related purposes, including but not limited to dust suppression, soil compaction, and grading. Construction water usage is anticipated to be approximately 240 acre-feet (AF) during the construction period of 14 months. During construction, the water used is anticipated to be supplied by pumping groundwater from existing wells located within the Shared Facilities Area and immediately off-site on the adjacent SEGS IX facility site.

Solid and Nonhazardous Waste

The Project would produce a small amount of solid waste from construction activities. This may include paper, wood, glass, plastics from packing material, waste lumber, insulation, scrap metal and concrete, empty nonhazardous containers, and vegetation waste. These wastes would be segregated, where practical, for recycling. Non-recyclable wastes would be placed in covered dumpsters and removed on a regular basis by a certified waste-handling contractor for disposal at a Class III landfill. Vegetation waste generated by site clearing and grubbing would be chipped/mulched and spread on-site or hauled off site to an appropriate green waste facility.

Hazardous Materials

Hazardous materials used during Project construction would be typical of most construction projects of this type. Materials may include small quantities of gasoline, diesel fuel, oils, lubricants, solvents, detergents, degreasers, paints, ethylene glycol, dust palliative, herbicides, and welding materials/supplies. A hazardous materials business plan would be provided to the County Environmental Health Services Division/Hazardous Materials Section that would include a complete list of all materials used on site and information regarding how the materials would be transported and in what form they would be used. This information would be recorded to maintain safety and prevent possible environmental contamination or worker exposure. During Project construction, material safety data sheets for all applicable materials present at the Project Site would be made readily available to on-site personnel.

Hazardous Waste

Small quantities of hazardous waste may be generated during Project construction. These wastes may include waste paint, spent construction solvents, waste cleaners, waste oil, oily rags, waste batteries, and spent welding materials. Workers would be trained to properly identify and handle all hazardous materials. Hazardous waste would be either recycled or disposed of, as allowed by permit, at a permitted and licensed treatment and/or disposal facility.

Operations

Operations and Maintenance Activities

The Project would operate year-round. Typical O&M activities during Project operations include, but are not limited to, facility monitoring; administration and reporting; remote operations of inverters, BESS system and other equipment; site security and management; communication protocol; repair and maintenance of solar facilities, electrical transmission lines, and other Project facilities; and periodic panel washing.

The Shared Facilities Area includes an existing reverse osmosis and demineralizing system (RODS) to purify the brackish groundwater before use at the existing SEGS VIII and IX facilities. Currently, the RODS operates continuously, on an as-needed basis, up to approximately 18 hours per day. The existing RODS within the Shared Facilities Area (or similar system) will be used, as needed, to remove particles suspended in groundwater prior to Project solar panel cleaning, one to four times per year.

The County Board of Supervisors approved the Lockhart Solar I Facility (CUP Project #201900125) in January 2020, which contemplated that existing SEGS operations staff would continue operation of the Lockhart Solar I Facility. Lockhart Solar I Facility operations staff would also support operations for the Project.

Site Drainage

Stormwater runoff currently enters the Project Site from the southern and western boundaries and exits the Project Site along the northern and eastern boundaries. The existing earthen berm diverts the off-site flow to the northwest corner, which confluences with flow from the berm and ponds just outside the northeast corner of the Project Site within the dry lake bed of Harper Lake. The Project includes extension of the existing berm into an open channel located along the western and northern boundary of the Project Site for the collection and routing of offsite runoff. The open channel would redirect flows originating off-site to drain to the existing watershed which flows toward Harper Dry Lake. The open channel would be designed to capture and divert the off-site flows from the existing channel and continue on the path around the Project Site boundary. The Project would also develop retention basins to manage the slight increase in runoff. The retention basins would be sized to capture the difference in the pre- versus post-developed conditions on the Project Site.

Water Use

During Project O&M, it is anticipated that water would be required for solar panel washing, equipment washing, non-sanitary uses, and other miscellaneous water uses. Solar panel washing is expected to occur one to four times per year. Water consumption for washing panels is expected to be approximately 4.5 AF of water per year. This amount is in addition to the water necessary for operations staff, fire suppression and site maintenance, which is a small amount of water (i.e., approximately 0.45 AF per year). Water washing is by deluge and no chemicals or other materials are used.

Decommissioning

At the end of the Project's operational term, the Applicant may determine that the Project should be decommissioned and deconstructed, or it may seek an extension of its conditional use permit. The Applicant will work with the County to ensure decommissioning of the Project after its productive lifetime complies with all applicable local, state, and federal requirements BMPs. The Project would include BMPs to ensure the collection and recycling of modules and to avoid the potential for modules to be disposed of as municipal waste.

Equipment would be de-energized prior to removal, salvaged (where possible), placed in appropriate shipping containers, and secured in a truck transport trailer for shipment off site to be recycled or disposed of at an appropriately licensed disposal facility. Site infrastructure would be removed, including fences and concrete pads that may support the inverters, transformers, and related equipment. The exterior fencing and gates would be removed, and materials would be recycled to the extent feasible. Project roads would be restored to their pre-construction condition to the extent feasible unless the landowner elects to retain the improved roads for access throughout the property. A collection and recycling program would be utilized to promote recycling of Project components and minimize disposal in landfills.

3.7 Intended Uses of the EIR

This EIR is an informational document intended to inform public agency decision-makers and the public of environmental effects of the Project described above, identify ways to minimize potential significant effects, and describe and evaluate a reasonable range of alternatives to the Project.

The County is the Lead Agency for the Project, as it is the agency with primary authority over the Project's discretionary approvals. Several other agencies, identified as responsible and trustee agencies, will also use the EIR for their consideration of approvals or permits under their respective authorities.

For the purposes of CEQA, the term "trustee agency" means a state agency having jurisdiction by law over natural resources affected by a project, which are held in trust for the people of the state of California. The term "responsible agency" includes all public agencies other than a lead agency that may have discretionary actions associated with the implementation of a proposed project or an aspect of subsequent implementation of a project. Accordingly, **Table 3-3: Matrix of Potential Approvals Required**

identifies a list of approvals that could be required from the lead agency, trustee agencies and responsible agencies.

Table 3-3: Matrix of Potential Approvals Required

Permit/Action Required	Approving Agency	Lead/Trustee/Responsible Agency Designation
Environmental Impact Report Certification	County	Lead Agency
Conditional Use Permits	County	Lead Agency
Variance for Height of new on-site collection line poles	County	Lead Agency
Air Quality Construction Management Plan	Mojave Desert Air Quality Management District (MDAQMD)	Responsible Agency
Waste Discharge Permit, if required	Lahontan Regional Water Quality Control Board (RWQCB)	Responsible Agency
General Construction Stormwater Permit	Lahontan RWQCB	Responsible Agency
Grading, Building, and Encroachment Permit(s)	County	Lead Agency
Incidental Take Permit, if required	California Department of Fish & Wildlife (CDFW)	Responsible Agency

3.8 References

San Bernardino County. 2020a. *Countywide Plan Policy Plan: Policy Plan LU-1 Land Use Map*. September 24, 2020. Available at http://countywideplan.com/wp-content/uploads/2020/12/LU-1-Land-Use-Map-201027_adopted.pdf. Accessed August 12, 2021.

San Bernardino County. 2020b. LU-1 Land Use Map. Available at <https://www.arcgis.com/apps/webappviewer/index.html?id=f23f04b0f7ac42e987099444b2f46bc2>. Accessed September 10, 2021.

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4.0 INTRODUCTION TO THE ENVIRONMENTAL ANALYSIS

4.0.1 Approach to Environmental Analysis

This EIR analyzes those environmental issue areas identified during the Project scoping as having the potential for significant impacts.

The EIR examines the following environmental topics outlined in the CEQA Guidelines Appendix G Environmental Checklist Form:

4.1 Aesthetics	4.8 Hazards and Hazardous Materials
4.2 Air Quality	4.9 Hydrology and Water Quality
4.3 Biological Resources	4.10 Noise
4.4 Cultural Resources	4.11 Transportation
4.5 Energy	4.12 Tribal Cultural Resources
4.6 Geology and Soils	4.13 Utilities and Service Systems – Water Supply
4.7 Greenhouse Gas Emissions	

Each potentially significant environmental issue is addressed in a separate section of the EIR (**Sections 4.1 through 4.13**) and is generally organized into the following main subsections:

- **Environmental Setting** describes the physical conditions that exist at this time and that may influence or affect the issue under investigation.
- **Regulatory Setting** describes the pertinent policy, standards, and codes that exist at this time and which may influence or affect the regulatory environment of the Project.
- **Impact Thresholds and Significance Criteria** identifies the threshold of significance, as defined in CEQA Guidelines Section 15064.7, by which the Lead Agency will identify significant adverse environmental effects. The impact thresholds and significance criteria are based on Appendix G of the CEQA Guidelines, unless otherwise stated.
- **Impact Analysis and Mitigation Measures** identifies potential direct and indirect environmental effects associated with implementation of the Project and identifies proposed measures to mitigate environmental effects, where applicable.
- **Cumulative Impacts** considers the cumulative impact, as defined in CEQA Guidelines Section 15355, created as a result of the combination of the Project's impacts together with other projects causing related impacts. This discussion considers whether the Project's incremental impact is cumulatively considerable.

Impact Analysis

The level of significance identifies the degree or severity of an impact with implementation of the Project. Impacts are classified as potentially significant impact, less than significant impact, or no impact. Project impacts are the potential environmental changes to the existing physical conditions that may occur if the Project is implemented.

Major sources used in crafting significance criteria include the CEQA Guidelines; San Bernardino County, state, federal, or other standards applicable to an impact category; and officially established significance thresholds. “An ironclad definition of significant effect is not possible because the significance of any activity may vary with the setting” (CEQA Guidelines Section 15064[b]). Principally, “a substantial, or potentially substantial, adverse change in any of the physical conditions within an area affected by the Project, including land, air, water, flora, fauna, ambient noise, and objects of historic and aesthetic significance” constitutes a significant impact (CEQA Guidelines Section 15382).

Evidence, based on factual and scientific data, is presented to show the cause-and-effect relationship between the Project and the potential changes in the environment. The exact magnitude, duration, extent, frequency, range, or other parameters of a potential impact are ascertained, to the extent possible, to determine whether impacts may be significant when compared to the presented criteria. The discussion considers all potential direct and reasonably foreseeable indirect, construction-related (short-term), and operational and maintenance (long-term) effects. Each section also addresses cumulative impacts (described further below) and identifies any significant and unavoidable impacts. The Project applicant submitted technical data, information and analysis related to the Project and the County conducted a third-party, independent review of all submitted materials before presenting it in this document.

Mitigation Measures

Mitigation measures are those Project-specific measures that would be required of the Project to avoid a significant adverse impact, to minimize a significant adverse impact, to rectify a significant adverse impact by restoration, to reduce or eliminate a significant adverse impact over time by preservation and maintenance operations, or to compensate for the impact by replacing or providing substitute resources or environment. Mitigation measures are included throughout Sections 4.1 through 4.13, where necessary, to address an identified potentially significant impact.

Where potentially significant impacts cannot be feasibly mitigated to less than significant levels, they would be considered significant and unavoidable impacts. To approve a project with unavoidable significant impacts, the lead agency must adopt a Statement of Overriding Considerations. In adopting such a statement, the lead agency is required to balance the benefits of a project against its unavoidable environmental impacts in determining whether to approve the project. If the benefits of a project are found to outweigh the unavoidable adverse environmental effects, the adverse effects may be considered “acceptable” and the project approved (CEQA Guidelines Section 15093[a]).

4.0.2 Environmental Issue Areas Deemed to be Not Significant

The following environmental issue areas are addressed in **Section 7.0**, Effects Found Not to Be Significant:

- Agriculture and Forestry Services
- Land Use and Planning
- Mineral Resources
- Population and Housing
- Public Services
- Recreation
- Wildfire
- Utilities and Service Systems – Wastewater, Electric Power, Natural Gas, Telecommunications, and Solid Waste

4.0.3 Cumulative Impact Methodology

Cumulative Impact Evaluation

Cumulative impacts are defined in the CEQA Guidelines Section 15355 as “two or more individual effects which, when considered together, are considerable or which compound or increase other environmental impacts.” A cumulative impact occurs from a “change in the environment which results from the incremental impact of the project when added to other closely related past, present, and reasonably foreseeable probable future projects. Cumulative impacts can result from individually minor, but collectively significant, projects taking place over a period of time.” Consistent with CEQA Guidelines Section 15130(a), the discussion in this EIR focuses on the identification of any significant cumulative impacts and, where present, the extent to which the proposed Project would constitute a considerable contribution to the cumulative impact. CEQA Guidelines Section 15130(b) states the following:

The discussion of cumulative impacts shall reflect the severity of the impacts and their likelihood of occurrence, but the discussion need not provide as great detail as is provided for the effects attributable to the project alone. The discussion should be guided by the standards of practicality and reasonableness and should focus on the cumulative impact to which the identified other projects contribute rather than the attributes of other projects which do not contribute to the cumulative impact.

Methodology

To identify the projects to be analyzed in the evaluation of cumulative impacts, CEQA Guidelines Section 15130(b) requires that an EIR employ either:

- **The List Approach** – entails listing past, present, and probable future projects producing related or cumulative impacts, including, if necessary, those projects outside the control of the agency; or
- **The Projection Approach** – uses a summary of projections contained in an adopted general plan or related planning document, or in a prior environmental document that has been adopted or certified, which described or evaluated regional or area-wide conditions contributing to the cumulative impact.

The approach and geographic scope of the cumulative impact evaluation vary depending on the environmental topic area being analyzed. The individual Cumulative Impact Analysis subsection in the section addressing each environmental topic discusses potential cumulative impacts and, if necessary, includes mitigation measures for the Project. Each impact begins with a summary of the approach and the geographic area relevant to that environmental topic area. The cumulative setting and methodology are discussed in each resource section.

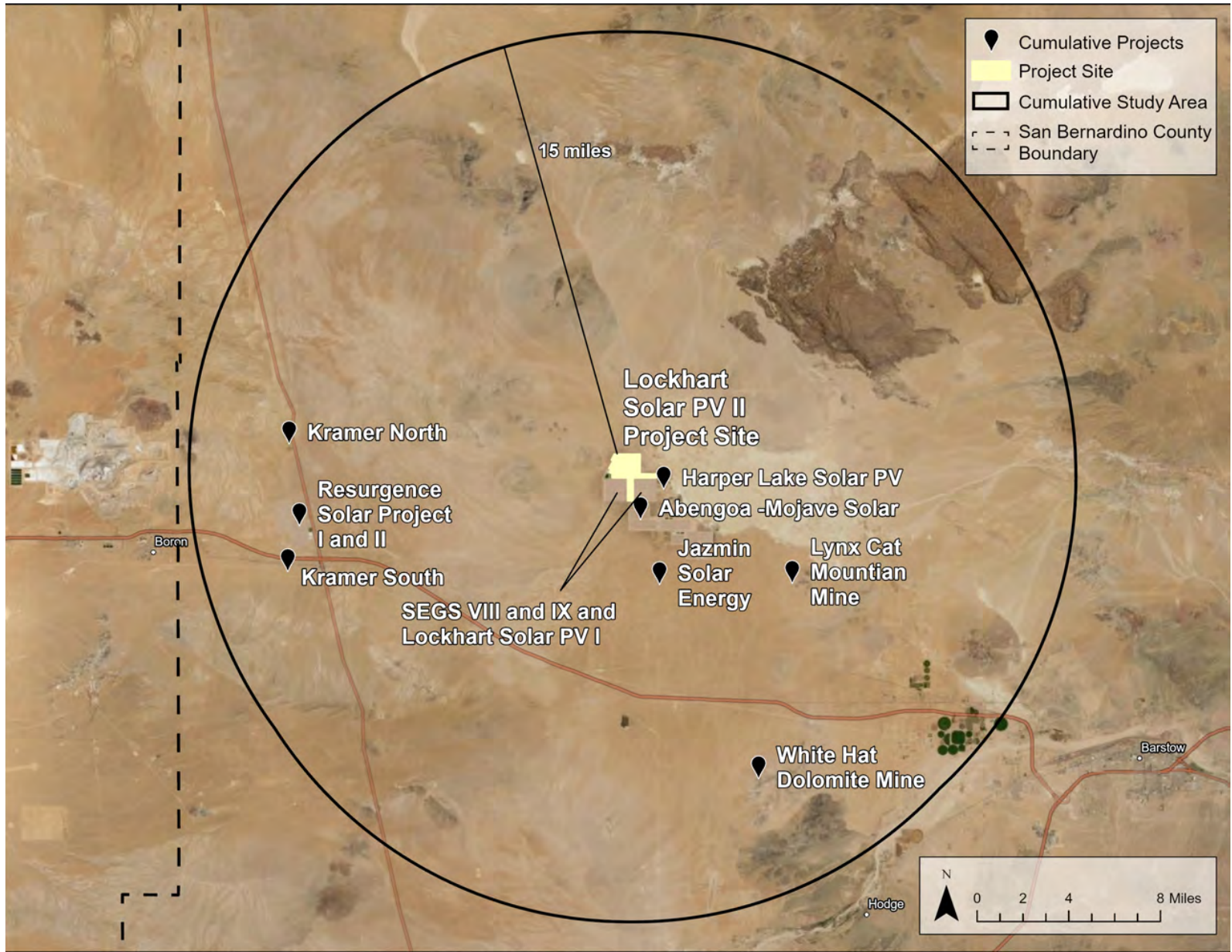
Past projects include those land uses that have been previously developed and comprise the existing environment. Present projects include those projects recently approved or are under construction. Probable future projects are those that are reasonably foreseeable, such as those for which an application is on file and in process with a local planning department. The cumulative projects listed in **Table 4.0-1, Cumulative Projects Map**, have been determined to be reasonably foreseeable and have been developed in consultation with the County Planning Department. These projects are considered in the cumulative impact analysis as appropriate. Refer to **Figure 4.0-1: Cumulative Projects Map**, for the location of each project relative to the Project Site.

Table 4.0-1: Cumulative Projects

Map No.	Project Number	Project Name	Distance from Proposed Project	Description	Status
APN: 0490-101-56, 0490-101-54, 0490-223-33	PROJ-2021-00029	Lockhart Solar PV II (Proposed Project)	--	CUP(s) for a 150 MW PV solar and 4 GWh energy storage capacity rate in a BESS on approximately 755 acres	In Review
APN: 0490-223-32, 0490-101-55, 0490-101-56, 0490-111-14	P201900125	Lockhart Solar PV	Adjacent	CUP to decommission existing 160 MW SEGS VII and IX solar thermal facilities on 1,073-acres and replace with a 160 MW PV solar facility with a BESS within the same footprint	CUP Approved by Board of Supervisors on 1/7/2020
APN: 0490-223-32, 0490-101-55, 0490-	N/A	SEGS VIII and IX	Adjacent	Existing 1,073-acre Solar Thermal Facilities	Active

Map No.	Project Number	Project Name	Distance from Proposed Project	Description	Status
101-56, 0490-111-14					
APN: 049009109	PROJ-2021-00003	Harper Lake Solar PV	Adjacent	A Policy Plan Amendment from a Residential (Rural Living RL) land use to Resource Land Management (RLM) and a Zoning Amendment from RL to Resource Conservation (RC). Conditional Use Permit (CUP) for a 65 MW PV solar facility includes a 65 MW BESS on 80 acres	In Review
APN: 048803101	M91-36-0166	White Hat Dolomite Mine	11 miles	Mining Annual Inspection for existing mine	Active
APN: 048803102	MTO-2021-00003	White Hat Dolomite Mine	11 miles	Mining Transfer of Ownership	Active
APN: 049605110	PROJ-2019-00041	Jazmin Solar Energy	3 miles	CUP to construct and operate an 8-megawatt PV community solar facility with BESS on approximately 40 acres	Conditionally Approved by Planning Commission on 7/8/2021

Map No.	Project Number	Project Name	Distance from Proposed Project	Description	Status
APN: 049601175	M91-36-0049	Lynx Cat Mountain Quarry	6 miles	Mining Annual Inspection	Active
APN: 049012149	No Record found	Abengoa Mojave Solar	0.7 miles	Existing 1,749-acre Solar Thermal Facility	Active
APN: 049110116	PROJ-2021-00019, PROJ-2021-00079	Resurgence Solar I and II	11 miles	CUP to decommission an existing 150 MW thermal solar facility on 1,172-acres and replace with a 150 MW PV solar facility with a BESS within the same footprint	In Review
APN: 049222122	P201700466	Kramer South	12 miles	CUP to construct and operate a 130-megawatt PV solar facility with BESS on approximately 386 acres	Conditionally Approved by Planning Commission on 6/4/2020
APN: 049109107	P201700392	Kramer North	11 Miles	CUP to construct and operate a 70-megawatt PV solar facility with BESS on approximately 191 acres	Conditionally Approved by Planning Commission on 10/15/2018



SOURCE: ArcGIS Pro

FIGURE 4.0-1: Cumulative Projects Map

LOCKHART SOLAR PV II PROJECT

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4.1 AESTHETICS

4.1.1 Introduction

This section evaluates potential aesthetics and visual resource impacts that may result from construction and operation of the Project. The following discussion addresses the existing aesthetic and visual resources of the Project Site and surrounding viewshed; evaluates Project consistency with applicable goals, policies, and regulations; identifies potential aesthetic and visual resource impacts; and recommends mitigation measures, if any, to reduce or avoid significant impacts that may result from implementation of the Project.

The analysis in this section is based on the *Viewshed Analysis* (see Appendix B).

4.1.2 Environmental Setting

Regional Setting

San Bernardino County (County) is the largest County in the continental United States with a land area of 20,106 square miles. The County comprises three distinct geographic regions: the Mountain Region; the Valley Region; and the Desert Region. The Project Site is in the Desert Region of San Bernardino County. The desert region of San Bernardino County includes a significant portion of the Mojave Desert, approximately 18,735 square miles of land. The visual character of the Desert Region is defined by its arid landscape consisting of sparsely vegetated mountain ranges and broad valleys with expansive bajadas¹ and scattered dry lakes. The Desert Region features extensive open space and expansive vistas.

The area surrounding the Project Site is generally flat with mountainous terrain to the north, east, and south. The Project Site is approximately 15 miles south of the Grass Valley Wilderness Area, 9 miles southwest of Black Mountain Wilderness Area, and 30 miles east of the Calico Mountains. The City of Barstow is located approximately 20 miles to the southeast of the Project Site.

Project Setting

The Project Site has been subject to near complete surface disturbance associated with past agricultural use, grading and partial construction of the SEGS X facility, as well as construction of the Shared Facilities Area for the existing SEGS VIII and IX Solar Thermal Power Plants.

The SEGS X site itself was largely graded during initial construction of the SEGS X facility before construction was halted in the early 1990s. While the land was under alfalfa cultivation prior to grading for SEGS X, the site has sat largely undisturbed since SEGS X construction was halted and some of the historically cultivated acreage has become revegetated. The Project Site contains some vegetation with portions composed of previously disturbed land, bare ground, as well as existing facilities within the Shared Facilities Area. The Project Site currently also includes several concrete foundations for the power block as well as concrete foundations for solar racking piers and various electrical lines and poles that

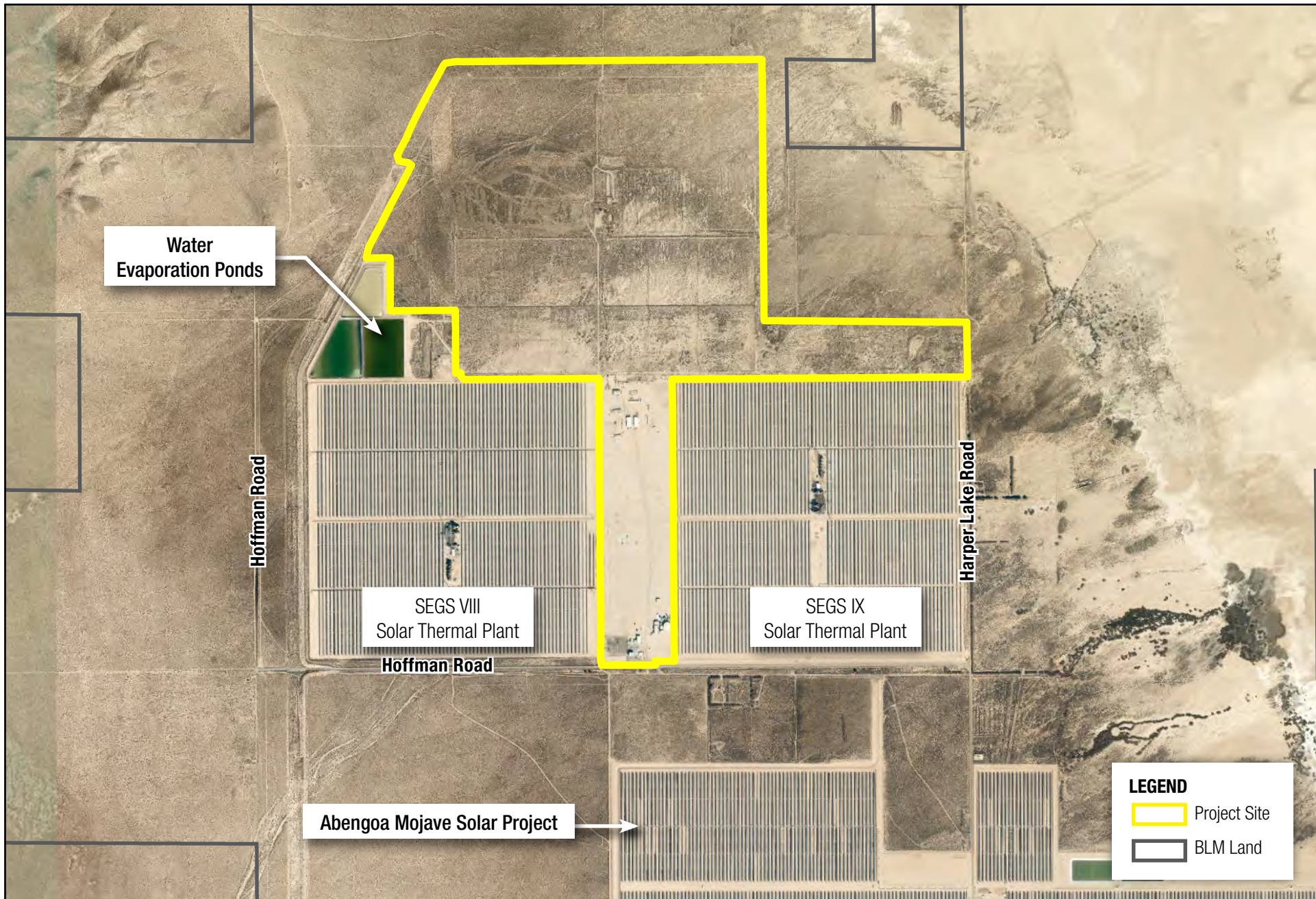
¹ A bajada is a broad slope of alluvial material at the foot of an escarpment or mountain.

were installed as part of initial construction for the SEGS X facility. Existing facilities within the Shared Facilities Area include the operations and maintenance (O&M) building, warehouse, employee building, switchyard, other supporting facilities and electrical transmission infrastructure. Additionally, an existing 6-foot-tall chain link fence with desert tortoise exclusion fencing currently surrounds the perimeter of the Project Site. The desert tortoise exclusion fencing was previously installed during initial construction of the former SEGS X project in 1990, but was damaged in several areas along the fence. The fence has been repaired and reinforced, and is inspected and maintained by site operation personnel on a regular basis.

The Project Site is bordered on the south by the existing SEGS VIII and IX Solar Thermal Power Plants, the Abengoa Mojave Solar Project (MSP) located further to the south across Hoffman Road, Harper Lake to the east, and vacant land to the north and west. Existing uses around the Project Site are shown in **Figure 4.1-1: Surrounding Land Uses**. Photographs showing the remnants of some of the existing SEGS X structures as well as other existing facilities on the Project Site are shown in **Figure 4.1-2: Existing SEGS X Structures On-site**. Photos showing existing buildings and infrastructure within the Shared Facilities Area are shown in **Figure 4.1.3: Representative Photographs of the Shared Facilities Area**. **Figure 4.1-4: Area Photographs** includes photos of various locations adjacent to the Project Site representative of the surrounding area.

A viewshed is generally the area that is visible from an observer's viewpoint from public locations and includes the screening effects of intervening vegetation, topography, and physical structures. A viewshed analysis was conducted for the Project to identify the geographic extent of potential views to the Project. Although some portion of the Project Site may be visible from a relatively large area, the degree of visibility would depend on the viewers distance and view angle.

Three locations were identified and selected as representative vantage points in the landscape that offer motorists, including local residents traveling on area roadways, views to the Project Site. These vantage points are shown in **Figure 4.1-5: Key Vantage Points**. Photographs were taken at these locations along I-15 and SR-58 and were used to support the discussion on existing visual setting and the analysis of potential visual impacts associated with the Project (see **Figure 4.1-6: Views of the Project Site from Key Vantage Points**).



SOURCE: Google Maps, 2021



FIGURE 4.1-1: Surrounding Land Uses

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SOURCE: Michael Baker International, 2021

FIGURE 4.1-2: Existing SEGS X Structures Onsite

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View looking north toward the southern portion of the Shared Facilities near Hoffman Road



View of the Shared Facilities Area looking north from existing on-site access road.

SOURCE: Terra-Gen, LLC, 2021

FIGURE 4.1-3: Representative Photographs of the Shared Facilities Area

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View looking east along the southern side of the Project Site.



View of abandoned structure adjacent to the southwest corner of the Project Site.



View of SEGS IX solar fields adjacent to the south of the Project Site.



View of dry evaporation pond adjacent to the southwest of the Project Site.



View of existing SEGS VIII and IX facilities within the Shared Facilities Area.



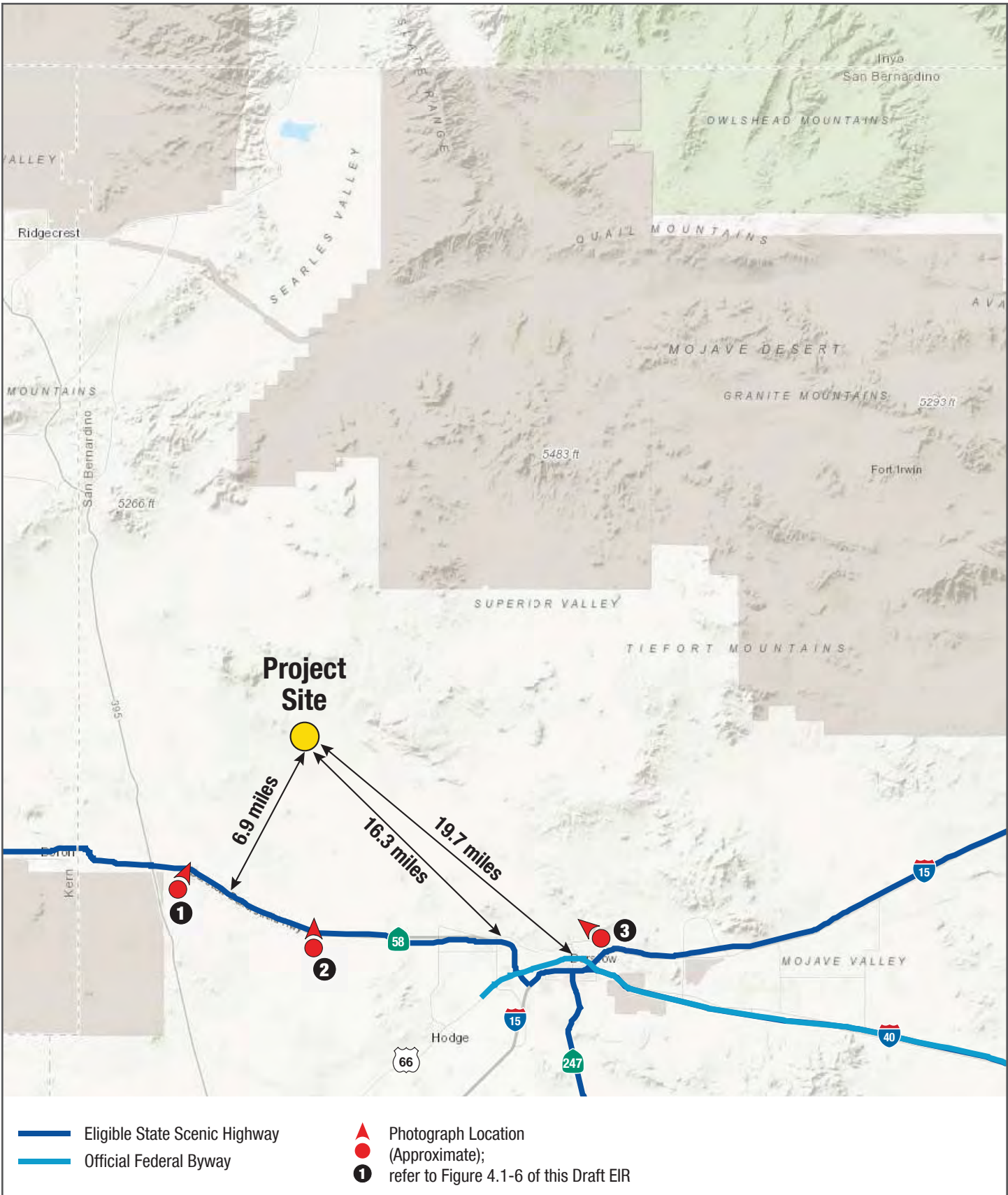
View of the SEGS IX solar fields adjacent to the south of the Project Site.

SOURCE: Michael Baker International, 2021

FIGURE 4.1-4: Area Photographs

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SOURCE: Michael Baker International, 2021



FIGURE 4.1-5: Key Vantage Points

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Photograph 1: View looking northeast from SR 58 towards project site.



Photograph 2: View looking slightly northwest from SR 58/Harper Lake Road towards project site.



Photograph 3: View looking northwest from Interstate 15 just southwest of Soapmine Road towards project site.

SOURCE: Michael Baker International, 2021

FIGURE 4.1-6: Views to the Project Site from Key Vantage Points

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Visual Character

General

The Project Site and the surrounding area are characterized by existing utility-scale solar facilities, flat desert grazing lands, electrical infrastructure and transportation infrastructure. Existing SEGS VIII and IX facilities within the Shared Facilities Area include an O&M building, warehouse, employee building, switchyard and other supporting facilities. The tallest existing structures associated with the existing SEGS VIII and IX Solar Thermal Power Plants are emission stack/cooling towers at a height of approximately 82 feet. SEGS evaporation ponds are also present adjacent to the southwest boundary of the Project Site. The SEGS VIII and IX Solar Thermal Power Plants were constructed in the early 1990s and have therefore been part of the existing visual landscape since that time.

The desert landscape surrounding the Project Site is characterized by broad, flat, alluvial plains covered with tan soils with short grasses intermixed with coarse-textured desert shrubs. Alluvial plains are characterized by loose clay, silt, sand, or gravel that has been deposited by running water in a stream bed, which can be found east of the Project Site.

Solar Energy Generation Facilities

The surrounding landscape adjacent to the south of the Project Site consists of multiple existing utility-scale solar thermal facilities and their supporting infrastructure (i.e., project-specific high-voltage transmissions lines, substations, steam turbines, and cooling arrays). SEGS VIII and SEGS IX are both 80-MW solar thermal facilities (for a combined total of 160 MW) on 1,073 acres located immediately adjacent to the Project Site. The MSP is a 280-megawatt (MW) solar thermal facility on 1,749-acres located further to the south of the Project Site across Hoffman Road.

Electrical Infrastructure

The surrounding landscape is characterized by regional transmission infrastructure associated with the MSP, SEGS VIII and IX facilities, and other utility-related uses including high-voltage transmission lines and two high-voltage substations. There is an approximately 350-foot-wide transmission corridor to the south of the Project with existing transmission lines that run to the Southern California Edison (SCE)-owned Kramer Junction substation.

Residential Use

A potential residential use is located approximately 4,320 feet to the north (0.8-mile); however, due to its remote location, it was not verified if this is an inhabited residence. The next closest residences are located further than 8,000 feet (1.6 miles) from the Project Site to the south. Additional single-story rural residences are scattered approximately 11 miles to the south of the Project Site along the local road network.

Transportation Infrastructure

Approximately seven (7) miles to the south of the Project Site is California State Route 58 (SR-58) and a Burlington Northern Santa Fe (BNSF) railroad. There are no other major roadways in the vicinity of the Project. There are several paved and unpaved local roads around the Project Site with Harper Lake Road providing the main transportation corridor to the Project Site from SR-58.

Visual Concepts and Terminology

Visual or aesthetic resources are generally defined as both the natural and built features of the landscape that contribute to the public's experience and appreciation of the environment. Depending on the extent to which a project's presence would alter the perceived visual character and quality of the environment, a visual or aesthetic impact may occur.

The following terms and concepts are used in the discussion below to describe and assess the aesthetic setting and impacts from the Project:

Vividness

Vividness refers to the visual power or memorability of landscape components as they combine in distinctive visual patterns. The Project Site lies in a flat broad valley with prominent mountain ranges that create contrasting visual characteristics. The surrounding area's desert vegetation, texture, and coloration are consistent and do not provide much of a striking visual quality when viewed for long durations. Adjacent land uses to the Project Site comprises unimproved desert space and industrial utility-scale solar electricity generation facilities. The solar arrays at these existing facilities have a lower profile when compared against the mountain ranges that flank the valley; however, they have the potential to be noticeable due to possible reflection of sunlight and the presence of high-voltage transmissions lines that support the facilities and reduce the overall vividness of the landscape.

Intactness

Intactness refers to the visual integrity of the natural and human-built landscape and its freedom from encroaching elements. Intactness can be present in developed urban and rural landscapes, as well as in natural settings. Apart from the existing solar facilities and various paved and unpaved roads adjacent to Project Site, the rural landscape in other areas surrounding the Project Site is mostly intact. Long vistas that extend toward the Black Mountain and Grass Valley Wilderness Areas remain intact due to the lack of improvements and developments in the rural area. Even with the presence of unpaved roads in the area, the solar arrays do not present as obtrusive due to the similar color and texture of the surrounding area.

Unity

Unity refers to the visual coherence and compositional harmony of the landscape considered as a whole. Unity frequently attests to the careful design of individual built components in the landscape. Wooden utility poles traverse the flat desert landscape to the south of the Project Site. These utility poles are largely only visible from local roadways that service the various utility-scale solar facilities adjacent to the

Project Site. There are steel lattice towers that traverse east-west three (3) miles south of the Project Site. These steel lattice towers would be visible to motorists along SR-58; however, these towers tend to recede into the landscape with increased distance from the viewers. Additionally, the apparent scale of these lattice towers is impacted by the mountainous terrain in the far distance.

Viewer Response

Viewer response is composed of two elements: viewer sensitivity and viewer exposure. These elements combine to form a method of predicting how the viewer might react to visual changes brought about by a project.

There are currently no residences within a 0.5-mile radius of the Project Site. There is a potential residential use located approximately 4,320 feet (0.8-mile) to the north. The next closest residences are located further away (approximately 1.6 miles) from the Project Site to the south. The Project Site may be visible from residences or motorists outside this 0.5-mile radius depending on the physical characteristic of the grade and elevation between the Project Site and the residence/roadway. Residents and motorists that are familiar with the area may have an increased awareness of changes and be sensitive to changes they may notice. However, due to the distance and highly similar land uses for adjacent properties to that of the Project, it is unlikely that individuals would be sensitive to visual changes to the Project Site.

Viewer Groups

Landscape visibility and a viewer's ability to perceive detail, color, form, and texture diminish as distance increases. Typically, the closer a resource is to the viewer, the more visually dominant the resource is. Generally, viewers cannot ascertain details at distances greater than three miles. Distance zones (or the position of the viewer in relationship to the landscape) are defined as follows:

- **Foreground:** 0.25-0.5 mile from the viewer
- **Middleground:** Extends from the foreground zone to 3-5 miles from the viewer
- **Background:** Extends from the middleground zone to the limit of visibility.

Residents and motorists are the two main viewer groups with potential views to the Project from public viewpoints. These viewer groups are discussed below.

With there being a potential residential use located 0.8-mile to the north, and as the Project Site is approximately seven (7) miles from SR-58, the Project Site would fall within middleground and background distance zones, respectively.

Residents/Motorists on Local Roads

Residents in the area are afforded partial views of the Project Site, depending on proximity, orientation, objects, or facilities between the residence and the Project. For example, overhead power lines, trees, and existing solar facilities immediately adjacent to the Project Site and/or residences will obstruct views of the site from more distant observers.

Local residents are unlikely to experience views of the Project Site from public roads while driving to and/or from their homes. The nearest potential residence is approximately 0.8-miles north of the Project Site, with the next closest residences approximately 1.6 miles from the Project Site. Between the residences to the south and the Project are three utility-scale solar facilities, the MSP, SEGS VIII and IX. Harper Lake Road to the southeast, Lockhart Ranch Road to the north, and Hoffman Road to the west/south support low traffic volumes due to their rural nature (estimated volumes of 200-300 average daily vehicle trips) and do not offer a substantial viewer population. Although these public roads are predominately used by local residents who may be more sensitive to a change in visual conditions on the Project Site, such viewers would be limited in number and views experienced would be brief and intermittent.

Nighttime Lighting

The Project Site and surrounding area are generally lacking in significant nighttime lighting sources. Existing light sources in the area consist primarily of lighting associated with motorways, and security lighting of auxiliary buildings for the utility-scale solar facilities adjacent to the Project. The solar arrays at the adjacent facilities to the Project only operate during daytime hours due to the nature and function of solar arrays.

4.1.3 Regulatory Setting

Federal

National Scenic Byways Program

The National Scenic Byways Program, part of the U.S. Department of Transportation, Federal Highway Administration (FHWA). The program helps recognize, preserve, and enhance selected roads throughout the United States. The U.S. Secretary of Transportation recognizes certain roads as All-American Roads or National Scenic Byways based on one or more archaeological, cultural, historic, natural, recreational, and scenic qualities.² Route 66 is the nearest designated historic and scenic highway to the Project Site, located approximately 20 miles to the southeast near the City of Barstow. Route 66 is a designated National Historic Trail and is designated as Historic Highway Route 66. This makes the route eligible for designation as an All-American Road or National Scenic Byway by the FHWA.

State

Caltrans Scenic Highway Program

The California Department of Transportation (Caltrans) manages the State Scenic Highway Program. Senate Bill (SB) 1467 established the California Scenic Highway Program in 1963 and allows the designation of highways to be either officially designated as a state scenic highway by Caltrans or to be eligible for such a designation. A highway may be designated as scenic depending upon how much of the

² United States Department of Transportation Federal Highway Administration. 2021. About Us Webpage. Available at <https://www.fhwa.dot.gov/byways/about>. Accessed August 4, 2021.

natural landscape can be seen by travelers, the scenic quality of the landscape, and the extent to which development intrudes upon the traveler's enjoyment of the view.³

According to Section 263.4 of the Streets and Highways Code, SR-58 from Route 14 unincorporated Mojave in Kern County to Route 15 in the City of Barstow is included in the State Scenic Highway System. However, this segment of SR-58 has not been officially designated as a State Scenic Highway and is only eligible for such designation. The eligible segment of SR-58 is approximately 7 miles south of the Project Site.

Local

San Bernardino Countywide Plan/Policy Plan

The County adopted the Countywide Plan/Policy Plan (Policy Plan) in October 2020. The Policy Plan provides an update of the County's General Plan addressing physical, social and economic issues facing the unincorporated portions of the County. The Policy Plan also provides an expansion of the County's General Plan to address supportive service for adults and children, healthcare service, public safety, and other regional county services provided to both incorporated and unincorporated areas. Relevant policies from the Policy Plan are summarized below.

Land Use Element

- Policy LU-2.3** The design and siting of the project should be located, scaled, and buffered for compatibility with the surrounding natural environment and biodiversity.
- Policy LU-2.5** New developments in sloping hillsides should preserve the natural character of the surrounding environment and should not further exacerbate natural hazards or erosion.
- Policy LU-4.1** The design and the siting of the project should employ site and building design techniques and use building materials that reflect the natural desert environment and preserve scenic resources.
- Policy LU-4.5** The design and siting of the project should be consistent with and reinforce the physical and historic character and identity of rural desert living.
- Policy LU-4.7** Protect the night sky by implementing all outdoor lighting within the Night Sky Protection Ordinance and preserve dark skies where they are fundamentally connected to community identities and local economies

Natural Resources Element

- Policy NR-3.1** The County will regulate land use and coordinate with public and nongovernmental agencies to preserve open space areas that protect natural resources, function as a

³ Caltrans Department of Transportation. 2021. Scenic Highway Definition. Available at <https://dot.ca.gov/programs/design/lap-landscape-architecture-and-community-livability/lap-liv-i-scenic-highways/lap-liv-i-scenic-highways-faq2>. Accessed August 4, 2021.

bigger against natural hazards or between land uses, serve as recreation or tourist destination, or are central to the identity of an unincorporated community.

- Policy NR-4.1** The location and scale of the project should be considered during development to preserve regionally significant scenic vistas and natural features, including prominent hillsides, ridgelines, dominant landforms, and reservoirs.
- Policy NR-4.2** Coordinate with adjacent Federal, State, Local, and/or Tribal agencies to protect the scenic resources that are important to countywide residents, businesses, and tourists.
- Policy NR-4.3** New off-site signage should not be installed and existing signage is encouraged to be removed to preserve the scenic character of the surrounding landscape.

Renewable Energy and Conservation Element

- RE Policy 4.1** Apply standards to the design, siting, and operation of all renewable energy facilities that protect the environment, including sensitive biological resources, air quality, water supply and quality, cultural, archaeological, paleontological and scenic resources.
- RE Policy 4.4** Encourage siting, construction and screening of [renewable energy] generation facilities to avoid, minimize or mitigate significant changes to the visual environment including minimizing light and glare.
- RE Policy 4.4.1** Reduce visual impacts through a combination of minimized reflective surfaces, context-sensitive color treatments, nature-oriented geometry, minimized vegetation clearing under and around arrays, conservation of pre-existing native plants, replanting of native plants as appropriate, maintenance of natural landscapes around the edges of facility complexes, and lighting design to minimize night-sky impacts, including attraction of and impact to nocturnal migratory birds.
- RE Policy 5.1** Encourage the siting of [renewable energy] generation facilities on disturbed or degraded sites in proximity to necessary transmission infrastructure.
- RE Policy 5.7** Support renewable energy projects that are compatible with protection of the scenic and recreational assets that define San Bernardino County for its residents and make it a destination for tourists.
- RE Policy 5.7.1** Site renewable energy generation facilities in a manner that will avoid, minimize or substantially mitigate adverse impacts to sensitive habitats, cultural resources, surrounding land uses, and scenic viewsheds.

San Bernardino County Development Code

Section 83.07.040, Glare and Outdoor Lighting – Mountain and Desert Regions

Section 83.07.040 establishes standards for outdoor lighting in the County's Mountain and Desert Regions. The Project Site is located in the Desert Region. This section requires new permitted lighting for construction and operational lighting to be fully shielded to preclude light pollution or light trespass on adjacent property, other property within the line of sight (direct or reflected) of the light source, or members of the public who may be traveling on adjacent roadways or rights-of-way.

Section 84.29.035, Required Findings for Approval of a Commercial Solar Energy Facility

Section 84.29.035 includes the following provisions:

- a) In order to approve a commercial solar energy generation facility, the Planning Commission shall, in addition to making the findings required under Section 85.06.040(a) of the San Bernardino County Development Code, determine that the location of the proposed commercial solar energy facility is appropriate in relation to the desirability and future development of communities, neighborhoods, and rural residential uses, and will not lead to loss of the scenic desert qualities that are key to maintaining a vibrant desert tourist economy by making each of the findings of fact in subdivision (C).
- b) In making these findings of fact, the Planning Commission shall consider:
 1. The characteristics of the commercial solar energy facility development site and its physical and environmental setting, as well as the physical layout and design of the proposed development in relation to nearby communities, neighborhoods, and rural residential uses; and
 2. The location of other commercial solar energy generation facilities that have been constructed, approved, or applied for in the vicinity, whether within a city of unincorporated territory, or on state or federal land.
- c) The finding of fact shall include the following:
 1. The proposed commercial solar energy generation facility is either:
 - A. Sufficiently separated from existing communities and existing/developing rural residential areas so as to avoid adverse effects, or
 - B. Of a sufficiently small size, provided with adequate setbacks, designed to be lower profile than otherwise permitted, and sufficiently screened from public view so as to not adversely affect the desirability and future development of communities, neighborhoods, and rural residential use.
 2. Proposed fencing, walls, landscaping, and other perimeter features of the proposed commercial solar energy generation facility will minimize the visual impact of the project so as to blend with and be subordinate to the environment and character of the area where the facility is to be located.
 3. The siting and design of the proposed commercial solar energy generation facility will be either:
 - A. Unobtrusive and not detract from the natural features, open space and visual qualities of the area as viewed from communities, rural residential uses, and major roadways and highways, or
 - B. Located in such proximity to already disturbed lands, such as electrical substations, surface mining operations, landfills, wastewater treatment facilities, etc., that it will not further detract from the natural features, open

space and visual qualities of the area as viewed from communities, rural residential uses, and major roadways and highways.

4. The siting and design of project site access and maintenance roads have been incorporated in the visual analysis for the project and shall minimize visibility from public viewpoints while providing needed access to the development site.
5. The proposed commercial solar energy generation facility will avoid modification of scenic natural formations.

Section 84.29.040, Solar Energy Development Standards

Section 84.29.040 includes the following standards applicable to the Project:

- b) *Glare*. Solar energy facilities shall be designed to preclude daytime glare on any abutting residential land use zoning district, residential parcel, or public right-of-way.
- c) *Night Lighting*. Outdoor lighting within a commercial solar energy generation facility shall comply with the provisions of Chapter 83.07 of this Development Code.

San Bernardino County Ordinance No. 3900

Because desert and mountain residents' value the night sky conditions, the County adopted Ordinance No. 3900, also known as the Night Sky Ordinance. This ordinance outlines specific standards relating to glare and outdoor lighting. These standards are included in the sections of the Development Code described previously.

4.1.4 Impact Thresholds and Significance Criteria

In accordance with Appendix G of the State CEQA Guidelines, a project would have a significant impact related to aesthetics if it would:

- Threshold (a):** Have a substantial adverse effect on a scenic vista;
- Threshold (b):** Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway;
- Threshold (c):** Substantially degrade the existing visual character or quality of public views of the site and its surroundings; or
- Threshold (d):** Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area.

4.1.5 Impacts and Mitigation Measures

Impact 4.1-1 Would the Project have a substantial adverse effect on a scenic vista?

Level of Significance: No Impact

No designated scenic vistas are in the viewshed of the Project per the Countywide Plan/Policy Plan. The Project Site is not considered an undisturbed natural area and does not have unique or unusual features that dominate a portion of the viewshed. Existing public views from scenic vistas would not be adversely

affected or otherwise substantially altered as a result of Project implementation. Additionally, there are no public views from recreational areas, including public trails, to the Project Site that would be adversely impacted by the Project. The Project Site contains vacant, previously disturbed land, several concrete foundations for the power block as well as concrete foundations for solar racking piers that were installed as part of initial construction for the SEGS X facility, various electrical lines and poles, and existing facilities within the Shared Facilities Area. The Project Site is surrounded by existing utility-scale solar thermal generation facilities as well as transportation and utility infrastructure. The Project Site is not within a scenic vista or visible from any designated scenic vista; therefore, the Project would have no impact on scenic vistas.

Impact 4.1-2 ***Would the Project substantially damage scenic resources including, but not limited to, trees, rock outcroppings, and historic buildings within a State Scenic Highway?***
Level of Significance: Less than Significant

State Scenic Highways are highways that are either officially designated by Caltrans or are eligible for designation. Designation of a highway as “scenic” is dependent upon the visibility of the natural landscape to travelers, the aesthetic quality of the landscape, and the extent to which development intrudes upon the traveler’s enjoyment of the view.

State Route 58

SR-58 is eligible for listing as a scenic highway. At the closest vantage point, views from SR-58 would be distanced approximately seven miles to the southwest of the Project Site. Due to such viewing distances, Project elements would not be readily visible within the visual landscape. Although brief and intermittent views to the Project Site may be visible at various points to travelers along the roadway, the addition of Project elements within the visual landscape would not substantially change existing public views from SR-58. As shown in **Figure 4.1-6**; Photographs 1 and 2, direct views from SR-58 to the Project Site would be largely obscured by the existing SEGS and MSP facilities. Visibility of the Project would be further influenced by intervening topography and elevational differences (i.e., flat viewing plane versus elevated vantage points along the roadway).

Additionally, as SR-58 traverses the valley floor in an east-west orientation in the vicinity of the Project Site, views would generally be oriented east-west, rather than north toward the Project Site (i.e., requiring the viewer to consciously turn their head northward to experience views to the Project). As such, readily available views toward the Project from SR-58 would not occur. Therefore, existing views from SR-58 to the Project Site would not be substantially changed with Project implementation, and impacts would be less than significant.

It should be noted that, upon intended future repower of the SEGS VIII and IX Solar Thermal Power Plants, which the County approved for repowering to PV solar and battery storage in 2019 as part of the Lockhart Solar I Facility, construction of future Lockhart Solar I Facility structures would also obscure views to Project facilities from SR-58.

Route 66

Route 66, which trends to the southeast of the Project Site, is an official Federal Byway. Motorists traveling along the Route 66 Byway [along Interstate 15 (I-15) and Route 40] would generally be distanced from the Project Site by over 15 miles. Due to the overall distance from the Project Site, combined with intervening topography and other solar-related facilities constructed in between this highway and the Project Site, Project elements would not be discernable within the visual landscape from this roadway. Additionally, views of the Project from the roadway would be obstructed by the existing MSP and SEGS facilities. Therefore, existing views from Route 66 to the Project Site would not be substantially changed with Project implementation, and impacts would be less than significant.

Interstate 15 (I-15)

According to Caltrans, I-15 (eastward from its intersection with SR 58) is eligible for listing. I-15 is situated greater than 15 miles to the south/southeast of the Project Site at its closest point. As shown in Figure 4.1-6; Photograph 3, the overall distance from the Project Site, combined with intervening topography and other constructed facilities in between I-15 and the Project Site, existing views from I-15 to the Project Site would not be substantially changed with Project implementation, and impacts would be less than significant.

State Route 247 (SR-247)

According to Caltrans, SR-247 is eligible for listing. SR-247 is located more than 20 miles to the southeast of the Project Site at its closest point. Similar to public views experienced from I-15, as described above, motorists traveling along this roadway are not anticipated to readily view Project elements within the visual landscape, due to the overall distance from the Project Site and relative height and scale of the Project components. Potential views to the Project Site from this road would be further influenced and/or reduced by intervening topography and other existing development. Therefore, existing public views from SR-247 to the Project Site would not be substantially changed with Project implementation, and impacts would be less than significant.

Conclusion

Potential views to the Project Site from the nearest designated scenic highway and/or eligible scenic highway would occur at a distance of approximately 7 miles or greater. Due to such distances, combined with intervening topography and development, as well as elevational differences, views to the Project Site would not be greatly diminished or obscured from any such roadways identified as having scenic value.

Based on the analysis above, viewer response to the change in the visual setting from designated State Scenic Highways is determined to be negligible to low due to the overall distance from the Project Site, degraded visual nature of the Project Site and immediate surroundings and given a lack of any area resources having scenic value. Viewer response to the change in the visual setting with Project implementation would be further diminished due to the existing utility-scale SEGS VIII and IX facilities and the MSP located to the south of the Project Site. Additionally, local roadways (i.e., Harper Lake Road,

Lockhart Ranch Road, and Hoffman Road) in proximity to the Project Site support low traffic volumes due to their rural nature, and therefore, do not offer a substantial viewer population that would experience a change in the visual setting with Project implementation. Therefore, existing public views to the Project Site from designated or eligible scenic roadways, or from local roadways, would not be adversely affected or otherwise substantially degraded as the result of Project implementation. As such, there would be a less than significant impact to the views seen from designated or eligible scenic roadways.

Impact 4.1-3 Would the Project substantially degrade the existing visual character or quality of public views of the site and its surroundings?

Level of Significance: Less than Significant

The existing visual quality of the Project Site and surrounding lands is low in vividness, intactness, and unity due to the presence of numerous anthropogenic elements in the landscape, including scattered rural residential properties, existing transportation infrastructure (i.e., SR-58, I-15, Route 66, SR-247, BNSF railroad), the MSP, SEGS VIII, SEGS IX, and electrical infrastructure in the existing transmission corridor as shown in Figure 3-2.

Regarding foreground views of the Project, Figures 4.1-3 through 4.1-4 represent existing views of the Project Site and adjacent SEGS VIII and SEGS IX solar thermal facilities. Post-construction views to the Project Site would be largely unchanged and would be similar to other existing development in the immediate surrounding area. Depending on the type of solar panel modules and battery vendor ultimately selected, the total height of the panel system measured from the ground surface would be approximately 7 to 12 feet and the BESS containers would be approximately 21.6 feet in height. An existing 6-foot-tall chain link fence currently surrounds the perimeter of the Project Site. The Project would replace/upgrade the existing 6-foot-tall chain link perimeter fence with a similar security fence, preserving the desert tortoise exclusionary fencing feature. The upgraded fence will be maintained over the life of the Project.

The Black Mountains would still be visible in the background, similar to existing conditions. The solar panels would have a uniform color, texture, and form, which would contrast with the color and form of the desert vegetation and landscape. The level of visual change would be moderate; the tops of the solar panels would be the predominant visible Project feature as the BESS would be constructed between and adjacent to similar facilities making it less noticeable. The existing scenic quality of the area is moderately low due to the existing visual encroachments. Local roadways (i.e., Harper Lake Road, Lockhart Ranch Road, and Hoffman Road) in proximity to the Project Site support low traffic volumes due to their rural nature; therefore, the Project is not visible to a substantial viewer population that would experience a change in the visual setting with Project implementation. The minimal level of visual change on the landscape in an area with moderately low visual quality would result in a less than significant impact on visual quality.

Additionally, as the Project Site is bordered to the south by the SEGS VIII and IX Solar Thermal Power Plants as well as Abengoa Mojave Solar Project further to the south across Hoffman Road, installation of Project elements would not introduce new physical elements into the visual landscape that would substantially

differ from existing development already present in the vicinity. Visibility of the Project from these local roadways along the valley floor would be further reduced as views would occur at a similar elevation as the Project Site (i.e., flat viewing plane).

As previously stated, the tallest existing structures associated with the SEGS VIII and IX solar facilities are emission stack/cooling towers having a height of approximately 82 feet. It should be noted that, as the tallest Project structure would be approximately 21.6 feet, structural elements on the Project Site would be substantially shorter than existing solar-related components on adjacent lands, and therefore, would be less visible than existing features within the visual landscape when viewed from SR-58 or other area roadways discussed below. Further, the Project would develop a renewable energy facility on previously disturbed land that has been previously approved for renewable energy development.

Regarding background views of the Project, the Project would be marginally visible in the background from SR-58, as shown in Figure 4.1-5, from two locations along SR-58 and one view from I-15 in which the Project is obscured. These views from SR-58 would of the Project would be afforded to motorists at a distance of approximately seven miles. Project facilities would be indistinct and barely discernable in background views. The Project would result in a low level of visual change on the moderate existing scenic quality due to the viewing distance to the Project and the numerous existing visual encroachments. The Project's features would barely be discernible from SR-58. The impact on visual quality from background views of the Project are considered less than significant.

As such, the Project would not substantially degrade the existing visual character or quality of public views of the site and its surroundings, and impacts would be less than significant.

Impact 4.1-4 ***Would the Project create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?***

Level of Significance: Less than Significant

Lighting

Construction

Project construction would primarily occur during daylight hours, Monday through Friday, between 7:00 a.m. and 7:00 p.m., as required to meet the construction schedule. However, if necessary and approved by the County, nighttime construction activities could occur, which may involve the use of temporary construction lighting equipment. The use of nighttime construction lighting would only occur for a short duration if nighttime work was necessary and approved by the County. Any construction lighting would be directed away from adjacent open space areas and toward active construction areas. Therefore, Project construction would not create a new source of substantial light that would adversely affect day or nighttime views in the area, and impacts would be less than significant.

Operation

Nighttime directional security lighting would be installed at the Project Site, as needed, for security purposes. Such lighting would be shielded and aimed downward and would comply with the County's Dark Sky Ordinance. The locations and amount of security lighting would be limited to the minimal amount required for Project Site security and would minimize the extent of light pollution from the Project Site.

Nighttime lighting associated with the Project would be subject to County approval and compliance with County requirements. As summarized in Subsection 4.1.3, *Regulatory Setting*, above, County Ordinance No. 3900 regulates glare, outdoor lighting, and night sky protection. County Development Code Section 83.07.040, Glare and Outdoor Lighting, regulates outdoor lighting practices geared toward minimizing light pollution, glare, and light trespass; conserving energy and resources while maintaining nighttime safety, visibility, utility, and productivity; and curtailing the degradation of the nighttime visual environment. County lighting regulations require submittal of and approval of exterior lighting plans per the General Plan, and any new Project lighting would be installed consistent with County requirements. Therefore, Project operation would not create a new source of substantial light that would adversely affect day or nighttime views in the area, and impacts would be less than significant.

Glint and Glare

Solar Photovoltaic (PV) Panels

PV solar panels are designed to be highly absorptive of light that strikes the panel surfaces, generating electricity rather than reflecting light. Solar panels are also designed to track the sun to maximize panel exposure to the sun, which would direct the majority of any reflected light back toward the sun in a skyward direction. PV panels have a lower index of refraction/reflectivity than common sources of glare in residential environments. The glare and reflectance levels from a given PV system are lower than the glare and reflectance levels of steel, snow, standard glass, plexiglass, and smooth water.⁴

Single-axis systems would employ a motor mechanism that would allow the arrays to track the path of the sun throughout the day. In the morning, the panels would face the east. Throughout the day, the panels would slowly move to the upright position at noon and on to the west at sundown. The panels would reset to the east in the evening or early morning to receive sunlight at sunrise. In general, the greatest potential for light reflection would occur when the panels would be angled toward the horizon at sunrise and sunset.

The Project is located in a broad flat valley. The closest potential residential use is located approximately 0.8-mile to the north, and the next closest residences are approximately 1.6 miles south of the Project Site. As the panels would be angled in an east-west orientation (towards the horizon) at sunrise and

⁴ Mark Shields. 2010. *PV Systems: Low Levels of Glare and Reflectance vs. Surrounding Environment*. Available at https://conservationtools-production.s3.amazonaws.com/library_item_files/1684/1891/wp-pv-systems-low-levels-glare-reflectance-vs-surrounding-environment.pdf?AWSAccessKeyId=AKIAIQFJLILYGVD4AMQ&Expires=1630083728&Signature=slmfj8GHVyAsxUT7i2Ci7hgc%2BZA%3D. Accessed August 24, 2021.

sunset, expectation is that light reflection would not be directed to the north-south. The I-15, SR-58, and Route 66 roads are at a substantial distance away (seven miles or greater) from the Project Site. Therefore, motorists on these highways are not expected to be exposed to potential light reflection generated from the PV panels.

The Project would also be designed to ensure consistency with County Code Section 84.29.040, which requires solar energy facilities to be designed to preclude daytime glare on any abutting residential land use zoning district, residential parcel, or public right-of way. Therefore, the solar PV panels would not create a new source of substantial glare that would adversely affect day or nighttime views in the area, and impacts would be less than significant.

Metallic Electrical Components

Some Project facilities may include metallic components which could introduce new sources of glare. Any glare associated with the Project facilities would be minor and highly scattered because the metallic components, if any, would be separated geographically and would not concentrate potential glare in any one direction. Therefore, metallic electrical components would not create a new source of substantial glare that would adversely affect day or nighttime views in the area, and impacts would be less than significant.

4.1.6 Cumulative Impacts

Section 4.0, *Introduction to the Environmental Analysis*, of this Draft EIR provides a list of cumulative projects that would have the potential to be considered in a cumulative context with the Project's incremental contribution. These projects are summarized in **Table 4.0-1: Cumulative Projects** and shown in **Figure 4.0-1: Cumulative Projects Map**. The geographic scope for the analysis of cumulative impacts on aesthetic resources includes both the local viewshed within a one-mile radius of the Project Site and area (generally the Lockhart area). Local cumulative effects could occur in the immediate Project viewshed if cumulative projects, activities, and landscapes are visible in the same field of view as the Project and could generally be visible from the Project area. Beyond three miles, structures become less distinct or not visible because they blend with background forms, colors, and textures. Also, beyond the three miles, it is likely that sight lines become impaired or blocked by intervening terrain and existing structures. However, regional cumulative effects could still occur if viewers perceive that the general visual quality or landscape character of a regional area is diminished by the proliferation of visible similar structures or construction, even if the changes are not in the same field of view as existing or known future structures or facilities. The result is a perceived "industrialization" or "urbanization" of the existing landscape character. The extent of regional cumulative effects is limited to the project valley.

Scenic Vistas

The Project and any potential cumulative project within one mile are not located within a scenic vista or visible from any designated scenic vistas. Therefore, the Project would not contribute to cumulative impacts associated with scenic vistas, and no cumulative impact on scenic vistas would occur.

Scenic Highways

The Project and any potential cumulative projects may be visible as a distant background view to motorists traveling on segments of SR-58, Route 66, and SR-247, each of which are eligible for designation as a scenic highway. However, given the low scenic quality of the area and the low to moderately low degree of visual change expected from the Project, substantial cumulative change to scenic resources within a State Scenic Highway is not anticipated. Therefore, the Project's potential contribution to cumulative impacts associated with scenic highways would not be considerable.

Visual Character or Quality

Construction and operation of any potential cumulative project and the Project would modify the local and regional landscape in the Project area. Depending on the potential cumulative projects in the area, there could be a moderate level of visual change to the landscape due to existing encroachments in the viewshed. The Project, as well as the existing adjacent facilities, are located in an area of the County that has been previously approved for utility scale solar projects. Implementation of potential cumulative projects and the Project in an area with moderately low visual quality would not result in degradation of the existing visual character or quality of public views of the respective sites. Therefore, the Project's contribution to cumulative impacts associated with visual character or quality would not be considerable.

Light and Glare

The County is known for its dark skies. Any potential cumulative project would be subject to the County's Night Sky Ordinance and Glare and Outdoor Lighting standards (County Development Code Section 83.07.040), which would limit the amount of lighting that would be introduced in the area and restrict the type of lighting that could be used. The cumulative impact on the night sky would be less than significant due to required conformance with the County's applicable ordinance which are specifically intended to reduce impacts on nighttime skies.

The Project and any potential cumulative projects would not introduce new sources of glare that would be directed cumulatively onto any area. No cumulative glare impacts would occur. Therefore, the Project's contribution to cumulative impacts associated with lighting and glare would not be considerable.

4.1.7 Significant Unavoidable Impacts

The Project would not result in any significant and unavoidable impacts related to aesthetics.

4.1.8 References

California Department of Transportation. 2021. Scenic Highway Definition. Available at <https://dot.ca.gov/programs/design/lap-landscape-architecture-and-community-livability/lap-liv-i-scenic-highways/lap-liv-i-scenic-highways-faq2>. Accessed August 4, 2021.

Mark Shields. 2010. PV Systems: Low Levels of Glare and Reflectance vs. Surrounding Environment. Available at <https://conservationtools->

production.s3.amazonaws.com/library_item_files/1684/1891/wp-pv-systems-low-levels-glare-reflectance-vs-surrounding-environment.pdf?AWSAccessKeyId=AKIAIQFJLILYGVDR4AMQ&Expires=1630083728&Signature=slmfj8GHVyAsxUT7i2Ci7hgc%2BZA%3D. Accessed August 24, 2021.

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4.2 AIR QUALITY

4.2.1 Introduction

This section addresses potential air quality impacts that may result from construction, operation, and decommissioning of the Project. The section discusses the existing air quality conditions in the Project area, identifies applicable regulations, evaluates the Project's consistency with applicable air quality plans, identifies and analyzes environmental impacts, and recommends measures to reduce or avoid potential adverse impacts anticipated from implementation of the Project, as applicable.

The analysis in this section is derived largely from the *Lockhart Solar PV II Project – Air Quality Technical Memorandum* (“Air Quality Memorandum”, see Appendix C).

4.2.2 Environmental Setting

Air quality and dispersion of air pollution in an area is determined by such natural factors as topography, meteorology, climate, atmospheric stability. In addition, man-made influences such as development patterns and lifestyle can affect the generation of and exposure to air borne pollutants. These factors are described in more detail below.

Topography

The State of California is divided geographically into 15 air basins, generally along geographic or topographic boundaries. The Project Site is located in the Mojave Desert Air Basin (Basin). The Basin includes the desert portion of Los Angeles and San Bernardino Counties, the eastern desert portion of Kern County, and the northeastern desert portion of Riverside County. The Mojave Desert Air Quality Management District (MDAQMD) has jurisdiction over stationary sources of air pollution located within San Bernardino County's High Desert and Riverside County's Palo Verde Valley, which includes the Project Site.

The Basin is bound in the northwest by the Tehachapi Mountains, in the southwest by the San Gabriel Mountains, and in the south by the San Bernardino Mountains. To the north, the Basin is defined by the San Bernardino-Inyo County boundary, to the northeast the California-Nevada state line, and to the east by the Colorado River.¹ The San Gabriel and San Bernardino Mountains are high and rugged, with the highest peaks being 10,066 feet above sea level (Mt. San Antonio) and 11,503 feet (Mt. San Gorgonio), respectively. The Basin generally lies at 3,000 to 6,000 feet elevation.

The Mojave Desert is situated in a transitional zone between the Great Basin Desert to the north and the Sonoran Desert to the south (mainly between 34 and 38°N latitudes).² The area is primarily a rain-shadow

¹ California Air Pollution Control Officers Association. 2021. Maps. Available at <http://www.capcoa.org/maps/>. Accessed September 6, 2021.

² Desert U.S.A. 2021. Mojave Desert. Available at <https://www.desertusa.com/mojave-desert.html>. Accessed September 6, 2021.

desert, meaning it experiences little rainfall because it is sheltered from prevailing rain-bearing winds (i.e., off the Pacific Ocean) by a range of mountains.

Meteorology and Climate

Factors such as wind, sunlight, temperature, humidity, and rainfall, affect the accumulation and/or dispersion of air pollutants throughout the Basin. Local meteorological conditions are greatly affected by the topography of the region.

Prevailing winds in the Basin are out of west and southwest. These prevailing winds are due to the proximity of the Basin to coastal and central regions and the blocking nature of the Sierra Nevada Mountains to the north. Air masses pushed onshore in Southern California by differential heating are channeled through the mountain passes. Although a portion of the prevailing winds come from the Los Angeles Basin via the canyons, the vast majority of the winds are a result of the orographic effect and the desert heat low-pressure systems. The “orographic effect” is the phenomenon whereby the air is forced over the mountain range and loses moisture as it rises. When it descends, it also compresses and heats up. The speed of the wind is aided by the “desert heat low”, which routinely form over the eastern Mojave Desert area.

During the summer a Pacific Subtropical High Cell that sits off the coast generally influences the Basin, inhibiting cloud formation and encouraging daytime solar heating. The Basin is rarely influenced by cold air masses moving south from Canada and Alaska, as these frontal systems are weak and diffuse by the time they reach the desert. Most desert moisture arrives from infrequent warm, moist, and unstable air masses from the south. The Basin averages between three and seven inches of precipitation per year (from 16 to 30 days with at least 0.01 inches of precipitation). The Basin is classified as a dry-hot desert climate, with portions classified as dry-very hot desert, indicating at least three months of maximum average temperatures over 100.4° F.

Sensitive Receptors

Sensitive receptors are more susceptible to the effects of air pollution than the general population. Sensitive populations (sensitive receptors) that are in proximity to localized sources of toxics and carbon monoxide are of particular concern. Sensitive receptors are defined as facilities or land uses that include members of the population that are particularly sensitive to the effects of air pollutants, such as children, the elderly, and people with illnesses. Examples of these sensitive receptors are residences, schools, hospitals, daycare centers, and outdoor recreation areas. The nearest potential sensitive receptor to the Project Site is a potential residential use located approximately 4,320 feet to the north. Although inhabitation of this structure was not verifiable, this location is the closest potential sensitive receptor and therefore the most conservative assumed sensitive land use. The next sensitive receptor is located more than 8,000 feet (1.6 miles) from the Project Site to the south.

Air Pollutants of Concern

Pollutants of concern include ozone (O₃), nitrogen dioxide (NO₂), carbon monoxide (CO), sulfur dioxide (SO₂), particulate matter (PM) with diameters of 10 and 2.5 micrometers or less (PM₁₀ and PM_{2.5}, respectively), and lead. These pollutants are discussed below. In California, sulfates, vinyl chloride, hydrogen sulfide, and visibility-reducing particles are also regulated as criteria air pollutants.

Ozone

O₃ is a colorless gas that is formed in the atmosphere when volatile organic compounds (VOCs), sometimes referred to as reactive organic gases (ROG), and nitrogen oxides (NO_x) react in the presence of ultraviolet sunlight. O₃ is not a primary pollutant; it is a secondary pollutant formed by complex interactions of the two precursor pollutants directly emitted into the atmosphere. Automobile exhaust and industrial sources are the primary sources of VOCs and NO_x. Meteorology and terrain play major roles in O₃ formation. Ideal conditions occur during summer and early autumn on days with low wind speeds or stagnant air, warm temperatures, and cloudless skies. O₃ can damage the tissues of the respiratory tract, causing inflammation and irritation, and result in symptoms such as coughing, chest tightness and worsening of asthma symptoms.³

Nitrogen Dioxide

Most NO₂, like O₃, is not directly emitted into the atmosphere but is formed by an atmospheric chemical reaction between nitric oxide (NO) and atmospheric oxygen. NO and NO₂ are collectively referred to as NO_x and are major contributors to O₃ formation. High concentrations of NO₂ can cause breathing difficulties and result in a brownish-red cast to the atmosphere with reduced visibility. There is some indication of a relationship between NO₂ and chronic pulmonary fibrosis. Some increase in bronchitis in children (2 and 3 years old) has also been observed at concentrations below 0.3 parts per million (ppm) by volume.

Carbon Monoxide

Carbon monoxide is a colorless and odorless gas formed by the incomplete combustion of fossil fuels. CO is emitted almost exclusively from motor vehicles, power plants, refineries, industrial boilers, ships, aircraft, and trains. Automobile exhaust accounts for most CO emissions. CO is a nonreactive air pollutant that dissipates relatively quickly; therefore, ambient CO concentrations generally follow the spatial and temporal distributions of vehicular traffic. Concentrations are influenced by local meteorological conditions, primarily wind speed, topography, and atmospheric stability. CO from motor vehicle exhaust can become locally concentrated when surface-based temperature inversions are combined with calm atmospheric conditions. The highest levels of CO typically occur during the colder months of the year when inversion conditions are more frequent. In terms of health, CO competes with oxygen, often

³ California Air Resources Board (CARB). 2021a. Ozone & Health. Available at <https://ww2.arb.ca.gov/resources/ozone-and-health>. Accessed September 19, 2021.

replacing it in the blood, thus reducing the blood's ability to transport oxygen to vital organs. The results of excess CO exposure can be dizziness, fatigue, and impairment of central nervous system functions.

Sulfur Dioxide

Sulfur dioxide (SO₂) is a colorless, pungent gas formed primarily by the combustion of sulfur containing fossil fuels. Main sources of SO₂ are coal and oil used in power plants and industries; as such, the highest levels of SO₂ are generally found near large industrial complexes. In recent years, sulfur dioxide concentrations have been reduced by the increasingly stringent controls placed on stationary source emissions of SO₂ and limits on the sulfur content of fuels. SO₂ is an irritant gas that attacks the throat and lungs and can cause acute respiratory symptoms and diminished ventilator function in children. SO₂ can also yellow plant leaves and corrode iron and steel.

Particulate Matter

Particulate matter pollution consists of very small liquid and solid particles floating in the air, which can include smoke, soot, dust, salts, acids, and metals. Particulate matter can form when gases emitted from industries and motor vehicles undergo chemical reactions in the atmosphere. PM_{2.5} and PM₁₀ represent fractions of particulate matter. Fine particulate matter, or PM_{2.5}, is roughly 1/28 the diameter of a human hair. PM_{2.5} results from fuel combustion (e.g., motor vehicles, power generation, and industrial facilities), residential fireplaces, and woodstoves. In addition, PM_{2.5} can be formed in the atmosphere from gases such as sulfur oxides (SO_x), NO_x, and VOC. Inhalable or coarse particulate matter, or PM₁₀, is about 1/7 the thickness of a human hair. Major sources of PM₁₀ include crushing or grinding operations; dust stirred up by vehicles traveling on roads; wood-burning stoves and fireplaces; dust from construction, landfills, and agriculture; wildfires and brush/waste burning; industrial sources; windblown dust from open lands; and atmospheric chemical and photochemical reactions.

PM_{2.5} and PM₁₀ pose a greater health risk than larger-size particles. When inhaled, these tiny particles can penetrate the human respiratory system's natural defenses and damage the respiratory tract. PM_{2.5} and PM₁₀ can increase the number and severity of asthma attacks, cause or aggravate bronchitis and other lung diseases, and reduce the body's ability to fight infections. Very small particles of substances, such as lead, sulfates, and nitrates, can cause lung damage directly or be absorbed into the bloodstream, causing damage elsewhere in the body. Additionally, these substances can transport absorbed gases, such as chlorides or ammonium, into the lungs, also causing injury. Whereas PM₁₀ tends to collect in the upper portion of the respiratory system, PM_{2.5} is so tiny that it can penetrate deeper into the lungs and damage lung tissues. Suspended particulates also damage and discolor surfaces on which they settle, as well as produce haze and reduce regional visibility.

Lead

Lead in the atmosphere occurs as particulate matter. Sources of lead include leaded gasoline; the manufacturing of batteries, paint, ink, ceramics, and ammunition; and secondary lead smelters. Prior to 1978, mobile emissions were the primary source of atmospheric lead. Between 1978 and 1987, the phase-out of leaded gasoline reduced the overall inventory of airborne lead by nearly 95 percent. With the

phaseout of leaded gasoline, secondary lead smelters, battery recycling, and manufacturing facilities are becoming lead-emission sources of greater concern.

Prolonged exposure to atmospheric lead poses a serious threat to human health. Health effects associated with exposure to lead include gastrointestinal disturbances, anemia, kidney disease, and in severe cases, neuromuscular and neurological dysfunction. Of particular concern are low-level lead exposures during infancy and childhood. Such exposures are associated with decrements in neurobehavioral performance including intelligence quotient performance, psychomotor performance, reaction time, and growth.

Volatile Organic Compounds

VOCs are hydrocarbon compounds (any compound containing various combinations of hydrogen and carbon atoms) that exist in the ambient air. VOCs contribute to the formation of smog through atmospheric photochemical reactions and/or may be toxic. Compounds of carbon (also known as organic compounds) have different levels of reactivity; that is, they do not react at the same speed or do not form O₃ to the same extent when exposed to photochemical processes. VOCs often have an odor, and some examples include gasoline, alcohol, and the solvents used in paints. Exceptions to the VOC designation include carbon monoxide, carbon dioxide, carbonic acid, metallic carbides or carbonates, and ammonium carbonate. VOCs are a criteria pollutant since they are a precursor to O₃, which is a criteria pollutant. The terms VOC and ROG (see below) are often used interchangeably.

Reactive Organic Gases

Similar to VOCs, ROGs are also precursors in forming O₃ and consist of compounds containing methane, ethane, propane, butane, and longer chain hydrocarbons, which are typically the result of some type of combustion/decomposition process. Smog is formed when ROG and nitrogen oxides react in the presence of sunlight. The terms ROG and VOC are often used interchangeably.

Valley Fever

Coccidioidomycosis (CM), often referred to as San Joaquin Valley Fever or Valley Fever, commonly affects people who live in hot dry areas with alkaline soil and varies with the season. This disease, which affects both humans and animals, is caused by inhalation of arthroconidia (spores) of the fungus *Coccidioides immitis* (CI). CI spores are found in the top 2-12 inches of soil and the existence of the fungus in most areas is temporary. The cocci fungus lives as a saprophyte in dry, alkaline soil. When weather and moisture conditions are favorable, the fungus “blooms” and forms many tiny spores that lie dormant in the soil until they are stirred up by wind, vehicles, excavation, or other ground-moving activities and become airborne. Agricultural workers, construction workers, and other people who work outdoors and who are exposed to wind and dust are more likely to contract Valley Fever. Children and adults whose hobbies or sports activities expose them to wind and dust are also more likely to contract Valley Fever.

The fungus is known to live in the soil in the southwestern United States and parts of Mexico and Central and South America. People and animals can get sick when they breathe in dust that contains the Valley Fever fungus. This fungus infects the lungs and can cause respiratory symptoms including cough, fever,

chest pain, and tiredness. In California, the number of reported Valley Fever cases has greatly increased in recent years. In fact, Valley fever cases tripled from 2014 to 2018. The number of Valley Fever cases in the United States has been steadily increasing over the past few years. There were over 11,000 reported cases in 2015, and the Center for Disease Control (CDC) estimates that an additional 150,000 cases go undiagnosed each year. About 28 percent of all cases occur in California. In 2015, there were 36 cases of Valley Fever in the County, an incidence rate of 1.7 cases per 100,000 people.

Currently, no vaccine is available to prevent this infection. Further, there is no effective way to detect and monitor CI growth patterns in the soil. Thus, controlling the growth of the fungus in the environment to reduce the risk to individuals is currently not a viable option. Even if the fungus is present in soil, earthmoving activities may not result in increased incidence of Valley Fever. Propagation of *Coccidioides* is dependent on climatic conditions, with the potential for growth and surface exposure highest following early seasonal rains and long dry spells.

Ambient Air Quality

Ambient air quality for the Project Site can be determined from ambient air quality measurements conducted at nearby air quality monitoring stations. Existing levels of ambient air quality and historical trends in the region are documented by measurements made by the MDAQMD, the air pollution regulatory agency in the Basin that maintains air quality monitoring stations which process ambient air quality measurements. Air quality monitoring stations usually measure pollutant concentrations ten feet above ground level; therefore, air quality is often referred to in terms of ground-level concentration. The United States Environmental Protection Agency (USEPA) requires monitoring sites be capable of informing air pollution control officers about peak air pollution levels, typical levels in populated areas, air pollution transported into and out of a city or region, and air pollution levels near specific sources. Monitors must be designated with an appropriate site type so that the data collected can be used to support a specific federal monitoring objective.⁴

The closest ambient air quality monitoring station to the Project Site that monitors O₃, CO, NO₂, and PM₁₀ is the Barstow Monitoring Station, located approximately 27.2 miles southeast of the Project Site at 301 East Mountain View Street. The Barstow Monitoring Station is designated a "Population exposure" site type with middle and neighborhood scale representation.⁵ The concentrations recorded at the station are expected to be similar at distances 100 to 500 meters for O₃, CO, and NO₂, and at distances of 0.5 to 4.0 kilometers for PM₁₀, if the area has relatively uniform land use. Only the Victorville – Park Avenue Monitoring Station, located approximately 53 miles south of the Project Site at 14306 Park Avenue, monitors PM_{2.5} in all of the Basin. This data is designated as representative at the neighborhood scale (0.5 to 4.0 kilometers). The unincorporated County land surrounding the Project Site is developed at a far

⁴ CARB. 2018. Annual Network Plan: Covering Monitoring Operations in 25 California Air Districts. June 2018. Available at <https://www.mdaqmd.ca.gov/home/showpublisheddocument/5982/636710697943470000>. Accessed September 19, 2021.

⁵ CARB. 2018. Annual Network Plan: Covering Monitoring Operations in 25 California Air Districts. June 2018. Available at <https://www.mdaqmd.ca.gov/home/showpublisheddocument/5982/636710697943470000>. Accessed September 19, 2021.

lower intensity than land uses within Barstow or Victorville, meaning that the data from the Barstow and Victorville Monitoring Stations are likely substantially over predicting ambient levels at the Project Site. Nonetheless, it is the most applicable data available for all pollutants, with the exception of O₃. The Basin includes three regional O₃ monitors (representative of homogenous rural areas tens to hundreds of kilometers from the monitor site), two at Joshua Tree National Park and one at Mojave National Preserve. The data from Joshua Tree National Park are not considered representative of ambient levels at the Project Site due to the proximity of Joshua Tree National Park to major population centers and the effect of the mountains limiting transport of pollutants generated in the non-desert areas to the vicinity of the Project Site.

The air quality data from 2017 to 2019 monitored at Barstow Monitoring Station, the Victorville – Park Avenue Monitoring Station, and the Mojave National Preserve Monitoring Station is presented in **Table 4.2-1: Summary of Air Quality Data**. This table lists the monitored maximum concentrations and number of exceedances of State and federal air quality standards for each year.

Table 4.2-1: Summary of Air Quality Data

Pollutant	California Standard	Federal Primary Standard	Year	Maximum Concentration ¹	Days (Samples) State/Federal Std. Exceeded
Ozone (O ₃) (8-hour) ²	0.070 ppm for 8 hours	0.070 ppm for 8 hours	2017 2018 2019	0.072 ppm 0.088 ppm 0.074 ppm	8 / 8 88 / 79 23 / 19
Ozone (O ₃) (1-hour) ³	0.09 ppm for 1 hour	N/A ⁷	2017 2018 2019	0.084 ppm 0.126 ppm 0.090 ppm	0 / 0 5 / 1 0 / 0
Ozone (O ₃) (8-hour) ³	0.070 ppm for 8 hours	0.070 ppm for 8 hours	2017 2018 2019	0.077 ppm 0.105 ppm 0.082 ppm	10 / 9 51 / 49 10 / 9
Carbon Monoxide (CO) (1-hour) ³	20 ppm for 1 hour	35 ppm for 1 hour	2017 2018 2019	0.844 ppm 5.408 ppm 0.573 ppm	0 / 0 0 / 0 0 / 0
Nitrogen Dioxide (NO ₂) ³	0.180 ppm for 1 hour	0.100 ppm for 1 hour	2017 2018 2019	0.061 ppm 0.059 ppm 0.060 ppm	0 / 0 0 / 0 0 / 0
Fine Particulate Matter (PM _{2.5}) ^{4,5}	No Separate Standard	35 µg/m ³ for 24 hours	2017 2018 2019	29.2 µg/m ³ 33.2 µg/m ³ 20.0 µg/m ³	* / 0 * / 0 * / 0
Particulate Matter (PM ₁₀) ^{3, 4, 6}	50 µg/m ³ for 25 hours	150 µg/m ³ for 24 hours ⁸	2017 2018 2019	206.9 µg/m ³ 101.3 µg/m ³ 209.5 µg/m ³	* / 1 * / 0 * / 1

ppm = parts per million; PM₁₀ = particulate matter 10 microns in diameter or less; µg/m³ = micrograms per cubic meter; PM_{2.5} = particulate matter 2.5 microns in diameter or less; N/A = not applicable; * = insufficient data available to determine the value.

Notes:

1. Maximum concentration is measured over the same period as the California Standards.
2. Data collected from the Mojave National Preserve Station located in Kelso, CA; 4th highest 8-hour maximum reported in accordance with the form of the applicable NAAQS
3. Data collected from the Barstow Monitoring Station located at 301 E Mountain View Street.
4. PM₁₀ and PM_{2.5} exceedances are derived from the number of samples exceeded, not days.
5. Data collected from the Victorville – Park Avenue Monitoring Station is at 14306 Park Avenue.
6. PM₁₀ exceedances are based on State thresholds established prior to amendments adopted on June 20, 2002.
7. The Federal standard for 1-hour ozone was revoked in June 2005.
8. The Federal standard for average PM₁₀ was revoked in December 2006.

Source: Michael Baker International. 2021. *Lockhart Solar PV II Project – Air Quality Technical Memorandum*. Table 1.

Table 4.2-2: Federal and State Ambient Air Quality Attainment Status lists the attainment status for various criteria air pollutants in the Basin. Areas that meet ambient air quality standards are classified as attainment areas, while areas that do not meet these standards are classified as nonattainment areas. Areas for which there are insufficient data available area are designated unclassified. As shown in **Table 4.2-2**, the Project Site is a federal nonattainment area for O₃ and PM₁₀ and a State nonattainment area for O₃, PM₁₀, and PM_{2.5}. The Project Site is classified as attainment or unclassified for lead, visibility reducing particles, sulfates, hydrogen sulfide, and vinyl chloride.

Table 4.2-2: Federal and State Ambient Air Quality Attainment Status

Pollutant	Federal	State
Ozone (O ₃)	Non-attainment ¹	Non-attainment
Nitrogen Dioxide (NO ₂)	Unclassified/Attainment	Attainment
Carbon Monoxide (CO)	Attainment	Attainment
Sulfur Dioxide (SO ₂)	Unclassified/Attainment	Attainment
Particulate Matter (PM ₁₀)	Non-attainment ²	Non-attainment
Particulate Matter (PM _{2.5})	Unclassified/Attainment	Non-attainment ¹
Notes:		
1. Southwest corner of desert portion of San Bernardino County only.		
2. San Bernardino County portion only.		

Source: Michael Baker International. 2021. *Lockhart Solar PV II Project – Air Quality Technical Memorandum*. Table 2.

Toxic Air Contaminants

A substance is considered toxic if it has the potential to cause adverse health effects in humans, including increasing the risk of cancer upon exposure, or acute and/or chronic noncancer health effects. A toxic substance released into the air is considered a toxic air contaminant (TAC). Examples include certain aromatic and chlorinated hydrocarbons, certain metals, and asbestos. TACs are generated by a number of sources, including stationary sources such as dry cleaners, gas stations, combustion sources, and laboratories; mobile sources such as automobiles; and area sources such as landfills.

Adverse health effects associated with exposure to TACs may include carcinogenic (i.e., cancer-causing) and noncarcinogenic effects. Noncarcinogenic effects typically affect one or more target organ systems and may be experienced either on short-term (acute) or long-term (chronic) exposure to a given TAC. The California Air Resources Board (CARB) has identified diesel engine exhaust particulate matter as the predominant TAC in California. Diesel particulate matter (DPM) is emitted into the air by diesel-powered mobile vehicles, including heavy-duty diesel trucks, construction equipment, and passenger vehicles. Certain reactive organic gases may also be designated as TACs.

4.2.3 Regulatory Setting

Federal

Clean Air Act

The federal Clean Air Act (CAA), which was initially established by the U.S. Congress in 1970 and substantially revised in 1977 and 1990, can be found in Title 42, Chapter 85 of the United States Code. An important aspect of the CAA is its requirement for the USEPA to establish National Ambient Air Quality Standards (NAAQS). There are NAAQS in place for seven “criteria” pollutants: CO, lead, NO₂, O₃, particle matter (PM₁₀ and PM_{2.5}), and SO₂. Standards are classified as primary and secondary. Primary standards are designed to protect public health, including sensitive individuals, such as children and the elderly, whereas secondary standards are designed to protect public welfare, such as visibility and crop or material damage. The USEPA sets the NAAQS based on a process that involves science policy workshops, a risk/exposure assessment (REA) that draws on the information and conclusions of the science policy workshops to development quantitative characterizations of exposures and associated risks to human health or the environment, and a policy assessment by USEPA staff that bridges the gap between agency scientific assessments and the judgments required of the USEPA administrator, who then takes the proposed standards through the federal rulemaking process.⁶ The NAAQS are set to be protective of human health.

The CAA requires the USEPA to routinely review and update the NAAQS in accordance with the latest available scientific evidence. For example, the USEPA revoked the annual PM₁₀ standard in 2006 due to a lack of evidence linking health problems to long-term exposure to PM₁₀ emissions. The 1-hour standard for O₃ was revoked in 2005 in favor of a new 8-hour standard that is intended to better protect public health.

CAA Section 182(e)(5) allows the USEPA administrator to approve provisions of an attainment strategy in an extreme area that anticipates development of new control techniques or improvement of existing control technologies if the state has submitted enforceable commitments to develop and adopt contingency measures to be implemented if the anticipated technologies do not achieve planned reductions.

Nonattainment areas that are classified as “serious” or “worse” are required to revise their air quality management plans to include specific emission reduction strategies to meet interim milestones in implementing emission controls and improving air quality. The USEPA can withhold certain transportation funds from states that fail to comply with the planning requirements of the act. If a state fails to correct these planning deficiencies within two years of federal notification, the USEPA is required to develop a Federal Implementation Plan for the identified nonattainment area or areas.

⁶ United States Environmental Protection Agency (USEPA). 2021a. Process of Reviewing the National Ambient Air Quality Standards. Available at <https://www.epa.gov/criteria-air-pollutants/process-reviewing-national-ambient-air-quality-standards>. Accessed September 6, 2021.

State

California Clean Air Act

The California Clean Air Act of 1988 requires all air pollution control districts in the state to aim to achieve and maintain state ambient air quality standards for O₃, CO, and NO₂ by the earliest practical date and to develop plans and regulations specifying how the districts will meet this goal. There are no planning requirements for the state PM₁₀ standard.

CARB, which became part of the California Environmental Protection Agency in 1991, is responsible for meeting requirements of the federal CAA, administering the California Clean Air Act, and establishing the California Ambient Air Quality Standards (CAAQS). The California Clean Air Act, amended in 1992, requires all air districts in the state to endeavor to achieve and maintain the CAAQS. California law does not require that CAAQS be met by specified dates as is the case with NAAQS. Rather, it requires incremental progress toward attainment.⁷ California law continues to mandate CAAQS, although attainment of the NAAQS has precedence over attainment of the CAAQS due to federal penalties for failure to meet federal attainment deadlines.

The CAAQS are generally stricter than national standards for the same pollutants. Similar to the federal process, the standards for the CAAQS are adopted after review by CARB staff of the scientific literature produced by agencies such as the Office of Environmental Health Hazard Assessment (OEHHA), the Air Quality Advisory Committee, which is comprised of experts in health sciences, exposure assessment, monitoring methods, and atmospheric sciences appointed by the Office of the President of the University of California, and public review and comment. The CAAQS are set at levels determined to be protective of human health.

State Implementation Plans

An important component of the MDAQMD's air quality planning strategy is contained in the State Implementation Plan (SIP) for the State. The federal CAA requires all states to submit a SIP to the USEPA. This Statewide SIP is often referred to as an "infrastructure" SIP. Infrastructure SIPs are administrative in nature and describe the authorities, resources, and programs a state has in place to implement, maintain, and enforce the federal standards. It does not contain any proposals for emission control measures.

In addition to infrastructure SIPs, the CAA requires submissions of SIPs for areas that are out of compliance with the NAAQS. These area attainment SIPs are comprehensive plans that describe how an out-of-compliance area will attain and maintain the particular NAAQS standard(s) it does not conform to. Once an out-of-compliance area has attained the standard in question, a maintenance SIP is required for a period of time to ensure the area will continue to meet the standard.

SIPs are not single documents. They are a compilation of new and previously submitted plans, programs (such as monitoring, modeling, permitting, etc.), district rules, state regulations, and federal controls.

⁷ CARB. 2021b. California Ambient Air Quality Standards. Available at <https://ww2.arb.ca.gov/resources/california-ambient-air-quality-standards>. Accessed September 6, 2021.

Many of California's SIPs rely on the same core set of control strategies, including emission standards for cars and heavy trucks, fuel regulations, and limits on emissions from consumer products. State law makes CARB the lead agency for all purposes related to SIPs. Local air districts and other agencies prepare SIP elements and submit them to CARB for review and approval. CARB forwards those revisions to the USEPA for approval and publication in the Federal Register.

Local

Mojave Desert Air Quality Management District

MDAQMD Federal 8-hour Ozone Attainment Plan (Western Mojave Desert Non-attainment Area)

On April 15, 2004, the USEPA designated the Western Mojave Desert nonattainment area as nonattainment for the 8-hour O₃ NAAQS pursuant to the provisions of the federal CAA. The Western Mojave Desert Ozone Nonattainment Area includes the southwestern portion of San Bernardino County and the Antelope Valley portion of Los Angeles County. As a result, the MDAQMD prepared its Ozone Attainment Plan in June 2008 to: (1) demonstrate that the MDAQMD will meet the primary required Federal O₃ planning milestones, attainment of the 8-hour ozone NAAQS by 2019 (revised June 2021); (2) present the progress the MDAQMD will make towards meeting all required O₃ planning milestones; and (3) discuss the newest 0.075 part per million 8-hour O₃ NAAQS, preparatory to an expected non-attainment designation for the new NAAQS. In February 2017, MDAQMD updated the 2008 Ozone Attainment Plan and adopted the MDAQMD Federal 75 parts per billion (ppb) Ozone Attainment Plan (Western Mojave Desert Nonattainment Plan) to satisfy FCAA requirements that the MDAQMD develop a plan to attain the 0.075 ppm 8-hour O₃ NAAQS.

Final Mojave Desert Planning Area Federal Particulate Matter 10 (PM₁₀) Attainment Plan

On January 20, 1994, the USEPA re-designated a significant portion of the Mojave Desert as a nonattainment area with respect to the NAAQS for PM₁₀. This nonattainment area covers a vast geographical region, including the urban areas of Victor Valley and Barstow, the Morongo Basin, along with the rural desert environs reaching to the Nevada and Arizona state lines. The PM₁₀ Attainment Plan was prepared in July 1995 to provide a complete description and submittal to USEPA of the PM₁₀ attainment planning elements which the MDAQMD will implement to bring the nonattainment area into compliance with federal law. Most importantly, the PM₁₀ Attainment Plan serves as a planning tool for reducing PM₁₀ pollution. The PM₁₀ Attainment Plan sets forth an air quality improvement program for the region which will be implemented by both the public and private sector of the community.

MDAQMD Rules

The MDAQMD has adopted rules to limit air emissions. Many of these rules were put in place as required by measures specified in various SIPs and air quality management plans. The MDAQMD rules that are applicable to the Project are:

- Rule 401 – Visible Emissions. This rule prohibits discharges of air contaminants or other material, which are as dark or darker in shade as that designated No. 1 on the Ringelmann Chart.

- Rule 402 – Nuisance. This rule prohibits the discharge of air contaminants or other material that cause injury, detriment, nuisance, or annoyance to any considerable number of persons or to the public.
- Rule 403 – Fugitive Dust. The purpose of his rule is to control the amount of PM entrained in the atmosphere from manmade sources of fugitive dust. The rule prohibits emissions of fugitive dust from any active operation, open storage pile, or disturbed surface area to be visible beyond the emission source’s property line.

San Bernardino County Countywide Plan/Policy Plan

The County’s Countywide Plan, adopted on October 27, 2020, serves as a new set of plans and tools for the County’s unincorporated communities and complements the Countywide vision. The Policy Plan is a component of the Countywide Plan that is an update and expansion of the County’s General Plan for the unincorporated areas. The following goals and policies are applicable to the Project:

Natural Resources Element

- Goal NR-1** Air quality that promotes health and wellness of residents in San Bernardino County through improvements in locally generated emission.
- Policy NR-1.1** Compact and transit-oriented development countywide are promoted and types and locations of development in unincorporated areas is regulated to minimize vehicle miles traveled and greenhouse gas emissions.
- Policy NR-1.2** The improvement of indoor air quality through the California Building and Energy codes and through the provision of public health programs and services is promoted.
- Policy NR-1.3** Coordination with air quality management districts and other local agencies should occur to monitor and reduce major pollutants affecting the county at the emission source.
- Policy NR-1.6** Coordination with air quality management districts on the requirements of dust control plans, revegetation, and soil compaction to prevent fugitive dust emissions should occur.
- Policy NR-1.8** The use of low-emission construction vehicles and equipment to improve air quality and reduce emissions is encouraged.
- Policy NR-1.9** We use the CALGreen Code to meet energy efficiency standards for new buildings and encourage the upgrading of existing buildings to incorporate design elements, building materials, and fixtures that improve environmental sustainability.

Renewable Energy Element

- RE Policy 4.1** Apply standards to the design, siting, and operation of all renewable energy facilities that protect the environment, including sensitive biological resources, air quality, water supply and quality, cultural, archaeological, paleontological and scenic resources.

RE Policy 4.3.1 Define measures required to minimize ground disturbance, soil erosion, flooding, and blowing of sand and dust, with appropriate enforcements mechanisms in the Development Code.

Hazards Element

Policy HZ-3.3 Air quality management districts establish community emissions reduction plans for unincorporated environmental justice focus areas that should be considered in these areas. With particular emphasis in addressing the types of pollution identified in the Hazard Element table.

San Bernardino County Development Code

Development Code Section 83.01.040 (pertaining to construction air quality) will apply to the construction phase of the Project. Relevant provisions of the section are listed below.

(c) Diesel Exhaust Emissions Control Measures. The following emissions control measures shall apply to all discretionary land use projects approved by the County on or after January 15, 2009:

(1) On-Road Diesel Vehicles. On-road diesel vehicles are regulated by the State of California Air Resources Board.

(2) Off-Road Diesel Vehicle/Equipment Operations. All business establishments and contractors that use off-road diesel vehicle/equipment as part of their normal business operations shall adhere to the following measures during their operations in order to reduce diesel particulate matter emissions from diesel-fueled engines:

(A) Off-road vehicles/equipment shall not be left idling on site for periods in excess of five minutes. The idling limit does not apply to:

(I) Idling when queuing;

(II) Idling to verify that the vehicle is in safe operating condition;

(III) Idling for testing, servicing, repairing or diagnostic purposes;

(IV) Idling necessary to accomplish work for which the vehicle was designed (such as operating a crane);

(V) Idling required to bring the machine system to operating temperature; and

(VI) Idling necessary to ensure safe operation of the vehicle.

(B) Use reformulated ultra-low-sulfur diesel fuel in equipment and use equipment certified by the U.S. Environmental Protection Agency (EPA) or that pre-dates EPA regulations.

(C) Maintain engines in good working order to reduce emissions.

- (D) Signs shall be posted requiring vehicle drivers to turn off engines when parked.
- (E) Any requirements or standards subsequently adopted by the South Coast Air Quality Management District, the Mojave Desert Air Quality Management District or the California Air Resources Board.
- (F) Provide temporary traffic control during all phases of construction.
- (G) On-site electrical power connections shall be provided for electric construction tools to eliminate the need for diesel-powered electric generators, where feasible.
- (H) Maintain construction equipment engines in good working order to reduce emissions. The developer shall have each contractor certify that all construction equipment is properly serviced and maintained in good operating condition.
- (I) Contractors shall use ultra-low sulfur diesel fuel for stationary construction equipment as required by Air Quality Management District (AQMD) Rules 431.1 and 431.2 to reduce the release of undesirable emissions.
- (J) Substitute electric and gasoline-powered equipment for diesel-powered equipment, where feasible.

Development Code Section 84.29.035 (Required Findings for Approval of a Commercial Solar Energy Facility) includes the following requirements relevant to fugitive dust emissions:

(c) The finding of fact shall include the following:

- (20) The proposed commercial solar energy generation facility will be designed, constructed, and operated so as to minimize dust generation, including provision of sufficient watering of excavated or graded soil during construction to prevent excessive dust. Watering will occur at a minimum of three (3) times daily on disturbed soil areas with active operations, unless dust is otherwise controlled by rainfall or use of a dust palliative, or other approved dust control measure.
- (21) All clearing, grading, earth moving, and excavation activities will cease during period of winds greater than 20 miles per hour (mph), averaged over one hour, or when dust plumes of 20 percent or greater opacity impact public roads, occupied structures, or neighboring property, and in conformance with AQMD regulations.
- (22) For sites where the boundary of a new commercial solar energy generation facility will be located within one-quarter mile of a primary residential structure, an adequate wind barrier will be provided to reduce potentially blowing dust in the direction of the residence during construction and ongoing operation of the commercial solar energy generation facility.

(23) Any unpaved roads and access ways will be treated and maintained with a dust palliative or graveled or treated by another approved dust control Chapter 83.09 of the Development Code.

(24) On-site vehicle speed will be limited to 15 mph.

4.2.4 Impact Thresholds and Significance Criteria

California Environmental Quality Act (CEQA) Thresholds

In accordance with Appendix G of the State CEQA Guidelines, a project would have a significant impact related to air quality if it would:

Threshold (a): Conflict with or obstruct implementation of the applicable air quality plan.

Threshold (b): Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is in nonattainment under an applicable Federal or State ambient air quality standard.

Threshold (c): Expose sensitive receptors to substantial pollutant concentrations.

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

MDAQMD Air Quality Thresholds

Under CEQA, the MDAQMD is an expert commenting agency on air quality and related matters within its jurisdiction or impacting on its jurisdiction. Under the federal CAA, the MDAQMD has adopted federal attainment plans for O₃ and PM₁₀. The MDAQMD has dedicated assets to reviewing projects to ensure that they will not: (1) cause or contribute to any new violation of any air quality standard; (2) increase the frequency or severity of any existing violation of any air quality standard; or (3) delay timely attainment of any air quality standard or any required interim emission reductions or other milestones of any federal attainment plan.

According to the MDAQMD's *CEQA and Federal Conformity Guideline*, a project is significant if it triggers or exceed the most appropriate evaluation criteria:

- Generates total emissions (direct and indirect) in excess of the thresholds given in **Table 4.2-3: MDAQMD Significant Emission Thresholds**.
- Generates a violation of any ambient air quality standard when added to the local background.
- Does not conform with the applicable attainment or maintenance plan(s).
- Exposes sensitive receptors to substantial pollution concentrations, including those resulting in a cancer risk greater than or equal to 10 in a million and/or a Hazard Index (HI) (non-cancerous) greater than or equal to 1.

Table 4.2-3: MDAQMD Significant Emission 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
Oxides of Sulfur (SO _x)	25	137
Particulate Matter (PM ₁₀)	15	82
Fine Particulate Matter (PM _{2.5})	12	65
Hydrogen Sulfide (H ₂ S)	10	54
Lead (Pb)	0.6	3

Source: Michael Baker International. 2021. *Lockhart Solar PV II Project – Air Quality Technical Memorandum*. Table 3.

4.2.5 Impacts and Mitigation Measures

Impact 4.2-1 *Would the Project conflict with or obstruct implementation of the applicable air quality plan?*

Level of Significance: *Less than Significant with Mitigation Incorporated for Project construction. Less than Significant for Project operation.*

The Project Site is located within the Mojave Desert Air Basin and is regulated by the MDAQMD. The MDAQMD PM₁₀ Attainment Plan and Ozone Attainment Plan established under the Western Mojave Desert Air Quality Management Plans (AQMPs) set forth a comprehensive set of programs that will lead the Basin into compliance with Federal and State air quality standards. The control measures and related emission reduction estimates within the MDAQMD PM₁₀ Attainment Plan and Ozone Attainment Plan are based upon emissions projections for a future development scenario derived from land use, population, and employment characteristics defined in consultation with local governments. Accordingly, conformance with these attainment plans is determined by:

- Demonstrating Project consistency with local land use plans and/or population projections (**Criterion 1**);
- Demonstrating Project compliance with applicable MDAQMD Rules and Regulations (**Criterion 2**); and
- Demonstrating Project implementation will not increase the frequency or severity of a violation in the Federal or State ambient air quality standards (**Criterion 3**).

Criterion 1: Consistency with Local land use plans and/or population projections

Growth projections included in the AQMPs form the basis for the projections of air pollutant emissions and are based on general plan land use designations and the Southern California Association of Governments (SCAG) demographics forecasts. While SCAG has recently adopted the *2020-2045 Regional Transportation Plan/Sustainable Communities Strategy (2020-2045 RTP/SCS)*, the MDAQMD has not released an updated AQMP that utilizes information from the 2020-2045 RTP/SCS. As such, this consistency analysis is based off the 2016-2040 RTP/SCS. Population, housing, and employment forecasts assembled by SCAG are based on local general plans as well as input from local governments, such as the

County. The MDAQMD has incorporated these same demographic growth forecasts for various socioeconomic categories into the AQMPs.

The San Bernardino Land Use Service Maps is the local law that regulates how certain aspects of land can be used. The Project Site is designated as RLM (Resource/Land Management) in the current Countywide Plan. The implementing land use/Zoning Districts within the RLM designation include Rural Living (RL). When the 2016-2040 RTP/SCS was adopted, the property likely was designated Resource Conservation (RC). Solar generation facilities are allowed under the current land use designations and was allowed under the RC land use designation. However, the zoning is expected to be changed to RC with Board approval of an upcoming County-initiated Zoning ordinance and map update. In the event the Project is considered prior to the adoption of the County-initiated zoning ordinance and map update, the Project includes a site-specific zone change request for the Project Site from RL to RC. The RC land use zoning district provides sites for open space and recreational activities, single-family homes on very large parcels and similar and compatible uses. Utility scale Renewable Energy Facilities are allowed in this zone. Solar generation facilities are permitted under the RC zone upon approval of a Conditional Use Permit (CUP). Please see a more detailed discussion of this zoning update in Section 7.3, *Land Use and Planning*, of this Draft EIR.

The Project does not include a residential component that would increase local population growth, nor does it include a commercial component that would substantially increase employment. Construction of the Project would not result in residential, commercial, or growth-inducing development that would result in a substantial increase in growth-related emissions. In addition, because of the presence of locally available construction workers, and because of the relatively short duration of construction (approximately 14 months), workers are not expected to relocate to the area with their families.

The County approved the Lockhart Solar I Facility (CUP Project #201900125) in 2019, which contemplated that existing SEGS operations staff would continue operation of the Lockhart Solar I Facility. The Lockhart Solar I Facility operations staff would also support operations for the Project, and no additional operations staff would be required. The Project would not have a substantial increase in population or employment such that it would exceed SCAG's growth forecast. As the MDAQMD has incorporated the SCAG forecasts in the AQMPs, the Project would be consistent with the AQMPs. Impacts would be less than significant.

Criterion 2: Compliance with applicable MDAQMD Rules and Regulations

The Project would be required to comply with all applicable MDAQMD Rules and Regulations. This would include MDAQMD Rules 401, 402, and 403. MDAQMD Rule 403 requires periodic watering for short-term stabilization of disturbed surface area to minimize visible fugitive dust (PM₁₀) emissions, covering loaded haul vehicles, and reduction of non-essential earth moving activities during higher wind conditions. The Project would comply with applicable MDAQMD rules, enforced through Project Conditions of Approval, and not conflict with applicable MDAQMD Rules and Regulations; therefore, impacts would be less than significant.

Criterion 3: Demonstrate that Project implementation will not increase the frequency or severity of a violation in the Federal or State ambient air quality standards

Analysis of the Project's potential to violate standards set forth by the CAAQS and NAAQS can be satisfied by comparing the Project emissions to the MDAQMD thresholds. As discussed below in Impact 4.2-2, unmitigated short-term construction emissions would potentially exceed MDAQMD significance threshold established for NO_x. However, with compliance to MDAQMD Rule 403 and implementation of **Mitigation Measure AQ-1**, NO_x emissions during construction would fall below the significance thresholds set by the MDAQMD. Unmitigated long-term operational emissions of all criteria pollutants studied (NO_x, ROG, CO, NO_x, PM₁₀, and PM_{2.5}) would be less than the applicable MDAQMD significance thresholds. As such, the Project would not result in an increase in the frequency or severity of existing air quality violations, or cause or contribute to localized air quality violations, or delay attainment of air quality standards with mitigation incorporated. Impacts would be reduced to less than significant.

Conclusion

As discussed above, the Project would comply with MDAQMD Rules and Regulations and would not induce population growth. Further, the Project, after implementation of the mitigation measure, would not cause or contribute to localized air quality violations or delay the attainment of air quality standard or interim emissions reductions specified in the AQMPs. Thus, the Project would not result in or cause NAAQS violations. As such, with implementation of **Mitigation Measure AQ-1**, the Project would be consistent with the MDAQMD's AQMPs, and impacts would be reduced to less than significant.

Mitigation Measures

Refer to Mitigation Measure AQ-1 in the Impact 4.2-2 section below.

Impact 4.2-2 *Would the Project result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard?*

Level of Significance: *Less than Significant Impact with Mitigation Incorporated for Project construction. Less than Significant for Project operation*

Construction

Project construction is anticipated to be completed over a period of approximately 14 months. Construction activities associated with the Project would include demolition, grading, and facilities construction. Analysis in this section was completed as part of the *Air Quality Memorandum* (Appendix C) using the California Emissions Estimator Model version 2016.3.2 (CalEEMod) program defaults. **Table 4.2-4: Estimated Unmitigated Short-Term Construction Emissions** presents the anticipated unmitigated daily short-term construction emissions calculated.

Table 4.2-4: Estimated Unmitigated Short-Term Construction Emissions

Construction Related Emissions	Pollutant (pounds/day) ¹					
	ROG	NO _x	CO	SO ₂	PM ₁₀	PM _{2.5}
Unmitigated Construction ²						
Year 1 (2022)	18.16	175.53	178.86	0.36	12.98	9.25
Year 2 (2023)	11.91	119.62	130.55	0.22	6.26	5.50
Maximum Daily Emissions	18.16	175.53	178.86	0.36	12.98	9.25
MDAQMD Thresholds	137	137	548	137	82	65
Is Threshold Exceeded?	No	Yes	No	No	No	No
Notes:						
1. Emissions were estimated using CalEEMod, version 2016.3.2. Winter emissions represent worst-case scenario and are therefore presented as a conservative analysis.						
2. The reduction/credits for construction emissions are based on adjustments to CalEEMod based on the MDAQMD Rules that are required during Project construction. The adjustments applied in CalEEMod includes the following: properly maintain mobile and other construction equipment; stabilization of graded areas as quickly as possible; application of MDAQMD-approved non-toxic dust control to the grading areas or water exposed surfaces three times daily; cover stockpiles with tarps; and limit speeds on unpaved roads to 15 miles per hour.						

Source: Michael Baker International. 2021. *Lockhart Solar PV II Project – Air Quality Technical Memorandum*. Table 4.

Fugitive Dust Emissions

In general, construction activities can be a source of fugitive dust emissions that temporarily impact local air quality and/or be a nuisance to those living and working in the vicinity of a construction project. Fugitive dust emissions are associated with land clearing, ground excavation, cut and fill, and truck travel on unpaved roadways. Fugitive dust emissions can vary substantially from day to day, depending on the level of activity, specific construction activity operations, and weather conditions.

Dust (particles with a diameter larger than 10 microns) generated by construction operations usually are more of a nuisance than a serious health problem. PM₁₀ generated as a part of fugitive dust emissions pose a much greater health risk than dust. PM₁₀ can pose a serious health hazard when alone or when in combination with other pollutants. PM_{2.5} is typically produced through mechanical processes, such as tire wear, cutting and grinding of materials, and re-suspension of particles from the ground or road surfaces by wind and human activities. PM_{2.5} is mostly generated through combustion sources but can still be present in fugitive dust emissions.

Fugitive dust emissions from Project construction are anticipated to be short-term and would cease upon completion of Project construction. The Project would implement all applicable MDAQMD dust control techniques, limit construction hours, and adhere to MDAQMD Rule 403. Additionally, the Project would adhere to Development Code Section 84.29.035, which aims to minimize fugitive dust emissions through control measures. As noted above in **Table 4.2-4** particulate matter emissions would not exceed MDAQMD thresholds during Project construction. Fugitive dust emission impacts from Project construction would be less than significant.

Construction Equipment and Worker Vehicle Exhaust

Equipment and vehicle exhaust from Project construction activities generally produces NO_x and CO emissions. Sources of these emissions is typically associated with the transport of machinery and supplies

to and from the Project Site, emissions produced on-site with the use of equipment, and emissions from construction worker’s personal vehicles while commuting to and from the Project Site. As shown in **Table 4.2-4**, unmitigated construction exhaust emissions of NO_x would be potentially significant. The Project would be required to implement **Mitigation Measure AQ-1** which would require that all off-road diesel-fueled construction vehicles and equipment greater than 50 horsepower meet Tier 4 Final emissions standards during Project construction activities. Tier 4 standards regulate NO_x, CO, PM₁₀, and PM_{2.5} emissions from off-road diesel engines and require these emissions to be reduced from Tier 1-3 standards. The County and Applicant are committed to using the cleanest off-road equipment available (see Mitigation Measure AQ-1 below for details); however, market availability may make exclusive use of equipment certified to meet Tier 4 Final standards infeasible. Mitigation Measure AQ-1 includes a waiver provision to account for the potential unavailability of Tier 4 equipment. Although the Project could achieve less than significant NO_x emissions (the only pollutant in excess of thresholds), meaning total daily emissions below 137 pounds per day, using all Tier 3 equipment, Mitigation Measure AQ-1 includes limits on the circumstances and extent that the Applicant can request and be granted a waiver from the stringent Tier 4 Final equipment requirement.

Table 4.2-5: Estimated Mitigated Short-Term Construction Emissions presents the anticipated mitigated daily short-term construction emissions calculated.

Table 4.2-5: Estimated Mitigated Short-Term Construction Emissions

Construction Related Emissions	Pollutant (pounds/day) ¹					
	ROG	NO _x	CO	SO ₂	PM ₁₀	PM _{2.5}
Mitigated Construction ²						
Year 1 (2022)	4.66	27.89	212.24	0.36	5.50	2.41
Year 2 (2023)	2.84	12.34	146.19	0.22	0.75	0.46
Maximum Daily Emissions	4.66	27.89	212.24	0.36	5.50	2.41
MDAQMD Thresholds	137	137	548	137	82	65
Is Threshold Exceeded?	No	No	No	No	No	No
Notes: 1. Emissions were estimated using CalEEMod, version 2016.3.2. Winter emissions represent worst-case scenario and are therefore presented as a conservative analysis. 2. Mitigation Measure AQ-1 requires that all off-road diesel-fueled construction vehicles and equipment greater than 50 horsepower meet Tier 4 Final emissions standards during demolition, grading, and facilities construction. The outputs shown here assumes all of the equipment would be Tier 4 Final. As previously noted, market availability may make exclusive use of equipment certified to meet Tier 4 Final standards infeasible. Mitigation Measure AQ-1 includes a waiver provision to account for the potential unavailability of Tier 4 equipment. Although the Project could achieve less than significant NO _x emissions (the only pollutant in excess of thresholds), meaning total daily emissions below 137 pounds per day, using all Tier 3 equipment, Mitigation Measure AQ-1 includes limits on the circumstances and extent that the Applicant can request and be granted a waiver from the stringent Tier 4 Final equipment requirement.						

Source: Michael Baker International. 2021. *Lockhart Solar PV II Project – Air Quality Technical Memorandum*. Table 5.

With the implementation of Mitigation Measure AQ-1, MDAQMD thresholds would not be exceeded and potential impacts would be reduced to less than significant levels.

ROG Emissions

In addition to exhaust and particulate emissions, construction equipment and worker vehicles also create ROG emissions, which are O₃ precursors. In accordance with the methodology prescribed by the MDAQMD, the ROG emissions have been quantified with the CalEEMod model. ROG emissions associated with the Project would be less than significant, and no mitigation measures are required. Refer to **Table 4.2-4** for calculated emissions for ROG.

Total Daily Construction Emissions

In accordance with MDAQMD Guidelines, CalEEMod was used to model construction emissions for ROG, NO_x, CO, SO_x, PM₁₀, and PM_{2.5}. As shown in **Table 4.2-4**, NO_x emissions during Project construction would exceed MDAQMD thresholds, and impacts would be potentially significant. As shown in **Table 4.2-5**, with implementation of **Mitigation Measure AQ-1**, Project construction-related air emissions would not exceed MDAQMD thresholds, and impacts would be reduced to less than significant.

Operations

The Project would not use natural gas and would not involve area architectural coatings or landscaping activities during operation. The Project would consume negligible amounts of electricity for auxiliary equipment, such as the BESS heating, ventilation, and air conditioning (HVAC) units, communications equipment, and lighting. Therefore, area sources and electricity emissions were not modeled for the Project, and the only air pollutants emissions during operation would be from mobile sources.

Mobile sources are emissions from motor vehicles, including tailpipe and evaporative emissions. Depending upon the pollutant, potential air quality impacts may be either of regional or local concern. For example, ROG, NO_x, SO_x, PM₁₀, and PM_{2.5} are all pollutants of regional concern. CO tends to be a localized pollutant which disperses rapidly at the source. During operation of the Project, there would be minimal periodic operational vehicle trips internal to the Project for maintenance activities. Fugitive dust emissions would be minimized through compliance with Development Code Section 84.29.035. In addition, it was assumed that the Project would generate 40 trips per year associated with solar panel washing activities. **Table 4.2-6: Estimated Long-Term Operational Emissions** presents the anticipated mobile source emissions. As shown in the table, vehicle traffic emissions associated with the Project would not exceed established MDAQMD thresholds. Potential operational emissions would be less than significant, and no mitigation is required. In addition, as electric vehicles (EV) become more prevalent, the Project could be using EVs for on-site and off-site transportation in the future, thus eliminating the emissions of some of these pollutants.

Table 4.2-6: Estimated Long-Term Operational Emissions

Emissions Source	Pollutant (pounds/day) ¹					
	ROG	NO _x	CO	SO _x	PM ₁₀	PM _{2.5}
Total Estimated Summer Emissions (Mobile Sources)	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
Total Estimated Winter Emissions (Mobile Sources)	<0.01	<0.01	<0.01	<0.01	<0.01	<0.01
<i>MDAQMD Threshold</i>	<i>137</i>	<i>137</i>	<i>548</i>	<i>137</i>	<i>82</i>	<i>65</i>
<i>Is Threshold Exceeded?</i>	<i>No</i>	<i>No</i>	<i>No</i>	<i>No</i>	<i>No</i>	<i>No</i>

Note:
1. Emissions were estimated using CalEEMod, version 2016.3.2 and the California Air Resources Board, Emission Factor (EMFAC 2017) web database.

Source: Michael Baker International. 2021. *Lockhart Solar PV II Project – Air Quality Technical Memorandum*. Table 6.

Total Operational Emissions

As shown in **Table 4.2-6**, estimated total Project operational emissions during both summer and winter would not exceed establish MDAQMD thresholds. Potential operational emission impacts from the Project would be less than significant, and no mitigation is required.

Air Quality Health Impacts

Adverse health effects induced by criteria air pollutants are dependent on many factors. These factors include but are not limited to concentration in the atmosphere, local meteorology, age and gender of the exposed person, and several other factors. Additionally, O₃ precursors (VOCs and NO_x) affect air quality on a regional scale and health impacts from these O₃ precursors would be the product of emissions generated by numerous sources throughout the region. Furthermore, existing models have limited sensitivity to small changes in criteria air pollutant concentrations, so, translating criteria air pollutants generated by an individual project to specific health effects with many factors or additional days of nonattainment would be difficult and produce what are effectively meaningless results. The NAAQS and CAAQS are set to be protective of human health, however, which means that the Project's has less than significant increases in regional air pollution from criteria air pollutants would have less than significant impacts on human health.

The South Coast Air Quality Management District (SCAQMD) has stated that it would be extremely difficult if not impossible to quantify the health impacts of criteria pollutants from individual projects for various reasons including modeling limitations as well as the fact that certain emissions are the result of chemical interactions and it is impossible to determine exactly where in the atmosphere precursor air pollutants will interact.⁸ As discussed in the *Air Quality Memorandum*, the SCAQMD acknowledges that health effects quantification from O₃ is correlated with the increases in ambient level of O₃ in the air (concentration) that an individual breathes. SCAQMD has written that it would take a large amount of additional emissions to cause a modeled increase in ambient O₃ levels over the entire region. The SCAQMD states that a reduction of 432 tons (864,000 pounds) per day of NO_x and a reduction of 187 tons (374,000 pounds) per day of VOCs would reduce O₃ levels at highest monitored site by only 9 ppb, this is based on their own

⁸ While the SCAQMD has a working group to develop a methodology to quantify the health impacts of criteria pollutants, other air districts, including the MDAQMD, have not provided any guidance on evaluating human health impacts.

modeling in the SCAQMD's 2012 AQMP. As such, the SCAQMD concluded that it is not currently possible to accurately quantify O₃-related health impacts cause by NO_x and VOC emissions from relatively small projects (defined as projects with less than a regional scope) due to photochemistry and regional model limitations.

Because the Project, with mitigation, would not exceed MDAQMD's health-protective significance thresholds for criteria air pollutants during construction or operational emissions, the Project would have a less than significant impact for air quality human health impacts as well and no modeling of health impacts was performed.

Decommissioning

At the end of the Project's operational term, the Applicant may determine that the Project should be decommissioned and deconstructed, or it may seek an extension of its CUP(s). The Applicant would work with the County to ensure decommissioning of the Project after its productive lifetime complies with all applicable local, state, and federal requirements best management practices (BMPs). The Project would include BMPs to ensure the collection and recycling of modules and to avoid the potential for modules to be disposed of as municipal waste.

Equipment would be de-energized prior to removal, salvaged (where possible), placed in appropriate shipping containers, and secured in a truck transport trailer for shipment off site to be recycled or disposed of at an appropriately licensed disposal facility. Site infrastructure would be removed, including the fences and the concrete pads that may support the inverters, transformers, and related equipment. The exterior fencing and gates would be removed, and materials would be recycled to the extent feasible. Project roads would be restored to their pre-construction condition to the extent feasible, unless the landowner elects to retain the improved roads for access throughout the property. The area would be thoroughly cleaned, and all debris removed. A collection and recycling program would be utilized to promote recycling of Project components and minimize disposal in landfills.

While decommissioning would likely take the same or fewer months than construction and involve less construction equipment and workers on a daily basis, for the purposes of presenting a conservative analysis, it was assumed that Project decommissioning would generate the same emissions as Project construction. As previously discussed, Project construction would be required to implement Mitigation Measure AQ-1 to reduce potential impacts to a less-than-significant level. Based on the assumption above, these same mitigation measure would be implemented during Project decommissioning to reduce potential impacts to less than significant.

Cumulative Short-Term Construction Impacts

In regard to the Project's construction-based air quality emissions and the Basin-wide conditions, the MDAQMD has developed strategies to reduce criteria air pollutant emissions as outlined in the District's AQMP and federal CAA mandates. The Project would comply with the MDAQMD's Rule 403 and would implement all applicable MDAQMD rules to reduce construction air emissions. Rule 403 requires that fugitive dust to be controlled with the best available control measures to reduce dust emissions into the

atmosphere such that it is not visible beyond the property line of the Project. Examples of best available control measures for dust include the application of water and soil stabilizers, covering of loads, avoiding track out onto public roads, and the minimization of non-essential grading during high wind conditions. Additionally, the Project would follow the AQMP's emissions control measures which would help the Project further reduce emissions from construction activities. As noted above in **Table 4.2-5**, the Project's short-term construction emissions would be reduced to below the MDAQMD significance thresholds with implementation of Mitigation Measure AQ-1. With adherence to and compliance with these rules and mandates as well as implementation of Mitigation Measure AQ-1, the Project's short-term construction emissions would be reduced to below the MDAQMD thresholds and would result in less than significant air quality impacts. The Project would not contribute to a cumulatively considerable air quality impact for nonattainment criteria pollutants in the basin.

Cumulative Long-Term Operational Impacts

As noted previously, the Project would not result in any significant long-term operational air quality impacts. Adherence to MDAQMD rules and regulations would alleviate potential impacts related to cumulative conditions on a project-by-project basis. The Project would not contribute a cumulatively considerable net increase of any nonattainment criteria air pollutant. Therefore, no cumulative operational impacts associated with implementation of the Project would result.

Mitigation Measure

AQ-1 All off-road diesel-powered construction equipment greater than 50 horsepower shall meet the Tier 4 Final emission standards during demolition, grading, and facilities construction. In addition, construction equipment shall be outfitted with best available control technologies (BACT) devices certified by the CARB. Emissions control devices used by the contractor shall achieve emissions reductions that are no less than what could be achieved by a Level 4 diesel emissions control strategy for a similarly sized engine as defined by CARB regulations. An exemption from these requirements may be granted by the County in the event that the Applicant documents that equipment with the required tier is not reasonably available and the Applicant proposes to replace that equipment with similar sized equipment which meets the next most stringent standard available (i.e., the Applicant must seek replacement equipment that meets Tier 4 Interim standards, and only when none are found to be reasonably available, seek equipment meeting Tier 3 standards, etc.). Under no circumstances will the County allow more than half of the heavy-duty equipment usage for Project construction or decommissioning (measured as total horse-power hours of usage) to be less stringent than Tier 4 Final.

A copy of each unit's certified tier specification, BACT documentation, and CARB operating permit shall be provided to the County of San Bernardino at the time of mobilization of each applicable unit of equipment.

Impact 4.2-3 *Would the Project expose sensitive receptors to substantial pollutant concentrations?*

Level of Significance: Less than Significant Impact with Mitigation Incorporated for Project construction. Less than Significant for Project operation

Sensitive receptors are defined as facilities or land uses that include members of the population that are particularly sensitive to the effects of air pollutants, such as children, the elderly, and people with illnesses. Examples of these sensitive receptors are residences, schools, hospitals, parks, and daycare centers. CARB has identified the following groups of individuals as the most likely to be affected by air pollution: the elderly over 65, children under 14, athletes, and persons with cardiovascular and chronic respiratory diseases such as asthma, emphysema, and bronchitis. The nearest sensitive receptor to the Project Site is a potential residential use located approximately 4,320 feet to the north. Michael Baker International did not verify that this is an inhabited residence due to its remote location. However, this location is the closest potential sensitive receptor and therefore the most conservative. The next potential sensitive receptor is located further than 8,000 feet (1.6 miles) from the Project Site.

Construction

Project construction is anticipated to be completed over a period of approximately 14 months. Project construction activities are anticipated to involve the operation of diesel-powered equipment, which would emit DPM. In 1998, the CARB identified diesel exhaust as a TAC. Cancer health risks associated with exposure to diesel exhaust typically are associated with chronic exposure, in which a 30-year exposure period often is assumed. Project construction would comply with the California Code of Regulations (CCR), Title 13, Section 2449(d)(3) and 2485, which minimizes the idling time of construction equipment either by shutting it off when not in use or by reducing the time of idling to not more than five minutes. Due to the distance between the Project Site and the closest sensitive receptors, potential health impacts on sensitive receptors associated with exposure to DPM from Project construction would be less than significant.

Furthermore, construction activities are expected to occur well below the 30-year exposure period used in health risk assessments, would adhere to MDAQMD Rule 403 and the San Bernardino County Code 84.29.035, and implement Mitigation Measure AQ-1, which would further reduce emissions from certain pollutants related to construction exhaust. Implementation of these regulations and measures would reduce the amount of DPM emissions from Project construction. Additionally, emissions would be short-term and intermittent in nature, and therefore would not generate TAC emissions at high enough exposure concentrations to represent a health hazard. Therefore, construction of the Project would not result in a significant increase in elevated health risks to nearby sensitive receptors and impacts would be less than significant.

Operations

Typical O&M activities during Project operations include, but are not limited to, facility monitoring; administration and reporting; remote operations of inverters, BESS system and other equipment; site

security and management; communication protocol; repair and maintenance of solar facilities, electrical transmission lines, and other Project facilities; and periodic panel washing. None of these activities would result in the generation of excessive TAC emissions, or associated health risks. Therefore, operation of the Project is not anticipated to result in an elevated cancer risk to nearby sensitive receptors, and impacts would be less than significant.

Carbon Monoxide Hotspots

CO emissions are a function of vehicle idling time, meteorological conditions, and traffic flow. Under certain extreme meteorological conditions, CO concentrations near a congested roadway or intersection may reach unhealthy levels. CO is primarily a product of incomplete combustion of gaseous or liquid fuels, meaning tailpipe emissions are worse in stop-and-go congested traffic as compared to free-flowing conditions. The Project does not include any stationary sources of combustion, and results in a net increase of only 40 vehicle trips per year. The Project is not located near existing CO hotspots and the trips associated with the project are insufficient to create a CO hotspot.

With such low existing ambient levels of CO, low levels of CO emissions from the Project, and lack of congested roadways around the Project Site, the Project would not cause CO hotspots in excess of applicable NAAQS or CAAQS standards at any intersections within the County, and impacts would be less than significant.

Valley Fever

During ground disturbing activities associated Project construction, the potential exists that such activities could disturb dust particles and, if present, CI spores, which could then be released into the air and potentially be inhaled by on-site workers and nearby sensitive receptors; exposure to these spores can cause Valley Fever. Due to the distance of the nearest sensitive receptor, the Project is not anticipated to exacerbate the risk of existing sensitive receptors to contract Valley Fever. Although CEQA does not require the analysis of a Project's impacts on its construction workers, such analysis is included for informational purposes. The best approaches to reducing construction workers' risk of contracting Valley Fever are awareness and dust reduction because dust can be an indicator that increased efforts are needed to control other airborne particulates (including CI spores, if any). Therefore, the Project is required to control dust through compliance with applicable MDAQMD rules as well as provide training and awareness of Valley Fever via **Mitigation Measure AQ-2**. Compliance with MDAQMD rules reduce dust. For example, Rule 401 prohibits a person from discharging into the atmosphere any air emission contaminant for a period or periods aggregating more than three minutes in any single hour emissions that is: (a) as dark or darker in shade as that designated as No. 1 on the Ringelmann Chart, as published by the United States Bureau of Mines; or (b) of such opacity as to obscure an observer's view to a degree equal to or greater than 20% opacity. Rule 402 prohibits the discharge of air contaminants in quantities that would cause injury, detriment, nuisance or annoyance to any considerable number of persons or to the public, or that endanger the comfort, repose, health or safety of any such persons or the public. Rule 403 Mitigation Measure AQ-2 would further ensure worker safety through education and ensuring implementation of required OSHA safety measures.

With the implementation of **Mitigation Measure AQ-2**, the potential for the release of CI spores, if present, and the potential for workers or other sensitive receptors to be exposed to CI would be reduced to less than significant levels.

Mitigation Measure

AQ-2 Prior to ground disturbance activities, the Applicant must prepare a Valley Fever Management Plan (VFMP), including a Valley Fever training program, to be implemented during construction to address potential risks from CI by minimizing the potential for unsafe dust exposure during construction. The VFMP will identify best management practices including:

- Development of an educational Valley Fever Training Handout for distribution to onsite workers, which should include general information about the causes, symptoms, and treatment instructions regarding Valley Fever, including contact information of local health departments and clinics knowledgeable about Valley Fever.
- Conducting Valley Fever training sessions to educate all Project construction workers regarding appropriate dust management and safety procedures, symptoms of Valley Fever, testing, and treatment options. This training must be completed by all workers and visitors (expected to be on-site for more than 2 days) prior to participating in or working in proximity to any ground disturbing activities. Signed documentation of successful completion of the training is to be kept on-site for the duration of construction.
- Developing a job-specific Job Hazard Analyses (JHA), in accordance with Cal/OSHA regulations, to analyze the risk of worker exposure to dust, and maintain and manage safety supplies identified by the JHA.
- Provide and/or require, if determined to be needed based on the applicable JHA, OSHA-approved half-face respirators equipped with a minimum N-95 protection factor for use during worker collocation with surface disturbance activities, following completion of medical evaluations, fit-testing, and proper training on use of respirators.

Impact 4.2-4 *Would the Project result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?*

Level of Significance: Less than Significant

According to the CARB's *CEQA Air Quality Handbook*, land uses associated with odor complaints typically include agricultural uses, wastewater treatment plants, food processing plants, chemical plants, composting, refineries, landfills, dairies, and fiberglass molding. The Project includes construction of a solar generation and storage facility and does not include any uses identified by the CARB as being associated with odors.

Project construction activities may generate detectable odors from heavy-duty equipment exhaust. However, construction-related odors would be short-term in nature and cease upon completion of Project construction. Further, the nearest potential residence is too far from the Project Site to detect construction odors. In addition, the Project would be required to comply with the California Code of Regulations, Title 13, Sections 2449(d)(3) and 2485, which minimizes the idling time of construction equipment either by shutting it off when not in use or by reducing the time of idling to no more than five minutes. This would further reduce the detectable odors, if any, from heavy-duty equipment exhaust. Therefore, potential impacts would be short-term and are considered less than significant.

As previously noted, land uses associated with odor complaints do not typically include solar energy generation and storage facilities. During operations, the Project would generate minimal periodic operational vehicle trips internal to the Project Site for required maintenance activities. In addition, it was assumed that the Project would generate 40 trips per year associated with solar panel washing activities. Project operational vehicle trips would be minimal and not of sufficient number to create concentrations of odorous fumes to form and cause a nuisance. As such, potential impacts would be easily dispersed in the atmosphere and are less than significant.

4.2.6 Cumulative Impacts

Section 4.0, *Introduction to the Environmental Analysis*, of this Draft EIR provides a list of cumulative projects that would have the potential to be considered in a cumulative context with the Project's incremental contribution. These projects are summarized in **Table 4.0-1: Cumulative Projects** and shown in **Figure 4.0-1: Cumulative Projects Map**. Air pollution is largely a cumulative impact. The nonattainment status of regional pollutants is a result of past and present development, and the MDAQMD develops and implements plans for future attainment of ambient air quality standards taking into account planned growth. Based on these considerations, project-level thresholds of significance for criteria pollutants are also the thresholds to determine whether the Project's individual emissions would have a cumulatively significant impact on air quality. The MDAQMD significance thresholds take into account the cumulative contribution of a project that adds emissions to the Basin, which has significant cumulative impacts related to O₃ and PM. As noted above, with mitigation, the Project would not make cumulatively considerable contribution to existing significant cumulative impacts. There are no other projects proposed within a ten-mile radius of the Project that would be under construction at the same time as the Project and could combine with Project construction emissions to create a new significant cumulative impact.

With regard to compliance with MDAQMD's air quality plans, the Project would not result in a significant impact after mitigation. Each cumulative project would need to comply with the land uses set forth by the San Bernardino Land Use Service Maps or otherwise submit a CUP(s) if their proposed land use is not consistent with the Plan. Additionally, each cumulative project would need to ensure that any residential components or potential for additional employment as a result of the specific project would operate in line with the SCAG's population forecasts, which are considered within the Mojave Desert AQMP. Furthermore, each cumulative project would need to conform to all applicable MDAQMD rules and regulations. As these impacts are primarily considered on a project-by-project basis, a combination of impacts with other cumulative projects that could potentially lead to cumulative impacts is not expected.

The Project is with the growth anticipated by the MDAQMD's air quality plans and would not exceed any threshold; therefore, the Project's contribution to cumulative impacts associated with consistency with local land use plans and population projections and forecasts would be less than cumulatively considerable.

With regard to considerable net increases to criteria air pollutants for which the Basin are in nonattainment for, the Project would not result in significant impact after mitigation. Currently, the Basin is in federal nonattainment for O₃ and PM₁₀ and in state nonattainment for O₃, PM₁₀, and PM_{2.5}. Each cumulative project would need to complete analysis of construction and operational impacts regarding air emissions as part of CEQA. These analyses would find potential pollutants for which the potential project would be in excess of MDAQMD thresholds and would determine if the implementation of mitigation measures would be necessary for construction or operational processes. As each cumulative project would investigate their own impacts to the Basin and implement mitigation measures as appropriate. As the above analysis shows the Project's contribution to cumulative impacts associated with the Basin's attainment goals would not be cumulatively considerable.

With regard to impacts to sensitive receptors, the Project would not result in a significant impact. Sensitive receptors are defined as facilities or land uses that include members of the population that are particularly sensitive to the effects of air pollutants. Potential pollutants that may impact sensitive receptors include DPM, CO, and other TACs. As part of the air quality analyses that each potential cumulative project would need to complete, these TACs would be investigated, and mitigation measures applied as applicable to reduce impacts. A sensitive receptor's exposure to potential pollutants and their health impacts is hard to measure against individual projects and more closely related to regional concentrations. Additionally, in order for an individual project to greatly impact the regional concentrations of pollutants, the project would likely need to exceed MDAQMD significance thresholds by a significant margin, which is unlikely with individual project's implementation of mitigation measures, as applicable. It is not anticipated that cumulative impacts would be significant. Therefore, the Project's contribution to cumulative impacts associated with impacts to sensitive receptors would be less than cumulatively considerable.

With regard to impacts from odors, the Project would not result in a significant impact. CARB's *CEQA Air Quality Handbook* indicates that land uses typically associated with odor complaints include agricultural uses, wastewater treatment plants, food processing plants, chemical plants, composting, refineries, landfills, dairies, and fiberglass molding. The Project is a land use that is not consistent with CARB's Handbook and any odors produced would be minimal and easily dispersed into the atmosphere. Additionally, the Project is not located near any uses that are sensitive to odors and no other high-odor-producing use is near enough to the Project to create cumulative odor impacts. Therefore, the Project's odors, when considered with past, present, and reasonably foreseeable future projects, would not create a significant cumulative impact related to odor.

4.2.7 Significant Unavoidable Impacts

The Project would not result in any significant and unavoidable impacts related to air quality.

4.2.8 References

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4.3 BIOLOGICAL RESOURCES

4.3.1 Introduction

This section evaluates the existing biological resource setting and the potential effects caused by implementation of the Project, including impacts on sensitive and special-status species and habitat. The following discussion also evaluates the Project's consistency with applicable goals and policies, identifies and analyzes environmental impacts, and requires measures to reduce or avoid adverse impacts anticipated from implementation of the Project, as applicable. Analysis in this section is based on the *Biological Resources Report* (see Appendix C-1), the *Rare Plant Survey at the Lockhart Solar PV II Project* (see Appendix D of Appendix C-1), the *Desert Tortoise Focused Survey Results* (see Appendices E and F of Appendix C-1), and *Mohave ground squirrel Habitat Assessment* (See Appendix C-2).

4.3.2 Environmental Setting

San Bernardino County (County) is divided into three subregions for planning purposes: Valley, Mountain, and Desert. These regions have distinctive climates and geography, which in turn produce differing biological environments. The Project Site is in the Desert Region.

The 755-acre Project Site consists of area within three parcels, each of which contain vacant, previously disturbed land or miscellaneous concrete foundations, various electrical lines and poles, as well as existing facilities within the Shared Facilities Area. The Project Site is bordered on the south by the existing Solar Energy Generating System (SEGS) VIII and IX solar facilities, which the County of San Bernardino (County) approved for repowering to photovoltaic (PV) solar and battery storage in 2019 as part of the Lockhart Solar I Facility (Conditional Use Permit [CUP] Project #201900125 approved in 2019), the Abengoa Mojave Solar Project located further to the south across Hoffman Road, and relatively undisturbed, undeveloped land to the north, west, and east, with the Harper Dry Lake located less than one mile to the east see **Figure 3-2: Local Vicinity Map** and **Figure 3-3 Aerial Map**.

It should be noted that the biological resource studies prepared for the Project did not include the 110-acre Shared Facilities Area as part of their corresponding survey areas because it had recently been surveyed as part of the Lockhart Solar I Facility permitting effort in 2019 and is already significantly disturbed, as explained below. Construction of the Shared Facilities Area occurred as part of SEGS VIII and IX facilities construction in the early 1990s; existing facilities in the Shared Facilities Area include an operations and maintenance (O&M) building, warehouse, employee building, switchyard, other supporting facilities, electrical transmission infrastructure, and compacted access roads. Thus, the Shared Facilities Area has incurred comprehensive severe surface disturbance over the past 30 years as part of the two operational solar thermal facilities and continues to be completely denude of vegetation. As part of existing SEGS facility operations, regular vegetation management and weed control within the Shared Facilities Area is conducted via manual clearance and/or direct contact spray around buildings and substation yards as needed throughout the year. **Figure 4.3-1: Representative Photos of the Shared Facilities Area**, shows the existing solar equipment with Shared Facilities Area, the previous grading and compaction, and the lack of any vegetation within this area.

The Shared Facilities Area is also part of the County-approved Lockhart Solar I Facility (CUP Project #201900125 approved in 2019) and includes the permitted, but not yet constructed, collector substation and battery energy storage system (BESS) for Lockhart Solar I Facility, BESS for SEGS IX (California Energy Commission [CEC] permitted in 2020) and is also proposed to include the BESS for the Project. While the Project would include ground-disturbing activities to develop a BESS and solar panels within the Shared Facilities Area, the Shared Facilities Area includes and is surrounded by existing (and approved/to be constructed) electricity generation and supporting facilities, and the potential for presence of biological resources would not substantially change from what was already reviewed as part of the SEGS VIII or SEGS IX and X CEC certifications, or County's CUP for the approved Lockhart Solar I Facility.

In addition, the Project Site has been subject to near complete surface disturbance over time associated with past agricultural use, grading and partial construction of the SEGS X facility, and construction of the Shared Facilities Area for the existing SEGS VIII and IX Solar Thermal Power Plants. The SEGS X site itself was largely graded during initial construction of the former SEGS X facility and partial foundations were installed before construction was halted in 1991. Although approximately 352 acres of the 600-acres designated for the SEGS X facility was formerly under alfalfa cultivation in the 1980s, some of the historically cultivated acreage has become revegetated by various species of saltbush (*Atriplex* spp.), with a smaller proportion of weedy annuals. Today, Project Site is dominated by mostly native vegetation that has recolonized the site over the decades, with portions composed of disturbed habitat, bare ground, and development associated with the existing SEGS VIII and IX facilities and the abandoned SEGS X construction.

The survey areas for the biological resource surveys conducted for the Project Site are depicted in **Figure 4.3-2a: Biological Reconnaissance Survey and Jurisdictional Delineation Area**, **Figure 4.3-2b: Rare Plant Survey Area**, **Figure 4.3-2c: Desert Tortoise Survey Area**, and **Figure 4.3-2d: Mojave Ground Squirrel Habitat Assessment Area**.

Vegetation Communities

Four (4) terrestrial vegetation communities were identified within the survey area during the field survey: allscale scrub (*Atriplex polycarpa* Shrubland Alliance), spinescale scrub (*Atriplex spinifera* Shrubland Alliance), disturbed allscale scrub, and tamarisk thickets (*Tamarix* spp. Semi-Natural Alliance). Although not located on Bureau of Land Management (BLM) lands and therefore not subject to any BLM-related regulations or requirements, the dominance of saltbush vegetation in the survey area is consistent with the regional area, which is recognized for its "unusual plant assemblage" due to a high concentration of similar plants within a limited distribution; in this case, the survey area is within the Western Mojave Desert/Desert Saltbush Assemblage.¹ In addition, three non-vegetative (3) land cover types identified as developed, bare ground, and open water were observed within the survey area. A map that illustrates the extent of the terrestrial vegetation communities and other land uses observed within the survey area is provided in **Figure 4.3-3: Vegetation Communities**.

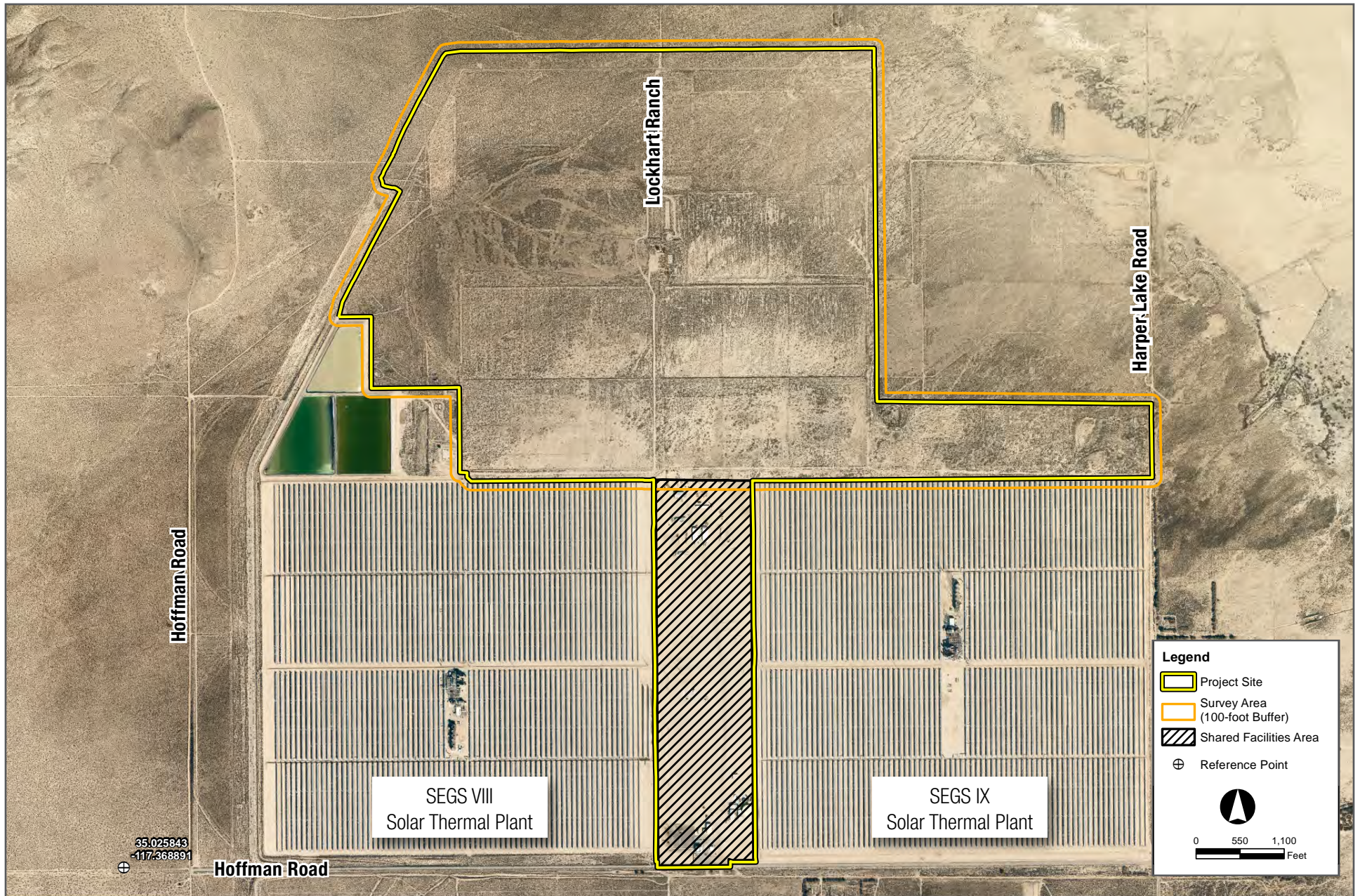
¹ Bureau of Land Management (BLM). 2019. *West Mojave (WEMO) Route Network Project Final Supplemental Environmental Impact Statement*. California Desert District, California. April 2019.



Views of various areas within the Shared Facilities Area. Cleared vegetation and existing structures are located throughout the area.

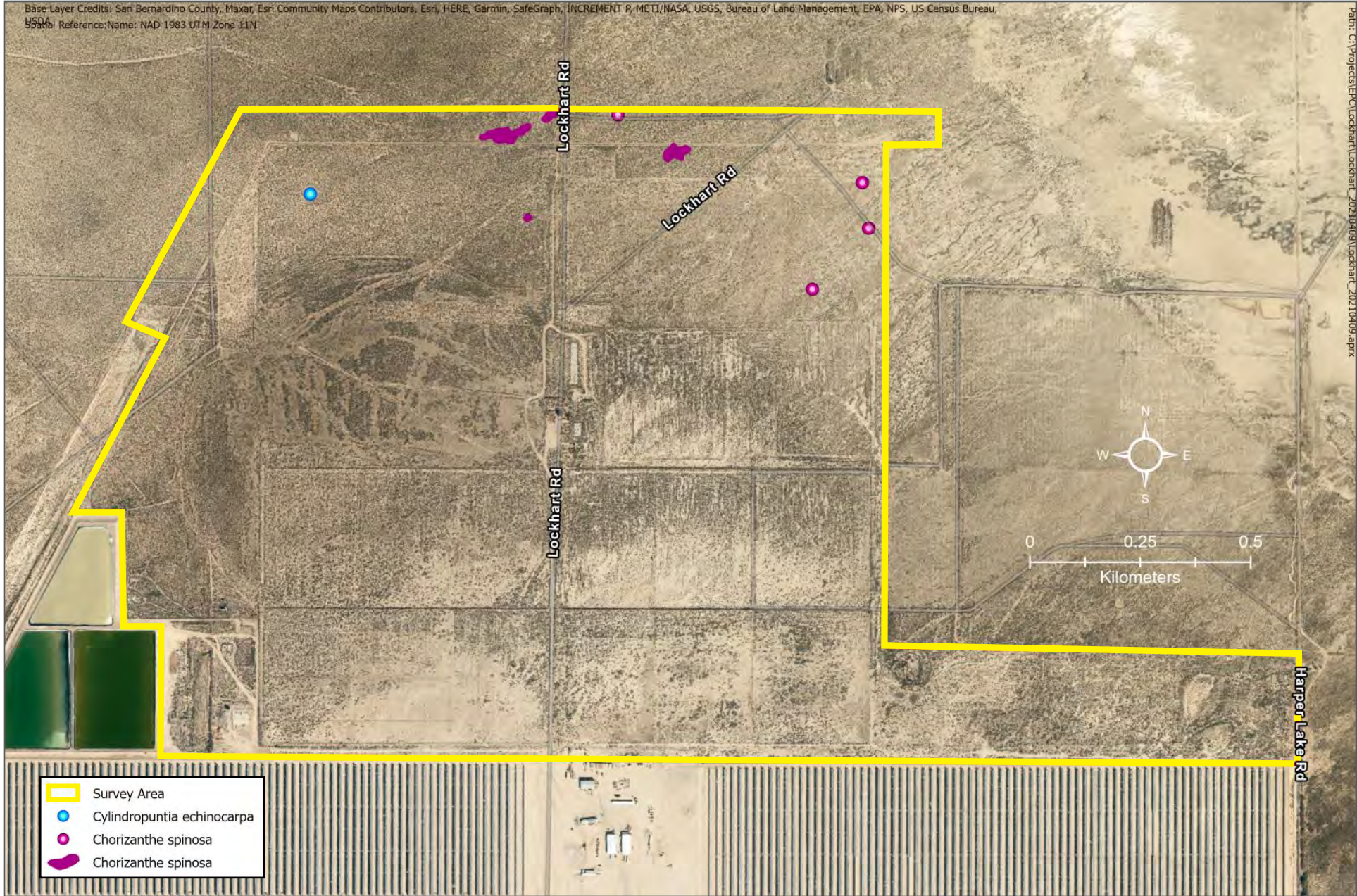
SOURCE: Terra-Gen, LLC, 2021

FIGURE 4.3-1: Shared Facilities Area - Existing Conditions



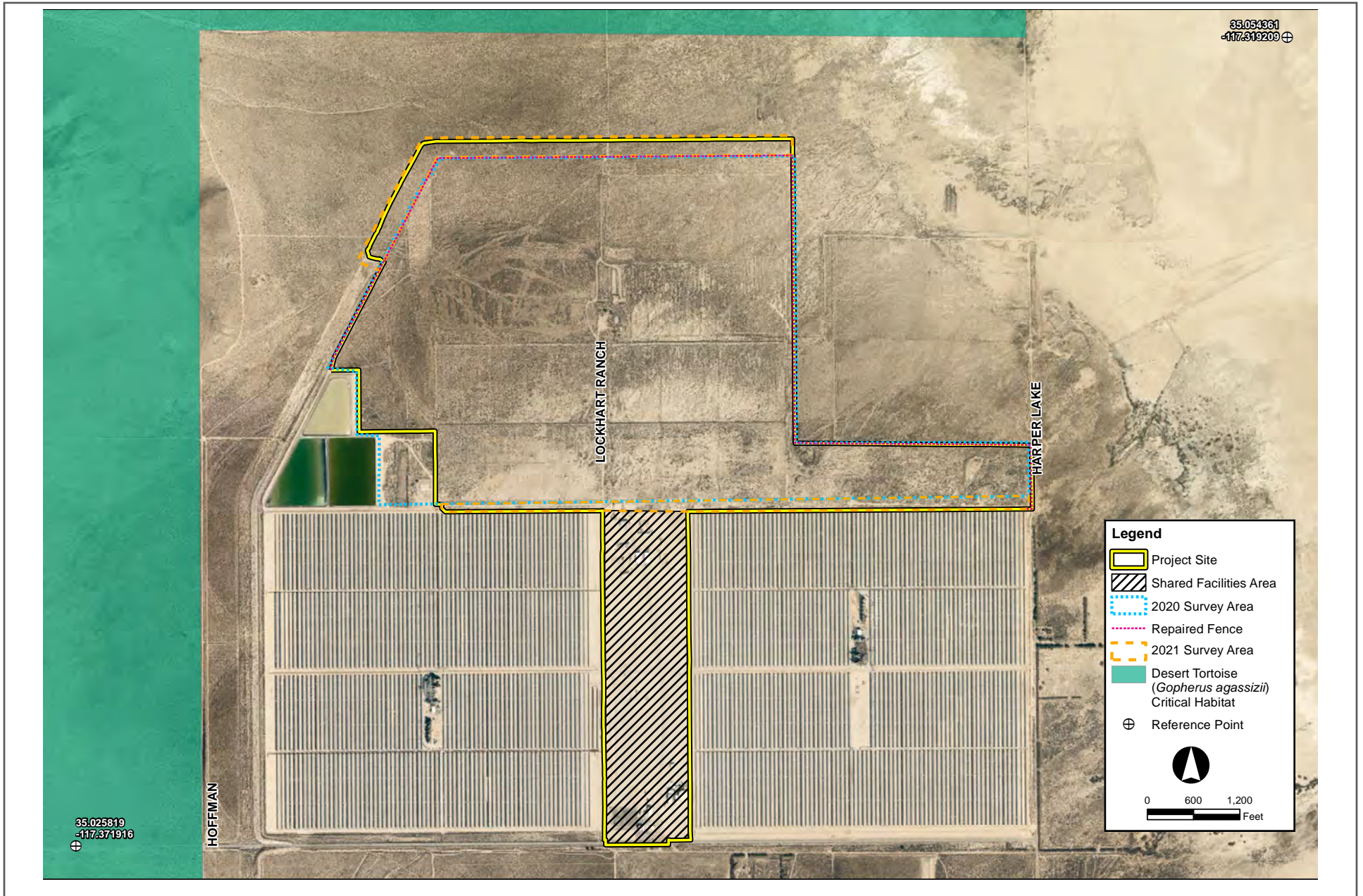
SOURCE: Michael Baker International, 2021

FIGURE 4.3-2a: Biological Reconnaissance Survey and Jurisdictional Delineation Area



SOURCE: EREMICO Biological Services, LLC, 2021

FIGURE 4.3-2b: Rare Plant Survey Area

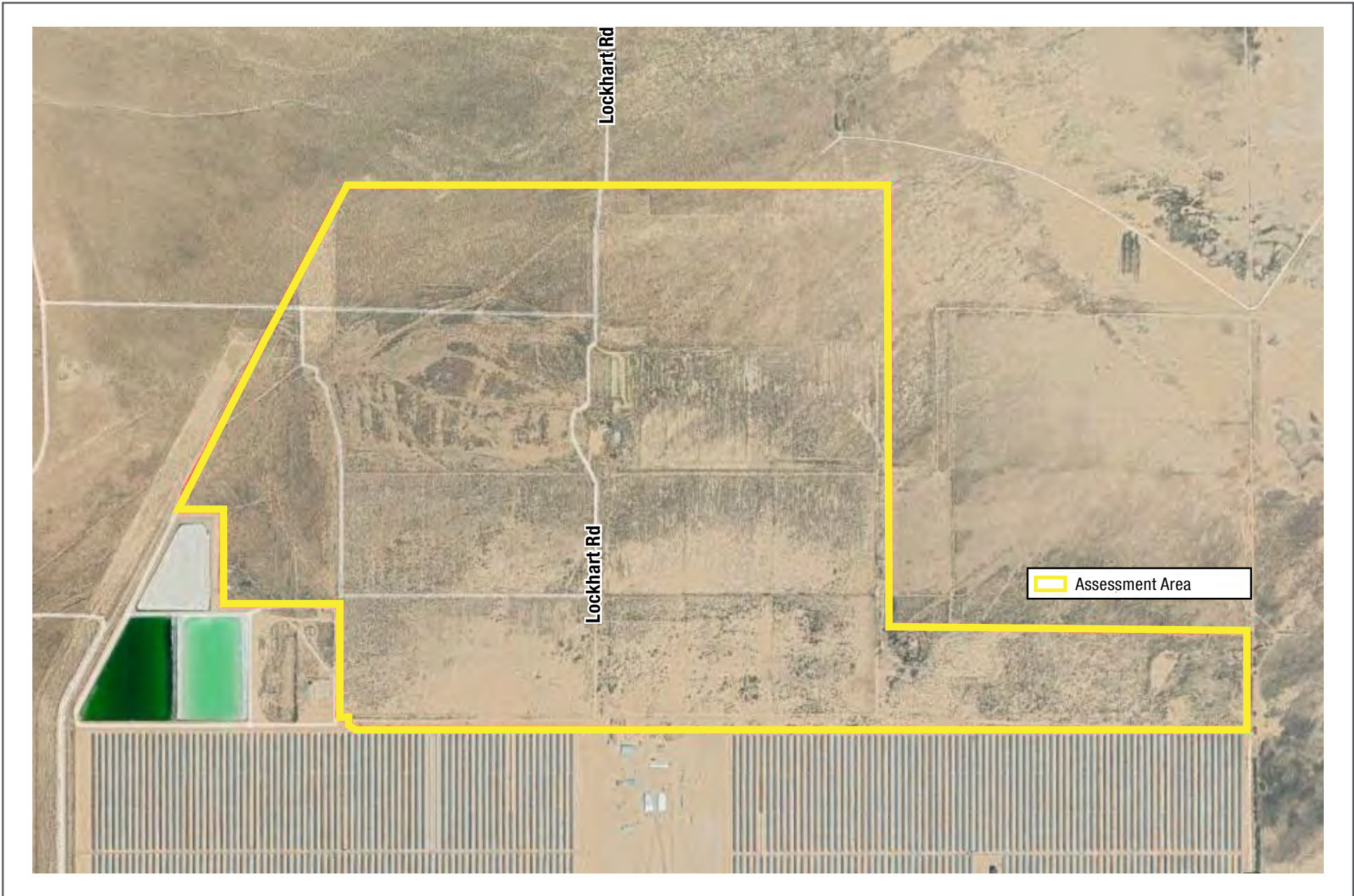


SOURCE: Michael Baker International, 2021



FIGURE 4.3-2c: Desert Tortoise Survey Area

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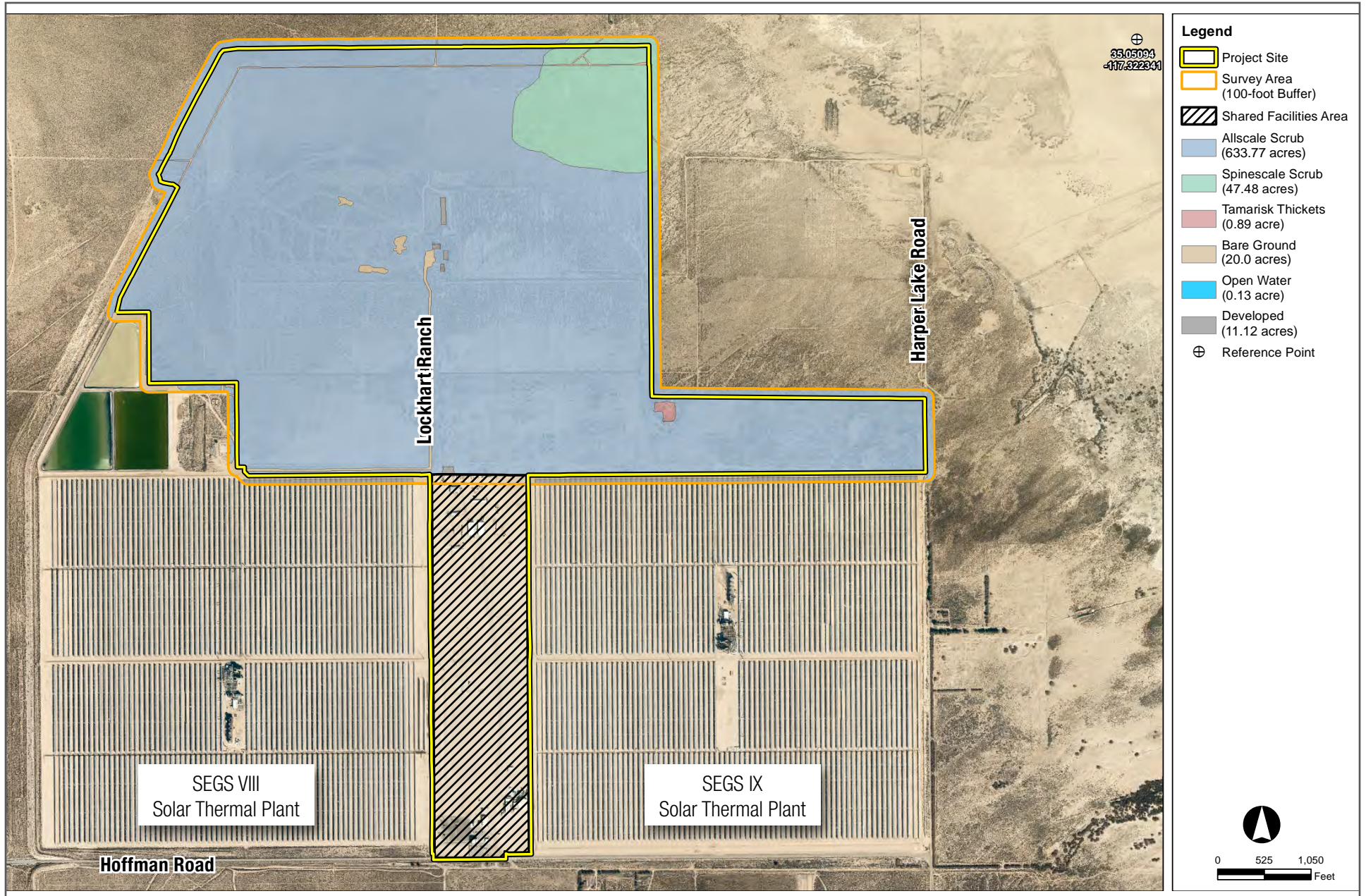
SOURCE: Phil Brylski, 2021

FIGURE 4.3-2d: Mojave Ground Squirrel Habitat Assessment Area



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Kimley»Horn



SOURCE: Michael Baker International, 2021

FIGURE 4.3-3: Vegetation Communities

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Table 4.3-1: Vegetation Communities and Land Uses within the Survey Area below, provides the acreages of each vegetation community/land use within the survey area, followed by each discussed in detail.

Table 4.3-1: Vegetation Communities and Land Uses within the Survey Area

Vegetation Communities and Land Uses	Acreage Total ¹
Allscale Scrub	633.77
Spinescale Scrub	47.48
Tamarisk Thickets	0.89
Developed	11.12
Bare Ground	20.00
Open Water	0.13
ACREAGE	713.39
Note: 1. This acreage and this table do not include the Shared Facilities Area, which was previously analyzed for resources and impacts and permitted as part of the Lockhart Solar I Facility and the existing SEGS VIII and IX facilities.	

Source: Michael Baker International. 2021. *Lockhart Solar PV II Project – Biological Resources Report*. Table 1.

Allscale Scrub

Approximately 633.77 acres of allscale scrub is located within the survey area. The survey area is almost entirely comprised of allscale scrub with little change in plant species throughout. The majority of this vegetation community is dominated by allscale saltbush, with red stemmed filaree (*Erodium cicutarium*), winged comb seed (*Pectocarya penicillata*), western tansy mustard (*Descurainia pinnata*), and California goldfields (*Lasthenia californica*) interspersed between saltbush shrubs. Note that a large portion of the allscale scrub within the survey area was either previously farmed and/or significantly disturbed during partial construction of the SEGS X facility.

Spinescale Scrub

Approximately 47.48 acres of spinescale scrub (*Atriplex spinifera* Shrubland Alliance) are located within the survey area. The spinescale scrub is limited to the northeast portion of the survey area. This vegetation community has a similar herbaceous understory to the allscale scrub within the survey area but is dominated by spinescale saltbush rather than allscale saltbush. According to the California Natural Diversity Database (CNDDDB) and the California Natural Community List dated September 9, 2020, spinescale scrub is considered a Sensitive Natural Community by CDFW. Note that the spinescale scrub was not previously farmed and was likely partly disturbed during partial construction of the SEGS X facility.

Tamarisk Thickets

Approximately 0.89 acre of tamarisk thickets (*Tamarix* spp. Semi-Natural Alliance) are located within the survey area. Tamarisk thickets within the survey area include a small area within and around the topographic depression located within the southeastern portion of the Project Site. This vegetation

community is dominated by tamarisk (*Tamarix ramosissima*). Note that the tamarisk thickets existed during partial construction of the SEGS X facility.

Developed

Approximately 11.12 acres of developed land are located within the survey area. Developed portions of the survey area include a small portion of the SEGS VIII and IX solar fields along with infrastructure and facilities associated with said solar fields. Additional developed portions include several previously installed SEGS X concrete structures and foundations within the center of the survey area. Note that the SEGS X area was previously farmed and the area completely graded during partial construction of the SEGS X facility.

Bare Ground

Approximately 20 acres of bare ground are located within the survey area. This includes areas primarily used as unpaved dirt maintenance roads throughout the survey area.

Open Water

Approximately 0.13 acre of open water are located within the survey area. All open water mapped within the survey area exclusively includes the processed water evaporation ponds located at the southwest corner of the survey area.

Critical Habitat

No U.S. Fish and Wildlife Service (USFWS)-designated critical habitats (proposed or final) have been mapped within the survey area. The survey area is located approximately 0.33 mile to the east at its closest point from the Superior-Cronese Unit and approximately 0.25 mile to the south of the Ord-Rodman Unit of desert tortoise Critical Habitat.

Wildlife

The survey area is dominated by native vegetation and friable soils necessary to support various wildlife species. However, wildlife diversity during the field surveys was generally low, with few species seen across all efforts due to the low diversity of the plant assemblage. The most commonly observed species within the survey area was saltbush Bell's sparrow (*Artemisiospiza belli canescens*). Otherwise, the most abundant species after the saltbush Bell's sparrow included common raven (*Corvus corax*), white-crowned sparrow (*Zonotrichia leucophrys*), and California horned lark (*Eremophila alpestris actia*) in the survey area, and cinnamon teal (*Spatula cyanoptera*), green-winged teal (*Anas crecca*), and least sandpiper (*Calidris minutilla*) in the evaporation ponds in the southwest corner of the survey area. In addition, several nest mounds of harvester ant (*Pogonomyrmex sp.*) were observed throughout the survey area. Refer to Appendix B in Appendix C-1 for a complete list of wildlife species observed during the field survey.

Special Status Species

The biological field survey was conducted to assess the conditions of the habitat(s) within the boundaries of the survey area to determine if the existing vegetation communities, at the time of the field survey,

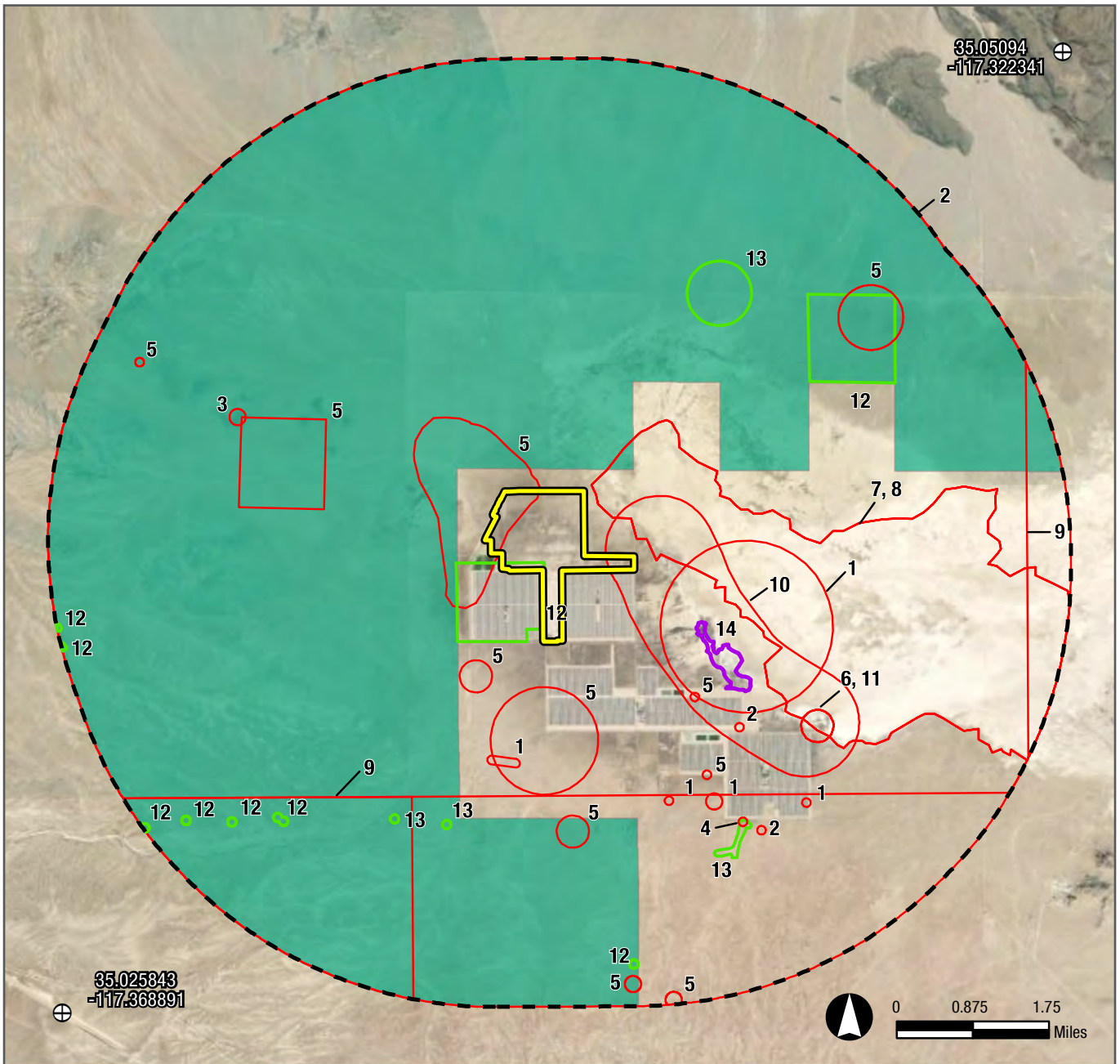
have the potential to provide suitable habitat(s) for special-status plant and wildlife species. Special-status species are species of plants and wildlife that have been identified by Federal or State endangered and threatened lists, are on the California Special Species of Concern (SSC) and Fully Protected (FP) species lists, and on the California Rare Plant Rankings (CRPR) by the California Native Plant Society (CNPS). The presence of special-status plant and animal species on the site is described below. The CNDDDB and CNPS Online Inventory were queried for reported locations of special-status plant and wildlife species as well as special-status natural vegetation communities within the 9-quad search radius. All CNDDDB occurrences, documentation of special-status species and vegetation communities, and USFWS-designated Critical Habitat within a 5-mile radius of the Project Site are shown in **Figure 4.3-4: Special-Status Biological Resources and Critical Habitat Documented Within a 5-mile Radius**. An evaluation of the potential for each species identified in the database records search to occur within the Project Site is presented in **Table 4.3-2: Special Status Species Table**.

Special-status Vegetation Communities

The transmontane alkali marsh vegetation community has been identified within a 5-mile radius of the Project Site, however, it was not identified within the Project Site. However, spinescale scrub (*Atriplex spinifera* Shrubland Alliance), a community classified as sensitivity level S3, was documented within the survey area. On the list of California Sensitive Natural Communities, natural communities with ranks of S1-S3 are considered sensitive by CDFW.

Special Status Plant Species

No special-status plant species were observed during the initial field survey, but rare plant surveys conducted in March and April 2021 by EREMICO determined that approximately 4,700 dried Mojave spineflower (*Chorizanthe spinosa*) plants were present within the survey area (Refer to Appendix C-3 for additional information). Based on the results of the field survey and the rare plant surveys and a review of specific habitat preferences, occurrence records, known distributions, and elevation ranges, it was determined that the survey area has a low potential to support Barstow woolly sunflower (*Eriophyllum mohavense*), desert cymopterus (*Cymopterus deserticola*), crowned muilla (*Muilla coronata*), and Beaver Dam breadroot (*Pediomelum castoreum*). As previously stated, the only special-status plant species known to occur within the survey area is Mojave spineflower. All remaining special-status plant species identified by the CNDDDB and CNPS databases are not expected to occur within the survey area.



Legend		CNDDB Special-Status Resources		Critical Habitat		Reference Point	
	Project Site		Animal		Desert Tortoise (<i>Gopherus agassizii</i>)		Reference Point
	5-mile Radius Buffer		Plant				
			Vegetation Community				

ID	Animal	ID	Animal	ID	Plant	ID	Plant Community
1	burrowing owl	7	Mojave fringe-toed lizard	12	Barstow woolly sunflower	14	Transmontane Alkali Marsh
2	desert tortoise	8	mountain plover	13	desert cymopterus		
3	golden eagle	9	prairie falcon				
4	loggerhead shrike	10	western snowy plover				
5	Mohave ground squirrel	11	Yuma Ridgway's rail				
6	Mohave river vole						

SOURCE: Michael Baker International, 2021

FIGURE 4.3-4: Special-Status Biological Resources and Critical Habitat Documented Within a 5-mile Radius

Table 4.3-2: Special Status Species Table

<p><i>Scientific Name</i> Common Name</p>	<p>Status* Federal / State CRPR or G-Rank / S-Rank</p>	<p>Habitat Preferences and Distribution Affinities</p>	<p>Potential for Occurrence</p>
<p>PLANTS</p>			
<p><i>Abronia villosa var. aurita</i> chaparral sand-verbena</p>	<p>-- / --1B.1</p>	<p>Annual herb. Blooms January through September. Occurs in sandy areas in chaparral, coastal scrub, and desert dunes. Known elevations range from 50 to 4,985 feet above mean sea level (amsl).</p>	<p>Not Expected. The survey area consists primarily of saltbush scrub and lacks the chaparral, coastal scrub, and desert dune habitat that this species typically prefers. Further, the nearest occurrence is over 10 miles to the southeast of the Project Site. Not expected within the Shared Facilities Area due to lack of any suitable habitat.</p>
<p><i>Canbya candida</i> white pygmy-poppy</p>	<p>-- / -4.2</p>	<p>Annual herb. Blooms March through June. Occurs in sandy places in Joshua tree woodland, Mojavean desert scrub, and pinyon and juniper woodland. Known elevations range from 2,280 to 5,280 feet amsl.</p>	<p>Not Expected. Suitable habitat (sandy soils in Joshua tree woodland, Mojavean desert scrub, and pinyon and juniper woodland) is not present within the survey area. Vegetation within the survey area is composed of chenopod scrub, a separate community (based around saltbush) from Mojavean desert scrub (generally based around creosote bush, which is absent from the Project Site). In addition, the Project Site is out of the known elevation range for this species. Further, the nearest occurrence is over 10 miles to the southwest. Not expected within the Shared Facilities Area due to lack of any suitable habitat.</p>
<p><i>Chorizanthe spinosa</i> Mojave spineflower</p>	<p>-- / -4.2</p>	<p>Annual herb. Blooms March through July. Occurs in chenopod scrub, Mojavean desert scrub, Joshua tree woodland, and playas. Known elevations range from 20 to 4,265 feet amsl.</p>	<p>Present. This species was identified within the survey area during rare plant surveys conducted in March and April 2021. Not expected within the Shared Facilities Area due to lack of any suitable habitat.</p>

<p><i>Scientific Name</i> Common Name</p>	<p>Status* Federal / State CRPR or G-Rank / S-Rank</p>	<p>Habitat Preferences and Distribution Affinities</p>	<p>Potential for Occurrence</p>
<p><i>Cymopterus deserticola</i> desert cymopterus</p>	<p>--/--1B.2</p>	<p>Perennial herb. Blooms March through May. Found on fine to coarse, loose, sandy soils of flats in old dune areas with well-drained sand in Joshua tree woodland and Mojavean desert scrub. Known elevations range from 2,065 to 4,920 feet amsl.</p>	<p>Low. The survey area consists primarily of saltbush scrub and may lack the loose, sandy soils in desert dunes with Joshua tree woodland and Mojavean desert scrub this species typically prefers. Further, the nearest occurrence is over 2.5 miles to the southwest of the Project Site. Not expected within the Shared Facilities Area due to lack of any suitable habitat.</p>
<p><i>Diplacus mohavensis</i> Mojave monkeyflower</p>	<p>--/--1B.2</p>	<p>Annual herb. Blooms April through June. Found on dry, sandy or rocky washes along the Mojave River, in Joshua tree woodland and Mojavean desert scrub. Known elevations range from 1,965 to 5,740 feet amsl.</p>	<p>Not Expected. Habitat within the survey area is comprised of saltbush scrub, and not the dry, sandy washes in desert scrub that is typically preferred by this species. Further, the nearest occurrence is over 10 miles to the southeast of the Project Site. Not expected within the Shared Facilities Area due to lack of any suitable habitat.</p>
<p><i>Eriophyllum mohavense</i> Barstow woolly sunflower</p>	<p>--/--1B.2</p>	<p>Annual herb. Blooms April through May. Found in silty or sandy areas w/ saltbush scrub, or creosote bush scrub. Known elevations range from 1,985 to 4,232 feet amsl.</p>	<p>Moderate. Suitable habitat (sandy soils in saltbush scrub) is present throughout the survey area. The survey area is located approximately 7 miles east of the Barstow Woolly Sunflower Area of Critical Environmental Concern. Not expected within the Shared Facilities Area due to lack of any suitable habitat.</p>
<p><i>Lycium torreyi</i> Torrey's box-thorn</p>	<p>--/--4.2</p>	<p>Shrub. Blooms March through May. Occurs on sandy, rocky washes, streambanks, and desert valleys in Mojavean desert scrub and Sonoran desert scrub. Known elevations range from -150 to 3,600 feet amsl.</p>	<p>Not Expected. Suitable habitat (sandy washes in desert scrub) is not present within the survey area. Vegetation within the survey area Survey Area is composed of chenopod scrub, a separate community (based around saltbush) from Mojavean desert scrub (generally based around creosote bush, which is absent from the Project Site). Further, the nearest occurrence is over 8 miles to the southwest of the Project Site. Not expected within the Shared Facilities Area due to lack of any suitable habitat.</p>

<p><i>Scientific Name</i> Common Name</p>	<p>Status* Federal / State CRPR or G-Rank / S-Rank</p>	<p>Habitat Preferences and Distribution Affinities</p>	<p>Potential for Occurrence</p>
<p><i>Mentzelia tridentata</i> creamy blazing star</p>	<p>-- / --1B.3</p>	<p>Annual herb. Blooms March through May. Found in Mojavean desert scrub. Known elevations range from 2,200 to 3,805 feet amsl.</p>	<p>Not Expected. Suitable habitat (desert scrub) is not present within the survey area. Vegetation within the survey area is composed of chenopod scrub, a separate community (based around saltbush) from Mojavean desert scrub (generally based around creosote bush, which is absent from the Project Site). Further, the nearest occurrence is over 8 miles to the northeast to the Project Site. Not expected within the Shared Facilities Area due to lack of any suitable habitat.</p>
<p><i>Muilla coronata</i> <i>crowned muilla</i></p>	<p>-- / -4.2</p>	<p>Perennial herb. Blooms March through April. Occurs on barren flats and ridges in sandy, granitic soils in Joshua tree woodland, pinyon and juniper woodland, Mojavean desert scrub, and chenopod scrub. Known elevations range from 2,200 to 6,430 feet amsl.</p>	<p>Low. Suitable habitat (sandy soils in chenopod scrub, a vegetation community based around saltbush scrub) is present within the survey area. However, the nearest occurrence is over 10 miles to the southeast of the Project Site. Not expected within the Shared Facilities Area due to lack of any suitable habitat.</p>
<p><i>Pediomelum castoreum</i> Beaver Dam breadroot</p>	<p>-- / --1B.2</p>	<p>Perennial herb. Blooms April through May. Found on sandy soils of desert washes and road cuts in Joshua tree woodland and Mojavean desert scrub. Known elevations range from 1,965 to 3,495 feet amsl.</p>	<p>Low. The survey area consists primarily of saltbush scrub and may lack the sandy soils of desert washes and road cuts typically preferred by this species. Further, the nearest occurrence is over 10 miles to the southwest of the Project Site. Not expected within the Shared Facilities Area due to lack of any suitable habitat.</p>
<p><i>Sclerocactus polyancistrus</i> Mojave fish-hook cactus</p>	<p>-- / -4.2</p>	<p>Perennial stem succulent. Grows on carbonate soils within Great Basin scrub, Joshua tree woodland, and Mojavean desert scrub habitats. Found at elevations ranging from 2,100 to 7,612 feet amsl. Blooming period is from April to July.</p>	<p>Not Expected. The survey area consists primarily of saltbush scrub and lacks the carbonate soils within Great Basin scrub, Joshua tree woodland, and Mojavean desert scrub typically preferred by this species. Further, the nearest occurrence is over 9 miles to the southeast of the Project Site. Not expected within the Shared Facilities Area due to lack of any suitable habitat.</p>

<i>Scientific Name</i> Common Name	Status* Federal / State CRPR or G-Rank / S-Rank	Habitat Preferences and Distribution Affinities	Potential for Occurrence
<i>Yucca brevifolia</i> western Joshua tree	-- / SC	Tree. Occurs in silts, loams, and/or sands within desert grassland and shrublands. Typically found on flats, mesas, bajadas, and gentle slopes in the Western Mojave Desert.	Absent. This species is conspicuous and unmistakable and was not found within the survey area. Further, the nearest occurrence is greater than 5 miles from the Project Site. Absent from the Shared Facilities Area.
INVERTEBRATES			
<i>Bombus crotchii</i> Crotch bumble bee	-- / SC G3G4 / S1S2	Found from coastal California east to the Sierra- Cascade crest and south into Mexico. Nectar plant genera include <i>Antirrhinum</i> , <i>Phacelia</i> , <i>Clarkia</i> , <i>Dendromecon</i> , <i>Eschscholzia</i> , and <i>Eriogonum</i> .	Not Expected. The preferred nectar plants associated with this species were not found within the survey area, which is almost entirely composed of saltbrush. Further, the nearest occurrence is over 9 miles to the southwest of the Project Site. Not expected within the Shared Facilities Area due to lack of any suitable habitat.
<i>Bombus occidentalis</i> western bumble bee	-- / SC G2G3 / S1	Found along the western United States. Nectar plant genera include <i>Melilotus</i> , <i>Cirsium</i> , <i>Trifolium</i> , <i>Centaurea</i> , <i>Chrysothamnus/Ericameria</i> , and <i>Eriogonum</i> .	Not Expected. The preferred nectar plants associated with this species were not found within the survey area, which is almost entirely composed saltbrush. Further, the nearest occurrence is over 9 miles to the southwest of the Project Site. Not expected within the Shared Facilities Area due to lack of any suitable habitat.
FISH			
<i>Siphateles bicolor mohavensis</i> Mohave tui chub	FE / SE, FP G4T1 / S1	Endemic to the Mojave River basin; adapted to alkaline, mineralized waters. Needs deep pools, ponds, or slough-like areas. Needs vegetation for spawning.	Not Expected. The Project Site does not contain any water bodies that would be capable of supporting this species and therefore there is no habitat to support this aquatic-dependent species. Not expected within the Shared Facilities Area due to lack of any suitable habitat.
AMPHIBIANS			
<i>Anaxyrus californicus</i> arroyo toad	FE / SSC G2G3 / S2S3	Inhabits washes, arroyos, sandy riverbanks, and riparian areas with willows, sycamores, oaks, and cottonwoods. Has extremely specialized habitat needs, which include exposed sandy stream sides with stable	Not Expected. The Project Site does not have any washes or other waterways that would be capable of supporting this species. Further, the nearest occurrence is over 15 miles to the southeast of the Project Site. Not expected within the Shared Facilities Area due to lack of any suitable habitat.

<i>Scientific Name</i> Common Name	Status* Federal / State CRPR or G-Rank / S-Rank	Habitat Preferences and Distribution Affinities	Potential for Occurrence
		terraces for burrowing with scattered vegetation for shelter, and areas of quiet water or pools free of predatory fishes with sandy or gravel bottoms without silt for breeding.	
REPTILES			
<i>Gopherus agassizii</i> desert tortoise	FT / ST G3 / S2S3	Most commonly occurs in desert scrub, desert wash, and Joshua tree habitats (i.e., almost every desert habitat). Requires friable soils for burrow and nest construction. Creosote bush habitat with large annual wildflower blooms is preferred.	Not Expected. Suitable habitat is present within the survey area, although allscale scrub is one of the lesser-used habitat types for this species after the most frequently used type, creosote bush scrub. The survey area is adjacent to designated Critical Habitat on two sides, but the local population has been in decline for decades due to development of this area. Focused desert tortoise presence/absence surveys were conducted across the entire survey area in May 2020 and March 2021, with no tortoises or tortoise sign observed. The entire Project Site is fenced with chain link fencing including exclusionary fencing specifically to keep desert tortoise from entering the Project Site. Not expected within the Shared Facilities Area due to lack of any suitable habitat.
<i>Uma scoparia</i> Mojave fringe-toed lizard	-- / SSC G3G4 / S3S4	Found in fine, loose, wind-blown sand in sand dunes, dry lakebeds, riverbanks, desert washes, sparse alkali scrub, and desert scrub. Shrubs or annual plants may be necessary for arthropods found in the diet.	Not Expected. The survey area, although characterized by desert scrub (saltbush scrub) habitat, lacks the Aeolian influence that this species is associated with. The nearest occurrence is on Harper Dry Lake to the east. Not expected within the Shared Facilities Area due to lack of any suitable habitat.
BIRDS			
<i>Accipiter striatus</i> sharp-shinned hawk	WL	Occurs in a wide range of woodlands and forests that are mostly dominated by conifers and by various types of broad-leaved trees	Present (Foraging). This species was observed within the survey area during the 2020 surveys. Not expected within the Shared Facilities Area due to lack of any suitable habitat.

<p><i>Scientific Name</i> Common Name</p>	<p>Status* Federal / State CRPR or G-Rank / S-Rank</p>	<p>Habitat Preferences and Distribution Affinities</p>	<p>Potential for Occurrence</p>
		<p>(especially oaks). The largest populations of the nominate group (<i>Accipiter striatus striatus</i>) are thought to occur in the temperate boreal forests, but winter in warmer regions, such as the southern US, Mexico, and Central America.</p>	
<p><i>Asiootus</i> long-eared owl</p>	<p>-- / SSCG5 / S3</p>	<p>Nests in conifer, oak, riparian, pinyon-juniper, and desert woodlands that are either open or are adjacent to grasslands, meadows, or shrublands. Key habitat components are some dense cover for nesting and roosting, suitable nest platforms, and open foraging areas.</p>	<p>Moderate (Nesting & Foraging). The southeastern perimeter of the survey area contains suitable nesting habitat in the extensive windrows that are present, and the survey area and general vicinity, including Harper Dry Lake, constitute suitable foraging habitat for this species. There are numerous historic records of this species at Harper Dry Lake, and of this species nesting and/or wintering in this area of the desert. Not expected within the Shared Facilities Area due to lack of any suitable habitat.</p>
<p><i>Athene cunicularia</i> burrowing owl</p>	<p>-- / SSCG4 / S3</p>	<p>Primarily found in open, dry annual or perennial grasslands, deserts, and scrublands characterized by low-growing vegetation, but it persists and even thrives in some landscapes highly altered by human activity, such as earthen canals, berms, rock piles, and pipes. Subterranean nester, most often dependent upon burrowing mammals, most notably, the California ground squirrel (<i>Otospermophilus beecheyi</i>).</p>	<p>Low (Foraging). Although this species has historically been recorded many times at Harper Dry Lake, habitat in the survey area is less suitable. Many areas of the survey area are densely packed with allscale saltbush and on-site prey appears to be low based on the general lack of activity during the reconnaissance survey and compacted soils caused during partial construction of the SEGS X project. No suitable burrows were identified during site surveys, but this species could come into the survey area while foraging. Not expected within the Shared Facilities Area due to lack of any suitable habitat.</p>

<p><i>Scientific Name</i> Common Name</p>	<p>Status* Federal / State CRPR or G-Rank / S-Rank</p>	<p>Habitat Preferences and Distribution Affinities</p>	<p>Potential for Occurrence</p>
<p><i>Buteo swainsoni</i> Swainson’s hawk</p>	<p>-- / STG5 / S3</p>	<p>Summer migrant in southern California. Typical habitat is open desert, grassland, or cropland containing scattered large trees or small groves. Breeds in stands with few trees in juniper-sage flats, riparian areas, and in oak savannah in the Central Valley. Forages in adjacent grassland or suitable grain or alfalfa fields or livestock pastures.</p>	<p>Not Expected. Suitable nesting or foraging habitat for this species consists of large, open agricultural fields or areas of high rodent productivity with sparse trees for nesting. This species also is only known to nest in very specific areas in southern California. There are no records for this species within five miles of the Project Site based on the CNDDDB database search. Not expected within the Shared Facilities Area due to lack of any suitable habitat.</p>
<p><i>Aquila chrysaetos</i> golden eagle</p>	<p>-- / FP, WL G5 / S3</p>	<p>Inhabits rolling foothills, mountain areas, sage- juniper flats, and deserts. Preferred habits include broadleaved upland forest, cismontane woodland, coastal prairie, and Great Basin grassland. Cliff-walled canyons provide nesting habitat in most parts of range; also, large trees in open areas.</p>	<p>Low (Nesting & Foraging). Suitable foraging habitat (open desert scrub) is present throughout the survey area, but the most common nesting habitat (cliff-walled canyons or large, isolated trees) is not present within the survey area. Although the nearest occurrence in the CNDDDB is roughly 3.25 miles to the northwest, eBird shows a variety of sightings of this species in the vicinity of Harper Dry Lake. Not expected within the Shared Facilities Area due to lack of any suitable habitat.</p>
<p><i>Artemisiospiza belli</i> Bell’s sage sparrow</p>	<p>-- / WL G5T2T2 / S3</p>	<p>This species has a wide, but sparse distribution in western Riverside County, specifically within the “Riverside lowlands, San Jacinto Foothills, Santa Ana Mountains, and Desert Transition Bioregions. Yearlong resident on the coastal side of southern California mountains. Breeds in coastal sage scrub and chaparral habitats from February to August. They require semi-open habitats with evenly spaced shrubs one to two meters high.</p>	<p>Not Expected. Although the subspecies of Bell’s sparrow (<i>A. b. canescens</i>) are present in decent abundance within the survey area, the Bell’s sparrow subspecies (<i>A. b. belli</i>) are not expected to be present as the Project Site or Shared Facilities Area because it is outside of its known range.</p>

<p><i>Scientific Name</i> Common Name</p>	<p>Status* Federal / State CRPR or G-Rank / S-Rank</p>	<p>Habitat Preferences and Distribution Affinities</p>	<p>Potential for Occurrence</p>
		<p>Occurs in chaparral dominated by fairly dense stands of chamise (<i>Adenostoma fasciculatum</i>).</p>	
<p><i>Charadrius alexandrinus nivosus</i> western snowy plover</p>	<p>FT / SSC G3T3 / S2S3</p>	<p>Found in sandy beaches, salt pond levees, and shores of large alkali lakes. Needs sandy, gravelly, or friable soils for nesting.</p>	<p>Not Expected. Suitable habitat is lacking in the survey area, although this species is expected to occur regularly at Harper Dry Lake to the east. Not expected within the Shared Facilities Area due to lack of any suitable habitat.</p>
<p><i>Charadrius montanus</i> mountain plover</p>	<p>-- / SSC G3 / S2S3</p>	<p>Found in short grasslands, freshly plowed fields, newly sprouting grain fields, and sometimes sod farms. Prefers short vegetation, bare ground, and flat topography. Also prefers grazed areas with burrowing rodents.</p>	<p>Not Expected. The survey area lacks any grasslands or agricultural fields, which this species is almost invariably associated with during winter. Further, agricultural fields in the surrounding area where plovers had previously been recorded have subsequently been developed. Not expected within the Shared Facilities Area due to lack of any suitable habitat.</p>
<p><i>Circus hudsonius</i> northern harrier</p>	<p>SSC</p>	<p>Breeds throughout the northern parts of the northern hemisphere in Canada and the northernmost USA. It migrates to more southerly areas in winter with breeding birds in more northerly areas moving to the southernmost US, Mexico, and Central America. In milder regions in the southern US, they may be present all year, but the higher ground is largely deserted in winter. This bird inhabits prairies, open areas, and marshes.</p>	<p>Present (Foraging). This species was observed within the survey area during the 2020 surveys. Not expected within the Shared Facilities Area due to lack of any suitable habitat.</p>
<p><i>Eremophila alpestris actia</i> California horned lark</p>	<p>-- / WL G5T4Q/ S4</p>	<p>Yearlong resident of California. This subspecies is typically found in coastal regions. Breed in level or gently sloping shortgrass prairie, montane meadows, "bald" hills, open coastal</p>	<p>Present (Nesting & Foraging). This species was observed within the survey area during the 2020 surveys. Not expected within the Shared Facilities Area due to lack of any suitable habitat.</p>

<p><i>Scientific Name</i> Common Name</p>	<p>Status* Federal / State CRPR or G-Rank / S-Rank</p>	<p>Habitat Preferences and Distribution Affinities</p>	<p>Potential for Occurrence</p>
		<p>plains, fallow grain fields, and alkali flats. Within southern California, California horned larks breed primarily in open fields, (short) grasslands, and rangelands. Nests on the open ground.</p>	
<p><i>Falco mexicanus</i> prairie falcon</p>	<p>-- / WLG5 / S4</p>	<p>Inhabits dry, open terrain, either level or hilly, in Great Basin grasslands, Great Basin scrub, Mojavean desert scrub, Sonoran Desert scrub, and valley and foothill grasslands. Breeding sites located on cliffs. Forages far afield, even to marshlands and ocean shores.</p>	<p>Low (Nesting & Foraging). The survey area contains suitable foraging habitat for this species, particularly in the more open and sparsely vegetated portions. Occurs periodically on Harper Dry Lake. Not expected within the Shared Facilities Area due to lack of any suitable habitat.</p>
<p><i>Gymnogyps californianus</i> California condor</p>	<p>FE / SE, FP G1 / S1</p>	<p>Current distribution of California condor is considered to be all of the Los Padres National Forest and western half of the Angeles National Forest, with some occasionally found in the Sequoia National Forest. Nest sites are typically located in chaparral, conifer forest, or oak woodland habitats. Nest sites are in cliff caves in the mountains. Some have nested in large cavities within sequoias (<i>Sequoiadendron giganteum</i>).</p>	<p>Not Expected. The Project Site is outside of the breeding range of this species and outside of its typical foraging range. There are no records for this species in the general vicinity in either the CNDDDB or in eBird. Not expected within the Shared Facilities Area due to lack of any suitable habitat.</p>
<p><i>Lanius ludovicianus</i> loggerhead shrike</p>	<p>-- / SSCG4 / S4</p>	<p>Found in broken woodlands, savannah, pinyon-juniper, Joshua tree, riparian woodlands, desert oases, scrub, and washes. Prefers open country for hunting, with perches for scanning, and fairly dense shrubs and brush for nesting.</p>	<p>Present (Foraging), High (Nesting). Suitable habitat is present throughout the survey area and this species is known to occur in the surrounding area. A single shrike was seen on-site in July 2021 by the Michael Baker International biologists, and possibly the same bird was seen later the same morning from a distance carrying an item into the brush, implying possibly nesting. Not expected</p>

<p><i>Scientific Name</i> Common Name</p>	<p>Status* Federal / State CRPR or G-Rank / S-Rank</p>	<p>Habitat Preferences and Distribution Affinities</p>	<p>Potential for Occurrence</p>
			<p>within the Shared Facilities Area due to lack of any suitable habitat.</p>
<p><i>Larus californicus</i> California gull</p>	<p>WL</p>	<p>Nests in colonies in shallow depressions on the ground lined with vegetation and feathers. Their breeding habitat is lakes and marshes in interior western North America and the Northwest Territories, Canada south to eastern California and Colorado. This species is migratory, most moving to the Pacific coast in winter.</p>	<p>Present (Foraging). This species was observed within the survey area during the 2020 surveys. Not expected within the Shared Facilities Area due to lack of any suitable habitat.</p>
<p><i>Phalacrocoracidae auratus</i> double-crested cormorant</p>	<p>WL</p>	<p>Resident on the Pacific Coast from the Aleutian Islands south to Nayarit, Mexico and inland to the Colorado River. They build their stick nests in trees, on cliff edges, or on the ground on suitable islands. The Project Site lies within migratory paths of the double-crested cormorant and may be found intermittently due to the proximity to the Pacific Ocean to the west and the Colorado River to the east.</p>	<p>Present (Foraging). This species was observed within the survey area during the 2020 surveys. Not expected within the Shared Facilities Area due to lack of any suitable habitat.</p>
<p><i>Rallus obsoletus yumanensis</i> Yuma Ridgway's rail</p>	<p>FE / ST, FP G5T3 / S1S2</p>	<p>Prefers stands of cattails and tule dissected by narrow channels of flowing water containing crawfish. Nests in freshwater marshes along the Colorado River and along the south and east ends of the Salton Sea.</p>	<p>Not Expected. Suitable marsh or slow-water habitat is not present within the survey area. Further, the nearest occurrence is roughly 2.75 miles to the southeast of the Project Site along the edge of Harper Dry Lake.</p>
<p><i>Setophaga petechia</i> yellow warbler</p>	<p>-- / SSC G5 / S3S4</p>	<p>Present in California from April through September. Nests in riparian areas dominated by willows, cottonwoods, California sycamores, or alders (Alnus</p>	<p>Low (Foraging). This species may pass through and forage in tamarisks in the survey area during spring and fall migration but there is no riparian nesting habitat present. This species occurs regularly on Harper Dry Lake</p>

<p><i>Scientific Name</i> Common Name</p>	<p>Status* Federal / State CRPR or G-Rank / S-Rank</p>	<p>Habitat Preferences and Distribution Affinities</p>	<p>Potential for Occurrence</p>
		<p>spp.) or in mature chaparral. May also use oaks, conifers, and urban areas near stream courses.</p>	<p>during migration. Not expected within the Shared Facilities Area due to lack of any suitable habitat.</p>
<p><i>Toxostoma lecontei</i> LeConte's thrasher</p>	<p>-- / SSCG4 / S3</p>	<p>Common yearlong resident in southern California. Typically occurs primarily in open desert wash, desert scrub, alkali desert scrub, and desert succulent shrub habitats; also occurs in Joshua tree habitat with scattered shrubs. Habitats with a high proportion of one or more species of saltbush (<i>Atriplex</i> spp.) and/or cylindrical cholla cactus (<i>Cylindropuntia</i> spp.) is preferred. The ground is generally bare or with sparse patches of grasses and annuals forming low ground cover. Prefers thick, dense, and thorny shrubs or cholla cactus for nesting.</p>	<p>Not Expected. Although LeConte's thrashers are known to occur in the general Project vicinity and one was observed on-site in July 2021 by the Michael Baker International biologists, the special-status designation for this species refers specifically to the population in the San Joaquin Valley, <i>Toxostoma lecontei macmillanorum</i>. Not expected within the Shared Facilities Area due to lack of any suitable habitat.</p>
<p>MAMMALS</p>			
<p><i>Microtus californicus mohavensis</i> Mohave river vole</p>	<p>-- / SSC G5T1 / S1</p>	<p>Occurs only in weedy herbaceous growth in wet areas and riparian scrub along the Mojave River. May be found in some irrigated pastures. Burrows into soft soil. Feeds on leafy parts of grasses, sedges and herbs. Clips grasses to form runways from burrow.</p>	<p>Not Expected. This species is restricted to wet areas or irrigated pastures along and near the Mojave River. This habitat does not occur in the survey area. Further, the nearest occurrence is roughly 2.75 miles to the southeast of the Project Site. Not expected within the Shared Facilities Area due to lack of any suitable habitat.</p>
<p><i>Taxidea taxus</i> American badger</p>	<p>-- / SSCG5 / S3</p>	<p>Most abundant in drier open stages of most shrub, forest, and herbaceous habitats with friable soils. Needs sufficient food, friable soils, and open, uncultivated ground where it can burrow and prey on burrowing rodents.</p>	<p>Low. Although suitable habitat is present within the survey area, no burrows of suitable size were found during surveys of the Project Site. Further, the nearest occurrence is nearly 9 miles to the southeast. Not expected within the Shared Facilities Area due to lack of any suitable habitat.</p>

Scientific Name Common Name	Status* Federal / State CRPR or G-Rank / S-Rank	Habitat Preferences and Distribution Affinities	Potential for Occurrence
<p><i>Xerospermophilus mohavensis</i></p> <p>Mohave ground squirrel</p>	<p>-- / ST G2G3 / S2S3</p>	<p>Inhabits open desert scrub, alkali scrub, and Joshua tree woodland. Also feeds in annual grasslands. Restricted to Mojave Desert. Prefers sandy to gravelly soils; avoids rocky areas. Uses burrows at base of shrubs for cover. Nests are in burrows.</p>	<p>Varies across the survey area. MGS not expected in lands previously in intensive agriculture that were graded and compacted during partial construction of SEGS X; these areas still have compacted soils unsuitable for MGS. Low to moderate potential in parts of the SEGS X site that have not been compacted, generally in the northern and western parts of the site. Not expected within the Shared Facilities Area due to lack of any suitable habitat.</p>
<p>FESA CLASSIFICATIONS</p> <p>FE Federally Endangered FT Federally Threatened</p> <p>CESA CLASSIFICATIONS</p> <p>SE State Endangered ST State Threatened SCE State Candidate for Listing SSC California Species of Special Concern FP Fully Protected WL Watch List</p> <p>California Rare Plant Rank (CRPR)</p> <p>1A Plants presumed extirpated in California and either rare or extinct elsewhere 1B Plants rare, threatened, or endangered in California and elsewhere 2A Plants presumed extirpated in California, but common elsewhere 2B Plants rare, threatened, or endangered in California, but more common elsewhere 3 Plants about which more information is needed - a Review List 4 Plants of limited distribution - a Watch List</p> <p>THREAT RANKS</p> <p>Seriously threatened in California (over 80 percent of occurrences threatened/high degree and immediacy of threat)</p> <p>Moderately threatened in California (20 to 80 percent occurrences threatened/moderate degree and immediacy of threat)</p> <p>Not very threatened in California (less than 20 percent of occurrences threatened/low degree and immediacy of threat or no current threats known)</p> <p>G- RANK / S- RANK</p> <p>Global Rank and State Rank as per NatureServe and CDFW’s CNDDDB RareFind 5, ranging from critically imperiled (G1/S1) to demonstrably secure (G5/S5), with variations and qualifiers.</p> <p>INFRASPECIFIC TAXON CONSERVATION STATUS RANKS</p> <p>Infraspecific taxa refer to subspecies, varieties, and other designations below the level of the species. Infraspecific taxon status (T-ranks) apply to plants and animals only; these T-ranks do not apply to ecological communities. The status of infraspecific taxa (subspecies or varieties) are indicated by a "T-rank" following the species' global rank. Rules for assigning T-ranks follow the same principles outlined above for global conservation status ranks.</p>			

Source: Michael Baker International. 2021. Lockhart Solar PV II Project - Biological Resources Report.

Special Status Wildlife

Six (6) special-status wildlife species were observed during the field surveys on the Project Site: sharp-shinned hawk (*Accipiter striatus*; CDFW Watch List [WL]), northern harrier (*Circus hudsonius*; CDFW Species of Special Concern [SSC]), California horned lark (WL), loggerhead shrike (*Lanius ludovicianus*; SSC), California gull (*Larus californicus*; WL), and double-crested cormorant (*Phalacrocoracidae auratus*; WL). Based on current site conditions and reviews of specific habitat preferences, occurrence records, known distributions, and elevation ranges, it was determined the survey area has a moderate potential to support long-eared owl (*Asio otus*; SSC). Additionally, the golden eagle (*Aquila chrysaetos*; CDFW Fully Protected Species), burrowing owl (*Athene cunicularia*; SSC), prairie falcon (*Falco mexicanus*; WL), yellow warbler (*Setophaga petechia*; SSC), desert kit fox (*Vulpes macrotis arsipis*; a furbearing mammal), and American badger (*Taxidea taxus*; SSC) were found to have a low potential to occur on-site; therefore, no further analysis is included.

Although the records search did not identify any special-status bats occurring within the 9-quad search radius, a single unidentified vesper bat (*Family Vespertilionidae*) was found roosting in a shed in the survey area in July 2021. All bat species and their roosts are protected by the CDFW as nongame mammals under the CFGC Section 4150.

The analysis below discusses desert tortoise and Mojave ground squirrel. Focused surveys have determined that the desert tortoise is not on the Project Site, and Mojave ground squirrel is not expected to be present onsite but are known to exist in the general area of the Project Site. As noted previously, substantial portions of the Project Site have been previously disturbed from past agricultural uses and the initial development of the SEGS X project. As part of the SEGS X project (in the early 1990s), the entire perimeter of the former SEGS X site was fenced by a 6-foot-tall chain link with associated desert tortoise exclusion fencing. The fence had previously been damaged with some gaps in coverage but was promptly repaired and reinforced following the negative desert tortoise survey results in 2020. The perimeter fence is inspected and maintained by site operation personnel on a regular basis (a minimum of once a week) to ensure it remains intact and effective. Photos showing the existing fencing, including the exclusionary fencing are shown in **Figure 4.3-5: Desert Tortoise Fencing on the Project Site**. The existing 6-foot-tall chain link perimeter fence may be replaced or upgraded as needed with a similar security fence, preserving the required desert tortoise exclusionary fencing feature. The perimeter fence would continue to be maintained over the life of the Project. Nonetheless, the desert tortoise and Mojave ground squirrel are a listed species of local and regional importance and a CESA State Threatened species, respectively, and are discussed in more detail below.

Desert Tortoise

The desert tortoise is currently designated as a State and federally Threatened species. The Mojave population of the desert tortoise inhabits areas north and west of the Colorado River in the Mojave Desert of California, Nevada, Arizona, and southwestern Utah, and in the Sonoran Desert in California. Throughout the majority of the Mojave Desert, desert tortoises occur most commonly on gentle sloping soils characterized by an even mix of sand and gravel and sparsely vegetated low-growing vegetation

where there is abundant inter-shrub space. The typical habitat for this species is creosote bush scrub below approximately 5,500 feet in elevation.

No desert tortoises or sign (i.e., burrows, scat, carcasses) were observed within the Project Site during any field surveys. The Project Site contains suitable habitat for this species, including allscale scrub and spinescale scrub. According to the CNDDDB, there are thirteen (13) occurrence records for desert tortoise within the vicinity of the survey area. The entire general region that the Project is in is considered to be occupied by desert tortoise, with anywhere from 20 to over 250 individuals estimated per square mile in 1977, although population density has been declining since then due to increased human encroachment and development. Focused, protocol-level surveys were conducted in May 2020, March and July 2021 (Refer to Appendix C-2) by qualified Michael Baker International biologists in accordance with the survey guidelines and protocols provided in the protocol *Preparing for Any Action That May Occur Within the Range of the Mojave Desert Tortoise (Gopherus agassizii)*, last updated in 2019.

All 2020 and 2021 survey efforts were negative, with no desert tortoises observed within the combined survey area and no definitive tortoise sign identified. Fifteen (15) burrows potentially fitting desert tortoise were found and mapped within the survey area, including twelve (12) within the fenced portion of the survey area and three (3) within the unfenced portion of the survey area, but all were classified as Class 5, defined by the USFWS as “deteriorated condition; this includes collapsed burrows; possibly desert tortoise.” In all instances, there was no desert tortoise sign found around these burrows and no indication that the burrows belonged to tortoises at any time. It is more likely instead that the burrows belonged to local small mammals, particularly because several of them had additional burrows in the immediate vicinity indicating a presumed “network” of burrows characteristic of certain mammal species.

Michael Baker International biologists contacted USFWS senior biologist Scott Hoffmann on May 5, 2020 to confirm the site-specific survey methodology for the surveys. Based on guidance from Mr. Hoffmann, it was determined that based on the regional population status and historic data for the Project vicinity, focused surveys would only be required within the Project Site. According to Mr. Hoffmann, the species has undergone severe declines in recent decades in the general Project vicinity, and he stated that he did not expect Michael Baker International to find any tortoises or sign. Based on the results of the focused surveys and because the fence was promptly repaired and reinforced, it was determined by Michael Baker International biologists that desert tortoise is absent from the entire survey area as of July 2021 and is unlikely to occur in the future.



Boundary fence looking west



Boundary fence looking northeast



Gated entry point with exclusionary fencing

SOURCE: Terra-Gen, LLC, 2021



Close-up photo of desert tortoise exclusionary fence

FIGURE 4.3-5: Desert Tortoise Fencing on the Project Site

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Mohave Ground Squirrel

The Mohave ground squirrel is a State threatened species that is restricted to a small geographic area in the western Mojave Desert of California. The Mohave ground squirrel occupies major desert scrub habitats in the western Mojave Desert and generally inhabits flat to moderate terrain, avoiding steep slopes and rocky terrain. They prefer gravelly soils within the following habitats: Creosote bush scrub, dominated by creosote bush (*Larrea tridentata*) and burrobush (*Ambrosia dumosa*); various alliances of saltbush scrub, dominated by various species of saltbush (fourwing saltbush [*Atriplex canescens*], spiny saltbush, etc.); greasewood scrub, with sparse vegetation generally located on valley bottoms (no, generally do not occur on dry lake beds); and Joshua tree woodland, which includes Joshua trees (*Yucca brevifolia*) widely scattered over a variety of shrub species.

There are 22 occurrence records for Mohave ground squirrel in the Project vicinity listed in the CNDDDB (CDFW 2021). Mohave ground squirrels were not detected during small mammal trapping surveys conducted in 1988 for the former SEGS X project. Similarly, Mohave ground squirrels were not aurally or visually detected during any biological resources surveys conducted for Project. The Project Site contains habitats that range from unsuitable to suitable for Mohave ground squirrel. Unsuitable habitats include areas that were graded and compacted initial construction of the former SEGS X project in 1990. Habitats of low to moderate quality for Mohave ground squirrel occur in areas where vegetation removal occurred but without soil compaction. These areas are located in the western, northern, and northeastern parts of the Project Site.

If Mohave ground squirrel occurs on the Project Site, it is most likely in the northern areas. While these areas have experienced some soil and vegetation disturbance over time, the degree of disturbances were much less than in the central and southern parts of the Project Site.

Wildlife Corridors and Habitat Linkages

A wildlife corridor can be defined as a linear landscape feature of sufficient width to allow animal movement between two comparatively undisturbed habitat fragments. Wildlife corridors are similar to linkages but provide specific opportunities for animals to disperse or migrate between areas. Adequate cover is essential for a corridor to function as a wildlife movement area. It is possible for a habitat corridor to be adequate for one species yet, inadequate for others. Wildlife corridors are significant features for dispersal, seasonal migration, breeding, and foraging.

Habitat linkages are landscape-scale open space areas that provide a natural habitat connection between at least two larger adjacent open spaces or habitat areas. Habitat linkages provide a large enough area to support, at a minimum, a natural habitat mosaic and viable populations of smaller terrestrial species and allow for gene flow through diffusion of populations over a period of generations. Habitat linkages also allow for jump dispersal for some species between neighboring habitats.

There are no wildlife corridors traversing the Project Site, as mapped by the California Essential Habitat Connectivity Project. The Project Site could be used as a habitat linkage for the desert tortoise for the USFWS identified critical habitat to the north and west of the Project. However, this critical habitat is contiguous and is not fragmented by the Project, as such, it is unlikely that the desert tortoise would use

the Project as a habitat linkage. With regard to the Mohave ground squirrel, the Project Site is located east of the Harper Lake Core Population shown in the *A Conservation Strategy for the Mojave Ground Squirrel*, completed by the CDFW in 2019, and is not in a connecting corridor between Mohave ground squirrel core populations.

Nesting Birds and Wildlife Movement

The many shrubs located within the survey area provide nesting habitat for a limited number of ground-nesting bird species. Numerous nests of both Bell's sparrow (*Artemisiospiza belli canescens*) and lesser nighthawk (*Chordeiles acutipennis*) were found during the focused desert tortoise surveys. The few individuals of tamarisk within the survey area provide minimal nesting habitat for tree-nesting species. In addition, a remnant stick nest was observed on top of the abandoned SEGS X concrete structure located at the center of the survey area. The 6-foot-tall chain link fence with associated tortoise exclusion fencing surrounding the Project Site prevents movement of larger wildlife through the Project Site.

Jurisdictional Resources

Non-Wetland Features (Non-jurisdictional)

A flood control diversion feature, constructed as part of the existing SEGS VIII and IX facilities, was identified near the southwestern portion of the Project Site. This feature was constructed and designed to divert stormwater flows away from the SEGS VIII and IX facilities. The diversion was constructed within upland habitat areas and captures portions of the off-site run-on and redirects them north and away from existing development. Since the feature is a stormwater control diversion constructed and designed to convey, treat, infiltrate, or store stormwater run-off, it does not qualify as a Waters of the United States pursuant to the Navigable Waters Protection Rule.² Furthermore, no surface water or ephemeral water features were identified within the survey area. Furthermore, no evidence of an ordinary-high water mark (OHWM) or a bed and bank was identified in association with the feature. Therefore, this feature would not be considered jurisdictional by the Regional Water Quality Control Board or CDFW.

The remainder of the survey area was surveyed for the presence of aquatic features including ephemeral drainage features. Given that the Project is located in the arid to semi-arid desert region, the survey area was assessed more specifically for ephemeral features (watercourses that flow only during and shortly after precipitation events). No surface water and no ephemeral features were identified within the survey area during the 2020 or 2021 site reconnaissance surveys.

Wetland Features

Based on the results of a field delineation, no wetland features were noted within the survey area. During the March 11, 2021 site visit, one soil pit (SP1) was dug within a flood control diversion feature in the

² United States Environmental Protection Agency. 2021. *Overview of the Navigable Waters Protection Rule Fact Sheet*. Available at <https://www.epa.gov/wotus/navigable-waters-protection-rule-factsheets>. Accessed September 15, 2021.

southwestern portion of the survey area due to the presence of hydrologic indicators consisting of surface soil cracks.

SP1 was dug to a depth of approximately 4 inches prior to encountering a compacted earth restrictive layer. SP1 consisted of a single layer and exhibited a sand texture and displayed a matrix color of 10YR 5/4 when moist. No redoximorphic features were observed and no dominant hydrophytic vegetation was present within the vicinity of SP1. Based on the results of the field delineation, it was determined that SP1 only met one (hydrology) of the three required parameters and thus did not qualify as a wetland.

4.3.3 Regulatory Setting

Federal

National Environmental Policy Act

The National Environmental Policy Act (NEPA) directs a “systematic, interdisciplinary approach” to planning and decision making and requires environmental statements for “major Federal actions significantly affecting the quality of the human environment”. Implementing regulations by the Council of Environmental Quality (40 Code of Federal Regulations [CFR], Parts 1500–1508) require Federal agencies to identify and assess reasonable alternatives to proposed actions that will restore and enhance the quality of the human environment and avoid or minimize adverse environmental impacts.

Federal Endangered Species Act of 1973

As defined within the Federal Endangered Species Act (FESA) of 1973, an endangered species is any animal or plant listed by regulation as being in danger of extinction throughout all or a significant portion of its geographical range. A threatened species is any animal or plant that is likely to become endangered within the foreseeable future throughout all or a significant portion of its geographical range. Without a special permit, Federal law prohibits the “take” of any individuals or habitat of Federally-listed species. Under Section 9 of the FESA, take is defined as “harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect or attempt to engage in any such conduct.” The term “harm” has been clarified to include “any act which actually kills or injures fish or wildlife, and emphasizes that such acts may include significant habitat modification or degradation that significantly impairs essential behavioral patterns of fish or wildlife.” Enforcement of FESA is administered by the USFWS.

Under the definition used by the FESA, “Critical Habitat” refers to specific areas within the geographical range of a species that were occupied at the time it was listed that contain the physical or biological features that are essential to the survival and eventual recovery of that species and that may require special management considerations or protection, regardless of whether the species is still extant in the area. Areas that were not known to be occupied at the time a species was listed can also be designated as Critical Habitat if they contain one or more of the physical or biological features that are essential to that species’ conservation and if the occupied areas are inadequate to ensure the species’ recovery. If a project may result in take or adverse modification to a species’ designated Critical Habitat and the project has a Federal nexus, the project proponent may be required to provide suitable mitigation. Projects with a Federal nexus may include projects that occur on Federal lands, require Federal permits (e.g., Clean

Water Act Section 404 permit), or receive any Federal oversight or funding. If there is a Federal nexus, then the Federal agency that is responsible for providing funds or permits would be required to consult with the USFWS under the FESA.

Whenever Federal agencies authorize, fund, or carry out actions that may adversely modify or destroy Critical Habitat, they must consult with USFWS under Section 7 of the FESA. The designation of Critical Habitat does not affect private landowners, unless a project they are proposing uses Federal funds, or requires Federal authorization or permits (i.e., funding from the Federal Highway Administration or a permit from the U.S. Army Corps of Engineers).

Migratory Bird Treaty Act

Pursuant to the Migratory Bird Treaty Act (MBTA) (16 U.S. Government Code [USC] 703) of 1918, as amended in 1972, Federal law prohibits the taking of migratory birds or their nests or eggs (16 USC 703; 50 CFR 10, 21). The statute states:

“Unless and except as permitted by regulations made as hereinafter provided in this subchapter, it shall be unlawful at any time, by any means or in any manner, to pursue, hunt, take, capture, kill, attempt to take, capture, or kill...any migratory bird, any part, nest, or egg of any such bird...included in the terms of the [Migratory Bird] conventions...”

The Act covers the taking of any nests or eggs of migratory birds, except as allowed by permit pursuant to 50 CFR, Part 21. Disturbances causing nest abandonment and/or loss of reproductive effort (i.e., killing or abandonment of eggs or young) may also be considered a “take.” This regulation seeks to protect migratory birds and active nests.

In 1972, the MBTA was amended to include protection for migratory birds of prey (e.g., raptors). Six families of raptors occurring in North America were included in the amendment: Accipitridae (kites, hawks, and eagles); Cathartidae (New World vultures); Falconidae (falcons and caracaras); Pandionidae (ospreys); Strigidae (typical owls); and Tytonidae (barn owls). The provisions of the 1972 amendment to the MBTA protects all species and subspecies of the families listed above. The MBTA protects over 800 species including geese, ducks, shorebirds, raptors, songbirds and many relatively common species.

Bald and Golden Eagle Protection Act

The Bald and Golden Eagle Protection Act of 1940 protects bald eagles (*Haliaeetus leucocephalus*) and golden eagles (*Aquila chrysaetos*) by prohibiting the taking, possession, and commerce of these species and establishes civil penalties for violation of this act. Take of bald and golden eagles includes to “pursue, shoot, shoot at, poison, wound, kill, capture, trap, collect, molest or disturb.” To disturb means to agitate or bother a bald or golden eagle to a degree that causes, or is likely to cause, based on the best scientific information available, (1) injury to an eagle, (2) a decrease in its productivity, by substantially interfering with normal breeding, feeding, or sheltering behavior, or (3) nest abandonment, by substantially interfering with normal breeding, feeding, or sheltering behavior. (Federal Register, volume 72, page 31132; 50 CFR 22.3).

Executive Order 13112 – Invasive Species

On February 3, 1999, President William J. Clinton signed Executive Order 13112 requiring Federal agencies to combat the introduction or spread of invasive species in the United States. The order defines invasive species as “any species, including its seeds, eggs, spores, or other biological material capable of propagating that species, that is not native to that ecosystem whose introduction does or is likely to cause economic or environmental harm or harm to human health.” Federal Highway Administration guidance issued August 10, 1999 directs the use of the State’s invasive species list, maintained by the California Invasive Species Council to define the invasive plants that must be considered as part of the NEPA analysis for a proposed project. Under the Executive Order, federal agencies cannot authorize, fund, or carry out actions that it believes are likely to cause or promote the introduction or spread of invasive species in the United States or elsewhere unless all reasonable measures to minimize risk of harm have been analyzed and considered.

Desert Renewable Energy Conservation Plan

In response to Executive Order S-14-08, which established a target of obtaining 33 percent of the state’s electricity from renewable resources by 2020, the CEC, CDFW, BLM, and USFWS have developed the Desert Renewable Energy Conservation Plan (DRECP). The plan area encompasses the Mojave and Colorado Desert regions in California, including all or a portion of the following counties: Kern, Los Angeles, San Bernardino, Inyo, Riverside, Imperial, and San Diego.

The DRECP is a joint State and Federal Natural Community Conservation Plan and part of one or more Habitat Conservation Plans (HCPs) that are intended to provide for effective protection and conservation of desert ecosystems while allowing for the appropriate development of renewable energy projects. The plan is anticipated to provide long-term endangered species permit assurances to renewable energy developers and provide a process for conservation funding to implement the DRECP. It would also serve as the basis for one or more habitat conservation plans under the FESA.

In 2016, the BLM issued a Record of Decision, approving a LUPA that represents the conclusion of Phase I of the DRECP, which identifies priority areas for renewable energy development while setting aside millions of acres for conservation and outdoor recreation. The BLM plan complements the non-federal land component of the DRECP (Phase II), which is ongoing, led by the CEC.

State

California Environmental Quality Act

The California Environmental Quality Act (CEQA) (Public Resources Code [PRC] Section 21000 et seq.) provides for the protection of the environment within the State by establishing State policy to prevent significant, avoidable damage to the environment through the use of alternatives or mitigation measures for projects. It applies to actions directly undertaken, financed, or permitted by State lead agencies. If a project is determined to be subject to CEQA, the lead agency will be required to conduct an Initial Study (IS); if the IS determines that the project may have significant impacts on the environment, the lead agency will subsequently be required to write an Environmental Impact Report (EIR). A finding of non-significant effects will require either a Negative Declaration or a Mitigated Negative Declaration instead of an EIR.

Section 15380 of the CEQA Guidelines independently defines “endangered” species as those whose survival and reproduction in the wild are in immediate jeopardy, while “rare” species are defined as those who are in such low numbers that they could become endangered if their environment worsens.

California Endangered Species Act

In addition to federal laws, the State has its own Endangered Species Act (CESA) enforced by the CDFW. The CESA program maintains a separate listing of species beyond the FESA, although the provisions of each act are similar.

The CESA establishes the State’s policy to conserve, protect, restore, and enhance threatened or endangered species and their habitats. The act mandates that state agencies not approve projects which would jeopardize the continued existence of threatened or endangered species if reasonable and prudent alternatives are available that would avoid jeopardy. There are no state agency consultation procedures under the CESA. For projects that affect both a federally and state-listed species, compliance with the federal ESA will satisfy the CESA if the CDFW determines that the federal incidental take authorization is “consistent” with the CESA under California Fish and Game Code (CFGC) Section 2080.1. For projects that result in take of a state-only listed species, the project proponent must apply for an Incidental Take Permit (ITP) under CFGC Section 2081(b).

State-listed threatened and endangered species are protected under provisions of the CESA. Activities that may result in “take” of individuals (defined in CESA as; “hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture, or kill”) are regulated by CDFW. Habitat degradation or modification is not included in the definition of “take” under CESA. Nonetheless, CDFW has interpreted “take” to include the destruction of nesting, denning, or foraging habitat necessary to maintain a viable breeding population of protected species.

The State considers an endangered species as one whose prospects of survival and reproduction are in immediate jeopardy. A threatened species is considered as one present in such small numbers throughout its range that it is likely to become an endangered species in the near future in the absence of special protection or management. A rare species is one that is considered present in such small numbers throughout its range that it may become endangered if its present environment worsens. State threatened and endangered species are protected against take, as defined above, in the absence of incidental take permits.

California Fish and Game Code

The CDFW administers the CFGC. There are particular sections of the CFGC that are applicable to natural resource management.

Birds of Prey

Any birds in the orders Falconiformes or Strigiformes (Birds of Prey), such as hawks, eagles, and owls, are protected under Section 3503.5 which makes it unlawful to take, possess, or destroy their nest or eggs. Coordination with CDFW may be required prior to the removal of any bird of prey nest that may occur on a Project Site. Section 3511 lists fully protected bird species, where the CDFW is unable to authorize the

issuance of permits or licenses to take these species. Pertinent species in the region that are State fully protected include golden eagle and white-tailed kite (*Elanus leucurus*). The golden eagle was found to have a low potential to occur on-site; therefore, no further analysis is included. None of the other species listed above were documented as observed at the Project Site. In addition, Section 3513 makes it unlawful to take or possess any migratory nongame bird as designated in the MBTA or any part of such migratory nongame bird except as provided by rules and regulations adopted by the Secretary of the Interior under provisions of the MBTA.

“Fully Protected” Species

California statutes also afford “fully protected” status to certain species that cannot be taken, even with an ITP. CFGC Section 3505 makes it unlawful to take “any bird of prey, or any part of such birds”; CFGC Section 3511 protects from take the American peregrine falcon (*Falco peregrinus*), golden eagle, southern bald eagle (*Haliaeetus leucocephalus*), and white-tailed kite. The golden eagle was found to have a low potential to occur on-site; therefore, no further analysis is included. None of the other species listed above were documented as observed at the Project Site.

Species of Special Concern

Species of special concern are broadly defined as animals not listed under the CESA, but nonetheless of concern to the CDFW because they are declining at a rate that could result in listing, or historically occurred in low numbers and known threats to their persistence currently exist. This designation focuses research and management attention on these species to avert their need for listing by stimulating collection of additional information on the biology, distribution, and status of poorly known at-risk species and by identifying recovery efforts that might ultimately be required. Species of special concern are included in the Special Animals List tracked in the CNDDDB.

Nongame Mammals

Section 4150 of the CFGC protects nongame mammals, defined as any naturally-occurring mammal in California that is not a game mammal, fully protected mammal, or fur-bearing mammal. Nongame mammals, which includes bats and bat roosts, may not be taken or possessed except as provided by the CFGC or in accordance with applicable regulations.

Native Plant Protection Act

Sections 1900–1913 of the CFGC, the Native Plant Protection Act, were developed to preserve, protect, and enhance Rare and Endangered plants in the State of California. The act requires all State agencies to use their authority to carry out programs to conserve Endangered and Rare native plants. Provisions of the Native Plant Protection Act prohibit the taking of listed plants from the wild and require notification of the CDFW at least ten days in advance of any change in land use which would adversely impact listed plants. This allows the CDFW to salvage listed plant species that would otherwise be destroyed.

California Desert Native Plants Act

Division 23 of the California Food and Agriculture Code consists of the California Desert Native Plants Act (CDNPA). The CDNPA was developed to protect certain species of California desert native plants from

unlawful harvesting on both public and privately-owned lands. The CDNPA only applies within the boundaries of Imperial, Inyo, Kern, Los Angeles, Mono, Riverside, San Bernardino, and San Diego Counties. Within these counties, the CDNPA prohibits the harvest, transport, sale, or possession of specific native desert plants unless a person has a valid permit or wood receipt, and the required tags and seals. The appropriate permits, tags and seals must be obtained from the sheriff or commissioner of the county where collecting will occur, and the county will charge a fee.

Local

San Bernardino County Countywide Plan/Policy Plan

The County adopted the *Countywide Plan/Policy Plan* (Policy Plan) in October 2020. The Policy Plan provides an update of the County's General Plan addressing physical, social and economic issues facing the unincorporated portions of the County. The Policy Plan also provides an expansion of the County's General Plan to address supportive service for adults and children, healthcare service, public safety, and other regional county services provided to both incorporated and unincorporated areas.

Relevant goals and policies of the San Bernardino County Policy Plan are as follows:

Natural Resources Element

- Policy NR-5.1** Landscape-scale habitat conservation planning and coordinate with existing or proposed habitat conservation and natural resource management plans for private and public lands to increase certainty for both the conservation of species, habitats, wildlife corridors, and other important biological resources and functions; and for land development and infrastructure permitting should be participated in.
- Policy NR-5.2** Coordination with public and nongovernmental agencies shall be utilized to seek funding and other resources to protect, restore, and maintain open space, habitat, and wildlife corridors for threatened, endangered, and other sensitive species.
- Policy NR-5.3** Conservation actions that demonstrate multiple resource preservation benefits, such as biology, climate change adaptation and resiliency, hydrology, cultural, scenic, and community character should be prioritized.
- Policy NR-5.7** There shall be compliance with state and federal regulations regarding protected species of animals and vegetation through the development review, entitlement, and environmental clearance processes.
- Policy NR 5.8** The use of non-invasive plant species with new development is required and the management of existing invasive plant species that degrade ecological function is encouraged.

Renewable Energy and Conservation Element

- Policy RE 4.1** Apply standards to the design, siting, and operation of all renewable energy facilities that protect the environment, including sensitive biological resources, air quality, water supply and quality, cultural, archaeological, paleontological and scenic resources.

- Policy RE 4.1.2** Renewable energy development applications shall be subject to thorough environmental review, including consideration of water consumption, before being permitted.
- Policy RE 4.7** Renewable Energy project site selection and site design shall be guided by the following priorities relative to habitat conservation and mitigation:
- Avoid sensitive habitat, including wildlife corridors, during site selection and project design.
 - Where necessary and feasible, conduct mitigation on-site.
 - When on-site habitat mitigation is not possible or adequate, establish mitigation off-site in an area designated for habitat conservation.
- Policy RE 4.8** Encourage mitigation for Renewable Energy generation facility projects to locate habitat conservation offsets on public lands where suitable habitat is available.
- Policy RE 4.8.1** Collaborate with appropriate state and federal agencies to facilitate mitigation/habitat conservation activities on public lands.
- Policy RE 4.9** Encourage Renewable Energy facility developers to design projects in ways that provide sanctuary (i.e., a safe place to nest, breed and/or feed) for native bees, butterflies and birds where feasible and appropriate, according to expert recommendations.

San Bernardino County Development Code

Development Code 84.29.040 focuses on solar energy development standards and includes regulations and guidelines for the notification and permitting processes pertaining to solar facilities, and is therefore applicable to the Project Site since it is a proposed solar facility.

Development Code 84.29.070 focuses on decommissioning requirements for wind and solar energy projects. This section of the code includes regulations and guidelines for site closure activities to meet federal, state, and local requirements for the rehabilitation and revegetation of wind and solar energy project sites after decommissioning.

Development Code Section 88.01.060 is a subset of the Plant Protection and Management Code, which focuses on the conservation of specified desert plant species and is therefore applicable to the Project Site since the Project Site is within the Desert Planning Region.

Division 2, Land Use Zoning Districts and Allowed Land Uses

Chapter 82.11, Biotic Resources (BR) Overlay, implements Policy Plan policies for the protection and conservation of beneficial unique, rare, threatened, or endangered plants and animal resources and their habitats in certain unincorporated areas identified by a federal, state, or county agency. For new developments or increased development of existing land uses by more than 25 percent, the land use application must include a biotic resources report evaluating all biotic resources on and adjacent to the site which could be impacted and identifying mitigation measures for significant impacts.

Division 8, Resource Management and Conservation

Chapter 88.01, Plant Protection and Management, includes regulations and guidelines for the management of biotic resources in unincorporated areas under private or public ownership, including conservation of native plant heritage; regulation of native plant and tree removal activities; protection and maintenance of local watersheds; preservation of habitats for rare, endangered, or threatened plants; and protection of wildlife with limited or specialized habitats. Chapter 88.01 also requires a permit prior to removal of regulated trees and plants.

4.3.4 Impact Thresholds and Significance Criteria

In accordance with Appendix G of the State CEQA Guidelines, a project would have a significant impact related to biological resources if it would:

- Threshold (a):** Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service;
- Threshold (b):** Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, or regulations or by the California Department of Fish and Game or U.S. Fish and Wildlife Service;
- Threshold (c):** Have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means;
- Threshold (d):** Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites;
- Threshold (e):** Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance; or
- Threshold (f):** Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or approved local, regional, or state HCP.

4.3.5 Impacts and Mitigation Measures

Impact 4.3-1 *Would the Project have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?*

Level of Significance: Less than Significant with Mitigation Incorporated

Special Status Plant Species

The Project has the potential to impact special-status species through loss of habitat as well as direct and indirect impacts to these species. Direct impacts to the special-status plants and their habitat may include mortality of individuals as a result of permanent removal or damage to root structures during the

construction phase of the project through activities like clearing vegetation and removal of suitable habitat, trampling by construction vehicles or personnel, or unauthorized collection.

Of the special status plant species known to inhabit the general vicinity of the Project Site, only one plant on the CNPS Rare Plant Rank Lists was observed on the actual site. The Mojave spineflower (*chorizanthe spinose*) was identified on-site during rare plant surveying conducted in March and April of 2021. Approximately 4,700 individual Mojave spineflower plants, a CRPR 4 (i.e., watch list) species, were found within the rare plant survey area during rare plant surveys conducted in March and April 2021. Impacts to special-status species with a CRPR of 1 or 2 would require disclosure under CEQA. Impacts to CRPR 3 and 4 species are not considered significant under CEQA and warrant no legal protection.

It is important to note that because the SEGS X site itself was largely graded during initial construction of the SEGS X facility before construction was halted in the early 1990s, these plants have regrown in this area and would be expected to regrow again after the Project is decommissioned. Based on the results of the field surveys and a review of specific habitat preferences, occurrence records, known distributions, and elevation ranges, it was determined that Mojave spineflower is present within the survey area rvey Area, and that the survey area has a low potential to support Barstow woolly sunflower, desert cymopterus, crowned muilla, and Beaver Dam breadroot. These four species were not found within the survey area. All remaining special-status plant species identified by the CNDDDB and CNPS databases are not expected to occur within the survey area.

However, the 2021 rare plant surveys were conducted in drought conditions where the occurrence of annual plant species may have been negatively affected due to lack of rainfall. As such, impacts are analyzed in the event that special status plant species are present on the Project Site between the time it takes for this EIR to be finalized and construction implementation. Therefore, impacts would be potentially significant.

Mitigation Measure BIO-1 would be implemented to reduce potentially significant impacts on special-status plant species that could be present onsite prior to the commencement of Project construction. The implementation of **Mitigation Measure BIO-1** would include surveying for the species and implementing appropriate avoidance measures. With the implementation of **Mitigation Measure BIO-1**, potential impacts on special status plant species would be reduced to less than significant.

Special Status Wildlife Species

Six (6) special-status wildlife species were observed during the survey: sharp-shinned hawk, northern harrier, California horned lark, loggerhead shrike, California gull, and double-crested cormorant. Based on the results of the field survey and a review of specific habitat preferences, occurrence records, known distributions, and elevation ranges, it was determined that the survey area has a moderate potential to support long-eared owl, and a low potential to support golden eagle, burrowing owl, prairie falcon, yellow warbler, desert kit fox, and American badger. Therefore, impacts would be potentially significant. All remaining special-status wildlife species identified by the CNDDDB and USFWS' Information for Planning and Consultation (IPaC) are not expected to occur within the survey area.

There are several sheds and structures within the overall Project Site. Based on the presence of a bat in one of the sheds during a July 2021 survey, bats are assumed to be present and the Project will require bat avoidance and minimization to reduce potential impacts on roosting bats to less than significant.

Focused survey efforts for loggerhead shrike, long-eared owl, golden eagle, prairie falcon, and yellow warbler are not recommended. Instead, the presence of these species can be determined with a nesting bird survey required through the implementation of **Mitigation Measure BIO-2**. Focused surveys for burrowing owl, desert kit fox, and American badger, all of which were determined to have low potentials to occur within the survey area based on field survey observations and known records in the area, are not recommended, as 100 percent of the survey area was covered during focused desert tortoise survey efforts in 2020 and 2021 and no suitable burrowing owl, desert kit fox, or American badger burrows or sign were found within the survey area. **Mitigation Measure BIO-3** requires pre-construction burrow surveys to ensure that owls, kit fox, and badger remain absent from the Project Site prior to the commencement of construction. **Mitigation Measure BIO-4** is required for bat roost avoidance and impact minimization efforts.

With the implementation of **Mitigation Measures BIO-2, BIO-3, and BIO-4**, potential impacts on special status bird species, desert kit fox, American badger, or roosting bats would be reduced to less than significant.

Desert Tortoise and Mojave Ground Squirrel

Focused surveys for the desert tortoise did not identify the presence of any desert tortoise on the Project Site. The potential for habitat onsite has been degraded by the previous SEGS X development and the movement of desert tortoise on the site has been restricted by existing fencing that has been in place since the 1990s.

The State-threatened Mohave ground squirrel is known from the Project vicinity, and while its occurrence has been impacted by development since at least the 1950s, there is nonetheless potential for its occurrence. Mohave ground squirrel occurrence is most likely in the northern parts of the survey area. While these areas have experienced various levels of soil and vegetation disturbance over time, the disturbances were much less than in the central and southern parts of the survey area.

Previous mitigation requirements implemented for the previously approved but not fully constructed SEGS X Facility include the acquisition and transfer of 1,680 acres of mitigation lands to CDFW for the purpose of enhancement, and management of suitable desert tortoise and Mohave ground squirrel habitat in perpetuity and to compensate for habitat that would be eliminated or subject to long-term disturbance as a result of construction of SEGS IX and X and any ancillary facilities. On December 7, 1990, the developer of SEGS X, the Luz Development and Finance Corporation (“Luz”), conveyed approximately 3,192.34 acres of land to CDFG “for conservation purposes related to mitigation of adverse impacts identified as part of the Luz Project. This land is conveyed subject to such covenants and restrictions on transfer and use contained in the Habitat Mitigation and Acquisition Agreement and the Habitat Mitigation Plan by and between [Luz] and the Department of Fish and Game of the State of California

“CDFG”), dated May 23, 1988, which is intended to bind grantee, CDFG and all subsequent grantees.”³ (Luz had acquired these lands from Santa Fe Pacific Properties and immediately conveyed them to CDFG). As explained in a letter from CDFG dated March 23, 1993 documenting the status of acquisition of habitat mitigation for the SEGS projects, 1,680 of these acres (identified as coming from Santa Fe Pacific) “satisfies SEGS IX/X mitigation requirement.” The subject lands are located within the County of San Bernardino and include Sections 1, 3, 5 and 11, Township 11 North, Range 6 West and Section 7, Township 11 North, Range 5 West, San Bernardino Base and Meridian. The habitat was dedicated to the purpose of supporting Mojave ground squirrel, desert tortoise, and other native wildlife and plants in perpetuity.⁴ Therefore, as a result of this prior conveyance, any potential impacts on desert tortoise and Mojave ground squirrel has been previously mitigated through the prior SEGS X project that was never fully developed and potential impacts on these species is considered less than significant with the previously implemented mitigation and no additional mitigation for loss of habitat is required.

The Project may require grading for extension of the existing channel located outside the Project fence line along the western and northern boundary of the Project Site for the collection and routing of offsite run-on. If feasible, this channel may be constructed within the fence line to limit new disturbance associated with Project construction. Nonetheless, this habitat loss is not considered as a significant adverse impact to the species because disturbance would be temporary and upon completion of construction the area would be revegetated and restored to preconstruction conditions.

If the construction and operation of the Project were to result in “take” of individual Mojave ground squirrels, it is not anticipated that many individual animals would be taken due to the moderate to low suitability of the habitat and the avoidance measures detailed below in Mitigation Measure BIO-5. Obtaining an incidental take permit from CDFW may be warranted to maintain compliance with state law but the take of a small number of individuals is not expected to have a substantial adverse effect on the species, which would be required to conclude a significant impact under CEQA. Nonetheless, to the extent there were a species-level impact from take of individuals, the Project has already permanently conserved off-site mitigation lands in perpetuity by conveying land to CDFG as described above.

Implementation of **Mitigation Measures BIO-5, BIO-6, BIO-7, and BIO 8** are required to minimize and avoid potential impacts on desert tortoise and Mojave ground squirrel during Project construction and operation. Implementation of these mitigation measures would reduce potential impacts on desert tortoise and Mojave ground squirrel that could enter the Project Site once construction activities begin or Project operations begin to less than significant.

Nesting Birds and Wildlife Movement

Suitable bird nesting habitat is present throughout the Project Site. Bird nesting opportunities can occur within the shrubs located within the majority of the Project Site or within a few individual tamarisks located in the southeast corner of the Project Site. Ground nesting species may also nest throughout the

³ California Department of Fish and Game Wildlife Conservation Board. 1990. Corporation Grant Deed. Recorded in San Bernardino County Official Records December 7, 1990.

⁴ California Energy Commission (CEC). 1990. *Commission Decision Application for Certification for Luz Engineering Corporation Luz SEGS IX and X Projects (Harper Lake)*.

eastern portion of the Project Site. Therefore, impacts would be potentially significant. **Mitigation Measure BIO-2** requires pre-construction bird nesting surveys that when implemented would reduce impacts to nesting birds to less than significant.

Decommissioning of Facilities

Upon decommissioning of the Project, the Project Site would be disturbed and have some areas of compacted soil (e.g., on roads, laydown yards, and structure foundations). The post-Project condition of the Project Site as a result of Project construction and operation would be different than pre-Project conditions. If special-status species have recolonized the Project Site during operation, decommissioning could impact these species. Decommissioning would only directly impact areas that were previously disturbed during Project construction; therefore, direct impacts to native habitats and special-status plants are expected to be less than significant. If special-status wildlife re-occupy the Project Site during operations, these species could be directly impacted by decommissioning, similar to the direct impacts described for construction. Wildlife with the potential to utilize partially-developed habitats and man-made structures include burrowing owls, kit fox, badger, bats, and nesting birds. Burrowing owls are known to use burrows under concrete slabs and along active road berms.

Indirect impacts to biological resources would be similar to those that would occur during construction but would depend on the resources present adjacent to the Project Site at the time of decommissioning. Additional indirect impacts could include degradation of adjacent habitat if the site is colonized by invasive species or generates excessive runoff or dust due to a lack of vegetation. Depending on the species and biological resources present within and adjacent to the Project Site at the time of decommissioning, impacts during decommissioning would be potentially significant.

Mitigation Measures BIO-8 and BIO-9 require worker education training, and measures for avoidance and protection of biological resources. Implementation of **Mitigation Measures BIO-8 and BIO-9** during the decommissioning period would reduce potentially significant impacts to special-status wildlife and plant species to less than significant.

Furthermore, all decommissioning activities would comply with federal, State, and local standards and all regulations that exist when the Project is decommissioned, including the requirements of San Bernardino County Development Code Section 84.29.070.

Mitigation Measures

BIO-1 Prior to construction, a qualified botanist shall conduct a pre-construction rare plant survey within the Project Site, particularly focusing on areas with suitable habitat to support special-status plant species. The survey shall be floristic in nature (i.e., identifying all plant species to the taxonomic level necessary to determine rarity), and shall be inclusive of, at a minimum, areas proposed for disturbance.

The results of the survey shall be documented in a letter report that will be submitted to San Bernardino County. If individual or populations of special-status plant species are found along the edges of areas that are proposed for disturbance, measures to avoid and minimize impacts to these plants, including but not limited to flagging and/or fencing,

shall be recommended and implemented as appropriate. Existing vegetation within the Project Site would be removed, but mitigation for the loss of any special-status plant species that are detected during preconstruction surveys within the Project Site shall be considered during the process of purchasing mitigation lands for Project impacts. The surveys and reporting shall follow 2018 CDFW and/or 2001 CNPS guidelines.

Although not expected, if State- and/or Federally-listed plant species are present and avoidance is infeasible, consultation with the CDFW and/or USFWS will be conducted and an Incidental Take Permit(s) from the CDFW and/or USFWS may be warranted prior to the commencement of Project activities. In the event that State or federally listed plant species are present and avoidance is infeasible, the County shall assess whether the loss of individual plants constitutes a “substantial adverse effect” on the species and if so, shall require mitigation for such impacts through the acquisition and protection of mitigation land commensurate with the impact. Acquisition of mitigation land is not required if equivalent mitigation will or has already been provided through an Incidental Take Permit.

BIO-2 If it is not feasible to avoid the nesting bird season (typically January through July for raptors and February through August for other avian species), a qualified biologist shall conduct a pre-construction nesting bird survey for avian species to determine the presence/absence, location, and status of any active nests on or adjacent to the Project Site. The extent of the survey buffer area surrounding the nest should be established by the qualified biologist to ensure that direct and indirect effects to nesting birds are avoided. To avoid the destruction of active nests and to protect the reproductive success of birds protected by the MBTA and the CFGC, the nesting bird survey shall occur no earlier than seven (7) days prior to the commencement of construction.

In the event that active nests are discovered, a suitable buffer (distance to be determined by the biologist) shall be established around such active nests, and no construction within the buffer allowed, until the biologist has determined that the nest(s) is no longer active (i.e., the nestlings have fledged and are no longer reliant on the nest).

BIO-3 Pre-construction burrow clearance surveys shall be conducted by a qualified biologist to ensure that burrowing owls, desert kit fox, or American badger remain absent from the Project Site and impacts to these animals do not occur. Two (2) pre-construction clearance surveys should be conducted 14-30 days and 24 hours prior to any vegetation removal or ground disturbing activities. Once surveys are completed, the qualified biologist shall prepare a final report documenting surveys and findings. If no occupied burrows are detected, Project construction activities may begin. If an occupied burrow is found within the Project Site during pre-construction clearance surveys, a burrowing owl, desert kit fox, or American badger exclusion and mitigation plan shall be prepared and submitted to the County, which may consult with CDFW for review, prior to initiating Project construction activities.

BIO-4 A qualified bat biologist shall survey all suitable structures and vegetation on the Project Site for bat roosts within 30 days prior to the start of Project construction activities. If bats roosts are found within the Project Site, the qualified bat biologist shall identify the bats to the species level and evaluate the colony to determine its size and significance. If

structures on the Project Site house an active maternity colony of bats, construction activities shall not occur during the recognized bat breeding season (March 1 to October 1). Proposed work in areas with no suitable habitat shall not require a bat survey.

If Project activities must occur during non-daylight hours or during the bat breeding season (March 1 to October 1), a qualified bat biologist shall establish monitoring measures, including frequency and duration, based on species, individual behavior, and type of construction activities. Night lighting should be used only within the portion of the Project Site actively being worked on and should be focused directly on the work area. This measure would minimize visual disturbance and allow bats to continue to utilize the remainder of the area for foraging and night roosting. If bats are showing signs of distress, work activities shall be modified to prevent bats from abandoning their roost or altering their feeding behavior. The qualified biologist shall have the authority to halt work if there are any signs of distress or disturbance that may lead to roost abandonment. Work shall not resume until corrective measures have been taken or it is determined that continued activity would not adversely affect roost success.

- BIO-5** Prior to construction, a qualified biologist shall conduct preconstruction clearance surveys for Mohave ground squirrel. The biologist shall be current with the latest information on protocols and guidelines and have thorough and current knowledge of the species' behavior, natural history, ecology, and physiology. If any individual Mohave ground squirrels are found within the Project Site during pre-construction clearance surveys, the Project shall contact CDFW for appropriate action.
- BIO-6** Off-road travel shall be prohibited in all native habitats adjacent to the Project Site during construction and operation. Such areas shall be posted prior to initiation of construction. Parking areas for the construction crews shall be designated and clearly marked.
- BIO-7** Speed limits on the Project Site shall be posted and will be limited to 15 miles per hour.
- BIO-8** Prior to the initiation of ground-disturbing activities, the Project Applicant and construction manager shall conduct a Worker Education Awareness Program (WEAP) to provide construction contractors and all on-site personnel with information to encourage awareness and preservation of the desert ecosystem and the key species and resources with potential to occur on the Project Site and that are found in the western Mojave Desert. The WEAP shall also educate and instruct on-site personnel to avoid harassment and disturbance of wildlife, especially during reproductive activities (e.g., courtship and nesting) during construction. At a minimum, the program shall contain information on physical characteristics, distribution, behavior, ecology, sensitivity to human activities, legal protection, penalties for violations, reporting requirements, and protective measures associated with the listed species that potentially occur within or adjacent to the Project Site. The program shall be administered to all onsite personnel including employees, contractors, contractors' employees, supervisors, inspectors, and subcontractors. The program shall be administered by a qualified biologist. It shall include an oral presentation, video/PowerPoint, and/or written materials. Each Project employee, as well as employees of contractors and subcontractors, who participate in the environmental awareness program shall sign an affidavit declaring that the individual understands and will adhere to the guidelines set forth in the program material.

Documentation shall be retained demonstrating that construction personnel attended the training.

BIO-9

The following best management practices shall be implemented during Project grading and construction and decommissioning activities to further address potential impacts on special-status wildlife species:

- To prevent inadvertent entrapment during construction, at the end of each workday all excavated, steep-walled holes or trenches more than two feet deep shall be covered with plywood or similar materials or be equipped with one or more escape ramps constructed of earth fill or wooden planks. Before such holes or trenches are filled, they shall be thoroughly inspected for trapped animals by construction personnel trained by a qualified biologist. Should wildlife become trapped, a qualified biologist shall be notified by construction personnel to remove and relocate the individual(s). If a trapped listed species is discovered, the Project shall contact CDFW and/or USFWS to determine appropriate action.
- All open ends of pipes, culverts, or other hollow materials temporarily installed in open trenches or stored in staging/laydown areas shall be covered/capped at the end of each workday. Any such materials that have not been capped shall be inspected by construction personnel for wildlife before being moved, buried, or handled. Should wildlife become trapped, a qualified biologist shall be notified by construction personnel to remove and relocate the individual(s). If a listed species is discovered inside a pipe, that section of pipe shall not be moved. The Project shall contact CDFW and/or USFWS to determine the appropriate action.
- The qualified biologist shall inspect for special-status species and other wildlife under vehicles and equipment every time the vehicles or equipment are moved. If an animal is present, site workers shall wait for the individual to move to a safe location. If a listed species is discovered under equipment or vehicles and does not move on its own, the project shall contact CDFW and/or USFWS to determine the appropriate action.
- To avoid toxic substances on road surfaces, soil binding and weighting agents used on unpaved surfaces shall be nontoxic to wildlife and plants.
- To minimize spills of hazardous materials, all vehicles and equipment shall be maintained in proper condition to minimize the potential for fugitive emissions of motor oil, antifreeze, hydraulic fluid, grease, or other hazardous materials. Hazardous spills shall be immediately cleaned up and the contaminated soil shall be properly handled or disposed of at a licensed facility. Servicing of construction equipment shall take place only at a designated staging area.
- To discourage attraction by predators to the Project Site, all food-related trash items, such as wrappers, cans, bottles, and food scraps, shall be disposed of in solid, closed containers (trash cans) on a daily basis. Onsite trash receptacles shall be emptied as necessary (for example, weekly) to prevent overflow of trash. Trash removed from

the receptacles shall be hauled to an offsite waste disposal facility. Workers shall not feed wildlife or bring pets to the Project Site.

- The Project shall incorporate methods to control runoff, including a stormwater pollution prevention plan to meet National Pollutant Discharge Elimination System (NPDES) regulations. Implementation of stormwater regulations is expected to substantially control adverse edge effects (e.g., erosion, sedimentation, habitat conversion) during and following construction, both adjacent to and downstream from the Project area. Typical construction best management practices specifically related to reducing impacts from dust, erosion, and runoff generated by construction activities shall be implemented. During construction, material stockpiles shall be placed such that they cause minimal interference with on-site drainage patterns, which will protect sensitive vegetation from being inundated with sediment-laden runoff. Dewatering shall be conducted in accordance with standard regulations of the Lahontan Regional Water Quality Control Board. An NPDES permit, issued by the RWQCB to discharge water from dewatering activities, shall be required prior to the start of dewatering. This permit will minimize erosion, siltation, and pollution in sensitive vegetation communities.

Impact 4.3-2 *Would the Project have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?*

Level of Significance: No Impact

Based on the results of a field delineation, and known conditions within the Shared Facilities Area, no wetland features, including riparian habitats, are within the Project Site. No critical habitat or designed sensitive natural community identified in a local or regional plan or designated by the CDFW or USFWS has been mapped within the Project Site. Therefore, no impacts to riparian or critical habitat are expected to occur as a result of the Project.

Impact 4.3-3 *Would the Project have a substantial adverse effect on State or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?*

Level of Significance: No Impact

As described in Subsection 4.3.2, *Environmental Setting*, above, a field delineation determined that no wetland features exist within the survey area. In addition, with the comprehensive surface disturbance, development, and compacted roads, the Shared Facilities Area continues to be completely denude of vegetation and does not contain wetland features. In addition, there are no off-site riparian areas or wetlands in the area immediately surrounding the Project Site. Therefore, the Project would not have a substantial adverse effect on State or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means. No impacts would occur as a result of the Project.

Impact 4.3-4 *Would the Project interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?*

Level of Significance: Less than Significant

Impacts to wildlife movement are not expected as a result of the Project because the Project Site has already been fenced (see Figure 4.3-5). The Project Site is surrounded by undeveloped land to the north, west, and east, and implementation of the Project will not inhibit wildlife from moving throughout the surrounding areas. Potential impacts on wildlife movement are less than significant.

The Project Site has been previously disturbed from past agricultural use and partial development of the SEGS X site in the early 1990's. No wildlife nursery sites have been identified on or in the vicinity of the Project Site. As such, the Project would not interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors or impede the use of native wildlife nursery sites. Impacts would be less than significant.

Impact 4.3-5 *Would the Project conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?*

Level of Significance: Less than Significant

The Project has been designed with consideration with the applicable policies and ordinances of the County that protect biological resources, and the Project is consistent with these policies and ordinances. The existing vegetation does not include native trees or plant species, such as Joshua trees or cacti that would require a Native Tree or Plant Removal Permit as required in Development Code Section 88.01.050 or 88.01.060. As such, the Project would not conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance. Impacts would be less than significant.

Impact 4.3-6 *Would the Project conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or State habitat conservation plan?*

Level of Significance: No Impact

The Project Site is not enrolled in any formal HCP or NCCP. However, several large-scale conservation plans have been developed in the region, and the Project's consistency with these plans is described below.

In 2006, the BLM adopted the West Mojave Plan, a habitat conservation plan and federal LUPA that presents a comprehensive strategy to conserve and protect sensitive biological resources within approximately 6.2 million acres in the western Mojave Desert while also providing a streamlined program for complying with state and federal endangered species laws. Two state agencies and 15 local jurisdictions, including the County of San Bernardino, worked closely with the BLM during preparation of the West Mojave Plan. The two species of primary importance covered in the West Mojave Plan are the desert tortoise and Mohave ground squirrel. Because these species have not been detected within the Project Site, the development of the site would not pose significant conflicts with this plan. Because the

Project includes development of a solar facility in an area previously approved by the CEC for this type of development since the 1990s, these activities would not conflict with the implementation or assembly of the West Mojave Plan.

Following issuance of California Executive Order S-14-08 in November 2008, a team of four agencies, which include the BLM, the USFWS, the CEC, and the CDFW, collectively formed the “Renewable Energy Action Team” (REAT) responsible for preparing the DRECP. The DRECP is a comprehensive planning document intended to provide binding, long-term endangered species permit assurances and to facilitate the review and approval of compatible renewable energy projects within the Mojave and Sonoran deserts covering 22.5 million acres in seven California counties—Imperial, Inyo, Kern, Los Angeles, Riverside, San Bernardino, and San Diego.

The BLM signed the Record of Decision approving its Land Use Plan Amendment on September 14, 2016, completing Phase I of the DRECP. The DRECP applies to BLM-administered lands within the LUPA Decision Area and does not include decisions for lands not administered by the BLM.⁵ Therefore, projects on private land would continue to be approved through existing local government review processes; the DRECP would not prohibit development on private lands.

As discussed in the impact discussions above, the Project would not adversely impact protected species by removing key populations of sensitive species, block or impair key wildlife passages or habitat linkages, or otherwise impede the development of implementation of an adopted habitat conservation plan. As such, the Project would not conflict with the provisions of an adopted HCP, NCCP, or other approved local, regional, or State habitat conservation plan, and impacts would be less than significant.

4.3.6 Cumulative Impacts

Section 4.0, *Introduction to the Environmental Analysis*, of this Draft EIR provides a list of cumulative projects that would have the potential to be considered in a cumulative context with the Project’s incremental contribution. These projects are summarized in *Table 4.0-1, Cumulative Projects*, and shown on **Figure 4.0-1, Cumulative Projects Map**. Cumulative impacts for a project would be significant if the incremental effects of the individual project are considerable when combined with the effects of past projects, other current projects, and probable future projects. As described above, the Project-specific impacts of the Project would be less than significant with implementation of **Mitigation Measures BIO-1 through BIO-9**.

As large-scale energy projects and urbanization pressures increase within the County, impacts to biological resources within the region have the potential to expand on a cumulative level. Cumulative projects with similar species effects have been proposed/approved within three miles of the Project Site including the Lockhart Solar I Project, Harper Lake Solar PV Project, and the Jazmin Solar Energy Project.

As described above, there are a number of special-status species, both plants and wildlife, that currently utilize the Project Site and/or surrounding vicinity. Implementation of the Project, along with related

⁵ Bureau of Land Management. 2016. DRECP BLM Record of Decision, Executive Summary, Page ES-15.

projects, have the potential to impact transient wildlife species, including burrowing owls, loggerhead shrike, sharp-shinned hawk, northern harrier, California horned lark, California gull, and double-crested cormorant, burrowing owls, other raptors, migratory birds, vesper bats, Mojave ground squirrel, American badger, and desert kit fox. In addition, based on the literature review and database search completed for the Project, the region is known to support a diversity of special-status species, most of which are not expected to utilize the Project Site on a transient basis, if at all.

Development of cumulative projects, primarily other renewable energy projects in the County's Desert Region, could result in direct take to special-status plant and wildlife species; construction, operational, and decommissioning disturbances; and/or special-status habitat conversion. While most of the cumulative projects would convert undeveloped land into renewable energy facilities, over time, vegetation communities would re-establish between the panels, fencing, and utility structures, allowing wildlife (e.g., rodents, raptors, small birds, and reptiles) to continue inhabiting and foraging on the sites over the lifetime of the projects (approximately 30 years). Decommissioning plans, required for solar projects, also outline revegetation requirements for potential habitat restoration. Therefore, while habitat would be temporarily disturbed or removed during the construction and decommissioning phases, operation and post-operation of such renewable energy facilities would not result in substantial permanent impacts to special-status species and habitats, and the affected lands could return to existing conditions for the foreseeable future.

Further, as with the Project, these cumulative projects would also be required to avoid and/or mitigate impacts to special-status species and habitats in accordance with County, CDFW, and USFWS requirements. Thus, cumulative impacts would not be cumulatively considerable and would be less than significant.

When considered in combination with other existing and reasonably foreseeable projects in the surrounding flat, open portions of the Desert Region, the Project has the potential to further reduce local wildlife movement. However, wildlife movement within the Project Site is already limited due to existing fencing, including desert tortoise exclusion fencing, that has been in place for nearly 30 years. The surrounding area consists of flat, undeveloped lands that would remain available to facilitate wildlife movement. Therefore, impacts concerning wildlife movement would not be cumulatively considerable and would be less than significant.

4.3.7 Significant Unavoidable Impacts

The Project would not result in any significant and unavoidable impacts related to biological resources.

4.3.8 References

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4.4 CULTURAL RESOURCES

4.4.1 Introduction

This section addresses the Project's potential impacts in relation to cultural resources, including historical resources, archaeological resources, and human remains. Cultural resources include places, objects, and settlements that reflect group or individual religious, archaeological, or architectural activities. Such resources provide information on scientific progress, environmental adaptations, group ideology, or other human advancements. By statute, the California Environmental Quality Act (CEQA) is primarily concerned with two classes of cultural resources: historical resources, which are defined in Public Resources Code (PRC) Section 21084.1 and CEQA Guidelines Section 15064.5, and unique archaeological resources, which are defined in PRC Section 21083.2.

The analysis in this section is primarily based on the *Cultural Resources Assessment* (see Appendix E), the San Bernardino County Countywide Plan/Policy Plan, and consultation with applicable agencies and Native American tribes. Certain appendices provided within the *Cultural Resources Assessment* must remain confidential. Therefore, the *Cultural Resources Assessment* is not provided for public review.

4.4.2 Environmental Setting

The Project Site is located in unincorporated Hinkley, California in the County of San Bernardino (County). The Project Site is approximately 7 miles north of the intersection of Harper Lake Road and Mojave-Barstow Highway 58. The Project Site is bordered on the south by the existing Solar Energy Generating System (SEGS) VIII and IX Solar Thermal Power Plants, which the County approved for repowering to photovoltaic (PV) solar and battery storage in 2019 as part of the Lockhart Solar I Facility (CUP Project #201900125 approved in 2019); Harper Lake Road to the east; Hoffman Road to the west; and vacant land to the north.

South Central Coastal Information Center (SCCIC) Records Search

The *Cultural Resources Assessment* for the Project included an archaeological records search at the South Central Coastal Information Center (SCCIC) at California State University, Fullerton, which reviewed the status of all recorded historic and prehistoric cultural resources, survey, and excavation reports within one mile of the Project Site.

In the *Cultural Resources Assessment*, the "project site or project area" is considered to be the SEGS X facility site boundary (approximately 600-acres) and the area included for as-needed extension of the existing open channel located outside the Project fence line along the western and northern boundary. While the Shared Facilities Area is within the one-mile radius SCCIC Records Search area and results of this search are fully analyzed in the *Cultural Resources Assessment*, BCR Consulting did not include the Shared Facilities Area as part of their pedestrian field survey. Construction of the Shared Facilities Area occurred as part of SEGS VIII and IX facilities construction in the early 1990s; existing facilities in the Shared Facilities Area include an operations and maintenance (O&M) building, warehouse, employee building, switchyard, other supporting facilities, electrical transmission infrastructure, and compacted access roads. Thus, the

Shared Facilities Area has incurred comprehensive severe surface disturbance over the past 30 years as part of the two operational solar thermal facilities. The Shared Facilities Area is also part of the County-approved Lockhart Solar I Facility (Conditional Use Permit [CUP] Project #201900125; 2019) and includes the permitted, but not yet constructed, collector substation and battery energy storage system (BESS) for Lockhart Solar I Facility, BESS for SEGS IX (California Energy Commission [CEC] permitted in 2020), and would include the BESS for the Project. While the Project would include ground-disturbing activities to develop Project facilities within the Shared Facilities Area, the Shared Facilities Area includes and is surrounded by existing electricity generation facilities, and the potential for presence of cultural resources would not substantially change from what was already reviewed as part of the SEGS VIII or SEGS IX and X CEC certifications, or County's CUP for the approved Lockhart Solar I Facility.

The *Cultural Resources Assessment* also reviewed the following resources:

- National Register of Historic Places (National Register)
- California Register of Historical Resources (California Register)
- California Historical Landmarks list
- California Points of Historical Interest list
- Listing of National Register Properties
- Inventory of Historic Structures
- Bureau of Reclamation
- Bureau of Land Management (BLM) records
- San Bernardino County Assessor and Historical Archives

The SCCIC record search revealed that 12 cultural resources studies had taken place in the one-mile radius, resulting in 76 cultural resources previously recorded within one mile of the Project Site. A two-part study had previously assessed the Project Site for cultural resources in 1988. Three additional studies have previously assessed small portions of the Project Site. This previous work resulted in the identification of a historic structure (designated P-36-000780) and four prehistoric isolates (designated P-36-62624, -62625, -62653, and -62654) within the Project Site boundaries. The site records for these identified resources were reviewed during preparation of the *Cultural Resources Assessment*.

The previously recorded structure, P-36-000780, is a small brick structure with historic and modern refuse of various items from the mid to late 1900s. BCR Consulting archaeologists identified the building, features, and historic-period refuse as described in the 1988 report. The building functioned as a pump house used by the Lockhart Ranch to distribute well water to alfalfa fields to the north and east. The building is a utilitarian A-framed structure and lacks architectural distinction. Aerial photos and topographic maps indicated that the building was built before 1952. As Lockhart Ranch ceased operation by 1984, by which time the pump house was likely abandoned, there is little recent sediment deposition and negligible potential for data or significant buried remains.

Sacred Lands File (SLF) Search

BRC Consulting contacted the Native American Heritage Commission (NAHC) on May 6, 2020 to request a Sacred Lands File (SLF) Search. The results of the SLF search were negative, and the results did not indicate the presence of tribal cultural resources or cultural landscapes at the Project Site.

Field Survey

BCR Consulting conducted a field survey of the Project Site between June 2, 2020 and June 29, 2020 and on March 11, 2021. During the field survey, it was observed that the Project Site had been subject to near complete surface disturbance associated with past agricultural use, grading and partial construction of the SEGS X facility. The surveyors identified the previously recorded P-36-000780 but were unable to locate the four previously recorded prehistoric isolated artifacts (P-36-62624, -62625, -62653, and -62654). Five additional isolated finds (four prehistoric and one historic-period) and one historic-period archaeological site were identified. These were temporarily designated MBI2005-PI-1, PI-2, PI-3, PI-4, H-1, and HI-1. Permanent designations will be assigned by the SCCIC upon submission of a final report. Each of the resources were also documented in greater detail in the Department of Park and Recreation (DPR) 523 forms.

MBI2005-H-1 consists of a roadside can scatter that appears to be a result of a single dumping event and included a vent hole, church key, and flattop sanitary cans. The remaining isolates (MBI2005-PI-1, PI-2, PI-3, PI-4, and HI-1) consist of an isolated prehistoric obsidian flake, prehistoric jasper flake, prehistoric chert flakes, and a historic-period steel container with “Walworth” Valve.

Native American Consultation

While the SLF search came back negative, Assembly Bill (AB) 52 consultation could reveal the potential for cultural landscapes that are not identified during the research and field survey. The County initiated AB 52 consultation on April 29, 2021 and received a response from the San Manuel Band of Mission Indians (SMBMI). Further details are provided in Section 4.12, *Tribal Cultural Resources*, of this Draft EIR.

Results

A historic-period structure and refuse scatter (designated P-36-000780 and MBI2005-H-1, respectively) were identified, along with five isolated artifacts. Isolated finds are not considered “historical resources” under CEQA, and as such, none of the isolated artifacts merit further consideration. CEQA calls for the evaluation and recordation of historic-period and prehistoric archaeological and architectural resources. The criteria for determining the significance of impacts to cultural resources are based on CEQA Guidelines Section 15064.5 and the Guidelines for the Nomination of Properties to the California Register. Properties eligible for listing in the California Register and subject to review under CEQA are those meeting the criteria for listing in the California Register, or designation under a local ordinance. See Subsection 4.4.3, *Regulatory Setting*, for more details on the applicable regulations and criteria for listing.

California Register Evaluation: P-36-000780

Criterion 1: Although the resource fits within the Lockhart Ranch historic context, considerable research has failed to associate it with important events related to the founding and/or development of the industry. It is therefore recommended not eligible for the California Register under Criterion 1.

Criterion 2: Research has failed to link the property with any individuals who have been notable in local, state, or national history. It is therefore recommended not eligible for the California Register under Criterion 2.

Criterion 3: The subject structure is a simple utilitarian pumphouse lacking architectural significance, and research has not revealed any builder or architect. Therefore, the property does not embody the distinctive characteristics of a type, period, region, or method of construction, or represent the work of an important creative individual or possess high artistic values. It is therefore recommended not eligible for the California Register under Criterion 3.

Criterion 4: The building is not a source of important information, and the artifacts appear to be the result of several dumping episodes that do not have a specific association (beyond spatial) with the building. As such there is limited information potential and the resource has not and is not likely to yield information important in prehistory or history. It is therefore not eligible for the California Register under Criterion 4.

The historic-age building and refuse do not meet any of the four criteria for listing on the California Register, and as such the property designated P-36-000780 is not recommended as a historical resource under CEQA. The resource does not meet any of the criteria necessary to be considered a unique archaeological resource.

California Register Evaluation: MBI2005-H-1

Criterion 1: As a can scatter resulting from an apparent single-episode roadside dumping event, this site is not associated with important events. It is therefore recommended not eligible for the California Register under Criterion 1.

Criterion 2: Research has failed to link this can scatter with any individuals who have been notable in local, state, or national history. It is therefore recommended not eligible for the California Register under Criterion 2.

Criterion 3: The can scatter represents a ubiquitous resource type and does not embody the distinctive characteristics of a type, period, region, or method of construction, or represent the work of an important creative individual or possess high artistic values. It is therefore recommended not eligible for the California Register under Criterion 3.

Criterion 4: Although diagnostics in the deposit indicate manufacturing dates that range from 1930 to 1975, the artifacts appear to be the result of a single dumping episode that cannot be conclusively dated. As such there is limited information potential and the resource has not and is not likely to yield

information important in prehistory or history. It is therefore not eligible for the California Register under Criterion 4.

The can scatter does meet any of the four criteria for listing on the California Register, and as such is not recommended as a historical resource under CEQA. The resource does not meet any of the criteria necessary to be considered a unique archaeological resource.

Conclusion

P-36-000780 and MBI2005-H-1 are both recommended “not eligible” and lack potential significance as individual resources. Therefore, neither resource is eligible for the California Register. The isolated artifacts do not merit consideration and are not significant under CEQA. Therefore, the resources identified in the *Cultural Resources Assessment* are not recommended “historical resources” or “archaeological resources” under CEQA.

4.4.3 Regulatory Setting

Federal

Archaeological Resources Protection Act

The Archaeological Resources Protection Act of 1979 regulates the protection of archaeological sites and resources that are on Native American lands or federal lands.

Section 106 of the National Historic Preservation Act of 1966

Federal regulations for cultural resources are governed primarily by Section 106 of the National Historic Preservation Act of 1966. Section 106 requires federal agencies to take into account the effects of their undertakings on historic properties and affords the Advisory Council on Historic Preservation a reasonable opportunity to comment on such undertakings. The Advisory Council’s implementing regulations, Protection of Historic Properties, are found in 36 Code of Federal Regulations (CFR) Section 800. The goal of the Section 106 review process is to offer a measure of protection to sites that are determined eligible for listing on the National Register. The criteria for determining National Register eligibility are found in 36 CFR 60. Amendments to the act (1986 and 1992) and subsequent revisions to the implementing regulations have, among other things, strengthened the provisions for Native American consultation and participation in the Section 106 review process. While federal agencies must follow federal regulations, most Projects by private developers and landowners do not require this level of compliance. Federal regulations only come into play in the private sector if a project requires a federal permit or if it uses federal funding.

National Register of Historic Places

The National Register was established by the National Historic Preservation Act (NHPA) of 1966, as “an authoritative guide to be used by Federal, State, and local governments, private groups and citizens to identify the Nation’s cultural resources and to indicate what properties should be considered for

protection from destruction or impairment” (36 CFR Section 60.2) The National Register recognizes properties that are significant at the national, state and/or local levels.

To be eligible for listing in the National Register, a resource must possess significance in American history, architecture, archaeology, engineering, or culture. Four Criteria for Evaluation have been established to determine the significance present in districts, sites, buildings, structures, and objects (36 CFR Section 60.4):

- 1) That are associated with events that have made a significant contribution to the broad patterns of our history; or
- 2) That are associated with the lives of persons significant in our past; or
- 3) That embody 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; or
- 4) That has yielded, or may be likely to yield, information important in prehistory or history.

State

The OHP, as an office of the DPR, implements the policies of the NHPA on a state-wide level. The OHP also carries out the duties as set forth in the PRC and maintains the California Historic Resources Inventory and the California Register of Historical Resources. The State Historic Preservation Officer (SHPO) is an appointed official who implements historic preservation programs within the state’s jurisdictions. Also implemented at the State level, CEQA requires projects to identify any substantial adverse impacts which may affect the significance of identified historical resources.

California Register of Historical Resources

The California Register was created by Assembly Bill (AB) 2881 which was signed into law on September 27, 1992. The California Register is “an authoritative listing and guide to be used by state and local agencies, private groups, and citizens in identifying the existing historical resources of the state and to indicate which resources deserve to be protected, to the extent prudent and feasible, from substantial adverse change” (PRC Section 5024.1(a)).

The California Register consists of resources that are listed automatically and those that must be nominated through an application and public hearing process. The California Register automatically includes the following:

- California properties listed on the National Register of Historic Places and those formally Determined Eligible for the National Register of Historic Places;
- California Registered Historical Landmarks from No. 770 onward;
- Those California Points of Historical Interest that have been evaluated by the OHP and have been recommended to the State Historical Commission for inclusion on the California Register.

Other resources which may be nominated to the California Register include:

- Individual historical resources;
- Historical resources contributing to historic districts;
- Historical resources identified as significant in historical resources surveys with significance ratings of Category 1 through 5;
- Historical resources designated or listed as local landmarks, or designated under any local ordinance, such as an historic preservation overlay zone (PRC Section 5024.1(e)).

To be eligible for the California Register, a historic resource must be significant at the local, state, or national level, under one or more of the following four criteria:

- 1) It is associated with the events that have made a significant contribution to the broad patterns of local or regional history, or the cultural heritage of California or the U.S.;
- 2) It is associated with the lives of persons important to local California, or U.S. history;
- 3) It embodies the distinctive characteristics of a type, period, region, or method of construction, represents the work of a master, possesses high artistic values; and/or
- 4) It has yielded, or has the potential to yield, information important to the prehistory or history of the local area, California, or the nation.

Additionally, a historic resource eligible for listing in the California Register must meet one or more of the criteria of significance described above and retain enough of its historic character or appearance to be recognizable as a historic resource and to convey the reasons for its significance.

California Environmental Quality Act

CEQA is the principal statute governing environmental review of projects occurring in the state and is codified at PRC Section 21000 et seq. CEQA requires lead agencies to determine if a proposed project would have a significant effect on the environment, including significant effects on historical or unique archaeological resources. Under PRC Section 21084.1, a “project that may cause a substantial adverse change in the significance of a historic resource is a project that may have a significant effect on the environment.” This statutory standard involves a two-part inquiry. The first involves a determination of whether the project involves a historic resource. If so, then the second part involves determining whether the project may involve a “substantial adverse change in the significance” of the resource. To address these issues, guidelines that implement the 1992 statutory amendments relating to historical resources were adopted on October 26, 1998 with the addition of CEQA Guideline Section 15064.5. The CEQA Guidelines 15064.5 provides that for the purposes of CEQA compliance, the term “historical resources” shall include the following:

- A resource listed in, or determined to be eligible by the State Historical Resources Commission, for listing in the California Register.

- A resource included in a local register of historical resources, as defined in Section 5020.1(k) of the PRC or identified as significant in a historical resource survey meeting the requirements in Section 5024.1(g) of the PRC, shall be presumed to be historically or culturally significant. Public agencies must treat such resources as significant for purposes of CEQA unless the preponderance of evidence demonstrates that it is not historically or culturally significant.
- Any object, building, structure, site, area, place, record, or manuscript which a lead agency determines to be historically significant or significant in the architectural, engineering, scientific, economic, agricultural, educational, social, political, military, or cultural annals of California may be considered to be a historical resource, provided the lead agency's determination is supported by substantial evidence in light of the whole record. Generally, a resource shall be considered by the lead agency to be 'historically significant' if the resource meets one of the criteria for listing on the California Register.
- The fact that a resource is not listed in, or determined to be eligible for listing in the California Register, not included in a local register of historical resources (pursuant to Section 5020.1(k) of the PRC), or identified in a historical resources survey (meeting the criteria in Section 5024.1(g) of the PRC) does not preclude a lead agency from determining that the resource may be a historical resource as defined in PRC Sections 5020.1(j) or 5024.1."

If a lead agency determines that an archaeological site is a historical resource, the provisions of CEQA Guidelines Sections 21084.1 and 15064.5 apply. If an archaeological site does not meet the criteria for a historical resource contained in the CEQA Guidelines, then the site may be treated in accordance with the provisions of Section 21083, which is as a unique archaeological resource. As defined in CEQA Guidelines Section 21083.2, a "unique" archaeological resource is an archaeological artifact, object, or site, about which it can be clearly demonstrated that without merely adding to the current body of knowledge, there is a high probability that it meets any of the following criteria:

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

If an archaeological site meets the criteria for a unique archaeological resource as defined in Section 21083.2, then the site is to be treated in accordance with the provisions of Section 21083.2, which state that if the lead agency determines that a project would have a significant effect on unique archaeological resources, the lead agency may require reasonable efforts be made to permit any or all of these resources to be preserved in place (Section 21083.1(a)). If preservation in place is not feasible, mitigation measures shall be required. CEQA Guidelines Section 15064.5(c)(4) notes that if an archaeological resource is neither a unique archaeological nor a historical resource, the effects of the project on those resources shall not be considered a significant effect on the environment.

A significant effect under CEQA would occur if a project results in a substantial adverse change in the significance of a historical resource as defined in CEQA Guidelines Section 15064.5(a). As defined in CEQA Guidelines Section 15064.5(b)(1)), substantial adverse change is “physical demolition, destruction, relocation, or alteration of the resource or its immediate surroundings such that the significance of a historical resource would be materially impaired.” According to CEQA Guidelines Section 15064.5(b)(2), the significance of a historical resource is materially impaired when a project demolishes or materially alters in an adverse manner those physical characteristics that:

- A. Convey its historical significance and that justify its inclusion in, or eligibility for, inclusion in the California Register; or
- B. Account for its inclusion in a local register of historical resources pursuant to section 5020.1(k) of the Public Resources Code or its identification in a historical resources survey meeting the requirements of section 5024.1(g) of the Public Resources Code, unless the public agency reviewing the effects of the project establishes by a preponderance of evidence that the resource is not historically or culturally significant; or
- C. Convey its historical significance and that justify its eligibility for inclusion in the California Register as determined by a Lead Agency for purposes of CEQA.

California Government Code Sections 6254(r) and 6254.10

These sections of the California Public Records Act were enacted to protect archaeological sites from unauthorized excavation, looting, or vandalism. Section 6254(r) explicitly authorizes public agencies to withhold information from the public relating to “Native American graves, cemeteries, and sacred places maintained by the Native American Heritage Commission.” Section 6254.10 specifically exempts from disclosure requests for “records that relate to archaeological site information and reports, maintained by, or in the possession of the Department of Parks and Recreation, the State Historical Resources Commission, the State Lands Commission, the Native American Heritage Commission, another state agency, or a local agency, including the records that the agency obtains through a consultation process between a Native American tribe and a state or local agency.”

California Health and Safety Code Sections 7050.5, 7051, and 7054

California Health and Safety Code (HSC) Sections 7050.5, 7051, and 7054 collectively address the illegality of interference with human burial remains as well as the disposition of Native American burials in archaeological sites. The law protects such remains from disturbance, vandalism, or inadvertent destruction and establishes procedures to be implemented if Native American skeletal remains are discovered during construction of a project, including the treatment of remains prior to, during, and after evaluation, and reburial procedures. California HSC Section 7050.5 requires that in the event human remains are discovered, the County Coroner be contacted to determine the nature of the remains. In the event the remains are determined to be Native American in origin, the Coroner is required to contact the NAHC within 24 hours to relinquish jurisdiction.

Local

San Bernardino County Countywide Plan/Policy Plan

The County adopted the Countywide Plan/Policy Plan) in October 2020. The Policy Plan provides an update of the County's General Plan addressing physical, social and economic issues facing the unincorporated portions of the County. The Policy Plan also provides an expansion of the County's General Plan to address supportive service for adults and children, healthcare service, public safety, and other regional county services provided to both incorporated and unincorporated areas.

Relevant policies from the Cultural Resources Element are as follows:

- Goal CR-2** **Historic and Paleontological Resources.** Historic resources (buildings, structures, or archaeological resources) and paleontological resources that are protected and preserved for their cultural importance to local communities as well as their research and educational potential.
- Policy CR-2.1** **National and state historic resources.** We encourage the preservation of archaeological sites and structures of state or national significance in accordance with the Secretary of Interior's standards.
- Policy CR-2.2** **Local historic resources.** We encourage property owners to maintain the historic integrity of resources on their property by (listed in order of preference): preservation, adaptive reuse, or memorialization.
- Policy CR-2.3** **Paleontological and archaeological resources.** We strive to protect paleontological and archaeological resources from loss or destruction by requiring that new development include appropriate mitigation to preserve the quality and integrity of these resources. We require new development to avoid paleontological and archeological resources whenever possible. If avoidance is not possible, we require the salvage and preservation of paleontological and archeological resources.
- Policy CR-2.4** **Partnerships.** We encourage partnerships to champion and financially support the preservation and restoration of historic sites, structures, and districts.
- Policy CR-2.5** **Public awareness and education.** We increase public awareness and conduct education efforts about the unique historic, natural, tribal, and cultural resources in San Bernardino County through the County Museum and in collaboration with other entities.

4.4.4 Impact Thresholds and Significance Criteria

In accordance with Appendix G of the State CEQA Guidelines, a project would have a significant impact related to cultural resources if it would:

- Threshold (a):** Cause a substantial adverse change in the significance of a historical resource pursuant to Section 15064.5;

Threshold (b): Cause a substantial adverse change in the significance of an archaeological resource pursuant to Section 15064.5; or

Threshold (c): Disturb any human remains, including those interred outside of formal cemeteries.

4.4.5 Impacts and Mitigation Measures

Impact 4.4-1 *Would the Project cause a substantial adverse change in the significance of a historical resource pursuant to Section 15064.5?*

Level of Significance: Less than Significant

As previously stated in Subsection 4.4.2, *Environmental Setting*, no historical resources were identified on the Project Site. Additionally, no historical resources were identified in the Project vicinity (e.g., one-mile radius around the Project Site) that would be impacted by the development of the Project that would have direct or proximate views of the Project Site. Therefore, the Project would not cause a substantial adverse change in the significance of a historical resource. Impacts would be less than significant.

Impact 4.4-2 *Would the Project cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5?*

Level of Significance: Less than Significant Impact with Mitigation Incorporated for Project construction. No Impact for Project operation.

During the field survey, BCR Consulting personnel were unable to locate the four previously recorded prehistoric isolated artifacts (P-36-62624, P-36-62625, P-36-62653, P-36-62654). Five additional isolated finds (four prehistoric and one historic-period) and one historic-period archaeological site were identified. Following the archival research and field work, it was determined that there are no known archaeological resources on the Project Site.

The Project Site has been subject to near complete surface disturbance associated with past agricultural use, grading during partial construction of the SEGS X facility that was initiated in the early 1990s and halted in 1991, as well as construction of the Shared Facilities Area for the existing SEGS VIII and IX Solar Thermal Power Plants. However, the potential exists that there may be undiscovered archaeological resources that could be unearthed during ground-disturbing activities during Project construction. As there is potential for ground-disturbing activities to encounter previously unknown prehistoric archaeological resources, impacts would be considered potentially significant. Therefore, the Project would be required to implement **Mitigation Measures CUL-1 and CUL-2** to reduce potential impacts to archaeological resources to a less-than-significant level during Project construction.

Operation of the Project would not require substantial ground disturbing activities, such as grading or excavation; therefore, there is limited potential to encounter, alter, or disturb archaeological resources during Project operation. Therefore, no impacts related to archaeological resources during Project operation are anticipated.

Mitigation Measures

CUL-1 Prior to the initiation of ground-disturbing activities, the Project Applicant and construction manager shall conduct a Worker Education Awareness Program (WEAP) to alert field personnel to the possibility of buried prehistoric or historic cultural deposits. Development of the WEAP shall include consultation with a Qualified Archaeologist meeting the Secretary of the Interior standards. The WEAP shall provide an overview of potential significant archaeological resources that could be encountered during ground disturbing activities, including how to identify prehistoric or historic cultural deposits, to facilitate worker recognition, avoidance, and subsequent immediate notification to the Qualified Archaeologist. Prior to ground disturbing activities, the San Bernardino County Land Use Services Department shall ensure that construction personnel partake in the WEAP. Documentation shall be retained demonstrating that construction personnel attended the training.

In the event that cultural resources are discovered during Project activities, all work in the immediate vicinity of the find (within a 60-foot buffer) shall cease, and a Qualified Archaeologist shall be hired to assess the find. The Qualified Archaeologist shall have the authority to stop or divert construction excavation as necessary. Work on the other portions of the Project outside of the buffered area may continue during this assessment period. Additionally, the San Manuel Band of Mission Indians Cultural Resources Department (SMBMI) shall be contacted, as detailed within Mitigation Measure TCR-1, regarding any pre-contact and/or post-contact finds and be provided information after the archaeologist makes his/her initial assessment of the nature of the find, so as to provide Tribal input with regards to significance and treatment.

CUL-2 If significant pre-contact and/or post-contact cultural resources, as defined by CEQA are discovered, and avoidance cannot be ensured, the qualified archaeologist shall develop a Monitoring and Treatment Plan, the drafts of which shall be provided to the Director of the Planning Division for review and comment, as detailed within Mitigation Measure TCR-1. The archaeologist shall monitor the remainder of the Project and implement the plan accordingly.

Impact 4.4-3 *Would the Project disturb any human remains, including those interred outside of dedicated cemeteries?*

Level of Significance: Less than Significant

The Project Site is not located on a known cemetery, and no human remains are anticipated to be disturbed during Project construction. However, the County has complied with procedures for consulting with Native American tribes as outlined in AB 52 and the Project would be compliant with the requirements for treatment of Native American human remains contained in California HSC Sections 7050.5-7055 and PRC Sections 5097.98 and 5097.99. HSC Sections 7050.5-7055 describe the general provisions for treatment of human remains. Specifically, HSC Section 7050.5 prescribes the requirements for the treatment of any human remains that are accidentally discovered during excavation of a site. HSC Section 7050.5 also requires that all activities cease immediately, and a qualified archaeologist and Native American monitor be contacted immediately. As required by State law, the procedures set forth in PRC

Section 5097.98 would be implemented, including evaluation by the County Coroner and notification of the NAHC. The NAHC would then designate the “Most Likely Descendent” of the unearthed human remains. If human remains are found during excavation, excavation would be halted in the vicinity of the discovery and any area that is reasonably suspected to overlay adjacent remains shall remain undisturbed until the County Coroner has investigated, and appropriate recommendations have been made for the treatment and disposition of the remains. Compliance with the established regulatory framework (i.e., HSC Sections 7050.5-7055 and PRC Sections 5097.98 and 5097.99) would ensure potential Project impacts concerning human remains are less than significant.

Operation of the Project would not require substantial ground disturbing activities, such as grading or excavation; therefore, it is not anticipated that Project operation would encounter subsurface human remains. Therefore, impacts related to human remains during Project operation are not anticipated.

4.4.6 Cumulative Impacts

Section 4.0, *Introduction to the Environmental Analysis*, of this Draft EIR provides a list of cumulative projects that would have the potential to be considered in a cumulative context with the Project’s incremental contribution. These projects are summarized in **Table 4.0-1: Cumulative Projects** and shown in **Figure 4.0-1: Cumulative Projects Map**. Ongoing development and growth in the broader area may result in cumulatively significant impacts to cultural resources due to the continuing disturbance of undeveloped areas, which could potentially contain significant, buried archaeological or cultural resources or transform an area related to cultural history.

Given that the Project would have neither a direct impact or an indirect impact on historical resources it would not contribute to or have a cumulative impact on historic architectural resources.

Regarding archaeological resources, in association with CEQA review, and depending on the depth of excavation and sensitivity of respective sites, mitigation measures would be required for cumulative projects that have the potential to cause significant impacts to undiscovered archaeological resources, including existing regulations for undiscovered human remains. Implementation of such mitigation measures and regulations would avoid significant impacts. State requirements regarding impacts on archaeological resources and CEQA compliance require monitoring of excavation activities and treatment and/or curation of discovered resources where appropriate (PRC Section 15064.5). Such standard construction practices, particularly over a range of project sites, provide for protection, recovery and curation of discovered resources and preserve their contributions to the knowledge base of past population activity in the area. For those projects not subject to CEQA review, there would be some potential for impacts on archaeological resources and human remains in the event there are excavations that extend into soils conducive to retaining resources; however, regulations contained in the California HSC and Penal Code would apply in some instances, and circumstances involving a loss of such resources are expected to be limited. Therefore, the cumulative effects from cumulative projects are considered less than significant.

The Project would be required to comply with **Mitigation Measures CUL-1** and **CUL-2** and regulations cited above in the event resources are found, thus reducing significant impacts on archaeological resources to less-than-significant levels. Therefore, the Project's contribution to cumulative impacts associated with archaeological resources would not be considerable.

4.4.7 Significant Unavoidable Impacts

The Project would not result in any significant and unavoidable impacts related to cultural resources.

4.4.8 References

BCR Consulting, LLC. 2021. *Cultural Resources Assessment - Lockhart Solar PV II Project*. May 24, 2021.

San Bernardino County. 2020. *Countywide Plan: County Policy Plan*. October 2020. Available at http://countywideplan.com/wp-content/uploads/2020/12/CWP_PolicyPlan_20201027_adopted.pdf. Accessed August 18, 2021.

4.5 ENERGY

4.5.1 Introduction

This section identifies the existing setting of the Project as it relates to energy conservation, associated regulatory conditions and requirements, and the criteria used to evaluate potential impacts related to the use of energy with implementation of the Project. As necessary, mitigation measures will be provided to minimize potentially significant environmental impacts to less than significant levels. It should be noted that the Project would not consume natural gas during construction or operation; therefore, no further discussion is provided in this section related to natural gas.

Information presented in this analysis is derived largely from the *Lockhart Solar PV II Project – Energy Analysis Technical Memorandum* (the “Energy Memorandum”) (see Appendix F).

4.5.2 Environmental Setting

The Project Site is located in unincorporated Hinkley, California in the County of San Bernardino (County). The Project Site is approximately 7 miles north of the intersection of Harper Lake Road and Mojave-Barstow Highway 58. The Project Site is bordered on the south by the existing Solar Energy Generating System (SEGS) VIII and IX Solar Thermal Power Plants, which the County approved for repowering to photovoltaic (PV) solar and battery storage in 2019 as part of the Lockhart Solar I Facility (CUP Project #201900125 approved in 2019); Harper Lake Road to the east; Hoffman Road to the west; and vacant land to the north.

Electricity

Electricity as a utility is a man-made resource. The production of electricity requires the consumption or conversion of resources, including water, wind, oil, gas, coal, solar, geothermal, and nuclear resources, into energy. The delivery of electricity requires several system components including substations and transformers that lower transmission line power (voltage) to a level appropriate for distribution and use. The electricity generated is distributed through a network of transmission and distribution lines commonly called a power grid. Conveyance of electricity through transmission lines is typically responsive to market demands.

Energy capacity, or electrical power, is generally measured in watts (W) while energy use is measured in watt-hours (Wh). For example, if a light bulb has a capacity rating of 100 W, the energy required to keep the bulb on for 1 hour would be 100 Wh. If ten 100 W bulbs were on for 1 hour, the energy required would be 1,000 Wh or 1 kilowatt-hour (kWh). On a utility-scale, a generator’s capacity is typically rated in megawatts (MW), which is one million watts, while energy use is measured in megawatt-hours (MWh) or gigawatt-hours (GWh), which is one billion Wh.

The Western Area Power Administration (power provider, which serves public utilities, which in turn provide retail electric service to WAPA) is a wholesale millions of consumers in 15 western and central states, and end-use customers, including federal state and military agencies, Native American tribes and

towns, rural electric cooperatives, irrigation districts, and the U.S. Bureau of Reclamation.¹ Southern California Edison (SCE) an investor-owned utility regulated by the California Public Utilities Commission (CPUC) and the Federal Energy Regulatory Commission (FERC), is the main electricity provider for the Project. SCE provides electricity to approximately 15 million people, 180 incorporated cities, 15 counties, 5,000 large businesses, and 280,000 small businesses throughout its 50,000-square-mile service area, covering parts of Tuolumne, Mono, Madera, Fresno, Inyo, Kings, Tulare, Kern, Santa Barbara, Ventura, Los Angeles, San Bernardino, Orange, and Riverside Counties.² SCE produces and purchases its energy from a mix of conventional and renewable generating sources. **Table 4.5-1: Energy Resources Used for Electricity Generation for SCE in 2019** (the most recent data) shows the SCE electric power mix in 2019 compared to the Statewide 2019 power mix. In 2019, electricity use for the County was approximately 14,987 GWh from residential and non-residential sectors.

Table 4.5-1: Energy Resources Used for Electricity Generation for SCE in 2019

Energy Resource	2019 SCE Power Mix	2019 CA Power Mix
Eligible Renewable	35.1%	31.7%
<i>Biomass & Biowaste</i>	0.6%	2.4%
<i>Geothermal</i>	5.9%	4.8%
<i>Eligible Hydroelectric</i>	1.0%	2.0%
<i>Solar</i>	16.0%	12.3%
<i>Wind</i>	11.5%	10.2%
Coal	0.0%	3.0%
Large Hydroelectric	7.9%	14.6%
Natural Gas	16.1%	34.2%
Nuclear	8.2%	9.0%
Other	0.1%	0.2%
Unspecified Sources of Power ¹	32.6%	7.3%
Total	100%	100%

Note:
1. Electricity from transactions that are not traceable to specific generation sources.

Source: SCE. 2020. *2019 Power Content Label, Southern California Edison*. Available at https://www.sce.com/sites/default/files/inline-files/SCE_2019PowerContentLabel.pdf. Accessed August 13, 2021.

Energy use is typically quantified using the British Thermal Unit (BTU). The BTU is a unit of heat and is defined as the amount of heat required to raise one pound-mass of water by one degree Fahrenheit and heat is known to be equivalent to energy. Total energy use in California was 7,966.6 trillion BTU in 2018 (the most recent year for which this specific data is available), with a total consumption per capita being 202 million BTU. California is the second largest consumer of energy in the U.S. but ranks 50th for energy consumption on a per capita basis. Of California's total energy use, the breakdown by sector is approximately 39.8 percent transportation, 23.2 percent industrial, 18.9 percent commercial, and 18.1 percent residential. Electricity and natural gas in California are generally used by stationary sources such as residences, commercial sites, and industrial facilities, whereas petroleum use is generally accounted

¹ Western Area Power Administration. 2021. *Desert Southwest*. Available at <https://www.wapa.gov/regions/dsw/Pages/dsw.aspx>. Accessed September 1, 2021.

² Southern California Edison (SCE). 2021. *By the Numbers: Who We Serve*. Available at <https://www.sce.com/about-us/who-we-are>. Accessed August 13, 2021.

for by transportation-related energy use.³ **Table 4.5-2: Electricity Consumption in San Bernardino County 2010-2019** summarizes energy consumption in the County over this time.

Table 4.5-2: Electricity Consumption in San Bernardino County 2010-2019

Year	Electricity Consumption (in millions of kilowatt hours)
2010	13,482
2011	13,730
2012	14,350
2013	14,375
2014	14,733
2015	14,732
2016	14,947
2017	15,283
2018	15,372
2019	14,987

Source: Michael Baker International. 2021. *Lockhart Solar PV II Project – Energy Analysis Technical Memorandum*. Table 1.

Transportation Fuel

The State’s transportation sector uses nearly 40 percent of the energy consumed in the State. In 2020, Californians consumed approximately 12.5 billion gallons of gasoline and aviation gasoline and 2.9 billion gallons of diesel fuel.⁴ As shown in **Table 4.5-3: Automobile Fuel Consumption in San Bernardino County 2011-2021** on-road automotive fuel (gasoline) consumption has increased from 2014 to 2019 but is projected to decrease to less than the consumption amounts of 2011 this year. Heavy-duty diesel fuel consumption in the County has increased since 2011.

Table 4.5-3: Automobile Fuel Consumption in San Bernardino County 2011-2021

Year	Gasoline Fuel Consumption (Gallons)	Heavy-Duty Vehicle/Diesel Fuel Consumption (Gallons)
2011	966,626,072	182,208,363
2012	958,384,115	181,152,949
2013	961,604,603	190,262,486
2014	976,226,347	195,888,495
2015	1,011,523,234	197,223,020
2016	1,046,227,304	210,181,781
2017	1,027,824,927	212,595,627
2018	1,008,930,484	215,879,515
2019	988,074,005	218,163,692
2020	970,868,222	219,579,730
2021 (projected)	954,663,081	220,859,813

Source: Michael Baker International. 2021. *Lockhart Solar PV II Project – Energy Analysis Technical Memorandum*. Table 2.

³ United States Energy Information Agency (USEIA). 2019. *California State Energy Profile*. Available at <https://www.eia.gov/state/print.php?sid=CA>. Accessed August 13, 2021.

⁴ California State Board of Equalization (BOE). 2021. *April 2021 – Motor Vehicle Fuel 10 Year Reports, 2021* and California State Board of Equalization, *Taxable Diesel Gallons 10-year Report*.

4.5.3 Regulatory Setting

Federal

Corporate Average Fuel Standards

Established by the U.S. Congress in 1975, the Corporate Average Fuel Economy (CAFE) standards reduce energy consumption by increasing the fuel economy of cars and light trucks. The National Highway Traffic Safety Administration (NHTSA) and U.S. Environmental Protection Agency (USEPA) jointly administer the CAFE standards.⁵ The U.S. Congress has specified that CAFE standards must be set at the “maximum feasible level” with consideration given for: (1) technological feasibility; (2) economic practicality; (3) effect of other standards on fuel economy; and (4) need for the nation to conserve energy.

Fuel efficiency standards for medium- and heavy-duty trucks have been jointly developed by USEPA and NHTSA. The Phase 1 heavy-duty truck standards apply to combination tractors, heavy-duty pickup trucks and vans, and vocational vehicles for model years 2014 through 2018, and result in a reduction in fuel consumption from 6 to 23 percent over the 2010 baseline, depending on the vehicle type. USEPA and NHTSA have also adopted the Phase 2 heavy-duty truck standards, which cover model years 2021 through 2027 and require the phase-in of a 5 to 25 percent reduction in fuel consumption over the 2017 baseline depending on the compliance year and vehicle type.⁶

Additionally, the Safer Affordable Fuel-Efficient (SAFE) Vehicles Rule was issued on March 31, 2020 by NHTSA and USEPA and set fuel economy and carbon dioxide standards that increase 1.5 percent in stringency each year from model years 2021 to 2026. Under this rule the projected overall industry average required fuel economy in model years 2021 to 2026 is 40.4 miles per gallon.⁷

Energy Independence and Security Act of 2007

Signed into law in December 2007, the Energy Independence and Security Act was passed to increase the production of clean renewable fuels; increase the efficiency of products, buildings, and vehicles; improve the energy performance of the federal government; and increase U.S. energy security, develop renewable fuel production, and improve vehicle fuel economy. The Energy Independence and Security Act included the first increase in fuel economy standards for passenger cars since 1975, and also included a new energy grant program for use by local governments in implemented energy-efficiency initiatives, as well as a variety of green building incentives and programs.

⁵ National Highway Traffic Safety Administration (NHTSA). 2021. *Corporate Average Fuel Economy*. Available at <https://www.nhtsa.gov/laws-regulations/corporate-average-fuel-economy>. Accessed August 13, 2021.

⁶ United States Environmental Protection Agency (USEPA) and National Highway Traffic Safety Administration (NHTSA). 2016. *Federal Register / Vol. 81, No. 206 / Tuesday, October 25, 2016 / Rules and Regulations. Final Rule for greenhouse Gas Emissions and Fuel Efficiency Standards for Medium- and heavy-Duty Engines and Vehicles – Phase 2*. Available at <https://www.gpo.gov/fdsys/pkg/FR-2016-10-25/pdf/2016-21203.pdf>. Accessed August 13, 2021.

⁷ National Highway Traffic Safety Administration (NHTSA). 2020. SAFE: The Safer Affordable Fuel-Efficient “SAFE” Vehicles Rule. Available at <https://www.nhtsa.gov/corporate-average-fuel-economy/safe>. Accessed September 2, 2021.

State

California's Renewables Portfolio Standard

First established in 2002 under Senate Bill (SB) 1078, California's Renewable Portfolio Standards (RPS) requires retail sellers of electric services to increase procurement from eligible renewable energy resources to 33 percent by 2020 and 50 percent by 2030.

In 2018, SB 100 further increased California's RPS and required retail sellers and local publicly owned electric utilities to procure eligible renewable electricity for 44 percent of retail sales by the end of 2024, 52 percent by the end of 2027, and 60 percent by the end of 2030; and that the California Air Resources Board (CARB) should plan for 100 percent eligible renewable energy resources and zero-carbon resources by the end of 2045. The CPUC and the California Energy Commission (CEC) jointly implement the RPS program. The CPUC's responsibilities include: (1) determining annual procurement targets and enforcing compliance; (2) reviewing and approving each investor-owned utility's renewable energy procurement plan; (3) reviewing contracts for RPS-eligible energy; and (4) establishing the standard terms and conditions used in contracts for eligible renewable energy.

Senate Bill 350 (SB 350) and Senate Bill 100 (SB 100)

The Clean Energy and Pollution Reduction Act (SB 350) established clean energy, clean air, and greenhouse gas (GHG) reduction goals, including reducing GHG to 40 percent below 1990 levels by 2030 and to 80 percent below 1990 levels by 2050. This objective will increase the use of RPS eligible resources, including solar, wind, biomass, geothermal, and others to achieve 50 percent by 2030.

SB 350 also requires the state to double statewide energy efficiency savings in electricity and natural gas end uses by 2030. To help meet these goals and reduce GHG emissions, large utilities will be required to develop and submit integrated resource plans. These plans detail how utilities will meet their customers' resource needs, reduce GHG emissions, and ramp up the use of clean energy resources.

SB 350 also transforms the California Independent System Operator, a nonprofit public corporation, into a regional organization, contingent upon approval from the Legislature. The bill also authorizes utilities to undertake transportation electrification.

In 2018, California adopted SB 100 (Chapter 312, Statutes of 2018), which requires that retail sellers and local publicly owned electric utilities procure a minimum quantity of electricity products from eligible renewable energy resources so that the total kWh of those products sold to their retail end-use customers achieve 44 percent of retail sales by December 31, 2024; 52 percent by December 31, 2027; 60 percent by December 31, 2030; and 100 percent by December 31, 2045. The bill requires the CPUC, CEC, State board, and all other State agencies to incorporate that policy into all relevant planning. In addition, SB 100 requires the CPUC, CEC, and State board to utilize programs authorized under existing statutes to achieve that policy and, as part of a public process, issue a joint report to the Legislature by January 1, 2021, and every four years thereafter, that includes specified information relating to the implementation of the policy.

California Public Utilities Commission Energy Efficiency Strategic Plan

The CPUC prepared an Energy Efficiency Strategic Plan (Strategic Plan) in September 2008 with the goal of promoting energy efficiency and a reduction in greenhouse gases. In January 2011, a lighting chapter was adopted and added to the Strategic Plan. The Strategic Plan is California's single roadmap to achieving maximum energy savings in the State between 2009 and 2020, and beyond 2020. The Strategic Plan contains the practical strategies and actions to attain significant statewide energy savings, as a result of a year-long collaboration by energy experts, utilities, businesses, consumer groups, and governmental organizations in California, throughout the West, nationally and internationally. The plan includes the four big bold strategies:

- All new residential construction in California will be zero net energy by 2020.
- All new commercial construction in California will be zero net energy by 2030.
- Heating, ventilation, and air conditioning (HVAC) will be transformed to ensure that its energy performance is optimal for California's climate.
- All eligible low-income customers will be given the opportunity to participate in the low-income energy efficiency program by 2020.

California Energy Commission Integrated Energy Policy Report

In 2002, the State legislature adopted SB 1389, which requires the CEC to develop an Integrated Energy Policy Report (IEPR) every two years. SB 1389 requires the CEC to conduct assessments and forecasts of all aspects of energy industry supply, production, transportation, delivery and distribution, demand, and prices, and use these assessments and forecasts to develop energy policies that conserve resources, protect the environment, ensure energy reliability, enhance the State's economy, and protect public health and safety.

The CEC adopted the *2020 Integrated Energy Policy Report Update (2020 IEPR Update) Volume I and Volume III* on March 17, 2021, and *Volume II* on April 14, 2021. The 2020 IEPR Update provides the results of the CEC's assessments of a variety of energy issues facing California, many of which will require action if the State is to meet its climate, energy, air quality, and other environmental goals while maintaining reliability and controlling costs. The year of 2020 was unprecedented as the State continues to face the impacts and repercussions of several events including the COVID-19 pandemic, electricity outages, and statewide wildfires. In response to these challenging events, the 2020 IEPR Update covers a broad range of topics, including transportation, microgrids, and the California Energy Demand Forecast. Volume I of the 2020 IEPR Update focuses on California's transportation future and the transition to zero-emission vehicles, Volume II examines microgrids, lessons learned from a decade of State-supported research, and stakeholder feedback on the potential of microgrids to contribute to a clean and resilient energy system, and Volume III reports on California's energy demand outlook, updated to reflect the global pandemic and help plan for a growth in zero-emission plug in electric vehicles. Overall, the 2020 IEPR Update

identifies actions the State and others can take that would strengthen energy resiliency, reduce GHG emissions that cause climate change, improve air quality, and contribute to a more equitable future.

California Health and Safety Code (HSC), Division 25.5/California Global Warming Solutions Act of 2006

In 2006, the California State Legislature adopted Assembly Bill (AB) 32 (codified in the California HSC, Division 25.5 – California Global Warming Solutions Act of 2006), which focuses on reducing GHG emissions in California to 1990 levels by 2020. Under HSC Division 25.5, CARB has the primary responsibility for reducing the State’s GHG emissions; however, AB 32 also tasked the CEC and the CPUC with providing information, analysis, and recommendations to CARB regarding strategies to reduce GHG emissions in the energy sector.

In 2016, SB 32 and its companion bill AB 197 amended HSC Division 25.5, established a new climate pollution reduction target of 40 percent below 1990 levels by 2030, and included provisions to ensure that the benefits of state climate policies reach into disadvantaged communities. Refer to Section 4.8, *Greenhouse Gas Emissions*, of this Draft EIR for additional details regarding these regulations.

Low Carbon Fuel Standard

The Low Carbon Fuel Standard (LCFS), established in 2007 through Executive Order S-1-07 and administered by CARB, requires producers of petroleum-based fuels to reduce the carbon intensity of their products, starting with 0.25 percent in 2011 and culminating in a 10-percent total reduction in 2020. Petroleum importers, refiners and wholesalers can either develop their own low carbon fuel products or buy LCFS credits from other companies that develop and sell low carbon alternative fuels, such as biofuels, electricity, natural gas and hydrogen.

California Air Resources Board (CARB)

CARB’s Advanced Clean Car Program

The Advanced Clean Cars emissions-control program was approved by CARB in 2012. The program requires a greater number of zero-emission vehicle models for years 2015 through 2025 to control smog, soot, and GHG emissions. This program includes the Low-Emissions Vehicle (LEV) regulations to reduce criteria pollutants and GHG emissions from light- and medium-duty vehicles; and the Zero-Emissions Vehicle regulations (ZEV) to require manufactures to produce an increasing number of pure ZEV’s (meaning battery and fuel cell electric vehicles) with the provision to produce plug-in hybrid electric vehicles (PHEV) between 2018 and 2025.

Airborne Toxic Control Measure to Limit Diesel-Fueled Commercial Motor Vehicle Idling

In 2004, CARB adopted an Airborne Toxic Control Measure (ATCM) to Limit Diesel-Fueled Commercial Motor Vehicle Idling in order to reduce public exposure to diesel particulate matter emissions (Title 13 California Code of Regulations [CCR] Section 2485). The measure applies to diesel-fueled commercial vehicles with gross vehicle weight ratings greater than 10,000 pounds that are licensed to operate on highways, regardless of where they are registered. This measure does not allow diesel-fueled commercial

vehicles to idle for more than five minutes at any given location. While the goal of this measure is primarily to reduce public health impacts from diesel emissions, compliance with the regulation also results in energy savings in the form of reduced fuel consumption from unnecessary idling.

Regulation to Reduce Emissions of Diesel Particulate Matter, Oxides of Nitrogen and other Criteria Pollutants, from In-Use Heavy-Duty Diesel-Fueled Vehicles

In addition to limiting exhaust from idling trucks, in 2008, CARB approved the Truck and Bus regulation to reduce nitrous oxides (NO_x) and particulate matter (PM) with diameters of 10 and 2.5 micrometers or less (PM10 and PM2.5, respectively) emissions from existing diesel vehicles operating in California (13 CCR Section 2025). The phased regulation aims to reduce emissions by requiring installation of diesel soot filters and encouraging the retirement, replacement, or retrofit of older engines with newer emission-controlled models. The phasing of this regulation has full implementation by 2023.

CARB also promulgated emission standards for off-road diesel construction equipment of greater than 25 horsepower (hp) such as bulldozers, loaders, backhoes and forklifts, as well as many other self-propelled off-road diesel vehicles. The In-Use Off-Road Diesel-Fueled Fleets regulation adopted by CARB on July 26, 2007 aims to reduce emissions by installation of diesel soot filters and encouraging the retirement, replacement, or repower of older, dirtier engines with newer emission-controlled models (13 CCR Section 2449). The compliance schedule requires full implementation by 2023 in all equipment for large and medium fleets and by 2028 for small fleets.

While the goals of these measures are primarily to reduce public health impacts from diesel emissions, compliance with the regulation has shown an increase in energy savings in the form of reduced fuel consumption from more fuel-efficient engines.

Local

San Bernardino Countywide Plan/Policy Plan

The County adopted the *Countywide Plan/Policy Plan* (Policy Plan) in October 2020. The Policy Plan provides an update of the County's General Plan addressing physical, social and economic issues facing the unincorporated portions of the County. The Policy Plan also provides an expansion of the County's General Plan to address supportive service for adults and children, healthcare service, public safety, and other regional county services provided to both incorporated and unincorporated areas.

Relevant policies from the San Bernardino County Countywide Plan/Policy Plan are summarized.

Land Use Element

Policy LU-5.4 **Ranged activities and projects.** We require activities and projects that can exert impacts beyond project boundaries, such as renewable energy facilities, wireless communication systems, and unmanned aircraft systems, to coordinate with military installations in preliminary planning and throughout the project's construction stages and long-term operation.

Natural Resources Element

Policy NR-1.8 Construction and operations. We invest in County facilities and fleet vehicles to improve energy efficiency and reduce emissions. We encourage County contractors and other builders and developers to use low-emission construction vehicles and equipment to improve air quality and reduce emissions.

Infrastructure and Utilities Element

Policy IU-5.1 Electricity and natural gas service. The County will partner with public agencies and providers to improve the availability and stability of electricity and natural gas service in unincorporated communities.

Policy IU-5.4 Electric transmission lines. The maintenance of existing and development of new electric transmission lines along existing rights-of-way and easements to maintain the stability and capacity of the electric distribution system in southern California will be supported.

Policy IU-5.5 Energy and fuel facilities. The development and upgrade of energy and regional fuel facilities in areas that do not pose significant environmental or public health and safety hazards is encouraged.

Renewable Energy Element

RE Policy 1.1 Energy Conservation and Efficiency. Continue implementing the energy conservation and efficiency measures identified in the County of San Bernardino Greenhouse Gas Emissions Reduction plan.

RE Policy 2.1.1 Renewable Energy Standards. Utilize renewable energy development standards in the Development Code to minimize impacts on surrounding properties.

RE Policy 2.2 Energy Storage Technologies. The use of energy storage technologies that are appropriate should be used.

RE Policy 2.3 Emerging and Experimental Technologies. The use of feasible emerging and experimental renewable energy technologies that are compatible with County regulatory standards are encouraged to be used.

County of San Bernardino Greenhouse Gas Emissions Reduction Plan

In August 2007, the Board of Supervisors launched Green County San Bernardino to spur the use of “green” technologies and building practices among residents, business owners, and developers in the County. The County Board of Supervisors also directed the Land Use Services Department to prepare a GHG Reduction Plan to provide a framework and strategy for the County’s efforts. This GHG Reduction Plan (GHGRP) was completed in September 2011 and the GHG Development Review Processes were updated in March 2015 to bring the Plan up to date. This GHGRP presents a comprehensive set of actions to reduce the County’s internal and external GHG emissions to 15 percent below current levels to be consistent with the AB 32 Scoping Plan. The GHGRP also identifies specific objectives to reduce GHG emissions. Some of the goals to achieve these objectives come in the form of promoting the use of energy efficient technologies, increasing the use of renewable energies within the County, and providing

incentives to retrofit energy inefficient buildings to be more energy efficient. The objectives of the GHGRP are as follows:

- Reduce emissions from activities over which the County has jurisdictional and operational control consistent with the target reductions of Assembly Bill (AB) 32 Scoping Plan;
- Provide estimated GHG reductions associated with the County's existing sustainability efforts and integrate the County's sustainability efforts into the discrete actions of this Plan;
- Provide a list of discrete actions that will reduce GHG emissions; and
- Approve a GHG Plan that satisfies the requirements of Section 15183.5 of the California Environmental Quality Act (CEQA) Guidelines, so that compliance with the GHG Plan can be used in appropriate situations to determine the significance of a project's effects relating to GHG emissions, thus providing streamlined CEQA analysis of future projects that are consistent with the approved GHG Plan.

4.5.4 Impact Thresholds and Significance Criteria

According to Appendix G of the State CEQA Guidelines, a project would have a significant impact related to energy, if it would:

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

Threshold (b): Conflict with or obstruct a State or local plan for renewable energy or energy efficiency.

Appendix F of the State CEQA Guidelines is an advisory document that assists environmental document preparers in determining whether a project will result in the inefficient, wasteful, and unnecessary consumption of energy. The analysis in Threshold (a) relies upon Appendix F of the State CEQA Guidelines, which includes the following criteria to determine whether this threshold of significance is met:

- **Criterion 1:** The project's energy requirements and its energy use efficiencies by amount and fuel type for each stage of the project including construction, operation, maintenance and/or removal. If appropriate, the energy intensiveness of materials may be discussed.
- **Criterion 2:** The effects of the project on local and regional energy supplies and on requirements for additional capacity.
- **Criterion 3:** The effects of the project on peak and base period demands for electricity and other forms of energy.
- **Criterion 4:** The degree to which the project complies with existing energy standards.
- **Criterion 5:** The effects of the project on energy resources.
- **Criterion 6:** The project's projected transportation energy use requirements and its overall use of efficient transportation alternatives.

The discussion on the Project's energy usage addresses **Criterion 1**. The discussion on construction-related energy use focuses on **Criteria 2, 4, and 5**. The discussion on operational energy use is divided into transportation energy demand and building energy demand; the transportation energy demand analysis discusses **Criteria 2, 4, and 6**, while the operational energy demand and generation analysis discusses **Criteria 2, 3, 4, and 5**.

4.5.5 Impacts and Mitigation Measures

The Project includes development of a utility scale, solar PV electricity generation and energy storage facility that would produce up to 150 MWs of solar energy and include up to 4 GWh of energy storage capacity rate in a battery energy storage system (BESS). Development includes demolition of existing SEGS X concrete foundations (as needed) to allow for construction of Project facilities. Concrete from these foundations would be removed and exported from the site for proper disposal at a licensed landfill.

Operation of the Project includes use of existing operations and maintenance (O&M) facilities (i.e., O&M building, warehouse and employee building) within the Shared Facilities Area that would be shared by Lockhart Solar I Facility and Project operations staff. The Project would also be served by shared, and already approved, water and septic systems within the adjacent Lockhart Solar I Facility site to the south. In addition, the already approved collector substation and the existing switchyard located within the Shared Facilities Area will be upgraded, as necessary, to connect the Project to the existing 13.8-mile transmission line which runs to SCE-owned Kramer Junction substation. The Shared Facilities Area also includes an existing reverse osmosis and demineralization system (RODS) to purify brackish groundwater before use at the existing SEGS VIII and IX solar power facilities. This reverse osmosis process requires high efficiency electric pumps to force water through high-pressure membranes to filter the brackish groundwater. Currently, the RODS operates continuously on an as-needed basis, up to approximately 18 hours per day.

Impact 4.5-1 *Would the Project result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during Project construction or operation?*

Level of Significance: Less than Significant

This analysis focuses on two sources of energy that are relevant to the Project: electricity and transportation fuel for vehicle trips and off-road equipment associated with Project construction and operations. It should be noted that the Project would not consume natural gas during construction or operations.

The analysis of construction and operational energy consumption is based on the California Emissions Estimator Model (CalEEMod) version 2016.3.2 modeling results for the Project. The Project's estimated energy consumption is based primarily on CalEEMod's default settings for the County and consumption factors provided by SCE, who is the electricity provider for the Project Site. The results of the CalEEMod and energy consumption modeling are included in Appendix A of the *Energy Memorandum* (Appendix F). The amount of operational fuel consumption was estimated using the CARB Emissions Factor 2017

(EMFAC2017) computer program which provides projections for typical daily fuel (i.e., diesel and gasoline) usage in the County, and the Project’s annual vehicle miles traveled (VMT) outputs from CalEEMod. The estimated construction fuel consumption is based on the Project’s construction equipment list timing/phasing, and hours of duration for construction equipment, as well as vendor, hauling, and construction worker trips.

Construction Related Energy Consumption

Project construction would consume energy in two forms, the fuel consumed by equipment and vehicles and the energy “stored” within construction materials. This stored energy is characterized as the amount of energy required to process the raw materials into usable construction materials. The electricity required to construct the Project is anticipated to be negligible and would be sufficiently offset by electricity produced by the Project. Since the Project would have a net positive effect on electricity consumption and will offset electricity consumption, the analysis below focused on fossil fuel consumption during Project construction.

Project construction is anticipated to be completed over a period of up to approximately 14 months. Thus, fuel consumed during Project construction would be temporary and would not represent a significant demand on energy resources. Fuels used would primarily consist of diesel and gasoline. The Project’s estimated construction and operational energy consumption is summarized in **Table 4.5-4: Estimated Project and Countywide Energy Consumption**. As noted in the table below, fuel used during construction is the primary source of energy demand for the Project.

Table 4.5-4: Estimated Project and Countywide Energy Consumption

Energy Type	Estimated Project Annual Energy Consumption ¹	San Bernardino County Annual Energy Consumption ²	Percentage Increase Countywide ²
Construction Fuel Consumption (Diesel)	293,555 gallons	220,859,813 gallons	0.1329%
Operational Automotive Fuel Consumption ³ (Gasoline)	27.27 gallons	954,663,081 gallons	<0.0001%
Operational Electricity Consumption	312 MWh	14,987,210 MWh	0.0021%

Notes:

1. As modeled in CalEEMod version 2016.3.2.
2. Electricity consumptions during Project operations is compared to the total consumption in San Bernardino County in 2019. The Project increases in construction and operational fuel consumption are compared with the projected Countywide heavy-duty vehicle/diesel fuel consumption and on-road automotive fuel consumption in 2021.
3. Project fuel consumption estimated based on CalEEMod results. Countywide fuel consumption is from the California Air Resources Board EMFAC2017 model.

Source: Michael Baker International. 2021. *Lockhart Solar PV II Project – Energy Analysis Technical Memorandum*. Table 3.

Transportation Energy Demand

Fossil fuels such as gasoline and diesel would be consumed during Project construction. Fuel consumed by construction equipment would be the primary energy resource expended over the course of construction. VMT associated with transportation of construction materials and construction worker

commutes would also result in fuel consumption. Heavy-duty construction equipment associated with construction activities would primarily rely on diesel fuel. It is conservatively assumed that construction workers would travel to and from the Project Site throughout construction in gasoline-powered vehicles.

The Project's fuel consumption would constitute a 0.1329 percent increase over the County's typical annual fuel consumption of approximately 221 million gallons; refer to **Table 4.5-4**. However, this fuel consumption would be short-term and finite, only being consumed over the course of the 14-month construction period. Additionally, some incidental energy conservation would occur during construction through compliance with State requirements and through USEPA and CARB engine emissions standards. These engine emissions standards require the use of more efficient engines in vehicles and equipment to encourage fuel efficiencies and reduce fuel consumption. Further, idling time of vehicles and equipment will be minimized to limit the amount of fuel consumption while no work is being completed. Additionally, the Project would implement **Mitigation Measure AQ-2**, which would require that off-road diesel-fueled construction vehicles and equipment greater than 50 hp meet Tier 4 emissions standards during demolition, grading, and facility construction. Compliance with Tier 4 emissions standards would not only reduce air pollutant emissions, but also increase fuel efficiency, thus reducing off-road equipment fuel consumption during Project construction. With the temporary 0.1329 percent increase in fuel consumption within the County and the use of fuel efficient and energy conserving engines, equipment, and practices in place, the Project would have a less than significant impact as it relates to transportation energy demand.

Material Energy Demand

The Project-related incremental increase in the use of energy bound in construction materials such as metal, concrete, and manufactured or processed materials would not substantially increase demand for energy compared to overall local and regional demand for construction materials. Additionally, it is noted that there are no unusual Project characteristics that would necessitate the use of construction equipment that would be less energy efficient than at comparable construction sites in the region or State. Therefore, construction fuel consumption would not be any more inefficient, wasteful, or unnecessary than other similar projects of this nature. Further, energy consumed to construct a renewable energy project to reduce the State's GHG emissions from energy would not be considered wasteful, inefficient, or unnecessary. As such, the Project would have a less than significant impact as it relates to material energy demand.

Conclusion

As shown in **Table 4.5-4**, the Project's construction fuel consumption would represent an approximate 0.1329 percent increase in fuel consumption over the current Countywide annual usage. Additionally, the Project would utilize USEPA and CARB engine emissions standards and implement **Mitigation Measure AQ-2**, both of which would reduce fuel consumption and prevent the unnecessary waste of fuels. Lastly, the Project would develop renewable energy resources on previously disturbed land that has been previously approved for renewable energy development; thus, the Project would not result in the

inefficient, wasteful, or unnecessary consumption of energy during construction. Overall, energy impacts during Project construction would be less than significant.

Operational Related Energy Consumption

Transportation Energy Demand

Table 4.5-4 provides an estimate of the annual fuel consumed by Project vehicles traveling to and from the Project Site during operations. The Project's operational trips are estimated to consume approximately 27 gallons of fuel (gasoline) per year, this represents a negligible amount compared to the projected 2021 San Bernardino County's automotive fuel consumption of approximately 954 million gallons of gasoline. During operation, the Project is estimated to generate approximately 40 trips per year for typical operation and maintenance activities such as cleaning and washing the solar panels. As a result of these 40 trips per year generated by the Project, the Project would consume approximately 27 gallons of transportation fuels, which constitutes a less than 0.0001 percent increase in the County's typical annual transportation fuel usage. Additionally, the Project does not propose any unusual features that would result in excessive long-term operation fuel consumption. As such, fuel consumption associated with the Project would not be considered inefficient, wasteful, or unnecessary. As such, the Project would have a less than significant impact as it relates to transportation energy demand.

Energy Demand and Generation

During Project operation, the electricity usage for HVAC units, communications equipment, lighting, and other typical operations and maintenance activities would be minimal and would be sufficiently offset by electricity produced by the Project. The electricity usage of the Project would constitute a nominal increase over San Bernardino County's typical annual electricity consumption.

As shown in **Table 4.5-4**, operational energy consumption for the Project would constitute an approximate 0.0021 percent increase in electricity consumption over the current Countywide usage. This increase in energy consumption for operation of the Project is well below current forecasts for Countywide usage. The Project would not require additional energy capacity or supplies. Additionally, as a power-generating facility with solar PV and energy storage, the Project would generate energy that could ease stress on intensive peak or base period electricity demands. Furthermore, the Project will generate a significantly higher amount of energy than it will consume.

The existing RODS within the Shared Facilities Area (or similar system) currently supports the SEGS VIII and IX facilities. During Project operation, the RODS will be used, as needed, to remove particles suspended in groundwater prior to Project solar panel cleaning, one to four times per year. This use is considered negligible and cannot be isolated separate from electricity consumption of the shared facilities. Therefore, energy demand (electricity) from this usage with implementation of the Project was not quantified and is expected to be negligible on an annual basis.

Additionally, the Project is currently anticipated to generate approximately 465,700 MWh of electricity per year. Thus, the Project would have a net positive impact on electricity consumption within the County

and region. The Project would provide the County and the State with additional renewable energy sources on previously disturbed land that has been previously approved for renewable energy development that would assist the State in complying with the RPS under SB 350 and SB 100. The increase in reliance of renewable energy resources further ensures that new development projects would not result in the waste of the finite energy resources. Further, the Project would support the County Policy Plan's Policies IU-5.1, IU-5.4, an IU-5.5 by increasing the availability and stability of electricity for the region while maintaining the environmental and public health and safety conditions of the region. Therefore, the Project would not cause wasteful, inefficient, and unnecessary consumption of energy during Project operation, or preempt future energy development or future energy conservation. As such, the Project would have a less than significant impact as it relates to energy demand and generation.

Conclusion

As shown in **Table 4.5-4**, the Project's operational energy consumption would represent an approximate 0.0021 percent increase in electricity consumption over the current Countywide usage. Additionally, the Project would not result in a substantial increase in demand for transmission service, resulting in the need for new or expanded sources of energy supply or new or expanded energy delivery systems or infrastructure. Lastly, the Project would provide additional renewable energy sources on previously disturbed land; thus, the Project would not result in the inefficient, wasteful, or unnecessary consumption of energy during operation. In fact, the Project would offset energy consumption from non-renewable fossil fuels to a renewable source. Overall, energy impacts during Project operation would be less than significant.

Decommissioning Related Energy Consumption

At the end of the Project's operational term, the Applicant may determine that the Project Site should be decommissioned and deconstructed, or it may seek an extension of its CUP(s). However, due to the lack of available in-depth details on decommissioning at this time, as a worst-scenario analysis, it was assumed that the decommissioning phase would utilize the same amount of energy as the construction phase. As discussed above, impacts related to construction-related energy consumption would be less than significant. As such, energy impacts during Project decommissioning would be less than significant.

Impact 4.5-2 ***Would the Project conflict with or obstruct a State or Local plan for renewable energy or energy efficiency?***

Level of Significance: Less than Significant

The County currently does not have a plan dedicated to renewable energy or energy efficiency. Nonetheless, the County's Policy Plan identifies several goals and policies to pursue sustainability and energy conservation within the County. Specifically, the Project Applicant would coordinate if necessary with military installations in preliminary planning and throughout the Project's construction stages and long-term operation in accordance to Policy LU-5.4; the Project would use low-emission construction vehicles and equipment in accordance to Policy NR-1.8; and the Project as a power-generating facility would also support Goal IU-5 in providing access to reliable power systems in unincorporated areas in

accordance to Policies IU-5.1, IU-5.4, and IU-5.5. Additionally, the County currently has a GHG Emissions Reduction Plan that encourages the increased use of renewable energy within the County and the siting of renewable energy facility in appropriate and suitable locations. The Project satisfies this plan by providing additional utility-scale renewable energy and is in a location that would provide consistent and reliable energy via solar PV and battery energy storage.

The applicable State plans and policies for renewable energy and energy efficiency include the SB 350 and SB 100. As discussed under Impact 4.5-1 above, the Project would provide the County and the State with additional renewable energy sources on previously disturbed land that would assist the State in complying with the RPS. Additionally, per the RPS, the Project would utilize electricity provided by the SCE that is composed of 35.1 percent renewable energy as of 2019 and would achieve at least 60 percent renewable energy by 2030. Therefore, the Project is supportive of the State's goals, and would not conflict with or obstruct a State or local plan for renewable energy or energy efficiency, and impacts would be less than significant.

4.5.6 Cumulative Impacts

Section 4.0, *Introduction to the Environmental Analysis*, of this Draft EIR provides a list of cumulative projects that would have the potential to be considered in a cumulative context with the Project's contribution. These projects are summarized in **Table 4.0-1: Cumulative Projects** and shown in **Figure 4.0-1: Cumulative Projects Map**. Energy use and consumption is a largely cumulative impact. Many consumers drawing energy from a single power source can raise the base load on the power grid and exacerbate existing issues with peak energy uses. Additionally, the use of fuels for combustion in an inefficient, wasteful, and unsustainable manner can cause stress on existing networks. Based on these considerations, project-level thresholds of significance for energy use are relevant in the determination of whether the Project's individual energy consumption would have a cumulatively significant impact on energy in the region.

As described above, the Project would not result in a significant impact related to inefficient, wasteful, or unnecessary consumption of energy resources. Each cumulative project would be required to maintain compliance with State requirements and through USEPA and CARB engine emissions standards and ensure that all off-road diesel-powered construction equipment greater than 50 hp meets the Tier 4 final emission standards. Compliance with these measures would increase efficiencies of equipment and vehicles and reduce fuel consumption. Further, the Project would offset energy consumption from non-renewable fossil fuels to a renewable source. As such, the Project's contribution to cumulative impacts associated with inefficient, wasteful, or unnecessary use of energy resources would not be substantial.

The Project is supportive of the State's goals as well as State and local plans for renewable energy and energy efficiency. Each similar cumulative project should also comply with all State and local plans, particularly SB 350 and SB 100, the County's Policy Plan, and the County's GHG Emissions Reduction plan. These plans provide guidelines and goals for reducing energy waste and increasing renewable energy resources in the State and County. In fact, the Project would offset energy consumption from non-renewable fossil fuels to a renewable source. As this Project does not obstruct or conflict with State or

Local plans, the Project's contribution to cumulative impacts associated with conflicting or obstructing State and Local plans would not be substantial.

4.5.7 Significant Unavoidable Impacts

The Project would not result in any significant and unavoidable impacts related to energy.

4.5.8 References

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4.6 GEOLOGY AND SOILS

4.6.1 Introduction

This section discusses the environmental setting, existing conditions, regulatory context, and potential impacts of the Project in relation to geology and soils. This section also considers the potential impacts to paleontological resources.

The information and analysis on geology and soils is largely based on information from the *Geotechnical Investigation Report* and a *Supplemental Memorandum* prepared by Westwood Professional Services (see Appendix G-1 and G-2, respectively). The information and analysis on paleontological resources is based on information provided in the *Paleontological Overview* from the Western Science Center and provided in Appendix F of the *Cultural Resources Assessment* (see Appendix E). The discussion on soil erosion is supported by information from the *Preliminary Hydrology Report* (see Appendix J).

4.6.2 Environmental Setting

The Project is located in San Bernardino County (County) approximately 20 miles northwest of the City of Barstow and just west of Harper Lake. The Project Site is adjacent to the existing Solar Energy Generating System (SEGS) VIII and IX Solar Thermal Power Plants and is largely sited on land previously approved by the California Energy Commission (CEC) for development of the SEGS X Solar Thermal Power Facility, although construction of SEGS X was initiated, halted and never resumed in the early 1990s. The Project Site is approximately 755 acres and primarily consists of a relatively flat, previously disturbed land with miscellaneous concrete foundations, various electrical lines and poles, as well as existing facilities within the Shared Facilities Area.

For the purposes of the *Geotechnical Investigation Report*, the “project boundary or project area” included in the investigation is consistent with the SEGS X facility boundary (approximately 600-acres) and excludes the portion of the Project Site on its southern end referred to as the Shared Facilities Area and any areas outside the existing SEGS X property fence line. While the Project Site, as a whole, is discussed in the *Geotechnical Investigation Report* as it relates to regional geology and seismicity, Westwood did not include the Shared Facilities Area as part of the geotechnical field investigation. In 1987, Applied Geotechnical Engineering, Inc. prepared a *Geotechnical Engineering Study* for proposed SEGS facilities under CEC jurisdiction. As concluded in the *Geotechnical Engineering Study* at that time, there were potential subsurface conditions that would require geologic design recommendations in order to support the proposed SEGS facility. The *Geotechnical Engineering Study* recommended that design-level engineering and applicable regulatory codes be followed in order to construct the proposed SEGS facility. The SEGS facilities were approved by the CEC, and construction of the Shared Facilities Area occurred as part of SEGS VIII and IX facilities construction in the early 1990s. Existing facilities in the Shared Facilities Area include an operations and maintenance (O&M) building, warehouse, employee building, switchyard, other supporting facilities, electrical transmission infrastructure, and compacted access roads. Thus, the Shared Facilities Area has incurred comprehensive severe surface disturbance over the past 30 years as part of the two operational solar thermal facilities. The Shared Facilities Area is also part of the 2019

County-approved Lockhart Solar I Facility site (Conditional Use Permit [CUP] Project #201900125) and includes the permitted, but not yet constructed, collector substation and battery energy storage system (BESS) for Lockhart Solar I Facility, BESS for SEGS IX (CEC permitted in 2020), and would include the BESS for the Project. As geotechnical conditions within the Shared Facilities Area were previously reviewed as part of the SEGS VII or SEGS IX and X CEC certifications, it was not included in the geotechnical field investigation for the Project.

For the purposes of the analysis in this section, the “investigation area” refers to the area included within the geotechnical field investigation as analyzed within the *Geotechnical Investigation Report* prepared by Westwood Professional Services.

Geologic Setting

The Project Site is located within the Sonoran Desert Section of the Basin and Range Province, which is part of the greater Intermontane Plateaus Division. The Basin and Range Province is divided into five sections, including the Great Basin, Sonoran Desert, Salton Trough, Mexican Highland, and Sacramento Sections. The Basin and Range Province spans from eastern California to central Utah in the east-west direction and from southern Idaho to Sonora (Mexico) in the north-south direction. The distinct feature of the Basin and Range Province is the alternating pattern of valleys and ranges, caused by the faults that resulted from the expansion of the Earth’s crust and upper.

As described in the *Geotechnical Investigation Report* (provided in Appendix G-1 of this Draft EIR), three major soil units exist across the investigation area: Norob-Halloran Complex (65 percent), Victorville Variant Sand (16 percent), and Cajon Loamy Sand (13 percent). Other minor soils include Kimberlina Loamy Fine Sand and Cajon Sand. The Norob-Halloran Complex is described as alluvium derived from granite and classified as silty sand (SM) and poorly graded sand (SP). The Victorville Variant Sand Complex is described as alluvium derived from granite and classified as silty sand (SM) and poorly graded sand (SP). The Cajon Loamy Sand is described as alluvium derived from granite sources and classified as silty sand (SM). The Mapped Soil Surveys are shown in Exhibit 3 of the *Geotechnical Investigation Report*.

According to the Geologic Map of California, the Project Site is mapped within Quaternary alluvium and marine deposits (see Exhibit 4 of the *Geotechnical Investigation Report*). This Pleistocene- to Holocene-aged unit consists mostly of alluvium, lake, playa, and terrace deposits and is described as unconsolidated to semi-consolidated. Additional geologic units mapped within 5 miles of the Project Site include Precambrian rocks to the northwest and Mesozoic granitic rocks also to the northwest.

Faults and Seismicity

Active Faults

The Project Site sits in proximity to a number of mapped faults, including the Lockhart Section of the Lenwood-Lockhart fault zone, located less than 0.25 miles northeast of the Project Site, and several other faults mapped within 10 miles of the Project Site. The active Lenwood-Lockhart fault zone is Holocene-aged (last 11,650 years) and runs northwest to southeast with a vertical dip direction and a right-lateral

slip at a rate between approximately 0.2 and 1.0 millimeters per year (mm/yr). Although the Project Site is not mapped within an Alquist-Priolo Fault Zone, an Alquist-Priolo Fault Zone is mapped along the Lenwood-Lockhart fault, less than 1/4 mile from the Project Site (see Exhibit 6 of the *Geotechnical Investigation Report*).

Ground Shaking

Ground shaking is the earthquake effect that produces the vast majority of damage. Several factors control how ground motion interacts with structures, making the hazard of ground shaking difficult to predict. Earthquakes, or earthquake-induced landslides, can cause damage near and far from fault lines. The potential damage to public and private buildings and infrastructure can threaten public safety and result in significant economic loss. Ground shaking is the most common effect of earthquakes that adversely affects people, animals, and constructed improvements. Seismic waves propagating through the earth's crust are responsible for the ground vibrations normally felt during an earthquake. Seismic waves can vibrate in any direction and at different frequencies, depending on the frequency content of the earthquake rupture mechanism and the path and material through which the waves are propagating. The earthquake rupture mechanism is the distance from the earthquake source, or epicenter, to an affected site.

San Bernardino County (County) is historically a seismically active region and at high risk for continued seismic activity. As described in the *Geotechnical Investigation Report*, in the past 50 years, 20 earthquake events greater than 4.0 magnitude on the Richter scale and more than 700 events greater than 2.5 magnitude have been mapped within 25 miles of the Project Site. The largest of these events was a 4.8 magnitude earthquake located approximately 23 miles east of the Project Site recorded in 1992. The nearest of these events was a 4.1 magnitude earthquake located approximately 8 miles southeast of the Project Site. The most recent of the events greater than a 4.0 magnitude earthquake located approximately 21 miles east of the Project Site, recorded in 2000.

Groundwater

Groundwater was not observed in any of the borings at the time of field exploration in the investigation area. These observations represent groundwater conditions at the time of the field exploration and may not be indicative of other times or other locations. Groundwater conditions can change with varying seasonal and weather conditions, and other factors. Based on publicly available groundwater monitoring data from the California Department of Water Resources, recent groundwater levels are greater than 100 feet below ground surface (bgs) in the region.

Paleontological Resources

A paleontological record search was conducted for the previously approved SEGS X facility site and a one-mile radius surrounding the SEGS X facility site, which is inclusive of the Project Site. As noted in the *Paleontological Overview*, the geologic units underlying the Project Site are mapped entirely as alluvial gravel, sand, and silt deposits dating from the Holocene period. Holocene alluvial units are considered to be of high preservation value, but material found is unlikely to be fossil material due to the relatively

modern associated dates of the deposits. Substantial depths of disturbance within the Project Site during construction would increase the potential likelihood of reaching Early Holocene or Late Pleistocene alluvial sediments, which would have a higher potential to be paleontologically sensitive. As noted in the *Paleontological Overview*, Western Science Center did not identify any localities within the Project Site or within the radius search area.

4.6.3 Regulatory Setting

Federal

Earthquake Hazards Reduction Act

The Earthquake Hazards Reduction Act was enacted in 1997 to “reduce the risks to life and property from future earthquakes in the United States through the establishment and maintenance of an effective earthquake hazards and reduction program.” To accomplish this, the Act established the National Earthquake Hazards Reduction Program (NEHRP). This program was significantly amended in November 1990 by NEHRP, which refined the description of agency responsibilities, program goals, and objectives.

NEHRP’s mission includes improved understanding, characterization, and prediction of hazards and vulnerabilities; improvement of building codes and land use practices; risk reduction through post-earthquake investigations and education; development and improvement of design and construction techniques; improvement of mitigation capacity; and accelerated application of research results. The NEHRP designates the Federal Emergency Management Agency (FEMA) as the lead agency of the program and assigns it several planning, coordinating, and reporting responsibilities. Programs under NEHRP help inform and guide planning and building code requirements such as emergency evacuation responsibilities and seismic code standards such as those to which the Project would be required to adhere.

State

The Alquist-Priolo Earthquake Fault Zoning Act of 1972

The Alquist-Priolo Earthquake Fault Zoning Act (Public Resources Code [PRC] Section 2621 et seq.) was enacted by the State in 1972 to regulate the development and construction of buildings intended for human occupancy to avoid hazards associated with surface fault rupture. In accordance with this law, the California Geological Survey (CGS) maps active faults and designates Earthquake Fault Zones along mapped faults. These are zones that lie within 500 feet on either side of the surface traces of active faults. The State Geologist is also required to issue appropriate maps to assist cities and counties to assist them in regulating new construction and renovations. This act groups faults into categories (i.e., active, potentially active, or inactive). Historic and Holocene faults are considered active, Late Quaternary and Quaternary faults are considered potentially active, and pre-Quaternary faults are considered inactive. These classifications are qualified by conditions. For example, a fault must be shown to be “sufficiently active” and “well defined” through detailed site-specific geologic explorations to determine whether building setbacks should be established. Local agencies enforce the Alquist-Priolo Earthquake Fault Zoning Act as part of the development permit process, where applicable, and may be more restrictive than State law requires. According to the Alquist-Priolo Earthquake Fault Zoning Act, before a project that is located

within an Alquist-Priolo Earthquake Fault Zone can be permitted, cities and counties shall require a geologic investigation prepared by a licensed geologist to demonstrate that buildings will not be constructed across active faults. If an active fault is found, a building for human occupancy cannot be placed over the trace of the fault and must be set back. Although setback distances may vary, a minimum 50-foot setback is required. The Alquist-Priolo Earthquake Fault Zoning Act and its regulations are presented in the CGS's Special Publication 42, Fault Rupture Hazard Zones in California.

The Seismic Hazards Mapping Act of 1990

To address the effects of strong ground shaking, liquefaction, landslides, and other ground failures due to seismic events, California passed the Seismic Hazards Mapping Act of 1990 (PRC Sections 2690-2699). Under the Seismic Hazards Mapping Act, the State Geologist is directed to delineate seismic hazard zones. The purpose of the act is to reduce the threat to public health and safety and minimize the loss of life and property by identifying and mitigating seismic hazards, such as those associated with strong ground shaking, liquefaction, landslides, other ground failures, or other hazards caused by earthquakes. Cities, counties, and state agencies are directed to use seismic hazard zone maps developed by the CGS in their land use planning and permitting processes. In accordance with the Seismic Hazards Mapping Act, site-specific geotechnical investigations must be performed prior to permitting most urban development projects within seismic hazard zones.

California Building Code

The State establishes minimum standards for building design and construction through the California Building Code (CBC) (California Code of Regulations [CCR] Title 24). The CBC is based on the Uniform Building Code, which is used widely throughout the United States (generally adopted on a state-by-state or district-by-district basis) and has been modified for conditions in California. State regulations and engineering standards related to geology, soils, and seismic activity in the Uniform Building Code are reflected in the CBC requirements. The CBC contains specific requirements for seismic safety, excavation, foundations, retaining walls, and site demolition. It also regulates grading activities, including drainage and erosion control. The CBC applies to all occupancies in California, except where stricter standards have been adopted by local agencies. s16 of the CBC contains provisions for structural design which includes, among others, soil lateral loads (Section 1610) and earthquake loads (Section 1613). Provisions for soils and foundations which include geotechnical explorations (Section 1803), excavation, grading and fill (Section 1804), and foundations (sections 1808-1810), among others, are presented in Chapter 18.

Public Resources Code Section 5097.5 and Section 30244

Other state requirements for paleontological resource management are included in PRC Section 5097.5 and Section 30244. These statutes prohibit the removal of any paleontological site or feature from public lands without permission of the jurisdictional agency, define the removal of paleontological sites or features as a misdemeanor, and require reasonable mitigation of adverse impacts to paleontological resources from developments on public (state, county, city, district) lands.

Public Resources Code, Section 5097.5

PRC Section 5097.5 defines as a misdemeanor the unauthorized disturbance or removal of archaeological, historic, or paleontological resources located on public lands.

California Environmental Quality Act

Paleontological resources are afforded protection by environmental legislation set forth under CEQA. Appendix G of the State CEQA Guidelines provides guidance relative to significant impacts on paleontological resources, stating that “a project will normally result in a significant impact on the environment if it will ...disrupt or adversely affect a paleontological resource or site or unique geologic feature.” The Guidelines do not define “directly or indirectly destroy,” but it can be reasonably interpreted as the physical damage, alteration, disturbance, or destruction of a paleontological resource. The Guidelines also do not define the criteria or process to determine whether a paleontological resource is significant or “unique.”

Local

San Bernardino County Countywide Plan/Policy Plan

The County adopted the Countywide Plan/Policy Plan (Policy Plan) in October 2020. The Policy Plan provides an update of the County’s General Plan addressing physical, social and economic issues facing the unincorporated portions of the County. The Policy Plan also provides an expansion of the County’s General Plan to address supportive service for adults and children, healthcare service, public safety, and other regional county services provided to both incorporated and unincorporated areas.

Relevant policies of the San Bernardino County Policy Plan are as follows:

Cultural Resources Element

Policy CR-2.3 **Paleontological and archaeological resources.** We strive to protect paleontological and archaeological resources from loss or destruction by requiring that new development include appropriate mitigation to preserve the quality and integrity of these resources. We require new development to avoid paleontological and archeological resources whenever possible. If avoidance is not possible, we require the salvage and preservation of paleontological and archeological resources.

Hazards Element

Policy HZ-1.2 All development must be located outside of the Alquist Priolo earthquake fault zone. For any lot or parcel that does not have sufficient buildable area outside this hazard area requires adequate mitigation measures that allow occupants to shelter in place and to have sufficient time to evacuate during times of extreme weather and natural disaster.

Policy HZ-1.6 New critical and essential facilities should be located outside of hazard areas whenever feasible.

Policy HZ-1.7 Underground utilities must be designed to withstand seismic forces, accommodate ground settlement, and hardened to fire risk.

San Bernardino County Emergency Operations Plan

The San Bernardino County Emergency Operations Plan (EOP) is a comprehensive, single source of guidance and procedures for the County to prepare for and respond to significant or catastrophic natural, environmental, or conflict-related risks that result in situations requiring coordinated response. The EOP further provides guidance regarding management concepts relating to the County's response to and abatement of various emergency situations, identifies organizational structures and relationships, and describes responsibilities and functions necessary to protect life and property.

The plan is consistent with the requirements of the Standardized Emergency Management System (SEMS) as defined in Government Code Section 8607(a) and the National Incident Management System (NIMS) as defined by presidential executive orders for managing response to multi-agency and multi-jurisdictional emergencies. As such, the plan is flexible enough to use in all emergencies and will facilitate response and short-term recovery activities. SEMS/NIMS incorporate the use of the Incident Command System (ICS), mutual aid, the operational area concept, and multi/interagency coordination.

San Bernardino County Hazard Mitigation Plan

The Multi-Jurisdictional Hazard Mitigation Plan (MJHMP) is a "living document" that should be reviewed, monitored, and updated to reflect changing conditions and new information. As required, the MJHMP must be updated every 5 years to remain in compliance with regulations and federal mitigation grant conditions. The plan includes information regarding hazards being faced by the County, the San Bernardino County Fire Protection District, the San Bernardino County Flood Control District, and those board-governed special districts administered by the San Bernardino County Special Districts Department.

Society for Vertebrate Paleontology Guidelines

The Society of Vertebrate Paleontology (SVP) has established guidelines for the identification, assessment, and mitigation of adverse impacts on nonrenewable paleontological resources. Most practicing paleontologists in the nation adhere closely to the SVP's assessment, mitigation, and monitoring requirements outlined in these guidelines, which were approved through a consensus of professional paleontologists and are the standard. The SVP outlined criteria for screening the paleontological potential of rock units (High, Undetermined, Low) and established assessment and mitigation procedures tailored to such potential.

As defined by the SVP (2010:11) significant nonrenewable paleontological resources are:

Fossils and fossiliferous deposits here restricted to vertebrate fossils and their taphonomic and associated environmental indicators. This definition excludes invertebrate or paleobotanical fossils except when present within a given vertebrate assemblage. Certain invertebrate and plant fossils may be defined as significant by a project paleontologist, local paleontologist, specialists, or special interest groups, or by lead agencies or local governments.

As defined by the SVP (1995:26), significant fossiliferous deposits are:

A rock unit or formation which contains significant nonrenewable paleontologic resources, here defined as comprising one or more identifiable vertebrate fossils, large or small, and any associated invertebrate and plant fossils, traces, and other data that provide taphonomic, taxonomic, phylogenetic, ecologic, and stratigraphic information (ichnites and trace fossils generated by vertebrate animals, e.g., trackways, or nests and middens which provide datable material and climatic information). Paleontologic resources are considered to be older than recorded history and/or older than 5,000 years BP [before present].

Based on the significance definitions of the SVP, all identifiable vertebrate fossils are considered to have significant scientific value. This position is adhered to because vertebrate fossils are relatively uncommon, and only rarely will a fossil locality yield a statistically significant number of specimens of the same genus. Therefore, every vertebrate fossil found has the potential to provide significant new information on the taxon it represents, its paleoenvironment, and/or its distribution. Furthermore, all geologic units in which vertebrate fossils have previously been found are considered to have high sensitivity. Identifiable plant and invertebrate fossils are considered significant if found in association with vertebrate fossils or if defined as significant by project paleontologists, specialists, or local government agencies.

A geologic unit known to contain significant fossils is considered to be “sensitive” to adverse impacts if there is a high probability that earth-moving or ground-disturbing activities in that rock unit will either directly or indirectly disturb or destroy fossil remains. Paleontological sites indicate that the containing sedimentary rock unit or formation is fossiliferous. The limits of the entire rock formation, both areal and stratigraphic, therefore define the scope of the paleontological potential in each case.

Fossils are contained within surficial sediments or bedrock, and are therefore not observable or detectable unless exposed by erosion or human activity. Therefore, without to natural erosion or human-caused exposure, paleontologists cannot know either the quality or quantity of fossils. As a result, even in the absence of surface fossils, it is necessary to assess the sensitivity of rock units based on their known potential to produce significant fossils elsewhere within the same geologic unit (both within and outside of the study area), a similar geologic unit, or based on whether the unit in question was deposited in a type of environment that is known to be favorable for fossil preservation. Monitoring by experienced paleontologists greatly increases the probability that fossils will be discovered during ground-disturbing activities and that, if the fossils are significant, that successful mitigation and salvage efforts may be undertaken.

4.6.4 Impact Thresholds and Significance Criteria

In accordance with Appendix G of the State CEQA Guidelines, a project would have a significant impact related to geology and soils if it would:

Threshold (a): Directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving:

- i. Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault. (Refer to Division of Mines and Geology Special Publication 42).
- ii. Strong seismic ground shaking.
- iii. Seismic-related ground failure, including liquefaction.
- iv. Landslides.

Threshold (b): Result in substantial soil erosion or the loss of topsoil;

Threshold (c): Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse;

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

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

Threshold (f): Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature.

4.6.5 Impacts and Mitigation Measures

Impact 4.6-1 *Would the Project directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving:*

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

Level of Significance: Less than Significant

The Project Site is located in a seismically active region. While the Project Site is not mapped within an Alquist-Priolo Fault Zone, an Alquist-Priolo Fault Zone is mapped along the Lenwood-Lockhart fault, less than 0.25 miles from the Project Site. As the Project Site lies more than 500 feet outside of the Fault Rupture Study Area, the possibility of impacts due to ground rupture from earthquake fault rupture is considered low. While there are more than 700 earthquakes above 2.5 magnitude that have been mapped within 25 miles of the Project Site, all construction activities and equipment installed within the Project Site would be subject to the applicable State and local regulations. Therefore, with conformance to all applicable requirements, the Project would not locate people or structures into areas that are susceptible to potential substantial adverse effects, including the risk of loss, injury, or death involving rupture of a known earthquake fault. Therefore, impacts would be less than significant.

Impact 4.6-2 *Would the Project directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving:*

ii) Strong seismic ground shaking?

Level of Significance: Less than Significant

Southern California, including the Project Site, is a seismically active area and is subject to periodic ground shaking resulting from seismic activity on regional faults. Although the Project Site is not mapped within an Alquist-Priolo Fault Zone, the Lenwood-Lockhart fault is within 0.25 miles of the Project Site. Ground shaking associated with nearby and regional faults should be anticipated during the lifespan of the Project. The Project's elements, associated infrastructure, and improvements would be required to be designed in compliance with all applicable CBC requirements, which are proven to adequately address potential impacts to ground shaking. Compliance with federal, State, and local laws, regulations, and policies ensure that the Project would not directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving strong seismic ground shaking. Therefore, impacts would be less than significant.

Impact 4.6-3 *Would the Project directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving:*

iii) Seismic-related ground failure, including liquefaction?

Level of Significance: Less than Significant

Seismically-induced soil liquefaction can be described as a significant loss of strength and stiffness due to cyclic pore water pressure generation from seismic shaking or other large cyclic loading. The material types considered most susceptible to liquefaction are loose to medium dense poorly-graded sands with low fines content, saturated soil conditions (typically due to a shallow groundwater table), and large seismic shaking events (generally greater than magnitude 6.5). According to the *Geotechnical Investigation Report*, while the investigation area does contain pockets of poorly graded sand with low fines content and has experienced large seismic events, the majority of the ground material within the investigation area is medium dense to dense with no groundwater detected. There are few pockets of poorly graded sand and few large seismic events. Therefore, the overall potential for liquefaction to occur is low. With compliance with all applicable federal, State, and local regulations, the Project would not directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving seismic-related ground failure, including liquefaction. Therefore, impacts would be a less than significant.

Impact 4.6-4 *Would the Project directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving:*

iv) Landslides?

Level of Significance: Less than Significant

Strong shaking has the potential for activating landslides on hillsides. As depicted in Exhibit 3 of the *Geotechnical Investigation Report*, the investigation area is located on relatively flat, vegetated desert ground on 0 to 5 percent slopes. In addition, the Project Site is not located on, or adjacent to, steep slopes or hillsides, and improvements within the Project Site would not result in the creation of steep slopes. Therefore, the Project would not directly or indirectly cause potential substantial adverse effects, including the risk of loss, injury, or death involving landslides. Therefore, impacts would be less than significant.

Impact 4.6-5 *Would the Project result in substantial soil erosion or the loss of topsoil?*

Level of Significance: Less than Significant

Soil erosion may result during Project construction as grading and construction activities could loosen surface soils and make soils susceptible to the effects of wind and water movement across the surface. However, all construction activities related to the Project would be subject to compliance with the CBC. Additionally, all development associated with the Project would be subject to compliance with the requirements set forth in the National Pollutant Discharge Elimination System (NPDES) Storm Water General Construction Permit (Order No. 99-08-DWQ) for construction activities.

Construction activities would continue to be conducted in accordance with an approved Stormwater Pollution Prevention Plan (SWPPP) and Best Management Practices (BMPs) to prevent erosion and stormwater runoff. A SWPPP is required as part of the County grading permit application package. The SWPPP would provide a schedule for the implementation and maintenance of erosion control measures, and a description of the erosion control measures, including appropriate design details, to be implemented during Project construction. The SWPPP would consider the full range of erosion control BMPs with consideration for any additional site-specific and seasonal conditions, as appropriate. Erosion control BMPs include but are not limited to the application of straw mulch, hydroseeding, the use of geotextiles, plastic covers, silt fences, and erosion control blankets, as well as construction site entrance/outlet tire washing. The NPDES Permit also requires that those implementing SWPPPs meet prerequisite qualifications that demonstrate the skills, knowledge, and experience necessary to implement those plans. NPDES requirements would substantially reduce the potential for erosion or topsoil loss to occur in association with new development. Water quality features intended to reduce construction-related erosion impacts will be clearly noted on the grading plans for implementation by the construction contractor. In accordance with the BMPs, to reduce wind-related erosion, wetting of soil surfaces, covering exposed round areas and soil stockpiles, and tackifiers would be considered during construction operations, as appropriate. Implementation of BMPs would ensure that water- and wind-related erosion would be confined to the construction area and not transported off-site.

The potential for erosion to occur during Project construction would be minimized by limiting certain construction activities to dry weather, covering exposed excavated dirt during periods of rain, and protecting excavated areas from flooding with temporary berms. As a result, Project construction would not result in substantial soil erosion or the loss of topsoil. Therefore, impacts would be less than significant.

Following completion of construction activities, the Project Site would be an operational utility scale solar photovoltaic (PV) electricity generation and energy storage facility. The overall potential for soil erosion would be reduced from existing conditions as there would be reduced exposed soils on the Project Site. As the Project does not include any paved areas or access roads, the added impervious areas are limited to Project facilities (such as the solar arrays, posts under the arrays, inverters, and battery storage units). As further detailed in Section 4.9, *Hydrology and Water Quality*, the existing berm and open channel that currently runs along the western boundary of the SEGS VIII facility site would be extended for collection and routing of offsite run-on as part of the Project to protect the Project from off-site flows and to minimize erosion. On-site flows are anticipated to sheet flow across the Project Site with only minor increases in imperviousness and therefore are not expected to result in substantial erosion. Therefore, Project operation would not result in substantial soil erosion or the loss of topsoil, and impacts would be less than significant.

Impact 4.6-6 ***Would the Project be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the Project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse?***

Level of Significance: Less than Significant

As stated in the *Supplemental Memorandum* (see Appendix G-2), there is potential for long-term subsidence in the vicinity of the Project Site due to regional groundwater withdrawal in the Harper Lake Basin. Soil collapse occurs when a relatively loose, dry, low density material is inundated with water and subjected to a load. Loess and alluvially deposited silty material are particularly prone to collapse. While the likelihood of collapse beneath the Project Site is generally considered low due to the relatively dense soil conditions, the potential does exist for collapse to occur in the vicinity of the Project Site in unstabilized (e.g., uncompacted and potentially loose at the surface) when subjected to large quantities of applied surface water (e.g., significant rain events with greater than 1 inch of rainfall). Surface water application during Project construction would only require nominal amounts, as needed, for dust suppression in compliance with the Project's approved dust control plan. Therefore, while there is low potential for the Project Site to include unstable geologic conditions, the Project would be required to comply with applicable federal, State, and local regulations and standard best engineering practices to ensure that the Project would not result in geologic hazardous conditions related to subsidence.

As mentioned earlier, much of the ground material on the Project Site is medium dense to dense with no groundwater detected. Therefore, the overall Project Site is not on unstable soil nor would the soil become unstable from the Project. The Project is also on relatively flat ground with low potential for landslides. Therefore, with compliance with all applicable regulations, the Project would not be developed

on a geologic unit or soil that is unstable, or that would become unstable, and impacts would be less than significant.

Impact 4.6-7 Would the Project be located on expansive soil, as defined in Table 181B of the Uniform Building Code (1994), creating substantial risks to life or property?

Level of Significance: Less than Significant

Expansive soils generally have a substantial amount of clay particles, which can give up water (shrink) or absorb water (swell). The change in the volume exerts stress on loads placed on these soils. The extent or range of the shrink/swell is driven by the amount and type of clay present in the soil. Expansive soils are commonly very fine-grained with a high to very high percentage of plastic clays. Mitigation of expansive soils generally includes removing clay materials from the area of the proposed improvements and/or moisture conditioning clayey soils to well above optimum moisture content prior to recompaction and/or as recommended by the geotechnical report prepared for a project.

As stated in the *Geotechnical Investigation Report*, the Project Site is generally underlain with alluvium (granite, silty sand, and poorly graded sand) and marine deposits. Therefore, the Project would not be located on expansive soil, which would create substantial risks to life or property. Therefore, impacts would be less than significant.

Impact 4.6-8 Would the Project have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems in areas where sewers are not available for the disposal of wastewater?

Level of Significance: Less than Significant

The Project would not include installation of a new or expanded septic systems or other alternative wastewater disposal systems. The Project would also be served by shared, and already approved, water and septic systems within the adjacent Lockhart Solar I Facility site to the south. Therefore, the Project would not have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems in areas where sewers are not available for the disposal of wastewater. Therefore, impacts would be less than significant.

Impact 4.6-9 Would the Project directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?

Level of Significance: Less than Significant with Mitigation Incorporated for Project construction. No Impact for Project operation.

There are no known unique geologic features within the Project Site. As previously stated under Subsection 4.6.2, *Environmental Setting*, the material found in the Holocene alluvial units are unlikely to be fossil material due to the relatively modern associated dates of the deposits. However, substantial depths of disturbance or excavation within the Project Site during Project construction would increase the potential likelihood of reaching Early Holocene or Lake Pleistocene alluvial sediments, which would have a higher potential to be paleontologically sensitive, as per the guidelines of the SVP. Therefore, impacts related to paleontological resources during Project construction would be potentially significant.

With implementation of **Mitigation Measures GEO-1 and GEO-2**, impacts during Project construction to unique paleontological resources or sites would be reduced to less than significant.

Operation of the Project would not require significant ground disturbing activities, such as grading or excavation; therefore, there is limited potential to encounter, alter, or disturb paleontological resources during Project operation. Therefore, no impacts related to paleontological resources during Project operation are anticipated.

Mitigation Measures

GEO-1 Prior to initiation of ground-disturbing activities, the Project Applicant and construction manager shall conduct a Worker Education Awareness Program (WEAP) to alert field personnel to the possibility of paleontological resources. Development of the WEAP shall include consultation with a Qualified Paleontologist. The Qualified Paleontologist is defined as a paleontologist meeting the criteria established by the Society for Vertebrate Paleontology (2010). The WEAP training shall include an overview of potential significant paleontological resources that could be encountered during ground disturbing activities, including how to identify subsurface evidence of “older” sediment or fossils that may potentially be encountered during excavation, to facilitate worker recognition, avoidance, and subsequent immediate notification to the Qualified Paleontologist. Prior to ground-disturbing activities, the San Bernardino County Land Use Services Department shall ensure that construction personnel partake in the WEAP. Documentation shall be retained demonstrating that construction personnel attended the training.

GEO-2 In the event that paleontological resources are exposed during construction activities for the Project, all work occurring within 100 feet of the find shall immediately stop until a Qualified Paleontologist can evaluate the significance of the find and determine whether or not additional study is warranted, in consultation with the County. Work shall be allowed to continue outside of the buffer area. If it is demonstrated that resources cannot be avoided, the Qualified Paleontologist shall develop additional treatment measures that follow the guidelines of the SVP (2010) in consultation with the County, which may include recovery or other appropriate measures. Any fossils collected shall be curated at a public, non-profit institution with a research interest in the material and with retrievable storage, if such an institution agrees to accept the fossils. The Qualified Paleontologist shall prepare a report documenting the treatment of the resource. A copy of the report shall be provided to the County.

4.6.6 Cumulative Impacts

Section 4.0, *Introduction to the Environmental Analysis*, of this Draft EIR provides a list of cumulative projects that would have the potential to be considered in a cumulative context with the Project’s incremental contribution. These projects are summarized in **Table 4.0-1: Cumulative Projects** and shown in **Figure 4.0-1: Cumulative Projects Map**. Ongoing development and growth in the broader area may result in a cumulatively significant impact to geology and soils and to paleontological resources.

Due to the site-specific nature of geological conditions (i.e., soils, geological features, subsurface features, seismic features, etc.), impacts associated with geology and soils are typically assessed on a project-by-project basis rather than on a cumulative basis. However, as with the Project, cumulative projects would be subject to the same established guidelines and regulations pertaining to building design and seismic safety, including those set forth in the CBC and other applicable regulations. In addition, the cumulative projects would not have the potential to directly or indirectly exacerbate existing seismic conditions cumulatively in combination with the Project. Therefore, considering the existing regulatory requirements and regulations that would apply to all development, the Project's contribution to cumulative impacts associated with geology and soils would not be considerable.

With regard to paleontological resources, some of the cumulative projects may include excavation on parcels that have been disturbed or are already developed, as well as on open space parcels, and would have the potential to disturb geological units that are sensitive for paleontological resources. Generally, however, projects that require substantial excavation would be subject to environmental review under CEQA. If the potential for significant impacts on paleontological resources were identified given the site characteristics and development program of the cumulative projects, the cumulative projects would be required to implement mitigation measures to avoid significant impacts. Implementation of similar mitigation measures, as proposed under the Project, would ensure that cumulative effects from cumulative projects are considered less than significant.

The Project would be required to comply with **Mitigation Measures GEO-1 and GEO-2** to reduce the potential for significant impacts on paleontological resources to less-than-significant levels. Therefore, the Project's contribution to cumulative impacts associated with paleontological resources would not be considerable.

4.6.7 Significant Unavoidable Impacts

The Project would not result in any significant and unavoidable impacts related to geology and soils.

4.6.8 References

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4.7 GREENHOUSE GAS EMISSIONS

4.7.1 Introduction

This section addresses potential impacts to global climate change resulting from the emissions into and retention of greenhouse gases (GHG) in the atmosphere. These emissions may result from the construction and/or operation of the Project. The following discussion addresses the existing conditions of the affected environment pertaining to GHG emissions, evaluates the Project's consistency with applicable goals and policies, identifies and analyzes environmental impacts, and recommends measures to reduce or avoid potential adverse impacts anticipated from implementation of the Project, as applicable.

The analysis in this section is derived largely from the *Lockhart Solar PV II Project – Greenhouse Gas Emissions Technical Memorandum* (“GHG Technical Memorandum”; see Appendix H).

4.7.2 Environmental Setting

Parts of the earth's atmosphere act as an insulating blanket, trapping sufficient solar energy to keep the global average temperature within a range suitable for human habitation. The blanket is a collection of atmospheric gases called greenhouse gases because they trap heat similar to the effect of glass walls in a greenhouse. These gases, mainly water vapor, carbon dioxide (CO₂), methane (CH₄), nitrous oxide (N₂O), ozone, and fluorinated gases such as chlorofluorocarbons (CFCs), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), sulfur hexafluoride (SF₆), and nitrogen trifluoride (NF₃), all act as effective global insulators, reflecting infrared radiation back towards the earth. Human activities, such as producing electricity, burning fossil fuels, and driving internal combustion vehicles, emit these gases into the atmosphere.

Climate is defined as the average weather, typically described in terms of the mean and variability of relevant metrics over some period of time. The relevant metrics are most often surface variables such as temperature, precipitation, and wind.

The Intergovernmental Panel on Climate Change (IPCC) was established by the World Meteorological Organization and United Nations Environment Programme to assess scientific, technical, and socioeconomic information relevant to the understanding of climate change, its potential impacts, and options for adaptation and mitigation. According to the IPCC, the term climate change describes:¹

A change in the state of the climate that can be identified (e.g., by using statistical tests) by changes in the mean and/or the variability of its properties and that persists for an extended period, typically decades or longer. Climate change may be due to natural internal processes or

¹ International Panel on Climate Change. 2012. Annex II Glossary of Terms. Available at https://archive.ipcc.ch/pdf/special-reports/srex/SREX-Annex_Glossary.pdf. Accessed September 8, 2021.

external forcings, or to persistent anthropogenic changes in the composition of the atmosphere or in land use.

Recent climate change has been unequivocally linked to rapid increasing concentrations of GHGs in Earth's lower atmosphere. Although the climate has historically responded to natural drivers, the recent and rapid increase of GHGs in the atmosphere is primarily due to anthropogenic (i.e., human caused) emissions of GHGs, particularly from burning fossil fuels.

Rising atmospheric concentrations of GHGs in excess of natural levels have increased global surface temperatures, which in turn result in changes to the Earth's climate system, including ocean circulation patterns, precipitation patterns, global ice cover, and biological distributions. Put another way, global warming is only one piece of climate change, and it causes a cascade of other effects that further affect the climate system. Some of these large-scale climate changes will result in specific impacts at the state and local level.

Climate Change Overview

The State is divided geographically into 15 air basins, generally along geographic or topographic boundaries. The Project Site is located in the Mojave Desert Air Basin (Basin). The Basin includes the desert portion of Los Angeles and San Bernardino Counties, the eastern desert portion of Kern County, and the northeastern desert portion of Riverside County. The Mojave Desert Air Quality Management District (MDAQMD) has jurisdiction over stationary sources of air pollution located within San Bernardino County's High Desert and Riverside County's Palo Verde Valley, which includes the Project Site. The climate in the Basin is characterized by hot, dry summers, mild winters, infrequent rainfall, moderate- to high-wind episodes, and low humidity. The majority of the Basin is relatively rural and sparsely populated.

Climate change is a distinct change in average meteorological conditions with respect to temperature, precipitation, and storms. Climate change can result from both natural processes and human activities. Natural changes in the climate result from very small variations in the earth's orbit which change the amount of solar energy the planet receives. Human activities can affect the climate by emitting heat-absorbing gases into the atmosphere and by making changes to the planet's surface, such as deforestation and agriculture. The following impacts to California from climate change have been identified:

- Higher temperatures, particularly in the summer and in inland areas;
- More frequent and more severe extreme heat events;
- Reduced precipitation, and a greater proportion of precipitation falling as rain rather than snow;
- Increased frequency of drought conditions;
- Rising sea levels;
- Ocean water becoming more acidic, harming shellfish and other ocean species; and
- Changes in wind patterns.

These direct effects of climate change may in turn have a number of other impacts, including increases in the number and intensity of wildfires, coastal erosion, reduced water supplies, threats to agriculture, and the spread of insect-borne diseases.

Greenhouse Gases

The IPCC identifies the following compounds as key anthropogenic GHGs: CO₂, N₂O, CH₄, HFCs, PFCs, and SF₆. Each is discussed in detail below, along with CFCs, HCFCs, and NF₃.

GHGs are global pollutants, unlike criteria air pollutants and toxic air contaminants (TACs), which are pollutants of regional and local concern. Whereas pollutants with localized effects have relatively short atmospheric lifetimes (about one day), GHGs have long atmospheric lifetimes (one to several thousand years). GHGs persist in the atmosphere for long enough time periods to be dispersed around the globe. Although the exact lifetime of a GHG molecule is dependent on multiple variables and cannot be pinpointed, more CO₂ is emitted into the atmosphere than is sequestered by ocean uptake, vegetation, or other forms of carbon sequestration. Of the total annual human-caused CO₂ emissions, approximately 55 percent is sequestered through ocean and land uptakes every year, averaged over the last 50 years, whereas the remaining 45 percent of human-caused CO₂ emissions remains stored in the atmosphere.

Carbon Dioxide (CO₂)

CO₂ is a colorless, odorless gas that is emitted naturally and through human activities. Natural sources include decomposition of dead organic matter; respiration of bacteria, plants, animals, and fungus; evaporation from oceans; and volcanic outgassing. Anthropogenic sources are from burning coal, oil, natural gas, and wood. The largest source of CO₂ emissions globally is the combustion of fossil fuels such as coal, oil, and gas in power plants, automobiles, and industrial facilities. The atmospheric lifetime of CO₂ is variable because it is readily exchanged in the atmosphere. CO₂ is the most widely emitted GHG and is the reference gas (Global Warming Potential of 1) for determining Global Warming Potentials (GWPs) for other GHGs.

Nitrous Oxide (N₂O)

N₂O is largely attributable to agricultural practices and soil management. Primary human-related sources of N₂O include agricultural soil management, sewage treatment, combustion of fossil fuels, and adipic and nitric acid production. N₂O is produced from biological sources in soil and water, particularly microbial action in wet tropical forests. The atmospheric lifetime of N₂O is approximately 120 years. The GWP of N₂O is 298.

Methane (CH₄)

CH₄, a highly potent GHG, primarily results from off-gassing (the release of chemicals from nonmetallic substances under ambient or greater pressure conditions) and is largely associated with agricultural practices and landfills. CH₄ is the major component of natural gas, about 87 percent by volume. Human-related sources include fossil fuel production, animal husbandry, rice cultivation, biomass burning, and waste management. Natural sources of CH₄ include wetlands, gas hydrates, termites, oceans, freshwater

bodies, non-wetland soils, and wildfires. The atmospheric lifetime of CH₄ is about 12 years. The GWP of CH₄ is 25.

Hydrofluorocarbons (HFCs)

HFCs are typically used as refrigerants for both stationary refrigeration and mobile air conditioning. The use of HFCs for cooling and foam blowing is increasing, as the continued phase out of CFCs and HCFCs gains momentum. The GWP of HFCs range from 124 for HFC-152 to 14,800 for HFC-23. The most commonly used timescale for the GWP of HFCs is 100 years due to the most common HFC being HFC-134a having a 100-year timescale. The atmospheric lifetime of HFC-134a is about 15 years and the GWP is 100.

Perfluorocarbons (PFCs)

PFCs have stable molecular structures and only break down by ultraviolet rays about 60 kilometers above Earth's surface. Because of this, they have long lifetimes, between 10,000 and 50,000 years. Two main sources of PFCs are primary aluminum production and semiconductor manufacturing. The GWP for PFCs range from 6,500 to 9,200.

Chlorofluorocarbons (CFCs)

CFCs are gases formed synthetically by replacing all hydrogen atoms in methane or ethane with chlorine and/or fluorine atoms. They are nontoxic, nonflammable, insoluble, and chemically unreactive in the troposphere (the level of air at the earth's surface). CFCs were synthesized in 1928 for use as refrigerants, aerosol propellants, and cleaning solvents. The Montreal Protocol on Substances that Deplete the Ozone Layer prohibited their production in 1987. The GWP for CFCs range from 3,800 to 14,400.

Sulfur Hexafluoride (SF₆)

SF₆ is an inorganic, odorless, colorless, and nontoxic, nonflammable gas. It has a lifetime of 3,200 years. This gas is manmade and used for insulation in electric power transmission equipment, in the magnesium industry, in semiconductor manufacturing, and as a tracer gas. The GWP of SF₆ is 23,900.

Hydrochlorofluorocarbons (HCFCs)

HCFCs are solvents, similar in use and chemical composition to CFCs. The main uses of HCFCs are for refrigerant products and air conditioning systems. As part of the Montreal Protocol, HCFCs are subject to a consumption cap and gradual phase out. The U.S. is scheduled to achieve a 100 percent reduction to the cap by 2030. The 100-year GWP of HCFCs range from 90 for HCFC-123 to 1,800 for HCFC-142b.

Nitrogen Trifluoride (NF₃)

NF₃ was added to Health and Safety Code (HSC) Section 38505(g)(7) as a GHG of concern. This gas is used in electronics manufacture for semiconductors and liquid crystal displays. It has a GWP of 17,200.

California is a substantial contributor of global GHGs, emitting approximately 418 million metric tons of carbon dioxide equivalent (MTCO₂e) in 2019.² The impact of human activities on global climate change is apparent in the observational record. Air trapped by ice has been extracted from core samples taken from polar ice sheets to determine the global atmospheric variation of CO₂, CH₄, and N₂O from before the start of industrialization (approximately 1750), to over 650,000 years ago. For that period, it was found that CO₂ concentrations ranged from 180 to 300 parts per million (ppm). For the period from approximately 1750 to the present, global CO₂ concentrations increased from a pre-industrialization period concentration of 280 to 379 ppm in 2005, with the 2005 value far exceeding the upper end of the pre-industrial period range. As of April 2021, the highest monthly average concentration of CO₂ in the atmosphere was recorded at 418 ppm.³

The IPCC constructed several emission trajectories of GHGs needed to stabilize global temperatures and climate change impacts. It concluded that a stabilization of GHGs at 400 to 450 ppm carbon dioxide equivalent (CO₂e)⁴ concentration is required to keep global mean warming below 2 degrees Celsius (°C), which in turn is assumed to be necessary to avoid dangerous climate change.

4.7.3 Regulatory Setting

Federal

To date, no national standards have been established for GHG reduction targets, nor have any regulations or legislation been enacted specifically to address climate change and GHG emissions reduction at an individual project level. Various efforts have been promulgated at the federal level to improve fuel economy and energy efficiency to address climate change and its associated effects.

Energy Independence and Security Act of 2007

The Energy Independence and Security Act of 2007 (December 2007), among other key measures, requires the following, which would aid in the reduction of national GHG emissions:

- Increase the supply of alternative fuel sources by setting a mandatory Renewable Fuel Standard requiring fuel producers to use at least 36 billion gallons of biofuel in 2022.
- Set a target of 35 miles per gallon for the combined fleet of cars and light trucks by model year 2020 and direct the National Highway Traffic Safety Administration (NHTSA) to establish a fuel economy program for medium- and heavy-duty trucks and create a separate fuel economy standard for work trucks.

² California Air Resources Board. 2019. *California Greenhouse Gas Emissions for 2000 to 2019*. Available at https://ww3.arb.ca.gov/cc/inventory/pubs/reports/2000_2019/ghg_inventory_trends_00-19.pdf. Accessed August 16, 2021.

³ Scripps Institution of Oceanography. 2021. Carbon Dioxide Concentration at Mauna Loa Observatory. Available at <https://scripps.ucsd.edu/programs/keelingcurve/>. Accessed September 15, 2021.

⁴ Carbon Dioxide Equivalent (CO₂e) – A metric measure used to compare the emissions from various greenhouse gases based upon their global warming potential.

- Prescribe or revise standards affecting regional efficiency for heating and cooling products and procedures for new or amended standards, energy conservation, energy efficiency labeling for consumer electronic products, residential boiler efficiency, electric motor efficiency, and home appliances.

U.S. Environmental Protection Agency Endangerment Finding

The U.S. Environmental Protection Agency's (USEPA) authority to regulate GHG emissions stems from the U.S. Supreme Court decision in *Massachusetts v. EPA* (2007). The Supreme Court ruled that GHGs meet the definition of air pollutants under the existing Clean Air Act and must be regulated if these gases could be reasonably anticipated to endanger public health or welfare. Responding to the Court's ruling, the USEPA finalized an endangerment finding in December 2009. Based on scientific evidence it found that six GHGs (CO₂, CH₄, N₂O, HFCs, PFCs, and SF₆) constitute a threat to public health and welfare. Thus, it is the Supreme Court's interpretation of the existing Act and the USEPA's assessment of the scientific evidence that form the basis for the USEPA's regulatory actions.

Presidential Executive Order 13783

Presidential Executive Order 13783, Promoting Energy Independence and Economic Growth (March 28, 2017), orders all federal agencies to apply cost-benefit analyses to regulations of GHG emissions and evaluations of the social cost of carbon, nitrous oxide, and methane.

Federal Vehicle Standards

In response to the U.S. Supreme Court ruling discussed above, Executive Order (EO) 13432 was issued in 2007 directing the USEPA, the Department of Transportation, and the Department of Energy to establish regulations that reduce GHG emissions from motor vehicles, non-road vehicles, and non-road engines by 2008. In 2009, the National Highway Traffic Safety Administration (NHTSA) issued a final rule regulating fuel efficiency and GHG emissions from cars and light-duty trucks for model year 2011, and in 2010, the USEPA and NHTSA issued a final rule regulating cars and light-duty trucks for model years 2012 to 2016.

In 2010, an Executive Memorandum was issued directing the Department of Transportation, Department of Energy, USEPA, and NHTSA to establish additional standards regarding fuel efficiency and GHG reduction, clean fuels, and advanced vehicle infrastructure. In response to this directive, the USEPA and NHTSA proposed stringent, coordinated federal GHG and fuel economy standards for model years 2017 to 2025 light-duty vehicles. The proposed standards projected to achieve 163 grams per mile of CO₂ in model year 2025, on an average industry fleet-wide basis, which is equivalent to 54.5 miles per gallon (mpg) if this level were achieved solely through fuel efficiency. The final rule was adopted in 2012 for model years 2017 to 2021, and NHTSA intends to set standards for model years 2022 to 2025 in a future rulemaking. On January 12, 2017, the USEPA finalized its decision to maintain the current GHG emissions standards for model years 2022 to 2025 cars and light trucks. It should be noted that the USEPA is currently proposing to freeze the vehicle fuel efficiency standards at their planned 2020 level (37 mpg), canceling any future strengthening (currently 54.5 mpg by 2026).

In addition to the regulations applicable to cars and light-duty trucks described above, in 2011, the USEPA and NHTSA announced fuel economy and GHG standards for medium- and heavy-duty trucks for model years 2014 to 2018. The standards for CO₂ emissions and fuel consumption are tailored to three main vehicle categories: combination tractors, heavy-duty pickup trucks and vans, and vocational vehicles. According to the USEPA, this regulatory program will reduce GHG emissions and fuel consumption for the affected vehicles by 6 to 23 percent over the 2010 baselines.

In August 2016, the USEPA and NHTSA announced the adoption of the phase two program related to the fuel economy and GHG standards for medium- and heavy-duty trucks. The phase two program will apply to vehicles with model year 2018 through 2027 for certain trailers, and model years 2021 to 2027 for semi-trucks, large pickup trucks, vans, and all types and sizes of buses and work trucks. The final standards are expected to lower CO₂ emissions by approximately 1.1 billion metric tons and reduce oil consumption by up to 2 billion barrels over the lifetime of the vehicles sold under the program.

State

California Air Resources Board

The California Air Resources Board (CARB) is responsible for the coordination and oversight of State and local air pollution control programs in California. Various statewide and local initiatives to reduce California's contribution to GHG emissions have raised awareness about climate change and its potential for severe long-term adverse environmental, social, and economic effects. California is a significant emitter of CO₂e in the world and produced 459 million gross metric tons of CO₂e in 2013. In the State, the transportation sector is the largest emitter of GHGs, followed by industrial operations such as manufacturing and oil and gas extraction.

The State legislature has enacted a series of bills that constitute the most aggressive program to reduce GHGs of any state in the nation. Some legislation, such as the landmark Assembly Bill (AB) 32, California Global Warming Solutions Act of 2006, was specifically enacted to address GHG emissions. Other legislation, such as Title 24 building efficiency standards and Title 20 appliance energy standards, were originally adopted for other purposes such as energy and water conservation, but also provide GHG reductions.

Executive Order S-3-05

Executive Order S-3-05 set forth a series of target dates by which Statewide emissions of GHGs would be progressively reduced, as follows:

- By 2010, reduce GHG emissions to 2000 levels;
- By 2020, reduce GHG emissions to 1990 levels; and
- By 2050, reduce GHG emissions to 80 percent below 1990 levels.

The Executive Order directed the secretary of the California Environmental Protection Agency (Cal/EPA) to coordinate a multi-agency effort to reduce GHG emissions to the target levels. The secretary also

submits biannual reports to the governor and California Legislature describing the progress made toward the emissions targets, the impacts of global climate change on California's resources, and mitigation and adaptation plans to combat these impacts. To comply with the executive order, the secretary of Cal/EPA created the California Climate Action Team (CAT), made up of members from various State agencies and commissions. The team released its first report in March 2006. The report proposed to achieve the targets by building on the voluntary actions of California businesses, local governments, and communities and through State incentive and regulatory programs.

Executive Order B-30-15, Senate Bill 32, and Assembly Bill 197 (Statewide Interim GHG Targets)

Executive Order B-30-15 (April 29, 2015) set an "interim" statewide emission target to reduce GHG emissions to 40 percent below 1990 levels by 2030 and directed state agencies with jurisdiction over GHG emissions to implement measures pursuant to statutory authority to achieve this 2030 target and the 2050 target of 80 percent below 1990 levels. Specifically, the Executive Order directed CARB to update the Scoping Plan to express this 2030 target in metric tons. AB 197 (September 8, 2016) and Senate Bill (SB) 32 (September 8, 2016) codified into statute the GHG emissions reduction targets of at least 40 percent below 1990 levels by 2030 as detailed in Executive Order B-30-15. AB 197 also requires additional GHG emissions reporting that is broken down to sub-county levels and requires CARB to consider the social costs of emissions impacting disadvantaged communities.

California Global Warming Solutions Act (Assembly Bill 32)

The primary act that has driven GHG regulation and analysis in California include the California Global Warming Solutions Act of 2006 (AB 32) (HSC Sections 38500, 38501, 28510, 38530, 38550, 38560, 38561–38565, 38570, 38571, 38574, 38580, 38590, 38592–38599), which instructs CARB to develop and enforce regulations for the reporting and verifying of statewide GHG emissions. The act directed CARB to set a GHG emissions limit based on 1990 levels, to be achieved by 2020. The bill set a timeline for adopting a scoping plan for achieving GHG reductions in a technologically and economically feasible manner. The heart of the bill is the requirement that statewide GHG emissions be reduced to 1990 levels by 2020.

Senate Bill 350 (Clean Energy & Pollution Reduction Act)

SB 350 was signed into law in September 2015 and establishes tiered increases to the Renewable Portfolio Standard (RPS). SB 350 requires 40 percent of the State's energy supply come from renewable sources by 2024, 45 percent by 2027, and 50 percent by 2030. SB 350 also established a new goal to double the energy-efficiency savings in electricity and natural gas through energy efficiency and conservation measures.

Executive Order B-55-18 and Senate Bill 100 (100 Percent Clean Energy Act of 2018)

In 2018, SB 100, known as the 100 Percent Clean Energy Act of 2018, declares that CARB should plan for 100 percent total retail sales of electricity in California come from eligible renewable energy resources and zero-carbon resources by the end of 2045. SB 100 also set interim goals, accelerating the RPS requirement to 50 percent from renewable energy sources by 2026 and 60 percent by 2030. SB 100 also

requires that retail sellers and local publicly owned electric utilities procure a minimum quantity of electricity products from eligible renewable energy resources so that the total kilowatt hours of those products sold to their retail end-use customers achieve 44 percent of retail sales by December 31, 2024, 52 percent by December 31, 2027, and 60 percent by December 31, 2030. In addition to targets under AB 32 and SB32, Executive Order B-55-18 establishes a carbon neutrality goal for the state of California by 2045; and sets a goal to maintain net negative emissions thereafter. The Executive Order directs the California Natural Resources Agency, CalEPA, the Department of Food and Agriculture, and CARB to include sequestration targets in the Natural and Working Lands Climate Change Implementation Plan consistent with the carbon neutrality goal.

Assembly Bill 341 (AB 341)

AB 341 makes a legislative declaration that it is the policy goal of the State that not less than 75 percent of solid waste generated be source reduced, recycled, or composted by the year 2020, and would require the department, by January 1, 2014, to provide a report to the Legislature that provides strategies to achieve that policy goal and also includes other specified information and recommendations. The bill would allow the department to provide the report required by the bill in conjunction with the annual progress report, if the combined report is submitted by January 1, 2014. Furthermore, AB 341 would require a business, defined to include a commercial or public entity, that generates more than 4 cubic yards of commercial solid waste per week or is a multifamily residential dwelling of 5 units or more to arrange for recycling services, on and after July 1, 2012.

California Air Resource Board Scoping Plan

On December 11, 2008, CARB adopted its Scoping Plan, which functions as a roadmap to achieve GHG reductions in California required by AB 32 through subsequently enacted regulations. CARB's Scoping Plan contains the main strategies California will implement to reduce GHG emissions by 174 MMTCO_{2e}, or approximately 30 percent, from the State's projected 2020 emissions level of 596 MMTCO_{2e} under a business-as-usual (BAU)⁵ scenario. This is a reduction of 42 MMTCO_{2e}, or almost ten percent, from 2002 to 2004 average emissions, but requires the reductions in the face of population and economic growth through 2020.

CARB's Scoping Plan calculates 2020 BAU emissions as the emissions that would be expected to occur in the absence of any GHG reduction measures. The 2020 BAU emissions estimate was derived by projecting emissions from a past baseline year using growth factors specific to each of the different economic sectors (e.g., transportation, electrical power, commercial and residential, industrial, etc.). CARB used three-year average emissions, by sector, for 2002 to 2004 to forecast emissions to 2020. The measures described in CARB's Scoping Plan are intended to reduce the projected 2020 BAU to 1990 levels, as required by AB 32.

⁵ "Business-as-Usual" refers to emissions that would be expected to occur in the absence of GHG reductions. See California Air Resources Board, 2021. Business-As-Usual. Available at <http://www.arb.ca.gov/cc/inventory/data/bau.htm>. Accessed October 8, 2021. Note that there is significant controversy as to what BAU means. In determining the GHG 2020 limit, CARB used the above as the "definition." It is broad enough to allow for design features to be counted as reductions.

AB 32 requires CARB to update the Scoping Plan at least once every five years. CARB adopted the first major update to the Scoping Plan on May 22, 2014. The updated Scoping Plan summarizes recent science related to climate change, including anticipated impacts to California and the levels of GHG reduction necessary to likely avoid risking irreparable damage. It identifies the actions California has already taken to reduce GHG emissions and focuses on areas where further reductions could be achieved to help meet the 2020 target established by AB 32. The Scoping Plan update also looks beyond 2020 toward the 2050 goal, established in Executive Order S-3-05, and observes that “a mid-term statewide emission limit will ensure that the State stays on course to meet our long-term goal.” The Scoping Plan update did not establish or propose any specific post-2020 goals, but identified such goals adopted by other governments or recommended by various scientific and policy organizations.

In December 2017, CARB approved the *California’s 2017 Climate Change Scoping Plan: The Strategy for Achieving California’s 2030 Greenhouse Gas Target*. This update focuses on implementation of a 40 percent reduction in GHGs by 2030 compared to 1990 levels. To achieve this the updated Scoping Plan draws on a decade of successful programs that addresses the major sources of climate changing gases in every sector of the economy:

- *More Clean Cars and Trucks*: The plan sets out far-reaching programs to incentivize the sale of millions of zero-emission vehicles, drive the deployment of zero-emission trucks, and shift to a cleaner system of handling freight statewide.
- *Increased Renewable Energy*: California’s electric utilities are ahead of schedule meeting the requirement that 33 percent of electricity come from renewable sources by 2020. The Scoping Plan guides utilities to 50 percent renewables, as required under SB 350.
- *Slashing Super-Pollutants*: The plan calls for a significant cut in super-pollutants such as methane and HFC refrigerants, which are responsible for as much as 40 percent of global warming.
- *Cleaner Industry and Electricity*: California’s renewed cap-and-trade program extends the declining cap on emissions from utilities and industries and the carbon allowance auctions. The auctions will continue to fund investments in clean energy and efficiency, particularly in disadvantaged communities.
- *Cleaner Fuels*: The Low Carbon Fuel Standard will drive further development of cleaner, renewable transportation fuels to replace fossil fuels.
- *Smart Community Planning*: Local communities will continue developing plans which will further link transportation and housing policies to create sustainable communities.
- *Improved Agriculture and Forests*: The Scoping Plan also outlines innovative programs to account for and reduce emissions from agriculture, as well as forests and other natural lands.

Achieving the 2030 target under the updated Scoping Plan will also spur the transformation of the California economy and fix its course securely on achieving an 80 percent reduction in GHG emissions by 2050, consistent with the global consensus of the scale of reductions needed to stabilize atmospheric GHG concentrations at 450 ppm CO₂, and reduce the likelihood of catastrophic climate change. **Table 4.7-1:**

California State Climate Change Legislation provides a brief overview of other California legislation relating to climate change.

Table 4.7-1: California State Climate Change Legislation

Legislation	Description
Assembly Bill 1493 and Advanced Clean Cars Program	AB 1493 (“the Pavley Standard”) (Health and Safety Code Sections 42823 and 43018.5) aims to reduce GHG emissions from noncommercial passenger vehicles and light-duty trucks of model years 2009 to 2016. By 2025, when all rules will be fully implemented, new automobiles will emit 34 percent fewer CO ₂ e emissions and 75 percent fewer smog-forming emissions.
Low Carbon Fuel Standard	Executive Order S-01-07 (2007) requires a 10 percent or greater reduction in the average fuel carbon intensity for transportation fuels in California. The regulation took effect in 2010 and is codified at Title 17, California Code of Regulations, Sections 95480–95490. The Low Carbon Fuel Standard will reduce GHG emissions by reducing the carbon intensity of transportation fuels used in California by at least 10 percent by 2020.
Renewables Portfolio Standard (Senate Bill X12, Senate Bill 350, and Senate Bill 100)	California’s Renewables Portfolio Standard (RPS) requires retail sellers of electric services to increase procurement from eligible renewable energy resources to 33 percent of total retail sales by 2020. The 33 percent standard is consistent with the RPS goal established in the Scoping Plan. The passage of SB 350 in 2015 updates the RPS to require the amount of electricity generated and sold to retail customers per year from eligible renewable energy resources to be increased to 50 percent by December 31, 2030. The bill will make other revisions to the RPS program and to certain other requirements on public utilities and publicly owned electric utilities. The passage of SB 100 in 2018 further requires achieving 60 percent renewable energy resources target by 2030, and 100 percent renewable energy resources target by 2045.
California Building Energy Efficiency Standards	In general, the California Building Energy Efficiency Standards require the design of building shells and building components to conserve energy. The California Energy Commission updates the Building Energy Efficiency Standards every three years by working with stakeholders in a public and transparent process. The 2019 Building Energy Efficiency Standards contained in the California Code of Regulations, Title 24, Part 6 (also known as the California Energy Code) took effect on January 1, 2019. The 2019 Building Energy Efficiency Standards are 7 percent more efficient than previous standards for residential construction and once rooftop solar electricity generation is factored in, homes built under the 2019 standards will use about 53 percent less energy than those under the 2016 standards.
California Green Building Standards	The California Green Building Standards Code (California Code of Regulations, Title 24, Part 11), commonly referred to as the CALGreen Code, is a statewide mandatory construction code developed and adopted by the California Building Standards Commission and the Department of Housing and Community Development. The CALGreen Code standards require new residential and commercial buildings to comply with mandatory measures under the topics of planning and design, energy efficiency, water efficiency/conservation, material conservation and resource efficiency, and environmental quality. The CALGreen Code also provides voluntary tiers and measures that local governments may adopt that encourage or require additional measures in the five green building topics. The most recent update to the CALGreen Code went into effect January 1, 2020.
Senate Bill 32 (Amendments to	Signed into law in September 2016, SB 32 codifies the 2030 target in the recent Executive Order B-30-15. The bill authorizes the state board to adopt an interim GHG emissions level

California Global Warming Solutions Act of 2006: Emission Limit)	target to be achieved by 2030. SB 32 states that the intent is for the legislature and appropriate agencies to adopt complementary policies which ensure that the long-term emissions reductions advance specified criteria. In December 2017, CARB approved the <i>California's 2017 Climate Change Scoping Plan: The Strategy for Achieving California's 2030 Greenhouse Gas Target</i> that provides guidance for compliance with SB 32.
*SB 375 is codified at Government Code Sections 65080, 65400, 65583, 65584.01, 65584.02, 65584.04, 65587, 65588, 14522.1, 14522.2, and 65080.01, as well as at Public Resources Code Sections 21061.3 and 21159.28 and Chapter 4.2.	

CARB is currently working on another Scoping Plan update—the 2022 Scoping Plan Update, which will assess progress towards achieving SB 32’s 2030 target and proscribe a path to achieve carbon neutrality by 2045.

Executive Order S-1-07

EO S-1-07 proclaims that the transportation sector is the main source of GHG emissions in California, generating more than 40 percent of statewide emissions. The EO establishes a goal to reduce the carbon intensity of transportation fuels sold in California by at least 10 percent by 2020. This order also directs the CARB to determine whether the Low Carbon Fuel Standard (LCFS) could be adopted as a discrete early-action measure as part of the effort to meet the mandates in AB 32.

Executive Order S-14-08

EO S-14-08 expands the State’s Renewable Energy Standard to 33 percent renewable power by 2020. Additionally, EO S-21-09 (2009) directs CARB to adopt regulations requiring that 33 percent of electricity sold in the state come from renewable energy by 2020.

Executive Order N-79-20

On September 23, 2020, Governor Newsom issued EO N-79-20, which sets a timeframe for the transition to zero-emission passenger vehicles and trucks in addition to off-road equipment. It directs CARB to develop and propose the following:

- Passenger vehicle and truck regulations requiring increasing volumes of new zero-emission vehicles sold in California towards the target of 100 percent of in-state sales by 2035.
- Medium- and heavy-duty vehicle regulations requiring increasing volumes of new zero-emission trucks and buses sold and operated in California towards the target of 100 percent of the fleet transitioning to zero-emission vehicles by 2045 everywhere feasible and for all drayage trucks to be zero-emission by 2035.
- Strategies, in cooperation with other State agencies, the USEPA, and local air districts, to achieve 100 percent zero emission from all off-road vehicles and equipment operations in California by 2035.

Regional

Southern California Association of Governments – Connect SoCal: Regional Transportation Plan/Sustainable Communities Strategy

On September 3, 2020, SCAG, the metropolitan planning organization for the region's six counties and 191 cities, formally adopted the 2020-2045 Regional Transportation Plan/Sustainable Communities Strategy of the Southern California Association of Governments – Connect SoCal (2020–2045 RTP/SCS). The SCS portion of the 2020-2045 RTP/SCS highlights strategies for the region to reach the regional target of reducing GHGs from autos and light-duty trucks by 8 percent per capita by 2020, and 19 percent by 2035 (compared to 2005 levels). Specially, these strategies are:

- Focus growth near destinations and mobility options;
- Promote diverse housing choices;
- Leverage technology innovations;
- Support implementation of sustainability policies; and
- Promote a green region.

Furthermore, the 2020-2045 RTP/SCS discusses a variety of land use tools to help achieve the state-mandated reductions in GHG emissions through reduced per capita vehicle miles traveled (VMT). Some of these tools include center-focused placemaking, focusing on priority growth areas, job centers, transit priority areas, as well as high quality transit areas and green regions, which are regions that require the built environment and natural resource areas coexist in a well-balanced land use pattern that encourages mutual co-benefits.

Local

San Bernardino County Countywide Plan/Policy Plan

The County adopted the Countywide Plan/Policy Plan (Policy Plan) in October 2020. The Policy Plan provides an update of the County's General Plan addressing physical, social and economic issues facing the unincorporated portions of the County. The Policy Plan also provides an expansion of the County's General Plan to address supportive service for adults and children, healthcare service, public safety, and other regional county services provided to both incorporated and unincorporated areas.

The County's abundant natural resources are integral to the quality of life, community identities, and economic success. Appropriately managed, they provide safe air and water for the people and the environment, improve the health of the residents and workers, attract visitors from around the world, and sustain the productivity of our local and national economies. Adequate regional landfill capacity that provides for the safe disposal of solid waste, and efficient waste diversion and collection for unincorporated areas. Relevant policies of the San Bernardino County Policy Plan are summarized:

Infrastructure and Utilities Element

- Goal IU-4** **Solid Waste:** Adequate regional landfill capacity that provides for the safe disposal of solid waste, and efficient waste diversion and collection for unincorporated areas.
- Policy IU-4.3** **Waste diversion.** We shall meet or exceed state waste diversion requirements, augment future landfill capacity, and reduce greenhouse gas emissions and use of natural resources through reduction, reuse, or recycling of solid waste.
- Goal IU-5** **Power and Communications:** Unincorporated area residents and businesses have access to reliable power and communication systems.
- Policy IU-5.5** **Energy and fuel facilities.** We encourage the development and upgrade of energy and regional fuel facilities in areas that do not pose significant environmental or public health and safety hazards, and in a manner that is compatible with military operations and local community identity.

Natural Resources Element

- Goal NR-1:** **Air Quality:** Air quality that promotes health and wellness of residents in San Bernardino County through improvements in locally-generated emissions.
- Policy NR-1.1** **Land Use.** We promote compact and transit-oriented development countywide and regulate the types and locations of development in unincorporated areas to minimize vehicle miles traveled and greenhouse gas emissions.
- Policy NR-1.7** **Greenhouse gas reduction targets.** We strive to meet the 2040 and 2050 greenhouse gas emission reduction targets in accordance with state law.
- Policy NR-1.9** **Building design and upgrades.** We use the CalGreen Code to meet energy efficiency standards for new buildings and encourage the upgrading of existing buildings to incorporate design elements, building materials, and fixtures that improve environmental sustainability and reduce emissions.

Renewable Energy and Conservation Element⁶

- RE Goal 1** The County will pursue energy efficiency tools and conservation practices that optimize the benefits of renewable energy.
- Policy RE-1.1** **Energy Conservation and Efficiency.** Continue implementing the energy conservation and efficiency measures identified in the County of San Bernardino Greenhouse Gas Emissions Reduction Plan.
- RE Goal 4** The County will establish a new era of sustainable energy production and consumption in the context of sound resource conservation and renewable energy development practices that reduce greenhouse gases and dependency on fossil fuels.
- Policy RE-4.1** **Development Standards.** Apply standards to the design, siting, and operation of all renewable energy facilities that protect the environment, including sensitive biological

⁶ The Renewable Energy and Conservation Element was adopted in 2017 and amended in February 2019.

resources, air quality, water supply and quality, cultural, archaeological, paleontological and scenic resources.

RE Goal 6 County regulatory systems will ensure that renewable energy facilities are designed, sited, developed, operated and decommissioned in ways compatible with our communities, natural environment, and applicable environmental and cultural resource protection laws.

Policy RE-6.4 State Renewable Energy Goal. Support the Governor's initiative to obtain 50% of the energy consumed in the state through RE generation sources by 2040.

Policy RE-6.4.1 Energy Conservation Policies and Strategies. Continue to implement policies and strategies for energy conservation by the County in the Greenhouse Gas Emissions Reduction Plan, including capture and use of landfill gas, installation of renewable energy systems and use of alternative fuels.

San Bernardino County Greenhouse Gas Emissions Reduction Plan

To meet the intent of AB 32, San Bernardino County adopted the County's Greenhouse Gas Reduction Plan (GHGRP) in September 2011. The GHGRP helps the County to prioritize actions to reduce GHG emissions and serves as the roadmap for implementing communitywide programs and policies. However, the County's GHGRP does not align with the Statewide goals beyond 2020 and thus the GHGRP is not consistent with the criteria within CEQA Guidelines Section 15183.5 for the post-2020 period. Consequently, the County is currently working with the San Bernardino County Transportation Authority (SBCTA) to update the County's current GHGRP to address SB 32 and post-2020 GHG emission reductions. As the Project would be constructed and operational post-2020, the 2011 GHGRP was not utilized for consistency analysis.

San Bernardino County Regional Greenhouse Gas Reduction Plan

In response to SB 32, a project partnership, led by SBCTA, has compiled an inventory of GHG emissions and developed reduction measures in the Regional Greenhouse Gas Reduction Plan (RGHGRP) that could be adopted by the partnership jurisdictions, including the County.⁷ A final draft of the RGHGRP was made public in March 2021 and was formally adopted on September 21, 2021. The RGHGRP plan contains substantial evidence to support its recommendations for reducing GHG emissions within the region to achieve the GHG reduction goal set by SB 32. Therefore, the RGHGRP was utilized for project consistency analysis.

⁷ San Bernardino Council of Governments. 2021. San Bernardino County Regional Greenhouse Gas Reduction Plan. Available at https://www.gosbcta.com/wp-content/uploads/2019/09/San_Bernardino_Regional_GHG_Reduction_Plan_Main_Text_Mar_2021.pdf. Accessed September 15, 2021.

4.7.4 Impact Thresholds and Significance Criteria

In accordance with Appendix G of the State CEQA Guidelines, a project would have a significant impact related to GHG emissions if it would:

Threshold (a): Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment.

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

According to the MDAQMD, a project is significant if it triggers or exceeds the most appropriate evaluation criteria. In general, for GHG emissions, the MDAQMD significance emission threshold is 100,000 tons of CO₂e or 90,718.5 MTCO₂e per year. A project identified as having significant impacts on GHG emissions by the MDAQMD must incorporate mitigation measures sufficient to reduce its impact to a level that is not significant. A project that cannot be mitigated to a level that is not significant must incorporate all feasible mitigation measures.

4.7.5 Impacts and Mitigation Measures

Impact 4.7-1 *Would the Project generate GHG emissions, either directly or indirectly, that could have a significant impact on the environment?*

Level of Significance: Less than Significant

Project-Related Sources of Greenhouse Gases

Project-related GHG emissions are not confined to a particular air basin; instead, GHG emissions are dispersed worldwide. No single project is large enough to result in a measurable increase in global concentration of GHG emissions. Therefore, impacts identified below are not project-specific impacts to global climate change, but the Project's contribution to this cumulative impact. As previously discussed under Subsection 4.7.2, *Environmental Setting*, the IPCC identifies the following compounds as key anthropogenic GHGs: CO₂, N₂O, CH₄, HFCs, PFCs, and SF₆. The Project would not utilize refrigerants, mobile air conditioning, or aerosol propellants; would not produce aluminum or manufacture semiconductors; would not produce magnesium; and would not manufacture liquid crystal displays. Therefore, the Project would not result in direct or indirect emissions of HFCs, PFCs, and SF₆. The Project would result in direct and indirect emissions of CO₂, N₂O, and CH₄. Direct GHG emissions include emissions from construction and decommissioning activities and mobile sources, while indirect sources include emissions from energy consumption and water demand.⁸ The California Emissions Estimator Model (CalEEMod) Version 2016.3.2 was used to estimate direct and indirect Project-related GHG emissions.

⁸ According to the USEPA, Scope 1 GHG emissions are direct emissions from sources that are owned or controlled by the Agency, including on-site fossil fuel combustion and fleet fuel consumption. Scope 2 GHG emissions are indirect emissions from sources that are not owned or controlled by the Agency, including emissions that result from the generation of electricity, heat or steam purchased by the Agency from a utility provider.

Table 4.7-2: Estimated Project Greenhouse Gas Emissions presents the estimated CO₂, N₂O, and CH₄ emissions of the Project. CalEEMod outputs are contained within Appendix H of this Draft EIR.

Table 4.7-2: Estimated Project Greenhouse Gas Emissions

Source	Metric Tons CO ₂ e/year ³
Estimated Construction Emissions¹	
On- and Off-Road Equipment Emissions during Project Construction	3,622.71
Water Usage ²	210.45
Estimated Construction Emissions	3,833.16
<i>MDAQMD Threshold of Significance</i>	90,718.5
<i>Exceeds MDAQMD Threshold?</i>	No
Estimated Decommissioning Emissions¹	
On- and Off-Road Equipment Emissions during Project Decommissioning	3,622.71
Water Usage ²	210.45
Estimated Decommissioning Emissions	3,833.16
<i>MDAQMD Threshold of Significance</i>	90,718.5
<i>Exceeds MDAQMD Threshold?</i>	No
Estimated Operational Emissions	
Mobile Emissions ⁴	0.18
Water Usage ⁵	3.95
Estimated Operational Emissions	4.13
<i>MDAQMD Threshold of Significance</i>	90,718.5
<i>Exceeds MDAQMD Threshold?</i>	No
Notes:	
<ol style="list-style-type: none"> Refer to Appendix A of the <i>Lockhart Solar PV II Project – Greenhouse Gas Emissions Technical Memorandum</i> for calculations and assumptions. Construction and decommissioning water usage emissions are based on an anticipated usage of 240-acre feet (AF) during construction and 240 AF during decommissioning. As a conservative analysis, the emission factor for water demand is from Statewide average. The Project would use existing pumps to pump groundwater, therefore the emission factor would be lower than the Statewide average. Totals may be slightly off due to rounding. Vehicle emissions during operation is calculated using CalEEMod Version 2016.3.2. Operational water usage emissions are based on an average usage of 4.5 AF per year and calculated using CalEEMod Version 2016.3.2. As a conservative analysis, the emission factor for water demand is from Statewide average. The Project would use existing pumps to pump groundwater, therefore the emission factor would be lower than the Statewide average. 	

Source: Michael Baker International. 2021. *Lockhart Solar PV II Project – Greenhouse Gas Emissions Technical Memorandum*. Table 2.

Construction Emissions

According to **Table 4.7-2: Estimated Project Greenhouse Gas Emissions**, GHG emissions during construction of the Project, including water usage, is estimated to be approximately 3,833.16 MTCO₂e. As stated, the Project is anticipated to be constructed over a period of approximately 14 months involving

construction activities associated with demolition, grading, and solar facility construction. Because the construction start date cannot be defined with absolute certainty, this analysis conservatively assumed a January 1 initiation and all construction activities would occur in one calendar year. GHG emission factors for typical diesel-powered heavy equipment are based on the California Emissions Estimator Model version 2016.3.2 (CalEEMod) program defaults. Refer to the *GHG Technical Memorandum* for additional information on variables factored into the calculation. The Project's GHG emissions from construction would be offset within the first 12 days of operation.

Operational Emissions

The Project would not use natural gas during operation and does not include landscaping. The Project would consume negligible amounts of electricity for auxiliary equipment, such as the BESS heating, ventilation, and air conditioning (HVAC) units, communications equipment, and lighting. Therefore, area sources and energy emissions were not modeled for the Project. Additionally, due to the shared facilities with the Project, the approved Lockhart Solar I Facility, and the existing SEGS plants, no additional operations staff would be required. As such, the Project would generate minimal periodic operational vehicle trips internal to the Project Site for required maintenance activities. In addition, it was assumed the Project would generate 40 trips per year associated with panel washing activities. Operational mobile source GHG emissions are shown in **Table 4.7-2**. The Project would result in an estimated 0.18 MTCO_{2e} per year.

Decommissioning Emissions

At the end of the Project's operational term, the Applicant may determine that the Project should be decommissioned and deconstructed, or it may seek an extension of its CUP(s). Project decommissioning would comply with all local, State, and federal rules and regulations. Decommissioning is expected to take one year or less, using similar equipment and an equal or lower number of workers on a daily basis. As a worst-case scenario analysis, it was assumed that GHG emissions related to decommissioning would be equal to the GHG emissions related to construction. This is a more conservative (higher) estimate due to GHG emissions from electricity production and vehicles are likely to be much lower 30 years in the future due to continued implementation of existing regulations, plans, and policies. As depicted in **Table 4.7-2**, an estimated 3,833.16 MTCO_{2e} would be emitted during the decommissioning of the Project.

Indirect Project Related Source of Greenhouse Gas

Water Demand

Emissions associated with water usage were estimated based on annual water consumption data provided by the Applicant and modeled in CalEEMod. The Project is anticipated to need approximately 240 AF of water during construction, and an equal amount during decommissioning. The Project would use up to 4.5 AF of water per year for panel washing during long-term operations. Emissions from indirect energy impacts due to water usage during construction and during decommissioning would result in 210.45 MTCO_{2e} per year. As shown in **Table 4.7-2**, Emissions from indirect energy impacts due to water usage during Project operation would result in an estimated 3.95 MTCO_{2e}/year.

The Shared Facilities Area includes an existing reverse osmosis and demineralizing system (RODS) to purify the brackish groundwater before use at the existing SEGS VIII and IX facilities. The process requires highly efficient electric pumps to force the water through the membranes. Currently, the RODS operates continuously, on an as-needed basis, up to approximately 18 hours per day. The existing RODS within the Shared Facilities Area currently supports the SEGS VIII and IX facilities. During Project operation, the existing RODS (or similar system) will be used, as needed, to remove particles suspended in groundwater prior to Project solar panel cleaning, one to four times per year. This use is considered negligible and cannot be isolated separate from electricity consumption of the shared facilities. Therefore, GHG from this usage with implementation of the Project was not quantified and is expected to be negligible on an annual basis.

Displaced Emissions

Displaced emissions refer to the amount of GHG emissions that would occur if the Project were generating electricity through the use of fossil fuel-fired electricity generators. The displaced emissions were calculated using emission factors from 2019 SCE Sustainability Report and specific yield based on met station data from an existing met station at the existing SEGS VIII and IX facility site. Based on SEGS met station information provided by the Applicant, the daily solar radiation at the Project Site for 150 MW solar PV with thin film and single-axis tracking is equivalent to approximately 8.75 kWh per square meter per day. Applying this to the likely solar PV technology to be used at the Project, the Project would generate approximately 465,700 MWh of electricity per year, which would potentially displace approximately 112,800 MTCO_{2e} of GHG emissions that would otherwise have resulted from producing an equivalent amount of electricity from fossil fuel-fired electric generators. It is reasonable to assume that carbon-emitting sources of electricity would be replaced by renewable sources, such as the Project, given the State requirement that one hundred percent of retail sales of electricity to California end-use customers be carbon neutral by December 31, 2045. Even if, for the short term, non-renewable energy sources are required when energy demand spikes, the Project would still increase the supply of carbon-neutral electricity available to meet demand. Thus, over the anticipated approximately 30-year operational life of the Project, the Project would generate approximately 13,971,000 MWh of electricity and potentially displace fossil fuel emissions (assumed to be natural gas) production of up to approximately 3,384,000 MTCO_{2e} of GHG emissions that otherwise may be needed to meet energy demand.⁹

Total Project Related Sources of Greenhouse Gases

As shown in **Table 4.7-2**, the estimated total amount of Project-related GHG emissions would be approximately 3,833 MTCO_{2e} during construction or decommissioning, and 4 MTCO_{2e} per year during operation of the Project which is substantially below the MDAQMD threshold of 90,718.5 MTCO_{2e} per year. Thus, the Project would result in a less than significant impact with regards to GHG emissions. Although the displaced emissions are not taken into account when comparing the Project-related GHG

⁹ Estimated total offset over 30 years does not account for the potential lower overall electricity emission factors in the future in part because the Project would contribute to meeting the overall lower electricity emission factors required by State law.

emissions to the threshold of significance, it is important to note that the Project would generate clean renewable energy that would potentially displace approximately 112,800 MTCO₂e in its first year of operation that would otherwise have resulted from producing an equivalent amount of electricity from a non-renewable energy source. This displacement of GHG emissions would occur every year that the Project is in operation, helping the State achieve its target of supplying only carbon-free electricity by 2045 and bringing new, clean, and reliable energy to the region and State. Therefore, in addition to resulting in less than cumulatively considerable impacts, the Project would be beneficial to reducing GHG emissions.

Impact 4.7-2 *Would the Project conflict with an applicable plan, policy, or regulation of an agency adopted for the purpose of reducing GHG emissions?*

Level of Significance: Less than Significant

Consistency with Applicable GHG Plans, Policies, or Regulations

Since the County's adopted GHGRP is not consistent with the State's post-2020 GHG reduction goals, the GHGRP was not used in this analysis. The GHG plan consistency analysis for the Project is based off the Project's consistency with the RGHGRP, the County's Policy Plan, and CARB's 2017 Scoping Plan Update.

Consistency with the 2021 Regional GHG Reduction Plan

The *Regional GHG Reduction Plan* includes GHG inventories, and local GHG reduction strategies for each of the 25 Partnership jurisdictions including the unincorporated areas of San Bernardino County. This RGHGRP is not mandatory for the Partnership jurisdictions. Instead, it provides information that can be used by Partnership jurisdictions, if they choose so, to develop individual climate action plans (CAPs). The RGHGRP describes the reductions that are possible if San Bernardino Council of Governments (SBCOG) and every Partnership jurisdiction were to adopt the reduction strategies as described in the document.

The RGHGRP demonstrates how Unincorporated San Bernardino could achieve its selected goal, "of reducing its community GHG emissions to a level that is 40% below its 2020 GHG emissions level by 2030".¹⁰ The majority (approximately 80 percent) of unincorporated San Bernardino County's GHG reduction goal will be achieved through state efforts, such as the Pavley vehicle standards, the state's low carbon fuel standard, the RPS, and other state measures to reduce GHG emissions in the on-road, solid waste and building energy sectors in 2030. According to the RGHGRP, the remaining 20 percent need to meet its goal could be achieved "primarily through the following local measures, in order of reductions achieved: Solar Installation for Existing Commercial/Industrial (Energy-8); Waste Diversion and Reduction

¹⁰ San Bernardino Council of Governments. 2021. San Bernardino County Regional Greenhouse Gas Reduction Plan. Page 3-228. Available at https://www.gosbcta.com/wp-content/uploads/2019/09/San_Bernardino_Regional_GHG_Reduction_Plan_Main_Text_Mar_2021.pdf. Accessed September 15, 2021.

(Waste-2); Solar Installation for Existing Housing (Energy-7).”¹¹ As shown on Table 3-75 of the RGHGRP¹², the County has proposed to adopt ten GHG reduction measures, including increasing the energy efficiency of and solar installation upon new and existing buildings, Transportation Demand Management and Synchronization, expanded bike lanes, waste diversion and reduction, water efficient landscaping, and other measures. It should be noted that the County has not adopted its jurisdictional plan.

Of the 10 GHG reduction measures proposed, the following two apply to the County directly and not project owners or occupants: OnRoad-3 encouraging signal synchronization and OnRoad-4 encouraging bike lanes; thus, these measures are not applicable to the Project. The following six measures do not apply to the Project because they are directed towards sources the Project would not include: Energy-1 improving the energy efficiency of new buildings, Energy-7 encouraging solar installation for existing housing, Energy-8 encouraging solar installation for existing commercial and industrial, Energy-10 encouraging urban tree planting for shading and energy savings, Offroad-2 directed at heavy duty diesel truck idling, and PS-1 proposing a GHG performance standard for new development. The Project is designed to be consistent with GHG reduction measure Water-3, encouraging water-efficient landscaping practices, and would be operated consistent with Waste-2 encouraging increased waste diversion and reduction if adopted and as applicable.

Assuming the County is successful in adopting its plan substantively as written, the above discussion demonstrates that the Project would be consistent with the applicable portions of the draft jurisdictional GHG reduction measures contained in the RGHGRP, and impacts would be less than significant.

Consistency with the San Bernardino County Countywide Plan/Policy Plan

As previously discussed, the Policy Plan includes goals and policies that all new projects are required to comply with, as applicable. Project consistency with these applicable policies is discussed in **Table 4.7-3: Consistency with Policy Plan**. As shown in this table, the Project would be consistent with the Policy Plan, and impacts would be less than significant.

¹¹ San Bernardino Council of Governments. 2021. San Bernardino County Regional Greenhouse Gas Reduction Plan. Page 3-228. Available at https://www.gosbcta.com/wp-content/uploads/2019/09/San_Bernardino_Regional_GHG_Reduction_Plan_Main_Text_Mar_2021.pdf. Accessed September 15, 2021.

¹² San Bernardino Council of Governments. 2021. San Bernardino County Regional Greenhouse Gas Reduction Plan. Pages 3-232 and 3-233. Available at https://www.gosbcta.com/wp-content/uploads/2019/09/San_Bernardino_Regional_GHG_Reduction_Plan_Main_Text_Mar_2021.pdf. Accessed September 15, 2021.

Table 4.7-3: Consistency with Policy Plan

San Bernardino County Policy Plan Goal and Policy	Project Consistency
<p>Policy IU-4.3: Waste Diversion. We shall meet or exceed state waste diversion requirements, augment future landfill capacity, and reduce greenhouse gas emissions and use of natural resources through reduction, reuse, or recycling of solid waste.</p>	<p>Consistent. The Project is a solar generation and energy storage facility, which would generate limited amount of solid waste during facility operations. See Section 7.0, EFNTBS for solid waste thresholds. The Project would be required to comply with State waste diversion requirements. As such, the Project would be consistent</p>
<p>Policy IU-5.5: Energy and Fuel Facilities. We encourage the development and upgrade of energy and regional fuel facilities in areas that do not pose significant environmental or public health and safety hazards, and in a manner that is compatible with military operations and local community identity.</p>	<p>Consistent. The Project is a solar generation and energy storage facility and would not create additional significant environmental or public health and safety hazards as it would displace fossil fuel energy production. Clean energy would be produced as a result of the Project. Therefore, the Project would not conflict with this policy.</p>
<p>Policy NR-1.1: Land Use. We promote compact and transit-oriented development countywide and regulate the types and locations of development in unincorporated areas to minimize vehicle miles traveled and greenhouse gas emissions.</p>	<p>Consistent. The Project would generate minimal vehicle miles traveled and associated GHG emissions, see Section 4.12, <i>Transportation</i>, for more information. Existing SEGS operations staff would continue operation of the Project and thus would not increase employee VMT. Therefore, the Project would not conflict with this policy.</p>
<p>Policy NR-1.7: Greenhouse gas reduction targets. We strive to meet the 2040 and 2050 greenhouse gas emission reduction targets in accordance with state law.</p>	<p>Consistent. The Project would indirectly reduce GHG emissions overall by providing clean (low carbon) energy to consumers that would otherwise consume electricity powered by fossil fuels. The Project would directly help the State meet its carbon-free electricity target, which is a key component of the suite of measures the State is taking to meet its long-term GHG reduction goals. Therefore, the Project would be consistent with this policy.</p>
<p>Policy NR-1.9: Building design and upgrades. We use the CALGreen Code to meet energy efficiency standards for new buildings and encourage the upgrading of existing buildings to incorporate design elements, building materials, and fixtures that improve environmental sustainability and reduce emissions.</p>	<p>Consistent. No buildings are proposed as part of Project facilities. The Project would be required to comply with the latest CALGreen Code and Title 24 Standards, as applicable. Therefore, the Project would not conflict with this policy.</p>
<p>Policy RE 6.4: State Renewable Energy Goal. Support the governor’s initiative to obtain 50% of the energy consumed in the state through RE generation sources by 2040.</p>	<p>Consistent. The Project is a solar renewable energy facility that will produce clean energy through solar PV technology and not through the use of fossil fuel combustion electricity production. This would increase the amount of renewable energy produced within the State and would not conflict with this policy.</p>

San Bernardino County Policy Plan Goal and Policy	Project Consistency
<p>Policy RE 6.4.1: Energy Conservation Policies and Strategies. Continue to implement policies and strategies for energy conservation by the County in the Greenhouse Gas Emissions Reduction Plan, including capture and use of landfill gas, installation of renewable energy systems and use of alternative fuels.</p>	<p>Consistent. In addition to the policy above, the Project would implement energy storage systems to prevent the loss of energy production when demand is low and continue to provide energy during nighttime hours. Therefore, the Project would not conflict with this policy.</p>

Source: Michael Baker International. 2021. *Lockhart Solar PV II Project – Greenhouse Gas Emissions Technical Memorandum*. Table 3.

Consistency with the 2017 CARB Scoping Plan Update

The 2017 Scoping Plan Update identifies additional GHG reduction measures necessary to achieve the 2030 target. CARB adopted the update to the Scoping Plan in 2017. This update lays out policies and measures to reduce and achieve Statewide GHG emissions and targets. **Table 4.7-4: Consistency with the 2017 Scoping Plan** provides an evaluation of applicable reduction actions and strategies by emissions source category to determine how the Project would be consistent with or exceed these actions and strategies. As shown below, the Project would be consistent with the 2017 CARB Scoping Plan, and impacts would be less than significant. As described above, CARB is currently preparing the 2022 Scoping Plan Update, with public workshops still underway as of September 2021, and the draft plan has not yet been released; therefore, at the time of draft EIR preparation, the 2017 Scoping Plan is the appropriate State-level applicable plan for this analysis.

Table 4.7-4: Consistency with the 2017 Scoping Plan

Actions and Strategies	Project Consistency Analysis
SB 350	
Achieve a 50 percent Renewables Portfolio Standard (RPS) by 2030, with a doubling of energy efficiency savings by 2030.	Consistent. The Project includes the construction and operation of a renewable energy generation and storage facility. Therefore, the Project would help the State achieve the RPS goals. As such, the Project would be consistent with SB 350 (and SB 100).
Low Carbon Fuel Standards (LCFS)	
Increase stringency of carbon fuel standards; reduce the carbon intensity of fuels by 18 percent by 2030, which is up from 10 percent in 2020.	No Conflict. This standard applies to all vehicle fuels sold in California including that could be used in vehicles associated with the Project. The Project would not impede this goal.
Mobile Source Strategy (Cleaner Technology and Fuels Scenario)	
Maintain existing GHG standards of light and heavy-duty vehicles while adding an addition 4.2 million zero-emission vehicles (ZEVs) on the road. Increase the number of ZEV buses, delivery trucks, or other trucks.	No Conflict. The Project may include occasional light- and heavy-duty truck uses for operations and maintenance activities. Trucks uses associated with the Project would be required to comply with all CARB regulations, including the LCFS and newer engine standards. The Project would not conflict with the CARB's goal of adding 4.2 million zero-emission (ZEVs) on the road. As such, the Project would not conflict with the goals of the Mobile Source Strategy.

Actions and Strategies	Project Consistency Analysis
Sustainable Freight Action Plan	
Improve the freight system efficiency and maximize the use of near zero emission vehicles and equipment powered by renewable energy. Deploy over 100,000 zero-emission trucks and equipment by 2030.	No Conflict. As described above, occasional truck uses associated with the Project would be required to comply with all CARB regulations, including the LCFS and newer engine standards. Additionally, the Project would comply with all future applicable regulatory standard adopted by CARB and would not conflict with CARB’s goal to deploy over 100,000 zero-emission trucks and equipment by 2030.
Short-Lived Climate Pollutant (SLCP) Reduction Strategy	
Reduce the GHG emissions of methane and hydrofluorocarbons by 40 percent below the 2013 levels by 2030. Furthermore, reduce the emissions of black carbon by 50 percent below the 2013 levels by the year 2030.	No Conflict. The Project would not emit a large amount of CH4 (methane) emissions; refer to Table 4.7-1 . Furthermore, the Project would comply with all applicable CARB and MDAQMD HFC regulations. As such, the Project would not conflict with the SLCP reduction strategy.
Post-2020 Cap and Trade Program	
The Cap-and-Trade Program will reduce greenhouse gas (GHG) emissions from major sources (covered entities) by setting a firm cap on statewide GHG emissions while employing market mechanisms to cost-effectively achieve the emission-reduction goals.	Not Applicable. As seen in Table 4.7-1 , the Project is estimated to generate approximately 259.67 MTCO ₂ e per year, which is below the 25,000 MTCO ₂ e per year Cap-and-Trade screening level. Therefore, this goal is not applicable to the Project.

Source: Michael Baker International. 2021. *Lockhart Solar PV II Project – Greenhouse Gas Emissions Technical Memorandum*. Table 4.

Conclusion

In summary, the plan consistency analysis provided above demonstrates that the Project is consistent with applicable plans, policies, regulations and GHG reduction actions/strategies, such as those outlined in the Policy Plan and CARB’s 2017 Scoping Plan Update. Therefore, the Project would not conflict with any applicable plan, policy, or regulation of an agency adopted for the purpose of reducing emissions of GHGs. Thus, impacts would be less than cumulatively considerable.

4.7.6 Cumulative Impacts

Section 4.0, *Introduction to the Environmental Analysis*, of this Draft EIR provides a list of cumulative projects that would have the potential to be considered in a cumulative context with the Project’s incremental contribution. These projects are summarized in **Table 4.0-1: Cumulative Projects** and shown in **Figure 4.0-1: Cumulative Projects Map**. It is generally the case that an individual project of this size and nature is of insufficient magnitude by itself to influence climate change or result in a substantial contribution to the global GHG inventory. GHG impacts are recognized as exclusively cumulative impacts; there are no non-cumulative GHG emission impacts from a climate change perspective. The additive effect of Project related GHGs would not result in a reasonably foreseeable cumulatively considerable contribution to global climate change. In addition, the Project as well as other cumulative related projects would also be subject to all applicable regulatory requirements, which would further reduce GHG emissions. As the Project provides a net positive effect on GHG emissions by providing clean renewable

energy and would comply with all applicable plans, rules, regulations, and policies, its contribution to cumulative GHG emissions and climate change impacts would be less than cumulatively considerable.

4.7.7 Significant Unavoidable Impacts

The Project would not result in any significant and unavoidable impacts related to GHG emissions.

4.7.8 References

- California Air Resources Board. 2017. *California's 2017 Climate Change Scoping Plan*. Available at https://www.arb.ca.gov/cc/scopingplan/scoping_plan_2017.pdf. Accessed August 16, 2021.
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4.8 HAZARDS AND HAZARDOUS MATERIALS

4.8.1 Introduction

This section describes the potential hazards associated with the Project Site, infrastructure, activities, and materials that could impact human health and the environment. The analysis in this section is based on the *Phase I Environmental Site Assessment Report, Lockhart Solar II (aka SEGS 10) APNs: 0490-223-33-0000, 0490-101-54-0000 and 0490-101-56-0000, Hinkley, California 92347*, dated May 5, 2021 (2021 Phase I ESA) and *Phase I Environmental Site Assessment Report, Lockhart Solar APN 0490-223-33, Hinkley, California 92347*, dated September 10, 2020 (2020 Phase I ESA), both of which are prepared by Partner Engineering and Science, Inc. and are included as Appendix F-1 and F-2 of this Draft EIR (hereafter collectively referred to as “the Phase I ESAs”), respectively. The analysis in this section is also based on the *Shallow Soil Investigation Report* dated September 24, 2021, which is included in Appendix F-3 of this Draft EIR.

Potential hazards related to geology, flooding, and wildfire are addressed in Sections 4.6, 4.9, and 7.9, respectively.

4.8.2 Environmental Setting

Current Use

The Project Site consists of area within three parcels, each of which contain vacant, previously disturbed land, miscellaneous concrete foundations, various electrical lines and poles, as well as existing facilities within the Shared Facilities Area.

During the early 1990s, construction of the Solar Energy Generating System (SEGS) X solar thermal facility was initiated on the SEGS X site; however, construction was halted before the facility could be fully constructed. Currently, several partially constructed concrete foundations for the power block as well as concrete foundations for solar racking piers previously constructed for the SEGS X facility are located in the center of the Project Site. In addition, numerous SEGS X facility circular concrete foundation pads are located on the southcentral side of the Project Site. The circular concrete pads were intended for support structure pylons for solar panel arrays. Existing facilities within the Shared Facilities Area include the operations and maintenance (O&M) building, warehouse, employee building, switchyard, other supporting facilities and electrical transmission infrastructure. Additionally, an existing 6-foot-tall chain link fence with desert tortoise exclusion fencing currently surrounds the perimeter of the Project Site.

Current Use of Adjacent Properties

The Project Site is bordered on the south by the existing SEGS VIII and IX Solar Thermal Power Plants, the Abengoa Mojave Solar Project (MSP) located further to the south across Hoffman Road, Harper Lake to the east, and vacant land to the north and west. The SEGS VIII, SEGS IX and MSP facilities are existing utility-scale solar thermal power facilities that include solar arrays, steam turbines, wet cooling towers, gas-fired auxiliary boilers, and other appurtenant infrastructure for solar thermal power generation. The

SEGS VIII and IX facilities have been operational since 1989 and MSP has been operational since 2014. The Project Site is also located in proximity to existing high-voltage transmission lines that serve the existing solar facilities as well as the region, including the existing 13.8-mile transmission line that extends from the Shared Facilities Area to the SCE-owned Kramer Junction substation.

The Project Site is a utility infill site with various buildings and infrastructure located within the Shared Facilities Area. The nearest potential sensitive receptor is a potential residential use located approximately 4,320 feet to the north. Due to its remote location, it was not verified whether or not this potential residence was inhabited. Although inhabitation of this structure was not verifiable, this location is the closest potential sensitive receptor and therefore the most conservative assumed sensitive land use. The next closest residences are located more than 8,000 feet (1.6 miles) from the Project Site to the south. Additional single-story rural residences are scattered approximately 11 miles to the south of the Project Site along the local road network. The nearest schools in the vicinity of the Project are both approximately 17 miles southeast of the Project Site: Lenwood Elementary School at 34374 Ash Road, and Ingels School at 3490 Agate Road. There are no private or public airport facilities near the Project Site. The nearest airport to the Project Site is the Sun Hill Ranch Airport located approximately 20 miles to the southwest.

Table 4.8-1: Adjacent Properties lists the land uses on the adjacent properties and the applicable regulatory databases in which the adjacent properties could present an environmental concern to the Project Site. More details on the databases are provided under Section 4.8.3, *Regulatory Setting*, below.

Table 4.8-1: Adjacent Properties

Direction Relative to Project Site	Description	Database(s)
North	Undeveloped Vacant Land	None
South	Solar Thermal Power Facilities (SEGS VIII, SEGS IX and MSP)	CHMIRS (California Hazardous Material Incident Report System), LUST (leaking underground storage tanks), SWEEPS UST (Statewide Environmental Evaluation and Planning System), CORTESE (sites designated by the State Water Resources Control Board, the Integrated Waste Board and the DTSC), HIST CORTESE (Historic Cortese) and CERS (California Environmental Reporting System Hazardous Waste)
East	Undeveloped Vacant Land	None
West	Undeveloped Vacant Land and water evaporation ponds for operations at the adjacent SEGS VIII and SEGS IX facilities	None

Historical Use of Site

Portions of the Project Site were historically used for intensive agricultural purposes from the 1940s to the 1980s; therefore, there is a potential that agricultural related chemicals such as pesticides, herbicides,

and fertilizers may have been used and stored onsite. No specific areas of concern such as structures or mixing areas were noted in available historical records. In addition, as the Project includes development of a utility-scale solar photovoltaic (PV) and energy storage facility, the possible former use of agricultural chemicals is unlikely to represent an environmental concern.

Hazardous Materials and Waste

Based on research, testing, and monitoring conducted as part of the Phase I ESAs and the *Shallow Soil Investigation Report*, findings are provided below as to whether any of the following three types of hazardous conditions, defined by the American Society for Testing and Materials (ASTM) Standard of Practice E1527-13, occur on the Project Site:

- **Recognized Environmental Conditions (RECs):** An REC is considered to be the presence or likely presence of any hazardous substances or petroleum products on a property under conditions that indicate an existing release, past release, or a material threat of a release of any hazardous substances or petroleum products into structures on the property or into the ground, groundwater, or surface water of the property. The term is not intended to include *de minimis* conditions that generally do not present a material risk of harm to public health or the environment and that generally would not be the subject of an enforcement action if brought to the attention of appropriate governmental agencies.
- **Controlled Recognized Environmental Conditions (CRECs):** A CREC is a recognized environmental condition resulting from a past release of hazardous substances or petroleum products that has been addressed to the satisfaction of the applicable regulatory authority (e.g., as evidenced by the issuance of a no further action letter or equivalent or meeting risk-based criteria established by regulatory authority), with hazardous substances or petroleum products allowed to remain in place subject to the implementation of required controls (e.g., property use restrictions, activity and use limitations, institutional controls, or engineering controls).
- **Historical Recognized Environmental Conditions (HRECs):** an HREC is considered to be a past release of any substances or petroleum products that has occurred in connection with the property and has been addressed to the satisfaction of the applicable regulatory authority or meeting unrestricted use criteria established by a regulatory authority, without subjecting the property to any required controls (e.g., property use restrictions, activities and use limitations, institutional controls, or engineering controls).

Hazardous Materials Database Review

The Phase I ESAs included a report from Environmental Data Resources, Inc. (EDR), a third-party hazardous materials records search company, for known or suspected contaminated sites and for sites that store, generate, or use hazardous materials on and within the vicinity of the Project Site. These databases list properties by location and provide information regarding past use and the presence of hazardous materials and/or conditions. The database search was conducted in accordance with ASTM requirements, including applicable search radius requirements (1/8 to 1 mile, depending on the database). To evaluate which of the adjoining and nearby sites identified in the regulatory database report present an

environmental concern to the Project Site, the Phase I ESAs considered several factors including the type of database on which the adjoining/nearby property is identified, the topographic position of the property relative to the Project Site, the direction and distance of the identified facility from the Project Site, the known and/or inferred groundwater flow direction in the area surrounding the Project Site, and the status of the respective regulatory agency-required investigations and/or cleanup associated with the identified facility. Details of the review are included in the Phase I ESAs in Appendix F. The Project Site is not identified in the regulatory database report.

The adjoining properties to the south (SEGS VIII and X facilities) are listed on the referenced databases, including the LUST, SWEEPS UST, CORTESE, HIST CORTESE, CERS, and CHMIRS databases. These databases are largely related to underground storage tanks (USTs) and hazardous materials incidents. Multiple assessments were conducted under regulatory oversight, and the two leaking UST (LUST) cases are closed, with none remaining open. Two heat transfer fluid release incidents were reported in March and August 2002, and subsequent cleanup has been conducted. Therefore, the adjoining/nearby properties are not environmental concerns for the Project.

The Phase I ESAs revealed no evidence of RECs, CRECs, and HRECs, or environmental issues/concerns associated with the Project Site.

Site Reconnaissance

Two site assessments were conducted on August 24, 2020 and April 6, 2021 for the 2020 and 2021 Phase I ESAs, respectively.

Hazardous Substances and Petroleum Products Used or Stored at the Site

No hazardous substances or petroleum products were observed on the Project Site during the site reconnaissance.

Aboveground and Underground Hazardous Substance or Petroleum Product Storage Tanks (ASTs/USTs)

No evidence of current or former aboveground storage tanks (ASTs) or USTs was observed on the Project Site during the site reconnaissance.

Evidence of Releases

No spills, stains, or other indications that a surficial release has occurred on the Project Site were observed.

Polychlorinated Biphenyls

No potential polychlorinated biphenyls-containing equipment (e.g., transformers, oil-filled switches, hoists, lifts, dock levelers, hydraulic elevators, etc.) was observed on the Project Site during the site reconnaissance.

Strong, Pungent or Noxious Odors

No strong, pungent or noxious odors were evident during the site reconnaissance.

Pools of Liquid

No pools of liquid were observed on the Project Site during the site reconnaissance.

Drains, Sumps and Clarifiers

No drains, sumps or clarifiers were observed on the Project Site during the site reconnaissance.

Pits, Ponds and Lagoons

Three surface impoundments used for the evaporation of water leading from cooling tower blow-downs, condensate pits, and water treatment sumps are located west of the Project Site. A series of groundwater monitoring wells are sampled semiannually to detect potential releases from the impoundments. The existing ponds are associated with the existing SEGS VIII and SEGS IX facilities operations. According to the Phase I ESAs prepared for the Project Site, the monitoring and sampling reports from 2006 to 2020 concluded that there are no indications of leakage through secondary containment of those impoundments; therefore, they are not a concern for the Project Site.

Stressed Vegetation

No stressed vegetation was observed on the Project Site during the site reconnaissance.

Asbestos-Containing Materials (ACM)

Within the Shared Facilities Area, there are structures and buildings constructed in the early 1990s for the SEGS VIII and IX facilities. However, as these buildings will not be demolished and will remain in-place, and as noted in the Phase I ESAs, ACMs are not a concern for the Project Site.

Lead-Based Paint

Within the Shared Facilities Area, there are structures and buildings constructed in the early 1990s for the SEGS VIII and IX facilities. However, as these buildings will not be demolished and will remain in-place, and as noted in the Phase I ESAs, lead-based paint is not a concern for the Project Site.

Radon

Radon is a colorless, odorless, naturally occurring, radioactive, inert, gaseous element formed by radioactive decay of radium (Ra) atoms. The US EPA has prepared a map to assist National, State, and local organizations to target their resources and to implement radon-resistant building codes. Radon sampling was not conducted as part of the Phase I ESAs. The Project Site is located in Zone 2 of the USEPA Map of Radon Zones, which indicates that the Project Site has a moderate potential for radon levels between 2.0 and 4.0 picocuries per liter (pCi/L). Because the Project Site does not include current or proposed occupied subgrade areas, no further investigation of indoor radon is warranted.

Oil Facilities

According to the State of California Geologic Energy Management Division (CalGEM) (formerly, Division of Oil, Gas and Geothermal Resources) website (Well Finder (ca.gov) accessed August 17, 2020 and April 6, 2021), no oil gas, or geothermal wells were identified on or adjoining the Project Site.

Soil Sampling

Due to the historical agricultural use on the Project Site, the Phase I ESAs noted that there is a potential that agricultural-related chemicals such as pesticides, herbicides, and fertilizers may have been used and stored on-site. As noted in the Phase I ESAs, no areas of concern, such as structures or mixing areas, were noted in the historical records. As noted in the *Shallow Soil Investigation Report*, on September 8 and 9, 2021, Partner Engineering and Science, Inc. collected soil samples at 120 strategic locations throughout the site, composited into 30 samples, to determine the potential for organochlorine pesticides, arsenic, and lead as a consequence of a release or releases from historic on-site agricultural-related uses. No pesticides or arsenic were detected in any of the analyzed soil samples. Only one of the 30 discrete soil samples contained a low concentration of lead below the regulatory screening area. Therefore, no additional sampling or special handling of the on-site soils is recommended.

Fire Hazard Severity Zone

Fire Hazard Severity Zones (FHSZs) are mapped by the California Department of Forestry and Fire Protection (CAL FIRE) as set forth in PRC Section 4201-4204 and Government Code Section 51175-89. FHSZs are categorized fire protection within a Federal Responsibility Area under the jurisdiction of a federal agency, a State Responsibility Area (SRA) under the jurisdiction of CAL FIRE, or within a Local Responsibility Area (LRA) under the jurisdiction of a local agency. CAL FIRE is responsible for fire protection within SRAs. CAL FIRE defines an SRA as land that is not federally owned, not incorporated, does not exceed a housing density of three units per acre, contains wildland vegetation as opposed to agriculture or ornamentals, and has watershed value and/or has range/forage value (this effectively eliminates most desert lands). As shown on the CAL FIRE map of Fire Hazard Severity Zones (2008) in the northwestern part of the County, the Project Site is designated as an LRA. It is not identified as having a moderate, high, or very high fire severity zone classification. Similarly, the County's Hazard Overlay Mapping (sheet EH07B) shows that the Project Site is not located in a Fire Safety Overlay District.

4.8.3 Regulatory Setting

Federal

Resource Conservation and Recovery Act of 1976 (42 USC 6901 et seq.)

The Resource Conservation and Recovery Act (RCRA) grants authority to the U.S. Environmental Protection Agency (USEPA) to control hazardous waste from start to finish. This covers the production, transportation, treatment, storage, and disposal of hazardous waste. The RCRA also sets forth a framework for the management of non-hazardous solid waste. RCRA allows individual states to develop their own programs for the regulation of hazardous waste as long as they are at least as stringent as the RCRA. The State has developed the California Hazardous Waste Control Law (Health and Safety Code [HSC]

sec. 25100 et. Seq. And 22 California Code of Regulations [CCR] sec. 66260.1 et seq.) and the USEPA has delegated authority for RCRA enforcement to the State. Primary authority for the Statewide administration and enforcement of HWCL rests with California Environmental Protection Agency's (CalEPA) Department of Toxic Substances Control (DTSC).

RCRA was amended in 1984 by the Hazardous and Solid Waste Act, which affirmed and extended the "cradle to grave" system of regulating hazardous wastes. The 1986 amendments to the RCRA enabled the USEPA to address environmental problems that could result from underground tanks storing petroleum and other hazardous substances.

Occupational Safety and Health Act of 1970

The Occupational Safety and Health Act of 1970, which is implemented by the federal Occupational Safety and Health Administration (OSHA), contains provisions with respect to hazardous materials handling. OSHA requirements, as set forth in 29 Code of Federal Regulations (CFR) Section 1910, et. seq., are designed to promote worker safety, worker training, and a worker's right-to-know. The U.S. Department of Labor has delegated the authority to administer OSHA regulations to the State of California. The California OSHA program (Cal/OSHA) (codified in the CCR, Title 8, or 8 CCR generally and in the Labor Code secs. 6300-6719) is administered and enforced by the Division of Occupational Safety and Health (DOSH). Cal/OSHA requires employers to implement a comprehensive, written Injury and Illness Prevention Program (IIPP) for potential workplace hazards, including those associated with hazardous materials.

Comprehensive Environmental Response, Compensation, and Liability Act/Superfund Amendments and Reauthorization Act

The Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), commonly known as Superfund, was enacted by Congress on December 11, 1980. This law (U.S. Code Title 42, Chapter 103) provides broad federal authority to respond directly to releases or threatened releases of hazardous substances that may endanger public health or the environment. CERCLA establishes requirements concerning closed and abandoned hazardous waste sites; provides for liability of persons responsible for releases of hazardous waste at these sites; and establishes a trust fund to provide for cleanup when no responsible party can be identified. CERCLA also enables the revision of the National Contingency Plan (NCP). The NCP (Title 40, CFR, Part 300) provides the guidelines and procedures needed to respond to releases and threatened releases of hazardous substances, pollutants, and/or contaminants. The NCP also established the National Priorities List. CERCLA was amended by the Superfund Amendments and Reauthorization Act on October 17, 1986.

Comprehensive Environmental Response, Compensation, and Liability Information System (CERCLIS) and the National Priorities List

The USEPA also maintains the Comprehensive Environmental Response Compensation (CERCLIS) and Liability Information System list. This list contains sites that are either proposed to be or on the National Priorities List (NPL), as well as sites that are in the screening and assessment phase for possible inclusion

on the NPL. The NPL is a list of the worst hazardous waste sites that have been identified by Superfund. There are no NPL sites on the Project Site.

Emergency Planning and Community Right-to-Know Act

The federal Emergency Planning and Community Right-To-Know Act (EPCRA) was enacted to inform communities and residents of chemical hazards in their area. Businesses are required to report the locations and quantities of chemicals stored on-site to both State and local agencies. EPCRA requires the USEPA to maintain and publish a digital database list of toxic chemical releases and other waste management activities reported by certain industry groups and federal facilities. This database, known as the Toxic Release Inventory, gives the community more power to hold companies accountable for their chemical management.

Hazardous Materials Transportation Act

The U.S. Department of Transportation (DOT) receives authority to regulate the transportation of hazardous materials from the Hazardous Materials Transportation Act, as amended and codified (49 USC 5101 et seq.). The DOT is the primary regulatory authority for the interstate transport of hazardous materials and establishes regulations for safe handling procedures (i.e., packaging, marking, labeling and routing).

In California, Section 31303 of the California Vehicle Code states that any hazardous material being moved from one location to another must use the route with the least travel time. This, in practice, means major roads and highways, although secondary roads are permitted to be used for local delivery. These policies are enforced by both the California Highway Patrol and the California Department of Transportation (Caltrans).

Clean Water Act/ Spill Prevention, Control and Countermeasure (SPCC) Rule

The Clean Water Act (CWA) (33 USC Section 1251 et seq.) was enacted with the intent of restoring and maintaining the chemical, physical, and biological integrity of the waters of the United States. The CWA requires states to set standards to protect, maintain, and restore water quality through the regulation of point source and certain non-point source discharges to surface water. Those discharges are regulated by the National Pollutant Discharge Elimination System (NPDES) permit process (CWA Section 402). In California, NPDES permitting authority is delegated to, and administered by, the nine Regional Water Quality Control Boards (RWQCBs). The Project is within the jurisdiction of the Lahontan RWQCB (LRWQCB).

Section 402 of the CWA authorizes the California State Water Resources Control Board (SWRCB) to issue NPDES General Construction Storm Water Permit (Water Quality Order 99-08-DWQ), referred to as the "General Construction Permit."

Construction activities can comply with and be covered under the General Construction Permit provided that they:

- Develop and implement a Storm Water Pollution Prevention Plan (SWPPP) which specifies Best Management Practices (BMPs) that will prevent all construction pollutants from contacting stormwater and with the intent of keeping all products of erosion from moving off-site into receiving waters
- Eliminate or reduce non-stormwater discharges to storm sewer systems and other waters of the nation; and
- Perform inspections of all BMPs.

NPDES regulations are administered by the RWQCB. Projects that disturb one or more acres are required to obtain NPDES coverage under the Construction General Permits.

National Fire Protection Association

The National Fire Protection Association (NFPA) provides codes and standards, research, trainings, and education for fire protection. The NFPA publishes more than 300 codes and standards intended to minimize the possibility and effects of fire and other risks. The NFPA standards are recommended guidelines and nationally accepted good practices in fire protection. Specific codes of the NFPA are typically implemented through the California Fire Code (CFC) or at the local level through the respective county or city.

State

California Environmental Protection Agency

CalEPA has jurisdiction over hazardous materials and wastes at the State level. CalEPA and the SWRCB establish rules governing the use of hazardous materials and the management of hazardous waste. DTSC is the department of CalEPA responsible for implementing and enforcing California's own hazardous waste laws, which are known collectively as the Hazardous Waste Control Law. DTSC regulates hazardous waste in California primarily under the authority of the federal and the California HSC (primarily Division 20, Chapters 6.5 through 10.6, and Title 22, Division 4.5). Although similar to RCRA, the California Hazardous Waste Control Law and its associated regulations define hazardous waste more broadly and regulate a larger number of chemicals. Hazardous wastes regulated by California but not by the USEPA are called "non-RCRA hazardous wastes." Other laws that affect hazardous waste are specific to handling, storage, transportation, disposal, treatment, reduction, cleanup, and emergency planning.

Government Code Section 65962.5 (Cortese List)

Government Code Section 65962.5, amended in 1992, requires the CalEPA to develop and update annually the Hazardous Waste and Substances Sites (Cortese) List, which is a list of DTSC-listed hazardous waste facilities and sites, Department of Health Services lists of contaminated drinking water wells, sites listed by the SWRCB as having UST leaks and have had a discharge of hazardous wastes or materials into the water or groundwater, and lists from local regulatory agencies of sites that have had a known migration of hazardous waste/material. The Cortese List is a planning document used by the State, local agencies, and developers to comply with the California Environmental Quality Act (CEQA) requirements in providing

information about the location of hazardous materials release site. Enforcement of directives from DTSC is handled at the local level, in this case the San Bernardino County Division of Environmental Health (DEH). The LRWQCB also has the authority to implement regulations regarding the management of soil and groundwater investigation.

CalFire Strategic Fire Plan 2019

CalFire uses this plan to direct and guide its fire management activities for the State Responsibility Area (SRA) throughout California. CalFire's mission is to serve and safeguard the people and protect the property and resources of California. CalFire responds to emergencies such as fires of all types, vehicle accidents, floods, earthquakes, hazardous material spills, and others within the SRA. CalFire provides direction for fire prevention using fire resource assessments, a variety of available data, mapping and other tools. The plan emphasizes "pre-fire" management, which is a process to assess alternatives to protect assets from unacceptable risk of wildland fire damage and focus on those actions that can be taken in advance of a wildland fire to potentially reduce the severity of the fire and ensure safety. Pre-fire management activities include prescribed burning, fuel breaks, forest health treatments and removal of hazardous vegetation.

CalFire has mapped fire threat potential throughout California. It ranks fire threats based on the availability of fuel and the likelihood of an area burning (based on topography, fire history, and climate). The rankings include no fire threat, moderate, high, and very high fire threat.

California Fire Code

Title 24 of the CCR, also known as the California Building Standards Code, contains the CFC, included as Title 24, Part 9. The CFC includes provisions and standards for emergency planning and preparedness, fire service features, fire protection systems, hazardous materials, fire flow requirements, and fire hydrant locations and distribution.

Hazardous Materials Release Response Plans and Inventory Act of 1985

The California HSC, Division 20, Chapter 6.95, known as the Hazardous Materials Release Response Plans and Inventory Act or the Business Plan Act, requires businesses using hazardous materials to prepare a plan that describes their facilities, inventories, emergency response plans, and training programs. Businesses must submit this information to the County DEH. The DEH verifies the information and provides it to agencies responsible for protection of public health and safety and the environment. Business Plans are required to include emergency response plans and procedures in the event of a reportable release or threatened release of a hazardous material, including, but not limited to, all of the following:

- Immediate notification to the administering agency and to the appropriate local emergency rescue personnel.
- Procedures for the mitigation of a release or threatened release to minimize any potential harm or damage to persons, property, or the environment.

- Evacuation plans and procedures, including immediate notice, for the business site.

Business Plans are also required to include training for all new employees, and annual training, including refresher courses, for all employees in safety procedures in the event of a release or threatened release of a hazardous material.

Hazardous Waste Control Act

The Hazardous Waste Control Act created the State hazardous waste management program, which is similar to but more stringent than the federal RCRA program. The act is implemented by regulations contained in Title 26 of the CCR, which describes the following required aspects for the proper management of hazardous waste:

- identification and classification;
- generation and transportation;
- design and permitting of recycling, treatment, storage, and disposal facilities;
- treatment standards;
- operation of facilities and staff training; and
- closure of facilities and liability requirements.

These regulations list more than 800 materials that may be hazardous and establish criteria for identifying, packaging, and disposing of such waste. Under the Hazardous Waste Control Act and Title 26, the generator of hazardous waste must complete a manifest that accompanies the waste from generator to transporter to the ultimate disposal location. Copies of the manifest must be filed with the DTSC.

Unified Hazardous Waste and Hazardous Materials Management Regulatory Program

The Unified Hazardous Waste and Hazardous Materials Management Regulatory Program (Unified Program) required the administrative consolidation of six hazardous materials and waste programs (Program Elements) under one agency, a Certified Unified Program Agency (CUPA). The Program Elements consolidated under the Unified Program are Hazardous Waste Generator and On-site Hazardous Waste Treatment Programs (“Tiered Permitting”); Aboveground Petroleum Storage Tank SPCC; Hazardous Materials Release Response Plans and Inventory Program (a.k.a. Hazardous Materials Disclosure or “Community-Right-To-Know”); California Accidental Release Prevention Program (Cal ARP); Underground Storage Tank (UST) Program; and Uniform Fire Code Plans and Inventory Requirements.

The Unified Program is intended to provide relief to businesses complying with the overlapping and sometimes conflicting requirements of formerly independently managed programs. The Unified Program is implemented at the local government level by CUPAs. Most CUPAs have been established as a function of a local environmental health or fire department. Some CUPAs have contractual agreements with another local agency, a participating agency, which implements one or more Program Elements in coordination with the CUPA. The Project Site is in San Bernardino County. The CUPA designated for San Bernardino County is the Hazardous Materials Division of the San Bernardino County Fire Department.

Department of Toxic Substance Control

DTSC is a department of CalEPA and is the primary agency in California that regulates hazardous waste, cleans up existing contamination, and looks for ways to reduce the hazardous waste produced in California. DTSC regulates hazardous waste in California primarily under the authority of the federal RCRA and the California HSC (primarily Division 20, Chapters 6.5 through 10.6, and Title 22, Division 4.5). Other laws that affect hazardous waste are specific to handling, storage, transportation, disposal, treatment, reduction, cleanup, and emergency planning. Government Code Section 65962.5 (commonly referred to as the Cortese List) includes DTSC-listed hazardous waste facilities and sites; Department of Health Services lists of contaminated drinking water wells; sites listed by the SWRCB as having UST leaks and have had a discharge of hazardous wastes or materials into the water or groundwater; and lists from local regulatory agencies of sites that have had a known migration of hazardous wastes and/or materials.

California Office of Emergency Services

To protect the public health and safety and the environment, the California Office of Emergency Services is responsible for establishing and managing statewide standards for business and area plans relating to the handling and release or threatened release of hazardous materials. Basic information on hazardous materials handled, used, stored, or disposed of (including location, type, quantity, and health risks) needs to be available to firefighters, public safety officers, and regulatory agencies. The information must be included in these institutions' business plans to prevent or mitigate the damage to the health and safety of persons and the environment from the release or threatened release of these materials into the workplace and environment.

These regulations are covered under Chapter 6.95 of the California HSC Article 1 – Hazardous Materials Release Response and Inventory Program (§§25500 to 25520) and Article 2 – Hazardous Materials Management (§§25531 to 25543.3). CCR Title 19, Public Safety, Division 2, Office of Emergency Services, Chapter 4 – Hazardous Material Release Reporting, Inventory, and Response Plans, Article 4 (Minimum Standards for Business Plans) establishes minimum statewide standards for Hazardous Materials Business Plans (HMBP). These plans shall include the following: (1) a hazardous material inventory in accordance with Sections 2729.2 to 2729.7; (2) emergency response plans and procedures in accordance with Section 2731; and (3) training program information in accordance with Section 2732. Business plans contain basic information on the location, type, quantity, and health risks of hazardous materials stored, used, or disposed of in the State. Each business shall prepare a HMBP if that business uses, handles, or stores a hazardous material or an extremely hazardous material in quantities greater than or equal to the following: 500 pounds of a solid substance, 55 gallons of a liquid, 200 cubic feet of compressed gas, a hazardous compressed gas in any amount, or hazardous waste in any quantity.

California Emergency Services Act. Government Code 8550–8692

Government Code Section 8550–8692 provides for the assignment of functions to be performed by various agencies during an emergency so that the most effective use may be made of all manpower, resources, and facilities for dealing with any emergency that may occur. The coordination of all emergency services is recognized by the State to mitigate the effects of natural, man-made, or war-caused

emergencies which result in conditions of disaster or extreme peril to life, property, and the resources of the State, and generally, to protect the health and safety and preserve the lives and property of the people of the State.

California Occupational Safety and Health Administration

Cal/OSHA is the primary agency responsible for worker safety in the handling and use of chemicals in the workplace. Cal/OSHA standards are generally more stringent than federal regulations. The employer is required to monitor worker exposure to listed hazardous substances and notify workers of exposure (8 CCR Sections 337-340). The regulations specify requirements for employee training, availability of safety equipment, accident-prevention programs, and hazardous substance exposure warnings. Asbestos-Containing Materials (ACM).

Asbestos, a natural fiber used in the manufacturing of different building materials, has been identified as a human carcinogen. Most friable (i.e., easily broken or crushed) asbestos-containing materials (ACM) were banned in building materials by 1978. By 1989, most major manufacturers had voluntarily removed non-friable ACM (i.e., flooring, roofing, and mastics/sealants) from the market. These materials were not banned completely. In California, any facility known to contain ACMs is required to have a written Asbestos Operations and Maintenance (O&M) Program. Removal of ACMs must be conducted in accordance with the requirements of the Mohave Desert Air Quality Management District (MDAQMD), which enforces the Asbestos National Emission Standard for Hazardous Air Pollutants, as it applies to asbestos removal and demolitions.

Lead-Based Paint

Lead-based paint has been identified by OSHA, the USEPA, and the Department of Housing and Urban Development as a potential health risk to humans, particularly children, based on its effects to the central nervous system, kidneys, and bloodstream. The Department of Housing and Urban Development classifies the risk of lead-based paint based upon the painted surface's age and condition. Cal/OSHA has established limits of exposure to lead contained in dusts and fumes. Specifically, 8 CCR Section 1532.1 establishes the rules and procedures for conducting demolition and construction activities and establishes exposure limits, exposure monitoring, and respiratory protection for workers exposed to lead.

Division of Oil, Gas and Geothermal Resources Map

To evaluate the presence of oil or gas wells on-site and in the immediate site vicinity, maps available online at the California Department of Conservation, Division of Oil, Gas, and Geothermal Resources (<https://maps.conservation.ca.gov/doggr/wellfinder/#/>) were reviewed. No oil, gas or geothermal wells were identified on or on properties adjoining the Project Site.

Title 8, California Code of Regulations, Section 2700 et seq., "High Voltage Safety Orders"

Title 8 of the CCR specifies requirements and minimum standards for safety when installing, operating, working around, and maintaining electrical installations and equipment.

Title 14, California Code of Regulations, Sections 1250-1258, “Fire Prevention Standards for Electric Utilities”

Title 14 of the CCR provides specific exemptions from electric pole and tower firebreak. Title 14 also provides conductor clearance standards and specifies when and where standards apply. These standards address hazards that could be caused by sparks from conductors of overhead lines, or that could result from direct contact between the line and combustible objects.

Local

San Bernardino County Fire Department

The San Bernardino County Fire Department, Hazardous Materials Division, is the CCUPA for the County. It issues permits to and conducts inspections of businesses that use, store, or handle substantial quantities of hazardous materials and/or waste. The CUPA is charged with the responsibility of conducting compliance inspections for over 7,000 regulated facilities in the county. These facilities handle hazardous materials, generate or treat hazardous waste, and/or operate an underground storage tank. The CUPA employs a comprehensive environmental management approach to resolve environmental issues and uses education and enforcement procedures to minimize the potential risk to human health and the environment while promoting fair business practices. As a CUPA, the San Bernardino County Fire Department manages six hazardous material and hazardous waste programs. The CUPA program is designed to consolidate, coordinate, and uniformly and consistently administer permits, inspection activities, and enforcement activities throughout the County.

San Bernardino County Countywide Plan/Policy Plan

The County’s Policy Plan includes policies and programs that are intended to address hazards to the public and environment and guide future development in a way that lessens impacts. For instance, the Countywide Plan/Policy Plan requires the application of program review and permitting procedures for proposed land uses potentially introducing hazardous substances, as well as the inspection of hazardous material handlers and hazardous waste generators. Policies and goals that are relevant to hazards and hazardous materials are listed below.

Renewable Energy and Conservation Element

Policy RE 4.6 Require all recyclable electronic and/or toxic materials to be recycled in accordance with the requirements of the Basel Convention or comparable standard.

Safety Element

Goal S2 The County will minimize the generation of hazardous waste in the County and reduce the risk posed by storage, handling, transportation, and disposal of hazardous wastes.

Policy S 2.1 Because reducing the amount of waste generated in this County is an effective mechanism for reducing the potential impact of these wastes on the public health and safety and the environment, and because legislation encourages the reduction, to the extent feasible, of hazardous waste, this jurisdiction will encourage and promote

practices that will, in order of priority: (1) reduce the use of hazardous materials and the generation of hazardous wastes at their source; (2) recycle the remaining hazardous wastes for reuse; and (3) treat those wastes that cannot be reduced at the source or recycled. Only residuals from waste recycling and treatment will be land disposed.

- Policy S 2.2** Include extensive public participation in the County’s application review process for siting hazardous waste facilities and coordinate among agencies and County departments to expedite the process. Apply a uniform set of criteria to the siting of these facilities for the protection of public health and safety and the environment.
- Policy S 2.3** Ensure that environmental review is conducted for projects proposed on sites that have been identified as contaminated.
- Policy S 2.5** Minimize the risk of exposure to hazardous substances by residential and other sensitive receptors through the application of program review and permitting procedures.
- GOAL S3** The County will protect its residents and visitors from injury and loss of life and protect property from fires.
- Policy S 3.2** The County will endeavor to prevent wildfires and continue to provide public safety from wildfire hazards.

San Bernardino County Code of Ordinances Title 2, Division 3, Fire Protection and Explosives and Hazardous Materials

Chapter 6, Permits, Inspections and Hearing Procedures for Hazardous Materials, prohibits any person or business subject to the requirements of the CUPA Permit Program Elements from generating, producing, storing, treating, or other handling of hazardous materials or hazardous waste without getting the proper operation permitting and paying the appropriate fees.

Chapter 7, CUPA Permit Elements for Hazardous Materials, defines the types of facilities, activities, and operations that are subject to these fees and permit requirements.

Title 8, Division 2, Land Use Zoning Districts and Allowed Land Uses

Development Code Chapter 82.13, Fire Safety (FS) Overlay, was created to provide greater public safety in areas prone to wildland brush fires by establishing additional development standards for these areas. Chapter 82.16, Hazardous Waste (HW) Overlay, ensures that hazardous waste facilities are sited in areas that protect public health, safety, welfare, and the environment by buffering hazardous waste facilities so that incompatible uses are not permitted to be developed in the vicinity.

Title 8, Division 4, Standards for Specific Land Uses and Activities

Development Code Chapter 84.11, Hazardous Waste Facilities, includes provisions that apply to hazardous waste facilities where allowed in compliance with Chapter 82.16 described above. The chapter states that an approved Special Use Permit is required for the establishment of a hazardous waste facility. The

permit's purpose is to evaluate the operation and monitoring plan of the facility; ensure the facility has adequate measures for monitoring ongoing impacts to air quality, groundwater, and environmentally sensitive resources; evaluate the types and quantities of wastes that will be treated or disposed of at the facility; and require periodic inspections of the facility to ensure conditions of approval are implemented and monitored.

Emergency Response Plan

The intent of hazard mitigation is to reduce and/or eliminate loss of life and property. Hazard mitigation is defined by the Federal Emergency Management Agency (FEMA) as "any action taken to reduce or eliminate the long-term risk to human life and property from natural hazards." FEMA defines a hazard as "any event or condition with the potential to cause fatalities, injuries, property damage, infrastructure damage, agricultural loss, environmental damage, business interruption, or other loss." The purpose of the County's 2011 Multi-Jurisdictional Hazard Mitigation Plan (MJHMP) is to demonstrate the mechanisms for reducing and/or eliminating risk in the unincorporated area of the county and its five special districts. The MJHMP process encourages communities to develop goals and projects that will reduce risk and build a more disaster-resilient community by analyzing potential hazards.

4.8.4 Impact Thresholds and Significance Criteria

In accordance with Appendix G of the State CEQA Guidelines, a project would have a significant impact related to hazards and hazardous materials if it would:

- Threshold (a):** Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials;
- Threshold (b):** Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment;
- Threshold (c):** Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school;
- Threshold (d):** Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, create a significant hazard to the public or the environment;
- Threshold (e):** For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, result in a safety hazard or excessive noise for people residing or working in the project area;
- Threshold (f):** Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan; or
- Threshold (g):** Expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires.

4.8.5 Impacts and Mitigation Measures

Impact 4.8-1 *Would the Project create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?*

Level of Significance: Less than Significant

Construction

The Project would develop and construction a utility-scale solar PV and energy storage facility including associated infrastructure. Project construction activities would involve the use and transportation of hazardous materials such as fuels, asphalt, lubricants, toxic solvents, pesticides, and herbicides. Construction equipment generally contains limited amounts of hazardous materials such as diesel fuel, hydraulic oil, lubricants, grease, solvents, cleaners, adhesives, paints, and other petroleum-based products. The routine use or an accidental spill of hazardous materials could result in inadvertent releases, which could adversely affect construction workers, the public, and the environment. Project construction activities would occur in accordance with all applicable local standards set forth by the County, as well as State and federal health and safety requirements that are intended to minimize hazardous materials risk to the public, such as Cal/OSHA requirements, the Hazardous Waste Control Act, the California Accidental Release Protection Program, and the California HSC. For hazardous materials used during construction, contractors, in accordance with State regulations, would be required to properly use and store materials in appropriate containers with secondary containment to contain a potential release. The CFC would also require measures for the safe storage and handling of hazardous materials.

Construction contractors would be required to prepare a SWPPP for construction activities in compliance with the NPDES General Construction Permit requirements. The SWPPP would list the hazardous materials (including petroleum products) proposed for use during construction; describe spill prevention measures, equipment inspections, equipment and fuel storage; protocols for responding immediately to spills; and describe BMPs for controlling site runoff. See Section 4.9, *Hydrology and Water Quality*, of this Draft EIR for more details. In addition, the transportation of hazardous materials from demolition and construction activities are regulated by the DOT and Caltrans. Together, federal and State agencies determine driver-training requirements, load labeling procedures, and container specifications designed to minimize the risk of accidental release.

Finally, in the event of a substantial accidental spill or release of a hazardous material at the Project Site that requires agency notification, a coordinated response with federal, State, and local levels would occur. Construction staff are directed in how to handle such a situation, including containment and who to contact if such a situation occurs. A hazardous materials business plan (HMBP) would be provided to the County DEH Hazardous Materials Section and implemented by the Project, which would include a complete list of all materials used on site and information regarding how the materials would be transported and in what form they would be used. This information would be recorded to maintain safety and prevent possible environmental contamination or worker exposure. During construction, Material Safety Data Sheets would be posted on the Project Site to provide workers and emergency responders

with procedures for handling hazardous materials safely, including information for fire suppression, toxicity/ first aid, storage/ disposal, and spill handling.

As discussed in Subsection 4.8.2, *Environmental Setting*, the Project Site was historically used for agricultural purposes. Therefore, there is a potential that agricultural-related chemicals, such as pesticides, herbicides, and fertilizers, may have been used and stored on-site. As noted above, only one of 30 discrete soil samples contained a low concentration of lead below regulatory screening criteria, and no pesticides or arsenic were detected in any of the analyzed soil samples. Therefore, there would be no potential for agricultural-related chemicals to create a significant hazard to the public or the environment.

Compliance with the applicable federal, State, and local regulations would ensure Project construction would not create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials during construction.

Operations

The Project would consist of solar modules, transformers and battery storage; however, modules made with cadmium telluride and crystalline silicon and batteries do not result in emissions during their normal operations and accidental breakage is unlikely. In addition, all mineral oil filled transformers would be equipped with spill containment areas as required by regulation and battery storage would be in accordance with OSHA requirements such as inclusion of ventilation, acid resistant materials, and spill response supplies. All hazardous materials would be disposed of in accordance with RCRA and State Hazardous Waste Management Program requirements. Although the Project would develop a renewable energy facility on the Project Site, resulting in an increased use of commercially available potentially hazardous materials, the use of these substances is subject to applicable federal, State, and local health and safety laws and regulations that are intended to minimize health risk to the public associated with hazardous materials. The Project would not use substantial quantities of hazardous materials or generate substantial quantities of hazardous materials requiring transport during operations and is expected to be classified as a Small Quantity Generator of hazardous wastes.

The Project would be expected to use limited hazardous materials and substances which would include herbicides and pesticides to control vegetation on the Project Site. Large quantities of these materials are not expected to be stored on-site. Storage of hazardous materials is regulated by applicable federal, State, and local regulations. It is also anticipated that water would be required for solar panel washing and equipment washing. Chemicals would not be added to the water used for O&M activities. Compliance with these requirements would serve to minimize health and safety risks to people or structures associated with routine use, transport, and disposal as well as accidental release of or exposure to hazardous materials. Project operation would not create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials, and impacts would be less than significant.

Decommissioning

At the end of the Project's operational term, the Applicant may determine that the Project should be decommissioned and deconstructed, or it may seek an extension of its conditional use permits. The Applicant will work with the County to ensure decommissioning of the Project after its productive lifetime complies with all applicable local, State, and federal requirements. The Project would include BMPs to ensure the collection and recycling of modules and to avoid the potential for modules to be disposed of as municipal waste. All decommissioning would occur within the Project Site and previous disturbance limits, and would involve similar, though reduced construction equipment and activities.

Equipment would be de-energized prior to removal, salvaged (where possible), placed in appropriate shipping containers, and secured in a truck transport trailer for shipment off site to be recycled or disposed of at an appropriately licensed disposal facility. Site infrastructure would be removed, including fences and concrete pads that may support the inverters, transformers, and related equipment. The exterior fencing and gates would be removed, and materials would be recycled to the extent feasible. Project roads would be restored to their pre-construction condition to the extent feasible unless the landowner elects to retain the improved roads for access throughout the property. A collection and recycling program would be utilized to promote recycling of Project components and minimize disposal in landfills.

Largely, Project facilities can be refurbished and sold, are recyclable, or can be resold as scrap material. Panels typically consist of silicon, glass, and an aluminum frame. Tracking systems (not counting the motors and control systems) typically consist of aluminum, steel, and concrete. All these materials can be recycled. Fuel, hydraulic fluids, and oils would be transferred directly to a tanker truck from the respective tanks and vessels. Storage tanks/vessels would be rinsed and transferred to trucks per standard BMPs. All material that could not be salvaged would be appropriately disposed of at an authorized site in accordance with applicable laws and regulations. It is anticipated that all oils would be recycled at an appropriate facility. Batteries would be recycled per manufacturer recommendations specific to the battery technology and consistent with regulatory standards.

Site personnel involved in handling these materials would be trained with proper handling techniques. Containers used to store hazardous materials would be inspected regularly for any signs of failure or leakage. Transportation of the removed hazardous materials would comply with regulations for transporting hazardous materials, including those set by the DOT, USEPA, DTSC, CHP, and California State Fire Marshal.

Numerous recyclers for the various materials to be used on the Project Site operate in San Bernardino and Riverside Counties. Metal, scrap equipment, and parts that do not have free-flowing oil can be sent for salvage. Equipment containing any free-flowing oil from equipment would be managed as used oil, which is a hazardous waste in California. Decommissioning would comply with federal, state, and local standards and all regulations that exist when the Project is decommissioned. Upon removal of the Project components, the site would be returned to conditions generally consistent with the existing (pre-

development) conditions, subject to a closure plan in accordance with San Bernardino Development Code Section 84.29.060.

Compliance with the applicable regulations would ensure Project decommissioning would not create a significant hazard to the public or the environment through the routine transport, use or disposal of hazardous materials, and impacts would be less than significant.

Impact 4.8-2 ***Would the Project create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?***

Level of Significance: Less than Significant

Construction

The Phase I ESAs included a review of local, State, and Federal environmental record sources, standard historical sources, aerial photographs, fire insurance maps and physical setting sources, a reconnaissance of the Project Site to review use and current conditions and to check for the storage, use, production or disposal of hazardous or potentially hazardous materials, and interviews with persons and agencies knowledgeable about current and past site use. As previously discussed in Subsection 4.8.2, *Environmental Setting*, the Phase I ESAs did not identify any environmental concerns associated with the Project Site. As discussed in Impact 4.8-1 above, Project construction activities would involve the use and transportation of hazardous materials such as fuels, asphalt, lubricants, toxic solvents, pesticides, and herbicides. Construction equipment generally contains limited amounts of hazardous materials such as diesel fuel, hydraulic oil, lubricants, grease, solvents, cleaners, adhesives, paints, and other petroleum-based products. Project construction activities would occur in accordance with all applicable local standards set forth by the County, as well as State and federal health and safety requirements that are intended to minimize hazardous materials risk to the public, such as Cal/OSHA requirements, the Hazardous Waste Control Act, the California Accidental Release Protection Program, and the California HSC. For hazardous materials used during construction, contractors, in accordance with State regulations, would be required to properly use and store materials in appropriate containers with secondary containment to contain a potential release. Compliance with all applicable regulations would ensure that the risk of a release of hazardous materials into the environment during construction is less than significant.

Operations

Project operations would consist of limited hazardous materials on the site. As discussed in Impact 4.8-1 above, any routine transport, use, and disposal of these materials during Project operations must adhere to federal, State, and local regulations for transport, handling, storage, and disposal of hazardous substances. Furthermore, hazardous materials/chemicals such as herbicides and pesticides in low quantities do not pose a significant threat related to the release of hazardous materials into the environment.

Under normal operations, BESS facilities do not store or generate hazardous materials in quantities that would represent a risk to offsite receptors. In addition, the Project would include preventative measures, such as energy management systems and building management systems to reduce the potential for accidents to occur. Nevertheless, because lithium-ion BESS facilities do store energy, a battery thermal runaway can occur if a cell, or area within a cell, achieves elevated temperatures due to thermal failure, mechanical failure, internal/external short circuiting, and electrochemical abuse. In this event, state-of-the-art fire and safety systems would mitigate the thermal runaway event.

The BESS containers would have a fire rating in conformance with NFPA and County standards and specialized fire suppression systems. The Project would utilize pre-engineered battery storage systems listed under UL 9540 or BESS tested in compliance with UL 9540A. UL 9540 contains safety standards for the system's construction (e.g., frame and enclosure, including mounting, supporting materials, barriers and more); the insulation, wiring, switches, transformers, spacing and grounding; safety standards for performance of over twenty different elements, such as tests for temperature, volatility, impact, overload of switches, and an impact drop test; and standards for manufacturing, ratings, markings, and instruction manuals. In addition to the many individual standards referenced, CFC compliance requires a Failure Mode and Effects Analysis be performed and requires a test to ensure safe compatibility of the system's parts. This includes the UL 1973 standard, in which a battery manufacturer must prove that a failed cell inside will not cause a fire outside the system. The Project's compliance with the CFC, UL 9540/9540A requirements, and industry standards for adequate separations, cascading protections, and suppression systems to limit failure to a single cell or module. In the unlikely event of thermal runaway, the Project's preventative measures and fire and safety systems are designed to limit the event to a single battery module as well as reduce the duration and intensity of an event, if it occurs.

The Project is also subject to the requirements of Chapter 12 of the CFC which requires that all BESS use an Energy Management System for monitoring and balancing cell voltages, currents and temperatures. The system must transmit an alarm signal if potentially hazardous temperatures or other conditions such as short circuits, over voltage or under voltage, are detected. The CFC also requires the use of appropriate fire detection and suppression systems, which will be incorporated into each of the Project's BESS enclosures.

As previously stated, an HMBP will be prepared and implemented by the Project. The HMBP would be required to also include an emergency response plan which is designed to minimize hazards to humans and the environment from a sudden release of hazardous waste, fires, or explosions. This includes required emergency response training for the San Bernardino County Fire Department and staff. The emergency response plan requires immediate action take place if an event were to occur. As the San Bernardino County Fire Department would have undergone training prior to Project operations, immediate action would be followed in accordance with the emergency response plan.

Adherence to regulations and standard protocols during Project operation would minimize and reduce the potential for hazardous materials impacts from the BESS. Therefore, Project operation would not create a significant hazard to the public or the environment through reasonably foreseeable upset and

accidental conditions involving the release of hazardous materials into the environment, and impacts would be less than significant.

Decommissioning

As stated under Impact 4.8-1, the Applicant will work with the County to ensure decommissioning of the Project after its productive lifetime complies with all applicable local, State, and federal requirements. The Project would include BMPs to ensure the collection and recycling of modules and to avoid the potential for modules to be disposed of as municipal waste. All decommissioning would occur within the Project Site and previous disturbance limits, and would involve similar, though reduced construction equipment and activities. Site personnel involved in handling materials associated with decommissioning would be trained with proper handling techniques. Compliance with applicable federal, State, and local regulations would ensure that Project decommissioning would not create a significant hazard to the public or the environment through reasonably foreseeable upset and accidental conditions involving the release of hazardous materials into the environment, and impacts would be less than significant.

Impact 4.8-3 ***Would the Project emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?***

Level of Significance: No Impact

The nearest schools, Lenwood Elementary School, at 34374 Ash Road and Ingels School at 3490 Agate Road are both approximately 17 miles southeast of the Project Site. The Project does not propose any uses which could generate hazardous emissions or involve the handling of hazardous materials, substances, or waste in substantial quantities that would have an impact to surrounding schools. The Project would be required to adhere to all applicable federal, State and regional regulations regarding handling, transport and disposal of hazardous materials. As the Project would not emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school, no impacts would occur.

Impact 4.8-4 ***Would the Project be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code §65962.5 and, as a result, would it create a significant hazard to the public or the environment?***

Level of Significance: No Impact

The Project Site is not included on the hazardous sites list compiled pursuant to California Government Code Section 65962.5.¹ In addition, the Phase I ESAs did not identify any environmental concerns for the Project Site. No impact would occur.

¹ State of California Department of Toxic Substances Control. 2021. DTSC's Hazardous Waste and Substances Site List - Site Cleanup (Cortese List). Available at <https://dtsc.ca.gov/dtscs-cortese-list/>. Accessed August 12, 2021.

Impact 4.8-5 *For a Project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the Project result in a safety hazard or excessive noise for people residing or working in the Project area?*

Level of Significance: No Impact

The Project Site is not located in the vicinity of a public or public use airport. The nearest airport to the Project Site is the Sun Hill Ranch Airport located approximately 20 miles to the southwest. No impact would occur.

Impact 4.8-6 *Would the Project impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?*

Level of Significance: Less than Significant

The Project would not impair or physically interfere with an adopted emergency response or evacuation plan. The County has adopted the Multi-Hazard Functional Plan (MHFP) to address the County's planned response to extraordinary emergency situations associated with natural disasters, technological incidents, and national security emergencies. The objective of the MHFP is to incorporate and coordinate all the facilities and personnel of the County into an efficient organization capable of responding to any emergency. The MHFP provides a process for emergency management and response with the County. The MHFP identifies the organization structure and responsibilities of agencies in the event of an emergency or disaster. No revisions to the MHFP would be required as a result of the Project.

As further detailed in Section 4.11, *Transportation*, of this Draft EIR, the Project includes implementation of a Construction Traffic Management Plan (CTMP), which would include construction traffic control measures to ensure that emergency access is maintained during Project construction. The CTMP will include implementation of safety measures such as directing construction traffic with a flag person (as needed to maintain safety adjacent to existing roadways), placing temporary traffic control signage along access routes to indicate the presence of heavy vehicles and construction traffic, ensure access for emergency vehicles to the Project Site.

During Project operation, primary access to all major roads would be maintained and would not interfere with emergency access into or out of the Project Site. Therefore, the Project would not impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan. Impacts would be less than significant.

Impact 4.8-7 *Would the Project expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires?*

Level of Significance: Less than Significant

As stated under Subsection 4.8.2, *Environmental Setting*, the Project Site is designated as an LRA and is not identified as having a moderate, high, or very high fire severity zone classification. Furthermore, the

County's Hazard Overlay Mapping shows that the Project Site is not located in a Fire Safety Overlay District. No areas in the general vicinity of the site are classified within a Fire Safety Overlay District. Therefore, the Project would not expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires, and no impact would occur.

The Project includes installation of BESS within the Shared Facilities Area. Given continuing rapid technological change in the battery industry, the BESS component manufacturer for the Project has not been determined at this time but could include any commercially available and proved large-scale battery technology, including but not limited to lithium ion, sodium sulfur, and sodium or nickel hydride. The batteries would be contained within enclosures or in individual containers, housed in open-air-style racking within its enclosed container. The containers would also have heating, ventilation, and air conditioning (HVAC) cooling to maintain energy efficiency and to protect the batteries.

The CFC and associated standards require rigorous large-scale fire testing, such as UL 9540A requiring the systems to pass performance-based criteria. This means that enclosures of battery storage systems may not pose a fire or explosion risk to adjacent exposures. To achieve these results, some BESS systems employ various types of active thermal runaway mitigation systems within the integrated design of utility scale, lithium-ion based battery storage enclosures. Regardless of the design basis, these thermal runaway mitigation systems are required to be tested to UL 9540A large scale fire testing in order to manage fire and exposure risks. Some BESS systems comply with these performance-based requirements without the use of active suppression systems, rather, they use passive design features or thermal management features that prevent or limit thermal runaway. Either design-based or active thermal runaway mitigation approaches to achieve the UL 9540A criteria, again, all systems must demonstrate that they pose no explosion or fire risk to adjacent exposures.

The Project BESS would be designed, constructed, operated, and maintained in accordance with applicable best practices and regulatory requirements, including fire safety standards. Batteries would be housed in an enclosure that contains integrated fire safety system and controls. If smoke, heat or flammable gas were detected, an alarm would sound, strobes would flash, and any thermal runaway mitigation systems present, would be activated. The BESS containers would have a fire rating, if required based on large-scale fire test results. Final fire safety design would follow applicable codes and referenced standards and would be specific to the battery technology that is ultimately implemented. The BESS containers would have a fire rating in conformance with NFPA and County standards and specialized fire suppression systems. Final fire safety design would follow applicable standards and would be specific to the battery technology that is ultimately implemented.

Components of an integrated fire and safety system within a BESS enclosure include module-level monitoring and control of the system 24/7, an internal cooling/HVAC system. The fire and safety system may include, as required by the design, fire panels, aspirating hazard detection system, smoke/heat detectors, gas ventilation and deflagrations systems and suppression or thermal runaway systems. Over the long term, Project operation and maintenance could introduce potential ignition sources such as maintenance vehicles used for Project maintenance activities. The proposed inverters and solar panels

may represent a potential ignition source; however, the potential for fire risk for these components is considered low as the Project will comply with the San Bernardino County Fire Department vegetation clearance requirements. Project vehicles will travel on roads that have been cleared of vegetation. As such, vegetation-related fires would be unlikely to occur on the site. All battery components for the Project BESS would be installed within non-walk in outdoor enclosures on electrically grounded concrete pads or foundations to minimize the potential for sparks or ignition to occur and include the integrated fire and safety systems within each enclosure as described above.

As required by Chapter 12 of the CFC, the Applicant would prepare and implement preparation and submittal of a Fire Protection and Emergency Response Plan to the San Bernardino County Fire Department for review and approval. The purpose of the Fire Protection and Emergency Response Plan would be to eliminate causes of fire, prevent loss of life and property by fire, to comply with County and County Fire Protection District standards for solar facilities, and to comply with the OSHA standard of fire prevention, 29 CFR 1910.39. The Fire Protection and Emergency Response Plan would address fire hazards of the different components of the project, including the BESS.

The Project Site has been subject to near complete surface disturbance associated with past agricultural use, grading during partial construction of the SEGS X facility, as well as construction of the Shared Facilities Area for the existing SEGS VIII and IX Solar Thermal Power Plants. The Project would comply with the CFC and San Bernardino County Fire Department vegetation clearance requirements. Project vehicles will travel on roads that have been cleared of vegetation. As such, vegetation-related fires would be unlikely to occur on the Project Site. In addition, the Project design would be required to conform to conditions established by the San Bernardino County Fire Department to ensure potential hazards relative to exposure of people or structures to significant risk of loss, injury, or death involving wildland fires would be reduced to the extent feasible. Comprehensive safety measures that comply with federal, State, and local worker safety and fire protection codes and regulations would be implemented for the Project and would minimize the occurrences of fire due to project activities during construction and for the life of the project. Coupled with the implementation of fire suppression technology and adherence with applicable industry best practices and regulatory fire standards, the Project would not expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires. Therefore, impacts would be less than significant.

4.8.6 Cumulative Impacts

Section 4.0, *Introduction to the Environmental Analysis*, of this Draft EIR provides a list of cumulative projects that would have the potential to be considered in a cumulative context with the Project's incremental contribution. These projects are summarized in **Table 4.0-1: Cumulative Projects** and shown in **Figure 4.0-1: Cumulative Projects Map**.

Impacts associated with hazardous materials are often site-specific and localized. The EIR evaluates potential environmental concerns in connection with the Project Site and surrounding area. The database searches document the findings of various governmental database searches regarding properties with

known or suspected releases of hazardous materials or petroleum hydrocarbons within a search radius of up to one mile from the site and serves as the basis for defining the cumulative impacts study area.

Although some of the cumulative projects also have potential impacts associated with hazardous materials, the environmental concerns associated with hazardous materials are typically site-specific.

Each cumulative project is required to address any issues related to hazardous materials or wastes. While the Project would be proximate to other solar PV projects that may include similar battery storage systems, similar to the Project's BESS, all battery storage systems would be required to include fire preventative measures and fire and safety systems to reduce the potential for battery thermal runaway and other potentially hazardous events. All construction, operation, and decommissioning of the solar projects would need to follow the same safety standards and suppression systems. Projects must adhere to applicable regulations for the use, transport, and disposal of hazardous materials and implement mitigation in compliance with federal, State, and local regulations to protect against site contamination by hazardous materials. Compliance with all applicable federal, State, and local regulations related to hazardous materials would ensure that the routine transport, use, or disposal of hazardous materials would not result in adverse impacts. Additionally, site-specific investigations would be conducted at sites where contaminated soils or groundwater could occur to minimize the exposure of workers and the public to hazardous substances.

With adherence to applicable federal, State, and local regulations governing hazardous materials, the potential risks associated with hazardous wastes would be reduced to a level of less than significant. The incremental effects of the Project related to hazards and hazardous materials, are anticipated to be minimal, and any effects would be site-specific. Therefore, the Project would not result in incremental effects to hazards with respect to hazardous materials that could be compounded or increased when considered together with similar effects from other past, present, and reasonably foreseeable probable future projects. Therefore, Project would not result in cumulatively considerable impacts to or from hazards or hazardous materials.

4.8.7 Significant Unavoidable Impacts

The Project would not result in any significant and unavoidable impacts related to hazards and hazardous materials.

4.8.8 References

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4.9 HYDROLOGY AND WATER QUALITY

4.9.1 Introduction

This section discusses the environmental setting, existing conditions, regulatory context, and potential impacts of the Project in relation to hydrology and water quality. Information in this section is based primarily on the site-specific *Preliminary Hydrology Report* (“*Hydrology Report*”) (see Appendix J) and the *Lockhart Solar PV II Water Supply Assessment* (the “*WSA*”) (see Appendix M).

4.9.2 Environmental Setting

The Project Site is located in San Bernardino County (County) and is approximately seven miles north of the intersection of Harper Lake Road and Mojave-Barstow Highway 58. The Project Site consists of area within three parcels, each of which contain vacant, previously disturbed land, miscellaneous concrete foundations, various electrical lines and poles, as well as existing facilities within the Shared Facilities Area. The Project Site is adjacent to the existing Solar Energy Generating System (SEGS) VIII and IX Solar Thermal Power Plants, which the County approved for repowering to photovoltaic (PV) solar and battery storage in 2019 as part of the Lockhart Solar I Facility (CUP Project #201900125 approved in 2019); Harper Lake Road to the east; Hoffman Road to the west; and vacant land to the north.

The Project is largely sited on land previously approved by the California Energy Commission (CEC) for development of Solar Energy Generating System (SEGS) X. During the early 1990s, construction of the SEGS X solar thermal facility was initiated on the Project Site. SEGS X was part of a series of three solar thermal power plants certified by the California Energy Commission (CEC) which were to be built adjacent to each other in order to share supporting facilities. SEGS X was fully permitted and certified as an 80 megawatts (MW) solar thermal facility. Approximately 600-acres were identified for the SEGS X power plant including land for associated facilities to be shared with the two adjacent solar thermal power plants (SEGS VIII and IX). In 1991, the SEGS X owner was unable to continue construction due to lack of financing and construction was halted. Prior to work stoppage, several concrete foundations for the power block as well as concrete foundations for solar racking had been installed in portions of the Project Site, and currently remain on site. The Project Site has been subject to near complete surface disturbance associated with past agricultural use, grading and partial construction of the SEGS X facility, as well as construction of the Shared Facilities Area for the existing SEGS VIII and IX Solar Thermal Power Plants.

Existing Hydrology and Drainage Conditions

Regional Hydrology and Drainage

The Lahontan Region covers approximately 25 million acres (39,000 square miles) in the east to southeastern portion of California. It includes Modoc (East), Lassen (East side and Eagle Lake), Sierra, Nevada, Placer, El Dorado, Alpine, Mono, Inyo, Kern (East), San Bernardino, Los Angeles (N/E corner) counties. The Lahontan Region includes the highest (Mount Whitney) and lowest (Death Valley) points in the contiguous United States. The Lahontan Region extends from the Sierra Nevada Mountains to the northern slopes of the San Bernardino and San Gabriel Mountains.

For planning and reporting purposes, the Lahontan Region has been historically divided into North and South Basins. The Lahontan Region is split near the boundary of Mono Lake in Mono County. The Project Site is located in the South Basin planning area.

Surface Water Hydrology

Precipitation occurs mostly as rainfall, with some snowfall in the San Bernardino Mountains. Rainfall is sporadic and amounts vary widely with location. Little of the rainwater percolates into the groundwater table, and most is lost by evaporation and evapotranspiration.

The Project Site lies within the Schweitzer Well-Harper Lake Hydrologic Unit (HU) (HUC12 180902071110). This drainage basin covers approximately 44,237 acres (69.12 square miles) and is a closed basin which requires that all water entering the basin does not exit the basin by surface flows. All inputs are concentrated to a low point within in the basin and evaporates or are intercepted by plant life and transferred to the atmosphere through transpiration.

Groundwater Hydrology

Groundwater is stored principally in unconsolidated alluvium. With exception of areas near some of the dry lakes, groundwater is generally unconfined. The Project Site lies within the Centro (Middle Basin) subarea of the Mojave Basin, which draws its water supply entirely from the Harper Valley Groundwater Basin, a subbasin of the Mojave Groundwater Basin. The Harper Valley Groundwater Basin encompasses 640 square miles and underlies Harper Valley in western San Bernardino and eastern Kern Counties within the Mojave Desert. Capacity for the Harper Valley Groundwater Basin is approximately 6,975,000 acre-feet. The Harper Valley Groundwater Basin is part of the South Lahontan Hydrologic Region, the western part of the basin is bounded by a combination of surface drainage divides, portions of the harper, Kramer Hills and Lockhart fault, and low-lying basement hills. The Harper Valley Groundwater Basin is bounded to the south by Mount General, Iron Mountain, and the Waterman Hills, as well as subsurface drainage patterns. The Harper Valley Groundwater Basin is bounded to the north by the Rand Mountains. The Harper Valley Groundwater Basin also receives groundwater flow from Middle Mojave River Valley and Cuddeback Valley groundwater basins. A majority of the Harper Valley Groundwater Basin is considered unconfined and allows recharge via rainfall infiltration and percolation of surface runoff through the edges of Harper Valley. Confined conditions are found near Harper Lake.

Groundwater is recharged predominantly through the infiltration of water from the Mojave River, which accounts for approximately 80 percent of the total basin natural recharge. Other sources of recharge include infiltration of storm runoff from the mountains, desert washes and recharge from human activities such as irrigation return flows, wastewater discharge, and enhanced recharge with imported water. Over 90 percent of the basin groundwater recharge originates in the San Gabriel and San Bernardino mountains. Groundwater is discharged from the basin primarily by well pumping, evaporation through soil, transpiration by plants, seepage into dry lakes where accumulated water evaporates, and seepage into the Mojave River.

Existing Site Drainage

Stormwater runoff enters the Project Site from the southern and western boundaries and exits the Project Site along the northern and eastern boundaries. There is an existing earthen berm outside the western boundary of the Project Site, constructed as part of the SEGS VIII and IX facilities, that protects a major portion of the Project Site by diverting the off-site flow to the northwest corner. The existing berm does not currently extend along the full length of the western boundary of the Project Site. Flow from the berm confluences with off-site flow coming from the north and begins to pond just outside the northeast corner of the Project Site within the dry lake bed of Harper Lake. The flow from the south crosses the southern portion of the Project Site and concentrates at the eastern boundary of the Project Site within Harper Lake. There is some evidence of channelization, but most flow is expected to be via shallow overland flow. As described in the *Biological Resources Report* (Appendix D-1) prepared for the Project, a jurisdictional delineation and site reconnaissance surveys completed on the Project Site confirmed there are no surface waters, ephemeral features, or wetlands on the Project Site.

Water Quality

Surface Water Quality

Section 303(d) of the federal Clean Water Act (CWA) requires states to identify the waters of the state that do not meet the designated beneficial uses and to develop total maximum daily loads (TMDLs) for such waters, with oversight by the U.S. Environmental Protection Agency (USEPA). These waters are commonly referred to as impaired. A TMDL is a quantifiable assessment of potential water quality issues, contributing sources, and load reductions or control actions needed to restore or protect bodies of water. According to the State Water Resources Control Board (SWRCB), two portions of the Mojave River are impaired. The impaired portions are the portions of the Mojave River between the Upper and Lower Narrows, which is listed as impaired for sulfate, fluoride, and total dissolved solids (TDS), and the reach from the Mojave Forks Dam to the Upper Narrows, which is listed for fluoride.

Groundwater Quality

The Project Site lies within the boundaries of the Mojave Water Agency (MWA). Numerous groundwater quality issues affect the MWA service area. Key groundwater constituents of concern include arsenic, nitrates, iron, manganese, hexavalent chromium, fluoride, and total dissolved solids. Some of these constituents are naturally occurring in desert environments, while others are associated with human activities. Measurements exceeding drinking water standards have been found for some of these constituents within the Mojave River Groundwater Basin. Groundwater in these areas may have to be treated prior to consumption.

Flood Hazard, Tsunami, or Seiche Zone

The Project Site is mapped by the Federal Emergency Management Agency (FEMA) as lying within a Zone D area, which is defined as “undetermined Flood Hazard” per the Flood Insurance Rate Map (FIRM) panel (Panel Number 06071C3250H). Zone D indicates that a formal hydrologic and hydraulic study for the area has not been completed, and has not been mapped and approved by FEMA with floodplains or floodways.

Therefore, flood hazards are undermined in this area, and base flood elevations are not provided in Zone D areas. Furthermore, flood insurance for properties are not required at the federal level in Zone D areas. All parcels surrounding the Project Site are similarly marked as Zone D, and therefore, do not require flood insurance at the federal level.

4.9.3 Regulatory Setting

Federal

Clean Water Act

The federal CWA was first introduced in 1948 as the Water Pollution Control Act. The CWA authorizes Federal, state, and local entities to cooperatively create comprehensive programs for eliminating or reducing the pollution of state waters and tributaries. The primary goals of the CWA are to restore and maintain the chemical, physical, and biological integrity of the nation's waters and to make all surface waters fishable and swimmable. As such, the CWA forms the basic national framework for the management of water quality and the control of pollutant discharges.

Since its introduction, major amendments to the CWA have been enacted (e.g., 1961, 1966, 1970, 1972, 1977, and 1987). Amendments enacted in 1970 created the U.S. Environmental Protection Agency (USEPA), while amendments enacted in 1972 deemed the discharge of pollutants into waters of the United States from any point source unlawful unless authorized by a USEPA National Pollutant Discharge Elimination System (NPDES) permit. Amendments enacted in 1977 mandated development of a "Best Management Practices" Program at the state level and provided the Water Pollution Control Act with the common name of "Clean Water Act," which is universally used today. Amendments enacted in 1987 required the USEPA to create specific requirements for discharges.

In California, the NPDES stormwater permitting program is administered by the SWRCB, which was created by the State Legislature in 1967. The joint authority of water distribution and water quality protection allows the Board to provide protection for the State's waters, through its nine Regional Water Quality Control Boards (RWQCBs). The RWQCBs develop and enforce water quality objectives and implement plans that will best protect California's waters, acknowledging areas of different climate, topography, geology, and hydrology. The RWQCBs develop "basin plans" for their hydrologic areas, issue waste discharge requirements, enforce action against stormwater discharge violators, and monitor water quality.

Executive Order 11988

Under Executive Order 11988 – Floodplain Management, FEMA is responsible for management of floodplain areas defined as the lowland and relatively flat areas adjoining inland and coastal waters subject to a one percent or greater chance of flooding in any given year (the 100-year floodplain). FEMA requires that local governments covered by federal flood insurance pass and enforce a floodplain management ordinance that specifies minimum requirements for any construction within the 100-year floodplain. The Order addresses floodplain issues related to public safety, conservation, and economics. It generally requires federal agencies constructing, permitting, or funding a project in a floodplain to:

- Avoid incompatible floodplain development
- Be consistent with the standards and criteria of the National Flood Insurance Program
- Restore and preserve natural and beneficial floodplain values

National Flood Insurance Program

FEMA oversees floodplains and administers the National Flood Insurance Program (NFIP) adopted under the National Flood Insurance Act of 1968. The NFIP makes federally subsidized flood insurance available to property owners in communities that participate in the NFIP. Areas of special flood hazard (those subject to inundation by a 100-year flood) are identified by FEMA through regulatory flood maps called Flood Insurance Rate Maps. The NFIP mandates that development cannot occur within the regulatory floodplain (typically the 100-year floodplain) if that development results in an increase of more than 1-foot elevation. In addition, development is not allowed in delineated floodways within the regulatory floodplain.

State

Porter-Cologne Water Quality Control Act

The Porter-Cologne Water Quality Control Act, in cooperation with the CWA, established the legal and regulatory framework for California's water quality control. The California Water Code (CWC) authorizes the SWRCB to implement the provisions of the CWA, including the authority to regulate waste disposal and require cleanup of discharges of hazardous materials and other pollutants. The State is divided into nine Regional Water Quality Control Boards (RWQCB), governing the implementation and enforcement of the CWA and CWC. The Project Site is located in Region 6, also known as the Lahontan RWQCB (LRWQCB). Each RWQCB is required to formulate and adopt a Basin Plan for its region. The LRWQCB's Basin Plan gives direction on the beneficial uses of State waters in Region 6, describes the water quality that must be maintained to support such uses, and includes the programs, projects, and other actions necessary to achieve the standards established in the Basin Plan. The LRWQCB implements the Basin Plan by issuing and enforcing waste discharge requirements to individuals, communities, or businesses whose waste discharges may affect water quality. The LRWQCB is also given authority to include within its regional plan water discharge prohibitions applicable to particular conditions, areas, or types of waste.

Sustainable Groundwater Management Act of 2014

The Sustainable Groundwater Management Act of 2014 (SGMA) creates a framework for sustainable, local groundwater management in California. SGMA allows local agencies to customize groundwater sustainability plans to their regional economic and environmental needs. This act requires local regions to create a groundwater sustainability agency (GSA) and to adopt groundwater management plans for groundwater basins or subbasins that are designated as medium or high priority. High-priority and medium-priority basins or subbasins must adopt groundwater management plans by 2020 or 2022, depending upon whether the basin is in critical overdraft. The Project Site is located in the Harper Valley Groundwater Basin. The Harper Valley Groundwater Basin (DWR Basin No. 6-047) has been classified as a very low-priority basin and is not required to form a Groundwater Sustainability Agency and adopt a

Groundwater Sustainability Plan or submit an alternative to a Groundwater Sustainability Plan. DWR determined that as a “Basin with Adjudication & Non-Adjudicated GW Use <9,500 af,” under Component 8C&D of DWR’s review, the Basin is a “very low-priority basin.”

Regional

Lahontan Regional Water Quality Control Board Basin Plan

Each of the nine RWQCBs adopts a Water Quality Control Plan, or Basin Plan, which recognizes and reflects regional differences in existing water quality, the beneficial uses of the region’s groundwater and surface waters, and local water quality conditions and problems. Water quality problems in the regions are listed in the Basin Plans, along with the causes, where they are known. Each RWQCB is to set water quality objectives that will ensure the reasonable protection of beneficial uses and the prevention of nuisance, with the understanding that water quality can be changed somewhat without unreasonably affecting beneficial uses. The Project Site is in the Southern Mojave Watershed and is covered under the Water Quality Control Plan for the Lahontan Region (Basin Plan).¹

NPDES Permit Program

The NPDES permit program was first established in 1972 under authority of the federal government through the CWA to control the discharge of pollutants from any point source into the waters of the United States. As indicated above, in California, the NPDES stormwater permitting program is administered by the SWRCB through the LRWQCB. For all water quality related objectives for CWA purposes, including the NPDES, the State must achieve water quality standards in effect at the State level as well as the regional level. At the regional level, the effective plan is the LRWQCB’s Basin Plan.

NPDES Construction General Permit

Construction associated with the Project would disturb more than one acre of land surface affecting the quality of stormwater discharges into waters of the U.S. The Project would, therefore, be subject to the NPDES General Permit for Stormwater Discharges Associated with Construction and Land Disturbance Activities (Order 2009-0009-DWQ, NPDES No. CAS000002; as amended by Orders 2010-0014-DWQ and 2012-006-DWQ). The Construction General Permit regulates discharges of pollutants in stormwater associated with construction activity to waters of the U.S. from construction sites that disturb one acre or more of land surface, or that are part of a common plan of development or sale that disturbs more than one acre of land surface. The permit regulates stormwater discharges associated with construction or demolition activities, such as clearing and excavation; construction of structures; and linear underground projects, including installation of water pipelines and other utility lines.

The Construction General Permit requires that construction sites be assigned a Risk Level of 1 (low), 2 (medium), or 3 (high), based both on the sediment transport risk within the construction site and the

¹ Lahontan Regional Water Quality Control Board. 1995. Water Quality Control Plan for the Lahontan Region (Basin Plan). Available at https://www.waterboards.ca.gov/lahontan/water_issues/programs/basin_plan/references.html. Accessed September 10, 2021.

receiving waters risk during periods of soil exposure (e.g., grading and site stabilization). The sediment risk level reflects the relative amount of sediment that could potentially be discharged to receiving water bodies and is based on the nature of the construction activities and the location of the site relative to receiving water bodies. The receiving waters risk level reflects the risk to the receiving waters from the sediment discharge. Depending on the risk level, construction projects could be subject to the following requirements:

- Effluent standards;
- Good site management “housekeeping;”
- Non-stormwater management;
- Erosion and sediment controls;
- Run-on and runoff controls;
- Inspection, maintenance, and repair; or
- Monitoring and reporting requirements.

The Construction General Permit requires the development and implementation of a Stormwater Pollution Prevention Plan (SWPPP) that includes specific best management practices (BMPs) designed to prevent sediment and pollutants from contacting stormwater from moving off site into receiving waters. The BMPs fall into several categories, including erosion control, sediment control, waste management and good housekeeping, and are intended to protect surface water quality by preventing the off-site migration of eroded soil and construction-related pollutants from the construction area. Each category contains specific BMPs to achieve the goals of the overarching category. Specific BMPs may include the following:

- Soil stabilizing BMPs: Use of straw mulch, erosion control blankets or geotextiles, and/or wood mulching;
- Sedimentation control BMPs: Use of storm drain inlet protection, sediment traps, gravel bag berms, and fiber rolls
- Waste management BMPs: Stockpile management, solid waste management, and concrete waste management; and
- Good Housekeeping BMPs: Vehicle and equipment cleaning, implementing water conservation practices, and implementing rules for fueling construction vehicles and equipment.

Routine inspection of all BMPs is required under the provisions of the Construction General Permit. In addition, the SWPPP is required to contain a visual monitoring program, a chemical monitoring program for non-visible pollutants, and a sediment monitoring plan if the site discharges directly to a water body listed on the 303(d) list for sediment.

The SWPPP must be prepared before construction activities begin. The SWPPP must contain a site map(s) that delineates the construction work area, existing and proposed buildings, parcel boundaries, roadways,

stormwater collection and discharge points, general topography both before and after construction, and drainage patterns across the project area. The SWPPP must list BMPs and the placement of those BMPs that would be used to protect stormwater runoff. Additionally, the SWPPP must contain a visual monitoring program; a chemical monitoring program for “non-visible” pollutants to be implemented if there is a failure of BMPs; and a sediment monitoring plan if the site discharges directly to a water body listed on the 303(d) list for sediment. Examples of typical construction BMPs include scheduling or limiting certain activities to dry periods, installing sediment barriers such as silt fence and fiber rolls, and maintaining equipment and vehicles used for construction. Non-stormwater management measures include installing specific discharge controls during certain activities, such as paving operations, vehicle and equipment washing and fueling. The Construction General Permit also sets post-construction standards (i.e., implementation of BMPs to reduce pollutants in stormwater discharges from a site following construction).

Urban Water Management Plans

The California Urban Water Management Planning Act (California Water Code [CWC] Division 6, Part 2.6, Sections 10610–10656) addresses several State policies regarding water conservation and the development of water management plans to ensure the efficient use of available supplies. The California Urban Water Management Planning Act also requires Urban Water Suppliers that serve more than 3,000 customers or provide more than 3,000 acre-feet per year (AFY), to develop UWMPs every five years to identify short-term and long-term demand management measures to meet growing water demands during normal, dry, and multiple-dry years.

In adherence to the UWMP Act, the MWA adopted their 2020 UWMP on May 27, 2021. The Project Site lies within an adjudicated water basin (Mojave Basin); therefore, groundwater within the Mojave Basin is actively managed to achieve sustainability. As part of the UWMP, an analysis was performed to determine if MWA has adequate water supplies to meet demands during average, single-dry and multiple-dry years over the next 25 years. The report concluded that there would be adequate water supplies for such conditions over the time period considered. Further details are provided within Section 4.13, *Utilities and Service Systems – Water Supply*, of this Draft EIR.

Stipulated Judgment (City of Barstow et al, v. City of Adelanto et al, Riverside County Superior Court Case No. 208568)

The Mojave Basin is an adjudicated basin. Pumping of groundwater from the basin is governed by a 1996 Stipulated Judgment issued by the Riverside County Superior Court. For purposes of defining and implementing a physical solution, the Mojave Basin Area consists of five distinct but hydrologically interrelated "Subareas." Each Subarea was found to be in overdraft to some extent due to the use of water by all of the producers in that Subarea. In addition, some Subareas were found to historically have received at least a part of their natural water supply as water flowing to them from upstream Subareas either on the surface or as subsurface flow. To maintain that historical relationship, the average annual obligation of any Subarea to another is set equal to the estimated average annual natural flow (excluding storm flow) between the Subareas over the 60-year period 1930-31 through 1989-90. If the Subarea

obligation is not met, producers of water in the upstream Subarea must provide makeup water to the downstream Subarea.

To maintain proper water balances within each Subarea, the Judgment establishes a decreasing Free Production Allowance (FPA) in each Subarea during the first five years and provides for the Court to review and adjust, as appropriate, the FPA for each Subarea annually thereafter. The FPA is allocated among the Producers in the Subarea based on each Producer's percentage share of the FPA. All water produced in excess of any Producer's share of the FPA must be replaced by the Producer, either by payment to the Watermaster of funds sufficient to purchase replacement water, or by transfer of unused FPA from another Producer.

Each Producer's percentage share of FPA in a Subarea was determined by first verifying the maximum annual water production (termed Base Annual Production or "BAP") for each Producer during the five-year (1986-90) Base Period and then calculating each Producer's percentage share of the total of all such BAP in the Subarea. All such percentage allocations are of equal priority.

Producers within each Subarea are allowed to produce as much water as they need annually to meet their requirements, subject to compliance with the Physical Solution set forth in the Judgment. An underlying assumption of the Judgment is that sufficient water will be made available to meet the needs of the Basin in the future from a combination of natural supply, imported water, water conservation, water reuse and transfers of FPA among Producers.

The FPA for each Subarea for water year 2020-2021 is set as follows:²

- Alto Subarea - 65 percent of BAP for agriculture and 55 percent of BAP for municipal and industrial
- Oeste Subarea - 65 percent of BAP
- Este Subarea - 70 percent of BAP
- Centro Subarea - 70 percent of BAP
- Baja Subarea – 25 percent of BAP

The MWA has assigned the Centro subarea a BAP of 56,657 acre-feet (AF), with a resulting FPA of 39,660 AF. The MWA includes its allocations under the Adjudication for the Centro Subarea in its assumptions for its existing and projected water supply in the MWA 2020 UWMP.

Local

San Bernardino County Countywide Plan

The County adopted the *County Policy Plan* (Policy Plan) in October 2020. The Policy Plan provides an update of the County's General Plan addressing physical, social and economic issues facing the unincorporated portions of the County. The Policy Plan also provides an expansion of the County's General

² Michael Baker International. 2021. *Water Supply Assessment*.

Plan to address supportive service for adults and children, healthcare service, public safety, and other regional county services provided to both incorporated and unincorporated areas.

Relevant goals and policies of the San Bernardino County Policy Plan are as follows:

Infrastructure and Utilities Element

- Policy IU-3.1** **Regional Flood Control.** Private projects within the County of San Bernardino require any adverse impacts on carrying capacity and stormwater velocity of regional stormwater drainage systems to be addressed and mitigated.
- Policy IU-3.2** **Local Flood Control.** New developments are required to install and maintain stormwater management facilities that maintain predevelopment hydrology and hydraulic conditions.
- Policy IU-3.5** **Fair Share Requirements.** The County of San Bernardino requires new development to pay its fair share of capital costs to maintain adequate capacity of the County's regional flood control systems.

Natural Resources Element

- Policy NR-2.4** **Wastewater Discharge.** Federal and State water quality standards for wastewater discharge requirements are applied in the review of development proposals that relate to type, location, and size of the proposed project in order to safeguards public health and shared water resources.
- Policy NR-2.5** **Stormwater Discharge.** Compliance with the County's Municipal Stormwater National Pollutant Discharge Elimination System (NPDES) must be met through the protection of the quality of water and drainage systems through site design, sources controls, stormwater treatment, runoff reduction measures, best management practices, low impact development strategies, and technological advances.

Renewable Energy and Conservation Element

- RE Policy 4.2** **Local Hydrology and Hydrogeology.** Ensure that renewable energy facilities do not disrupt, degrade, or alter the local hydrology and hydrogeology.

Hazards Element

- Policy HZ-1.2** **New Development in Environmental Hazard Areas.** All new development should be located outside of a 100-year flood zone or dam/basin inundation area. For any lot or parcel that does not have sufficient area outside of this hazard area require mitigation.

San Bernardino County Code

The goal of Title 3, Division 5, Monitoring, Control and Elimination of Pollutants into the Storm Drainage System, is to protect the health and safety of, and promote the welfare of, the inhabitants of the County by controlling non-stormwater discharges to the stormwater conveyance system and by reducing pollutants in stormwater discharges, including those pollutants taken up by stormwater as it flows over urban areas, to the maximum extent practicable, in order to achieve applicable receiving water quality

objectives. Another goal of Title 3, Division 5 is to protect and enhance the quality of receiving waters in a manner pursuant to and consistent with applicable federal, State, and local laws, regulations, and permits.

4.9.4 Impact Thresholds and Significance Criteria

In accordance with Appendix G of the State CEQA Guidelines, a project would have a significant impact related to hydrology and water quality if it would:

Threshold (a): Violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or groundwater quality;

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

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

- i. Result in substantial erosion of siltation on- or off-site;
- ii. Substantially increase the rate of amount of surface runoff in a manner which would result in flooding on- or off-site;
- iii. Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff; or
- iv. Or impede or redirect flood flows.

Threshold (d): In flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation; or

Threshold (e): Conflict with or obstruct implementation of a water quality control plan of sustainable groundwater management plan.

4.9.5 Impacts and Mitigation Measures

Impact 4.9-1 *Would the Project violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or groundwater quality?*

Level of Significance: Less than Significant

Construction

The SEGS X site itself was largely graded during initial construction of the SEGS X facility before construction was halted in 1991. While the land was under alfalfa cultivation prior to grading for SEGS X, the site has largely sat undisturbed since SEGS X construction was halted and some of the historically cultivated acreage has become naturally revegetated. The Project Site now contains some native vegetation with portions composed of disturbed habitat, bare ground, and development within the

Shared Facilities Area. As stated above, the Project Site currently also includes several concrete foundations for the power block as well as concrete foundations for solar racking piers that were installed as part of initial construction for the SEGS X facility. Therefore, Project construction activities, such as earth moving, maintenance/operation of construction equipment, and handling/storage/disposal of materials, could contribute to pollutant loading in stormwater runoff from the construction site. In addition, any exposed and stockpiled soils could be subject to wind and conveyance into nearby storm drains, and on-site water activities for dust suppression could contribute to pollutant loading in runoff from the construction site.

Construction controls to minimize potential water quality impacts would be implemented through compliance with NPDES permit requirements and with County Code Title 3, Division 5, Chapter 1, Pollutant Discharge Elimination System Regulations. In accordance with the requirements of the NPDES permit, the Applicant would prepare and implement a site-specific SWPPP that meets the requirements of the NPDES General Permit and specifies BMPs (e.g., erosion control, sediment control, non-stormwater management, and materials management) to be used during construction. With implementation of these BMPs, the Project would reduce or eliminate the discharge of pollutants in stormwater runoff from the construction site to the maximum extent practicable. As such, the water quality of nearby surface waters and groundwater would be maintained via compliance with NPDES permit stipulations. Additional compliance with the San Bernardino County Stormwater Program Technical Guidance Document requires the preparation and implementation of a Water Quality Management Plan (WQMP) to manage stormwater runoff during construction activity and include site design and source control BMPs to help ensure stormwater runoff and impervious areas are minimized and natural areas are conserved. With implementation of the WQMP, compliance with the NPDES permit requirements, and implementation of BMPs, Project construction would not violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or groundwater quality. Impacts would be less than significant.

Operations

Stormwater discharge is generated by rainfall that runs off the land and impervious surfaces. Stormwater discharge could include pollutants of concern, which could affect stormwater quality. Project operations would share the existing O&M facilities (i.e., O&M building, warehouse and employee building) located in the Shared Facilities Area with the Lockhart Solar I Facility. During Project operation, non-potable water would be required for panel washing, equipment washing, and other site maintenance. Non-potable water during Project operation would be supplied by pumping groundwater from the four existing groundwater wells located within the Shared Facilities Area and immediately off-site on the adjacent SEGS IX facility site. The Project is not anticipated to produce any pollutants that would result in a violation of water quality standards or waste discharge requirements. Any pollutants or waste that would be produced during Project operation would be required to be discharged according to all appropriate local, state, and federal rules and regulations. Therefore, Project operation would not violate any water quality standards or waste discharge requirements or otherwise substantially degrade surface or groundwater quality. Impacts would be less than significant.

Impact 4.9-2 *Would the Project substantially decrease groundwater supplies or interfere substantially with groundwater recharge such that the Project may impede sustainable groundwater management of the basin?*

Level of Significance: Less Than Significant

The Project Site is not connected to a public water system. Non-potable water used during Project construction and operation is anticipated to be supplied by pumping groundwater from the four existing groundwater wells that were originally installed to provide non-potable water supply to the previously approved and existing SEGS facilities. These wells are located within the Shared Facilities Area and immediately off-site on the adjacent SEGS IX facility site. The Project Site lies within the Centro subarea of the Mojave Basin, all within the jurisdictional boundary of the MWA service area. The Project site lies within an adjudicated water basin and the groundwater is actively managed to achieve sustainability.

A Stipulated Judgment was issued in January of 1996 (*City of Barstow et al, v. City of Adelanto et al*, Riverside County Superior Court Case No. 208568) to address water supply shortages in the Mojave Basin Area. The adjudication of the Mojave Basin was the legal process that allocated the right to produce water from the natural water supply. The MWA was appointed as the Basin Watermaster and tasked with the responsibility of sustainably managing water supplies in the Mojave Basin. The Judgment determines water rights for each major producer based on their historical production. These water rights are referred to as BAP, which represents the highest possible production for a given producer. The MWA has assigned the Central subarea a BAP of 56,657 AF, with a resulting FPA of 39,660 AF. The MWA includes its allocations under the Adjudication for the Centro Subarea in its assumptions for its existing and projected water supply in the MWA 2020 UWMP.

Construction

As determined by the Applicant, construction water usage is anticipated to be approximately 240 AF during the approximately 14-month construction period. Non-potable water would be required for common construction-related purposes, including but not limited to dust suppression, soil compaction, and grading. The existing wells located within the Shared Facilities Area and immediately off-site on the adjacent SEGS IX facility site depend on groundwater supply drawn from the adjudicated Mojave Basin Area, which is managed by the MWA. As described in Appendix A to the WSA prepared for the Project, MWA's 2020 UWMP assessed existing and projected water supply and demand over the planning period. In doing so, MWA has proven to have a robust water supply portfolio equipped to endure drought periods regardless of SWP entitlement allocations. MWA's supplies and groundwater allocations are sufficient to serve their customer base, including groundwater use from Project construction during normal, single-dry, and multi-year drought year conditions.

It should be noted that the prior SEGS X project anticipated approximately 4,300 AF of water use during construction. At the time, the CEC concluded the overall construction water usage for construction of SEGS X (4,300 AF) would not have a measurable impact on the groundwater supplies as a one-time use. The approval of this Project would effectively reduce the overall construction water demand associated with the property as compared to the approved SEGS X project. Furthermore, the 240 AF of water utilized

during Project construction would constitute approximately 0.4 percent of the BAP for the Central subarea. Therefore, Project construction would not substantially decrease groundwater supplies such that the Project may impede sustainable groundwater management of the Mojave Basin.

Operations

As detailed in the *Hydrology Report*, the Project Site is currently almost entirely pervious. While the Project Site contains miscellaneous concrete foundations, various electrical lines and poles, as well as existing facilities within the Shared Facilities Area, for the purposes of preparing a conservative analysis, the percentage of impervious area for the existing condition was assumed at 0 percent. Upon Project buildout, the Project Site would continue to be almost entirely pervious, with new impervious areas being the inverters, battery storage units, and the posts under the arrays. The Project will include compacted native on-site access roads (does not include any paving for access roads or areas). Therefore, the impervious increase for the Project upon buildout is estimated to be 0.5 percent. The Project includes the use of retention basins for the minor increases in impervious surface due to the development of the Project Site. The remainder of the Project Site would remain largely as native material, and infiltration would occur as it did in existing conditions for groundwater recharge.

The Project would require non-potable water for panel washing, equipment washing, and other site maintenance. Solar panel washing is expected to occur one to four times per year. Although the Applicant only expects to wash the PV panels once per year, the panels may need to be washed more frequently based on site conditions. Conditions that may necessitate increased wash requirements include unusual weather occurrences, local air pollutants, and other similar conditions. Therefore, the annual water usage for four panel cleaning cycles is anticipated to be approximately 4.5 AF. Additionally, a small amount of groundwater (approximately 0.45 AF) is anticipated to be required for equipment washing and other site maintenance. As stated in Section 4.13, *Utilities and Service Systems – Water Supply*, of this Draft EIR, the Project's operational water use would be within the total projected water supplies available to MWA during normal year, single-dry year, and multi-year hydrologic conditions over a 20-year period. MWA's supplies and groundwater allocations are sufficient to serve the customer base, including the Project. Project operation would not substantially decrease groundwater supplies such that the Project may impede sustainable groundwater management of the Mojave Basin.

It should be noted that the previously approved SEGS X project, a solar thermal facility that would have required a more intensive water demand, was estimated to use 820 AF per year for O&M. As the Project is a PV solar project, the Project would use significantly less water than what was required for the previously approved SEGS X project. Given the Project Site's history with SEGS X being an approved project but never constructed, MWA's 2020 UWMP assumes the water demand associated with the SEGS X project as a present and future water demand within its service area. Accordingly, MWA's total demand, as defined in their 2020 UWMP, is actually expected to decrease with implementation of the Project. The approval of this Project would effectively reduce the water demand associated with the use of the property as compared to the approved SEGS X project. Therefore, Project operation would not substantially decrease groundwater supplies such that the Project may impede sustainable groundwater management of the Mojave Basin.

Groundwater Recharge

As previously stated, the Project is anticipated to be 0.5 percent impervious upon Project buildout, with the remaining 99.5 percent of the Project Site remaining as native material and infiltration will occur as it does under existing conditions. Therefore, Project construction and operation would have a minimal effect on groundwater recharge because of the minimal new impervious surface area that could interfere with groundwater recharge. As a result, the changes would be negligible relative to the existing conditions. The Project would not interfere substantially with groundwater recharge such that the Project may impede sustainable groundwater management of the basin, and impacts would be less than significant.

Impact 4.9-3 ***Would the Project substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would result in substantial erosion or siltation on- or off-site?***

Level of Significance: Less Than Significant

No rivers or streams exist on the Project Site, and the Project would not alter any rivers or streams. As discussed under Impact 4.9-1, above, since the construction site would be greater than one acre, the Project would be required to obtain coverage under the NPDES General Permit. In accordance with the requirements of this permit, the Project would implement a SWPPP that specifies BMPs and erosion control measures to be used during construction to manage runoff flows and prevent pollution. BMPs would be designed to reduce runoff and pollutant levels in runoff during construction. The NPDES and SWPPP measures are designed to contain and treat, as necessary, stormwater or construction watering on the Project Site so runoff does not impact off-site drainage facilities or receiving waters.

As previously stated under Subsection 4.9.2, *Environmental Setting*, stormwater runoff currently enters the Project Site from the southern and western boundaries and exits the Project Site along the northern and eastern boundaries. The existing earthen berm diverts the off-site flow to the northwest corner, which confluent with flow from the berm and ponds just outside the northeast corner of the Project Site within the dry lake bed of Harper Lake. The Project includes extension of the existing berm into an open channel located along the western and northern boundary of the Project Site for the collection and routing of offsite runoff. The open channel would redirect flows originating off-site to drain to the existing watershed which flows toward Harper Dry Lake. The open channel would be designed to capture and divert the off-site flows from the existing channel and continue on the path around the Project Site boundary. The open channel would also be designed to minimize the potential for erosion and siltation to occur when flows are conveyed through the channel. The off-site flow from the southwest would eventually collect in Harper Lake, east of the Project Site. Project construction and operation would not substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in substantial on- or off-site. Impacts would be less than significant.

Impact 4.9-4 *Would the Project substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would substantially increase the rate or amount of surface run-off in a manner which would result in flooding on- or off-site?*

Level of Significance: Less Than Significant

Water would be used during Project construction (e.g., for dust suppression, soil compaction, and grading). However, this water would be mechanically and precisely applied and would, in general, infiltrate, or evaporate. As discussed under Impact 4.9-1, above, since the construction site would be greater than one acre, the Project would be required to obtain coverage under the NPDES General Permit. In accordance with the requirements of this permit, the Project would implement a SWPPP that specifies BMPs to be implemented during construction to manage runoff flows and avoid on- or off-site flooding. In addition, construction activities and any potential associated hydrology (drainage) impacts would be temporary. Project construction would not alter the existing drainage pattern of the site or area in a manner which would substantially increase the rate or amount of surface run-off in a manner which would result in flooding on- or off-site. Impacts during Project construction would be less than significant.

The Project includes extension of the existing earthen berm along the western boundary of the Project Site into an open channel along the Project's western and northern boundaries to collect and route offsite runoff. Because offsite flows collected in and conveyed through the open channel would be directed into the existing watershed and would eventually flow to Harper Dry Lake, as occurs under existing conditions, the proposed open channel, which would redirect flows, would not be expected to result in flooding on- or off-site. As detailed in the *Hydrology Report*, the Project is expected to maintain existing overall drainage patterns with only an increase in imperviousness of 0.5 percent; the slight increase in runoff would be sufficiently managed utilizing retention basins. The Project retention basins would satisfy the following conditions:

- Each basin has adequate tributary area to ensure the basin will completely fill during the 100-year, 24-hour storm event.
- Each retention basin will have the capacity to retain the calculated proportionate volume increase of the subarea tributary to the basin.
- Each basin will decrease the calculated on-site post-developed outgoing flow compared with pre-developed flow.
- Each basin will completely draw-down within a 72-hour period.

The retention basins would be sized to capture the difference in the pre- versus post-developed conditions as shown in Table 3 of the *Hydrology Report*. Refer to the *Hydrology Report* for details on calculations for surface runoff comparing the exiting runoff volume and runoff volume from the developed condition. With use of properly sized retention basins, Project operation would not substantially alter the existing drainage pattern of the site or area in a manner which would substantially increase the rate or amount of

surface run-off in a manner which would result in flooding on- or off-site. Impacts during Project operation would be less than significant.

Impact 4.9-5 *Would the Project substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?*

Level of Significance: Less Than Significant

No existing storm drain systems exist within the Project Site or downstream of the Project. See the discussion under Impact 4.9-1 regarding polluted runoff. Furthermore, as discussed under Impact 4.9-5, the increase in runoff generated from the increased imperviousness after Project buildout would be sufficiently managed by retention basins. Runoff flows that leave the Project Site would collect in Harper Lake to the east of the Project Site. The Project would not substantially alter the existing drainage pattern of the site or area in a manner which would create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional source of polluted runoff. Impacts would be less than significant.

Impact 4.9-6 *Would the Project substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river or through the addition of impervious surfaces, in a manner which would impede or redirect flood flows?*

Level of Significance: Less Than Significant

The Project Site is mapped by FEMA as lying within a Zone D area; therefore, flood hazards are undermined in this area, and base flood elevations are not provided in Zone D areas. No rivers or streams exist on the Project Site, and the Project would not alter any rivers or streams. Furthermore, existing flood flows and runoff on the Project Site are directed toward Harper Lake to the east of the Project Site and would continue to be directed towards Harper Lake upon Project buildout. The Project would also include retention basins to sufficiently manage additional runoff generated from increased imperviousness. As such, the Project would not substantially alter the existing drainage pattern of the site or area in a manner which would impede or redirect flood flows. Impacts would be less than significant.

Impact 4.9-7 *Would the Project, in flood hazard, tsunami, or seiche zones, risk release of pollutants due to project inundation?*

Level of Significance: No Impact

The Project Site is mapped by FEMA as lying within a Zone D area, which does not require flood insurance at a federal level. Seiches are seismically induced tidal phenomena that occur in enclosed bodies of water and tsunamis are seismically induced tidal phenomena that affect low-lying coastal areas. Harper Dry Lake is located approximately 1-mile to the east and became dry in the late 1990s, there are no bodies of water

in the Project vicinity. The Project Site is located approximately 95 miles northeast of the Pacific Ocean at an elevation of approximately 2,035 to 2,075 feet above mean sea level. Therefore, there is no risk of a seiche resulting in damage to the Project, and the Project Site is not located within a designated tsunami hazard area or susceptible to inundation by tsunami. Therefore, no impacts would result from the Project associated with pollutants released due to seiche or tsunamis (due to the great distance to the ocean or large body of water).

As stated in the *Hydrology Report*, offsite flow would collect in Harper Lake located immediately east of the Project Site after the runoff flow crosses through the Project Site. While there are areas that may have deeper flow depths, the runoff that exceeds existing conditions would be sufficiently managed by Project retention basins. Therefore, the Project would not risk release of pollutants due to inundation. No impact would occur.

Impact 4.9-8: *Would the Project conflict with or obstruct implementation of a water quality control plan or sustainable groundwater management plan?*

Level of Significance: Less Than Significant

The Project falls under the jurisdiction of the LRWQCB Basin Plan, and the LRWQCB is given authority to issue waste discharge requirements, enforce actions against stormwater discharge violators, and monitor water quality. As the Project will disturb more than one acre of land, the Project would be required to obtain coverage under the NPDES General Permit. As stated under Impact 4.9-1, the Project would implement a SWPPP during construction that specifies BMPs to manage runoff flows and prevent pollution. Many of these BMPs are required as part of the applicable WQMPs. Project operation is not anticipated to produce any pollutants that would result in a violation of water quality standards or waste discharge requirements, and all discharges would be compliant with the applicable local, State, and federal regulations and standards. Therefore, the Project would not conflict with or obstruct implementation of a water quality control plan.

The Project's potential impacts on groundwater supplies and groundwater recharge are discussed under Impact 4.9-2. As discussed therein, the Project would not impede sustainable groundwater management of the basin; therefore, the Project would not conflict with or obstruct implementation of a sustainable groundwater management plan. Impacts would be less than significant.

4.9.6 Cumulative Impacts

Section 4.0, *Introduction to the Environmental Analysis*, of this Draft EIR provides a list of cumulative projects that would have the potential to be considered in a cumulative context with the Project's incremental contribution. These projects are summarized in *Table 4.0-1, Cumulative Projects*, and shown on **Figure 4.0-1, Cumulative Projects Map**. Cumulative impacts to hydrology and water quality generally occur as a result of incremental changes that degrade water quality. Cumulative impacts can also include individual projects which, taken together, adversely contribute to drainage flows or increase potential for flooding in a project area or watershed.

As with the Project, cumulative projects would also be subject to the same regulatory requirements as the Project, including, where applicable, NPDES permits and other discharge requirements discussed above. Each cumulative project would be evaluated individually to determine appropriate BMPs needed to avoid impacts to water quality. Therefore, compliance with applicable regulatory measures would ensure that impacts on drainage/flooding conditions, water quality, and groundwater quality would be less than significant. Accordingly, the Project and cumulative projects would not result in cumulatively considerable impacts with respect to hydrology, drainage quantities/patterns, and water quality.

As demonstrated above, through compliance with applicable regulatory requirements via site-specific systems and BMPs, the Project and cumulative projects would not substantially conflict with or obstruct implementation of a water quality control plan. Each cumulative project would also be required to, if they were to utilize groundwater, analyze their respective impacts on groundwater supply and recharge. Accordingly, with these considerations, along with the Project's and cumulative project's compliance to applicable regulatory requirements, no significant cumulative impacts regarding conflicts with or obstructing implementation of a water quality control plan or sustainable groundwater management plan would occur.

As with the Project, cumulative projects would similarly not be located within a flood hazard zone, tsunami zone, or seiche zones. Thus, there would be no cumulative potential for risk of release of pollutants within these zones. Accordingly, the Project and cumulative projects would not result in cumulatively considerable impacts with respect to release of pollutants due to project inundation by flooding, tsunami, or seiche.

4.9.7 Significant Unavoidable Impacts

The Project would not result in any significant and unavoidable impacts related to hydrology and water quality.

4.9.8 References

California Department of Water Resources. 2004. *California's Groundwater Bulletin 118: February 27, 2004 Update, Harper Valley Groundwater Basin*. Available at https://water.ca.gov/-/media/DWR-Website/Web-Pages/Programs/Groundwater-Management/Bulletin-118/Files/2003-Basin-Descriptions/6_047_KernRiverValley.pdf. Accessed September 8, 2021.

California Regional Water Quality Control Board, Lahontan Region. 2019. *Final Staff Report/Environmental Document for Amendments to the Water Quality Control Plan for the Lahontan Region: Beneficial Use Changes for the Mojave River Watershed and Other Minor Revisions*. Available at https://www.waterboards.ca.gov/lahontan/water_issues/programs/basin_plan/docs/mojave_river/mojave_bpa_final_20190621.pdf. Accessed August 30, 2021.

California Regional Water Quality Control Board, Lahontan Region. 2020. *Water Quality Control Plan for the Lahontan Region*. Available at

https://www.waterboards.ca.gov/lahontan/water_issues/programs/basin_plan/references.html
. Accessed August 30, 2021.

Fuscoe Engineering. 2021. *Preliminary Hydrology Report*. September 2021.

Mojave Water Agency. 2021. *2020 Urban Water Management Plan*. May 2021. Available at
https://www.mojavewater.org/files/MWA2020UWMP_Final061621.pdf. Accessed August 30,
2021.

4.10 NOISE

4.10.1 Introduction

This section will evaluate the Project's potential noise impacts, both during short-term construction activities and long-term operational activities. This section presents relevant regulatory guidelines and County policies related to noise. Analysis in this section is based on the *Lockhart Solar PV Project – Noise Technical Memorandum* (see Appendix K).

4.10.2 Environmental Setting

Fundamentals of Acoustics

Acoustics is the science of sound. Sound may be thought of as mechanical energy of a vibrating object transmitted by pressure waves through a medium to human (or animal) ears. If the pressure variations occur frequently enough (at least 20 times per second), they can be heard and are called sound. The number of pressure variations per second is called the frequency of sound and is expressed as cycles per second, or hertz (Hz).

A-Weighted Sound Level

Sound is described in terms of the loudness (amplitude) of the sound and frequency (pitch) of the sound. The standard unit of measurement of the loudness of sound is the decibel (dB). Since the human ear is not equally sensitive to sound at all frequencies, a special frequency-dependent rating scale has been devised to relate noise to human sensitivity. The A-weighted decibel scale (dBA) performs this compensation by differentiating among frequencies in a manner approximating the sensitivity of the human ear.

Decibels are based on the logarithmic scale. The logarithmic scale compresses the wide range in sound pressure levels to a more usable range of numbers in a manner similar to the Richter scale used to measure earthquakes. In terms of human response to noise, a sound 10 dBA higher than another is perceived to be twice as loud and 20 dBA higher is perceived to be four times as loud, and so forth. Everyday sounds normally range from 30 dBA (very quiet) to 100 dBA (very loud). **Table 4.10-1: Typical Noise Levels** contains examples of typical noise from common indoor and outdoor noise sources.

Table 4.10-1: Typical Noise Levels

Noise Source	dBA	Response
Jet Engine	140	Harmfully Loud
Shotgun Blast	130	Pain Threshold
Thunderclap	120	
Rock Music Band	110	Regular exposure over 1 minute risks permanent hearing loss
Garbage Truck	100	No more than 15 minutes exposure
Lawnmower	90	Annoying
Average City Traffic Noise	80	Annoying – Interferes with Conversation

Vacuum Cleaner	70	Telephone use Difficult
Normal Conversation	60	Comfortable
Quiet Office	50	Quiet
Refrigerator Humming	40	
Whisper	30	Very Quiet
Rustling Leaves	20	Just Audible
Normal Breathing	10	
	0	Threshold of Hearing

Source: Michael Baker International. 2021. *Lockhart Solar PV II Project – Noise Technical Memorandum*. Exhibit 4.

Sound Propagation and Attenuation

Generally, sound spreads (propagates) uniformly outward in a spherical pattern. The sound level decreases (attenuates) at a rate of approximately 6 dB for each doubling of distance from a stationary or point source. Sound from a line source, such as a highway, propagates outward in a cylindrical pattern, often referred to as cylindrical spreading. Sound levels attenuate at a rate of approximately 3 dB for each doubling of distance from a line source, such as a roadway, depending on ground surface characteristics.¹

Noise levels may also be reduced by intervening structures or landforms; generally, a single row of buildings between the receptor and the noise source reduces the noise level by about 5 dBA, while a solid wall or berm reduces noise levels by 5 to 10 dBA.² The way older homes in California were constructed generally provides a reduction of exterior-to-interior noise levels of about 20 to 25 dBA with closed windows. The exterior-to-interior reduction of newer PV residential units is generally 30 dBA or more.

Noise

Noise is a subjective reaction to different types of sounds. Noise is typically defined as airborne sound that is loud, unpleasant, unexpected, or undesired and may therefore be classified as a more specific group of sounds. A typical noise environment consists of a base of steady “background” noise that is the sum of many distant and indistinguishable noise sources. Superimposed on this background noise is the sound from individual local sources. These sources can vary from an occasional aircraft or train passing by to virtually continuous noise from, for example, traffic on a major highway. Perceptions of sound and noise are highly subjective from person to person.

Noise Descriptors

The decibel scale alone does not adequately characterize how humans perceive noise. The dominant frequencies of a sound have a substantial effect on the human response to that sound. Many methods have been developed for evaluating community noise to account for, among other things:

¹ Caltrans (California Department of Transportation). 2013. *Technical Noise Supplement to the Traffic Noise Analysis Protocol*. Available at <https://dot.ca.gov/-/media/dot-media/programs/environmental-analysis/documents/env/tens-sep2013-a11y.pdf>. Accessed August 18, 2021.

² Federal Highway Administration (FHWA). 2006. *Construction Noise Handbook Notice*. Available at https://www.fhwa.dot.gov/environment/noise/construction_noise/handbook/. Accessed August 18, 2021.

- The variation of noise levels over time;
- The influence of periodic individual loud events; and
- The community response to changes in the community noise environment.

Several rating scales have been developed to analyze the adverse effect of community noise on people. Because environmental noise fluctuates over time, these scales consider that the effect of noise on people is largely dependent on the total acoustical energy content of the noise, as well as the time of day when the noise occurs. A list of noise descriptors and their definitions are provided in **Table 4.10-2: Noise Descriptors**.

Table 4.10-2: Noise Descriptors

Term	Definition
Decibel (dB)	The unit for measuring the volume of sound equal to 10 times the logarithm (base 10) of the ratio of the pressure of a measured sound to a reference pressure (20 micropascals).
A-Weighted Decibel (dBA)	A sound measurement scale that adjusts the pressure of individual frequencies according to human sensitivities. The scale accounts for the fact that the region of highest sensitivity for the human ear is between 2,000 and 4,000 cycles per second.
Equivalent Sound Level (L_{eq})	The sound level containing the same total energy as a time varying signal over a given time period. The L_{eq} is the value that expresses the time averaged total energy of a fluctuating sound level.
Maximum Sound Level	The highest individual sound level (dBA) occurring over a given time period.
Minimum Sound Level	The lowest individual sound level (dBA) occurring over a given time period.
Community Noise Equivalent Level (CNEL)	A rating of community noise exposure to all sources of sound that differentiates between daytime, evening, and nighttime noise exposure. These adjustments are +5 dBA for the evening, 7:00 a.m. to 10:00 p.m., and +10 dBA for the night, 10:00 p.m. to 7:00 a.m.
Day/Night Average (L_{dn})	The L_{dn} is a measure of the 24-hour average noise level at a given location. It was adopted by the U.S. Environmental Protection Agency for developing criteria for the evaluation of community noise exposure. It is based on a measure of the average noise level over a given time period called the L_{eq} . The L_{dn} is calculated by averaging the L_{eq} 's for each hour of the day at a given location after penalizing the "sleeping hours" (defined as 10:00 p.m. to 7:00 a.m.) by 10 dBA to account for the increased sensitivity of people to noises that occur at night.
Exceedance Level (L_n)	The A-weighted noise levels that are exceeded 1%, 10%, 50%, and 90% (L_{01} , L_{10} , L_{50} , L_{90} , respectively) of the time during the measurement period.

Source: Michael Baker International. 2021. *Lockhart Solar PV II Project – Noise Technical Memorandum*. Table 1.

Human Response to Noise

Noise environments and consequences of human activities are usually well represented by median noise levels during the day or night or over a 24-hour period. Environmental noise levels are generally considered low when the CNEL is below 60 dBA, moderate in the 60 to 70 dBA range, and high above 70 dBA. The human response to environmental noise is subjective and varies considerably from individual to individual.

individual. Generally, community noise can be considered as a health problem, not in terms of actual physiological damage, such as hearing impairment, but in terms of inhibiting general well-being and contributing to undue stress and annoyance.

Health effects of community noise can arise from interference with human activities, including sleep, speech, recreation, and tasks that demand concentration or coordination.

Annoyance

Attitude surveys are used for measuring the annoyance felt in a community for noises intruding into homes or affecting outdoor activity areas. In these surveys, it was determined that causes for annoyance include interference with speech, radio and television, house vibrations, and interference with sleep and rest. The day/night average, L_{dn} , as a measure of noise has been found to provide a valid correlation of noise level and the percentage of people annoyed.

Hearing Loss

While physical damage to the ear from an intense noise impulse is rare, a degradation of auditory acuity can occur even within a community noise environment. Hearing loss occurs mainly due to chronic exposure to excessive noise but may be due to a single event such as an explosion. Natural hearing loss associated with aging may also be accelerated from chronic exposure to loud noise.

The Occupational Safety and Health Administration (OSHA) has a noise exposure standard that is set at the noise threshold where hearing loss may occur from long-term exposures. The maximum allowable level is 90 dBA averaged over 8 hours. If the noise is above 90 dBA, the allowable exposure time is correspondingly shorter.

Fundamentals of Environmental Groundborne Vibration

Sources of groundborne vibrations include natural phenomena (earthquakes, volcanic eruptions, sea waves, landslides, etc.) or man-made causes (explosions, machinery, traffic, trains, construction activities which require the use of heavy-duty equipment, etc.). Vibration sources may be continuous (e.g., factory machinery) or transient (e.g., explosions). The strength of groundborne vibration attenuates rapidly over distance. It is unusual for vibration from typical urban sources such as buses and heavy trucks to be perceptible.

For the purposes of this analysis, a PPV descriptor with units of inches per second (inch-per-second) is used to evaluate construction-generated vibration. The Project does not include operational sources of groundborne vibration.

Ground vibration consists of rapidly fluctuating motions or waves with an average motion of zero. Several different methods are typically used to quantify vibration amplitude. One is the peak particle velocity (PPV); another is the root mean square (RMS) velocity. The PPV is defined as the maximum instantaneous positive or negative peak of the vibration wave. The RMS velocity is defined as the average of the squared

amplitude of the signal. The PPV and RMS vibration velocity amplitudes are used to evaluate human response to vibration.

For the purposes of this analysis, a PPV descriptor with units of inches per second (inch-per-second) is used to evaluate construction-generated vibration. The Project does not include operational sources of groundborne vibration.

Existing Noise Setting

Existing Stationary Noise Levels

The Project Site is located within a rural area. The primary sources of stationary noise in the Project vicinity are related to existing operations at the SEGS VIII and IX Solar Thermal Power Plants and the adjacent Mojave Solar Thermal Plant. The noise associated with these sources may represent a single-event noise occurrence, short-term, or long-term/continuous noise.

The Shared Facilities Area includes an existing reverse osmosis and demineralizing system (RODS) to purify the brackish groundwater before use at the existing SEGS VIII and IX facilities. Currently, the RODS operates continuously, on an as-needed basis, up to approximately 18 hours per day and is part of the existing ambient noise setting at the Project Site.

Existing Ambient Noise Levels

In order to quantify existing ambient noise levels in the vicinity of the Project, three noise measurements were completed by Michael Baker International on May 4, 2021 as part of the *Lockhart Solar PV Project – Noise Technical Memorandum* (see Appendix K), refer to **Table 4.10-3: Noise Measurements**. The noise measurement sites, as depicted in Exhibit 5 of the *Noise Technical Memorandum*, were representative of typical existing noise exposure within the vicinity of the Project. Ten-minute measurements were taken between 11:00 am and 12:30 pm. Short-term (L_{eq}) measurements are considered representative of the noise levels in the vicinity of the Project.

Table 4.10-3: Noise Measurements

Site No.	Location	L_{eq} (dBA)	L_{min} (dBA)	L_{max} (dBA)	Peak (dBA)	Time
1	Along east-west trending rural road, approximately 1.2-mile southwest of the Project Site.	37.4	19.7	58.2	79.3	11:11 am
2	Along Hoffman Road, approximately one-mile northwest of Project Site and 0.5-mile southwest of rural residential	29.1	18.3	51.5	77.8	11:38 am
3	Adjacent to SEGS VIII and IX Solar Thermal Power Plant ponds.	41.9	28.5	58.4	83.9	12:07 pm

Source: Michael Baker International. 2021. *Lockhart Solar PV II Project – Noise Technical Memorandum*. Table 2.

Meteorological conditions consisted of clear skies, warm temperatures, with light wind speeds (0 to 3 miles per hour), and low humidity. Measured daytime noise levels ranged from 29.1 to 41.9 dBA L_{eq} . Noise monitoring equipment used for the ambient noise survey consisted of a Brüel & Kjær Hand-held Analyzer Type 2250 equipped with a Type 4189 pre-polarized microphone. The monitoring equipment complies with applicable requirements of the American National Standards Institute (ANSI) for Type I (precision) sound level meters.

Noise Sensitive Receptors

Noise-sensitive land uses are generally considered to include single and multiple family residential areas, group homes, parks, and open space lands where quiet is a basis for use. Additional land uses such as schools, churches, libraries, and other places where low interior noise levels are essential are also considered noise-sensitive land uses. The nearest potential sensitive receptor to the Project Site is a potential residential use located approximately 4,320 feet to the north. It was not verified whether or not this potential residence was inhabited due to its remote location. Although inhabitation of this structure was not verifiable, this location is the closest potential sensitive receptor and therefore the most conservative assumed sensitive land use. The next potential sensitive receptor is located more than 8,000 feet (1.6 miles) from the Project Site. Due to the distance to the second potential sensitive receptor, noise levels were calculated at the property lines of the closest potential sensitive receptor.

4.10.3 Regulatory Setting

Federal

Occupational Safety and Health Administration (OSHA)

With the Occupational Safety and Health Act of 1970, Congress created OSHA to ensure safe and healthful working conditions for working men and women by setting and enforcing standards and by providing training, outreach, education, and assistance. The Act requires protection against the effects of noise exposure for employees when sound levels exceed 90 dBA over an eight-hour period. If such controls fail to reduce sound levels to within acceptable levels, personal protective equipment is required. Additionally, a Hearing Conservation Program must be instituted by the employers whenever employee noise exposure equals or exceeds an eight-hour time-weighted average sound level of 85 dBA. The Hearing Conservation Program requirements consist of periodic area and personal noise monitoring, performance and evaluation of audiograms, provision of hearing protection, annual employee training, and record keeping.

State

California Noise Control Act of 1973

California Health and Safety Code (HSC) Sections 46000 through 46080, known as the California Noise Control Act, find that excessive noise is a serious hazard to public health and welfare and that exposure to certain levels of noise can result in physiological, psychological, and economic damage. The California Noise Control Act also finds that there is a continuous and increasing bombardment of noise in urban,

suburban, and rural areas. The California Noise Control Act declares that the State has a responsibility to protect the health and welfare of its citizens through the control, prevention, and abatement of noise. It is the policy of the state to provide an environment for all Californians that is free from noise that jeopardizes their health or welfare.

State Office of Planning and Research

The State Office of Planning and Research's *Noise Element Guidelines* include recommended exterior and interior noise level standards for local jurisdictions to identify and prevent the creation of incompatible land uses due to noise. The *Noise Element Guidelines* contain a land use compatibility table that describes the compatibility of various land uses with a range of environmental noise levels in terms of the CNEL. The guidelines also present adjustment factors that may be used to arrive at noise acceptability standards that reflect the noise control goals of the community, the particular community's sensitivity to noise, and the community's assessment of the relative importance of noise pollution.

Local

County of San Bernardino Countywide Plan/Policy Plan

The County's Countywide Plan, adopted on October 27, 2020, serves as a new set of plans and tools for the County's unincorporated communities and complements the Countywide vision. The Policy Plan is a component of the Countywide Plan that is an update and expansion of the County's General Plan for the unincorporated areas. The following goals and policies are applicable to the Project:

Hazards Element

- Goal HZ-2** **Human-Generated Hazards:** Human-generated Hazards. People and the natural environment protected from exposure to hazardous materials, excessive noise, and other human-generated hazards
- Policy HZ-2.7** **Truck delivery areas.** We encourage truck delivery areas to be located away from residential properties and require associated noise impacts to be mitigated.
- Policy HZ-2.9** **Control sound at the source.** We prioritize noise mitigation measures that control sound at the source before buffers, soundwalls, and other perimeter measures.

San Bernardino County Code of Ordinance

Chapter 83.01, Section 83.01.080, *Noise*, of the San Bernardino County Code of Ordinance establishes standards concerning acceptable noise levels for both noise-sensitive land uses and for noise-generating land uses. The following sections of the San Bernardino County Code are applicable to the Project:

§ 83.01.080 Noise

This Section establishes standards concerning acceptable noise levels for both noise-sensitive land uses and for noise-generating land uses.

(c) *Noise Standards for Stationary Noise Sources*

(1) *Noise Standards*. Table 83-2 (**Table 4.10-4: Noise Standards for Stationary Noise Sources**) describes the noise standard for emanations from a stationary noise source, as it affects adjacent properties.

Table 4.10-4: Noise Standards for Stationary Noise Sources

Affected Land Uses (Receiving Noise)	7:00 a.m. – 10:00 p.m. (L_{eq})	10:00 p.m. – 7:00 a.m. (L_{eq})
Residential	55 dB(A)	45 dB(A)
Professional Services	55 dB(A)	55 dB(A)
Other Commercial	60 dB(A)	60 dB(A)
Industrial	70 dB(A)	70 dB(A)

Notes:
 L_{eq} = (Equivalent Energy Level). The sound level corresponding to a steady-state sound level containing the same total energy as a time-varying signal over a given sample period, typically one, eight or 24 hours.
 dB(A) = (A-weighted Sound Pressure Level). The sound pressure level, in decibels, as measured on a sound level meter using the A-weighting filter network. The A-weighting filter de-emphasizes the very low and very high frequency components of the sound, placing greater emphasis on those frequencies within the sensitivity range of the human ear.
 L_{dn} = (Day-Night Noise Level). The average equivalent A-weighted sound level during a 24-hour day obtained by adding 10 decibels to the hourly noise levels measured during the night (from 10:00 p.m. to 7:00 a.m.). In this way L_{dn} takes into account the lower tolerance of people for noise during nighttime periods.

Source: Codified Ordinances of the County of San Bernardino, Section 83.01.080, Table 83-2.

(2) *Noise Limit Categories*. No person shall operate or cause to be operated a source of sound at a location or allow the creation of noise on property owned, leased, occupied, or otherwise controlled by the person, which causes the noise level, when measured on another property, either incorporated or unincorporated, to exceed any one of the following:

- (A) The noise standard for the receiving land use as specified in Subdivision (b) (Noise-Impacted Areas), above, for a cumulative period of more than 30 minutes in any hour.
- (B) The noise standard plus five dB(A) for a cumulative period of more than 15 minutes in any hour.
- (C) The noise standard plus ten dB(A) for a cumulative period of more than five minutes in any hour.
- (D) The noise standard plus 15 dB(A) for a cumulative period of more than one minute in any hour.
- (E) The noise standard plus 20 dB(A) for any period of time.

(d) *Noise Standards for Adjacent Mobile Noise Sources*. Noise from mobile sources may affect adjacent properties adversely. When it does, the noise shall be mitigated for any new development to a level that shall not exceed the standards described in the following Table 83-3 (**Table 4.10-5: Noise Standards for Adjacent Mobile Noise Sources**).

Table 4.10-5: Noise Standards for Adjacent Mobile Noise Sources

Land Use		L _{dn} (or CNEL) db(A) ⁴	
Categories	Uses	Interior ¹	Exterior ²
Residential	Single and multi-family, duplex, mobile homes	45	60 ³
Commercial	Hotel, motel, transient housing	45	60 ³
	Commercial retail, bank, restaurant	50	65
	Office building, research and development, professional offices	45	N/A
	Amphitheater, concert hall, auditorium, movie theater	45	65
Institutional/Public	Hospital, nursing home, school classroom, religious institution, library	45	N/A
Open Space	Park	N/A	65

Notes:

- 1 The indoor environment shall exclude bathrooms, kitchens, toilets, closets and corridors.
2. The outdoor environment shall be limited to:
 - Hospital/office building patios
 - Hotel and motel recreation areas
 - Mobile home parks
 - Multi-family private patios or balconies
 - Park picnic areas
 - Private yard of single-family dwellings
 - School playgrounds
3. An exterior noise level of up to 65 dB(A) (or CNEL) shall be allowed provided exterior noise levels have been substantially mitigated through a reasonable application of the best available noise reduction technology, and interior noise exposure does not exceed 45 dB(A) (or CNEL) with windows and doors closed. Requiring that windows and doors remain closed to achieve an acceptable interior noise level shall necessitate the use of air conditioning or mechanical ventilation.
4. CNEL = (Community Noise Equivalent Level). The average equivalent A-weighted sound level during a 24-hour day, obtained after addition of approximately five decibels to sound levels in the evening from 7:00 p.m. to 10:00 p.m. and ten decibels to sound levels in the night from 10:00 p.m. to 7:00 a.m.

Source: Codified Ordinances of the County of San Bernardino, Section 83.01.080, Table 83-3.

(e) *Increases in Allowable Noise Levels.* If the measured ambient level exceeds any of the first four noise limit categories in Subdivision (d)(2), above, the allowable noise exposure standard shall be increased to reflect the ambient noise level. If the ambient noise level exceeds the fifth noise limit category in Subdivision (d)(2), above, the maximum allowable noise level under this category shall be increased to reflect the maximum ambient noise level.

(f) *Reductions in Allowable Noise Levels.* If the alleged offense consists entirely of impact noise or simple tone noise, each of the noise levels in Table 83-2 (**Table 4.10-4; Noise Standards for Stationary Noise Sources**) shall be reduced by five dB(A).

(g) *Exempt Noise.* The following sources of noise shall be exempt from the regulations of this Section:

- (1) Motor vehicles not under the control of the commercial or industrial use.
- (2) Emergency equipment, vehicles, and devices.
- (3) Temporary construction, maintenance, repair, or demolition activities between 7:00 a.m. and 7:00 p.m., except Sundays and Federal holidays.

§ 83.01.090 Vibration

- (a) *Vibration Standard.* No ground vibration shall be allowed that can be felt without the aid of instruments at or beyond the lot line, nor shall any vibration be allowed which produces a particle velocity greater than or equal to two-tenths inches per second measured at or beyond the lot line.
- (b) *Vibration Measurement.* Vibration velocity shall be measured with a seismograph or other instrument capable of measuring and recording displacement and frequency, particle velocity, or acceleration. Readings shall be made at points of maximum vibration along any lot line next to a parcel within a residential, commercial, and industrial land use zoning district.
- (c) *Exempt Vibrations.* The following sources of vibration shall be exempt from the regulations of this Section.
 - (1) Motor vehicles not under the control of the subject use.
 - (2) Temporary construction, maintenance, repair, or demolition activities between 7:00 a.m. and 7:00 p.m., except Sundays and Federal holidays.

4.10.4 Impact Thresholds and Significance Criteria

In accordance with Appendix G of the State CEQA Guidelines, a project would have a significant impact related to noise if it would:

- Threshold (a):** Generate a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies;
- Threshold (b):** Generate excessive groundborne vibration or groundborne noise levels; or
- Threshold (c):** For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels.

4.10.5 Impacts and Mitigation Measures

Impact 4.10-1 *Would the Project generate a substantial temporary or permanent increase in ambient noise levels in the vicinity of the Project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?*

Level of Significance: Less than Significant

Construction Noise

Construction Activities

Project construction is anticipated to be completed over a period of approximately 14 months. Project construction activities generally fall into three main categories: (1) site preparation, (2) system

installation, and (3) testing, commissioning, and cleanup. **Table 4.10-6: Maximum Noise Levels Generated by Standard Construction Equipment** reflects maximum sound levels (L_{max}) that could be expected from the equipment-types listed at a reference distance of 50 feet from the noise source, which are the highest individual sound occurring at an individual time period. Operating cycles for the listed types of construction equipment may involve one or two minutes of full power operation followed by three to four minutes at lower power settings. Other sources of construction noise could include random incidents, which would last less than one minute (such as dropping large pieces of equipment or the hydraulic movement of machinery lifts).

Table 4.10-6: Maximum Noise Levels Generated by Standard Construction Equipment

Equipment Type	Actual L_{max} at 50 Feet (dBA)
Backhoe	78
Bulldozer	82
Compactor	83
Compressor	78
Concrete/Industrial Saws	90
Concrete Mixer	79
Concrete Pump	81
Crane	81
Dump Truck	76
Excavator	81
Flatbed Truck	74
Generator	81
Grader	85
Loader	79
Paver	77
Pile Driver (impact)	101
Pile Driver (sonic)	96
Pump	81
Roller	80
Scraper	85
Tractor	84
Welder	74

Source: Federal Highway Administration, *Roadway Construction Noise Model User's Guide*, January 2006.

Construction noise is difficult to quantify because of the many variables involved, including the specific equipment types, size of equipment used, percentage of time each piece is in operation, condition of each piece of equipment, and number of pieces that would operate at any given time across the Project Site. Construction equipment produce maximum noise levels when equipment is operating under full power conditions (i.e., the equipment engine at maximum speed). However, equipment used on construction sites typically operates under less than full power conditions, or part power. To more accurately characterize construction-period noise levels, the average (L_{eq}) noise level associated with each construction category is calculated based on the quantity, type, and usage factors for each type of equipment that would be used during each construction category. These noise levels are typically associated with multiple pieces of equipment simultaneously operating on part power. The estimated Project construction noise levels at the nearest noise-sensitive receptor is presented in **Table 4.10-7: Estimated Project Construction Noise Levels at Nearest Sensitive Receptor**. To present a conservative

analysis, the estimated noise levels were calculated for a scenario in which all construction equipment were assumed to operate simultaneously for each construction category (i.e., site preparation, system installation, and testing/commissioning/cleanup). In addition, construction noise levels were conservatively calculated based on the distance from the Project Site boundary to the property line of the nearest sensitive receptor.

Table 4.10-7: Estimated Project Construction Noise Levels at Nearest Sensitive Receptor

Nearest Sensitive Receptor to Project Site	Estimated Exterior Construction Noise Level (dBA L _{eq}) ^{1,2}		
	Site Preparation	System Installation	Testing/Commissioning/Cleanup
Residence ³ (approximately 4,320 feet to the north)	45.7	55.9	46.1
Notes: 1. These noise levels conservatively assume the simultaneous operation of all construction equipment at the same precise location. 2. The construction categories would include the following: <ul style="list-style-type: none"> • Site Preparation: perimeter fence installation, demolition of existing structures, clearing/grading; • System Installation: trenching, BESS, and gen-tie installation; and • Testing/Commissioning/Cleanup. 3. The distance is approximate and represents the shortest distance between the Project Site boundary and the property line of the nearest sensitive receptor.			

Source: Michael Baker International. 2021. *Lockhart Solar PV II Project – Noise Technical Memorandum*. Table 6. Refer to Appendix K for modeling assumptions.

Section 83.01.080 of the San Bernardino County Code exempts construction activities from the noise standard providing that such activities take place between the hours of 7:00 a.m. to 7:00 p.m. except Sundays and Federal holidays. Construction would primarily occur during daylight hours, Monday through Friday, between 7:00 a.m. and 7:00 p.m., as required to meet the construction schedule. However, there may be potential need for work to occur outside of daylight hours. Such work could include testing of electrical equipment such as underground cables or running a small pump or portable generator to flush the transformer system. Any construction work performed outside of the normal work schedule would be subject to pre-approval by County. Any construction work performed outside of the normal work schedule would not result in substantial noise levels beyond the Project Site boundary.

As depicted in **Table 4.10-7**, the closest potential residential receptor could be exposed to temporary and intermittent noise levels up to 55.9 dBA. It should be noted that the County does not have construction noise standards for residential uses. However, Project construction noise levels would be below the Federal Transit Administration’s 80 dBA construction standard for residential uses.³ As previously noted, noise levels presented in **Table 4.10-7** are conservative, as these noise levels assume the simultaneous operation of all construction equipment at the same precise location. In reality, construction equipment would be used throughout the Project Site and would not be concentrated at the point closest to the nearest sensitive receptor. Therefore, impacts would be less than significant.

³ Federal Transit Administration. 2018. *Transit Noise and Vibration Impact Assessment Manual*. September 2018.

Construction Traffic

Construction activities would also cause increased noise along access routes to and from the Project Site due to movement of equipment and workers, as well as hauling trips. Project Site preparation activities would include demolition of approximately 6,388 tons of material to be exported, which would result in approximately 632 hauling trips.⁴ Grading at the Project Site would require approximately 100,000 cubic yards of cut and 100,000 cubic yards of fill, balanced on-site. Grading activities would also include import of approximately 20,000 cubic yards of engineered materials (i.e. road base, cement stabilization materials, riprap, etc.), which would result in approximately 2,500 hauling trips.⁵ It is anticipated that construction worker trips would be a maximum of 40 trips per day, and vendor trips would equate to a total of 10 trips per day.⁶ As a result, mobile source noise would increase along access routes to and from the Project Site during construction. However, mobile traffic noise from construction trips would be temporary and would cease upon completion of Project construction. Further, San Bernardino County Code Section 83.01.080 exempts construction activities from the noise standard providing that such activities take place between the hours of 7:00 a.m. to 7:00 p.m. except Sundays and Federal holidays. Therefore, upon compliance with the County's allowable construction hours (San Bernardino County Code Section 83.01.080), short-term noise impacts from construction traffic would be less than significant.

Operation and Maintenance Noise Impacts

Operation and maintenance of the Project would include permanent and temporary noise sources associated with the solar PV systems, electrical collection lines, gen-tie power lines, BESS, and maintenance activities.

Solar PV Systems

The solar PV arrays would include operation of single-axis tracking systems. Single-axis tracking systems employ a motor mechanism that would allow the arrays to track the path of the sun throughout the day. In the morning, the panels would face the east. Throughout the day, the panels would slowly move to the upright position at noon and on to the west at sundown. The panels would reset to the east in the evening or early morning to receive sunlight at sunrise. The Project would include up to 3,600 tracker motors which could operate simultaneously. Noise from each tracker motor is approximately 40 dBA at 10 feet from the source.⁷ This is considered an appropriate reference noise level due to the low intensity of the motor. During daylight hours, the tracking system motors would operate for a short period of time (normally two seconds) and pause for a longer period of time (about five minutes) before operating again.

⁴ Based on California Emissions Estimator Model version 2016.3.2 (CalEEMod) outputs provided in the *Lockhart Solar PV II Project – Air Quality Technical Memorandum* prepared by Michael Baker International, September 27, 2021. See Appendix C.

⁵ Based on California Emissions Estimator Model version 2016.3.2 (CalEEMod) outputs provided in the *Lockhart Solar PV II Project – Air Quality Technical Memorandum* prepared by Michael Baker International, September 27, 2021. See Appendix C.

⁶ Based on California Emissions Estimator Model version 2016.3.2 (CalEEMod) outputs provided in the *Lockhart Solar PV II Project – Air Quality Technical Memorandum* prepared by Michael Baker International, September 27, 2021. See Appendix C.

⁷ Based on specifications provided by Cupertino Electric, Inc., on September 20, 2021.

After sunset and before sunrise the next day, the array must reset to face easterly; this reset motion occurs once daily and takes approximately three minutes. Composite noise levels of the tracker motors, based on the logarithmic addition of sound energy, collectively would be approximately 75.6 dBA at 10 feet from the source. The nearest sensitive noise receptor to any tracker would be the residence located approximately 4,320 feet to the north of the Project Site. At this distance, noise levels associated with solar PV array trackers would be approximately 22.4 dBA and well below the County's daytime and nighttime noise standards of 55 dBA and 45 dBA, respectively, for residential uses. Due to the dispersed layout of the tracker motors across the Project Site, their distance from sensitive receptors, and the intermittent noise generating activity, impacts would be less than significant in this regard.

Electrical Collection Lines

The Project includes installation of electrical collection lines to connect to the permitted, but not yet constructed, Lockhart I Solar Facility collector substation. Audible noise from transmission lines are a function of the line voltage, the conductor design, and weather conditions. Corona noise from 220 kV lines has been reported at 40 dBA immediately below the line.⁸ Overhead and underground collection systems will be built throughout the Project Site. Even though overhead electrical lines that would be installed as part of the Project would have the potential to emit electrical discharge (or corona discharge), audible noise from corona discharge is expected to be within the range of 40 dBA or below. Therefore, noise levels associated with electrical collection lines would be inaudible at the nearest sensitive receptor, located approximately 4,320 feet to the north of the Project Site. Impacts would be less than significant in this regard.

Gen-tie Power Line

The existing 220 kV on-site gen-tie line will connect the power generated from the Project to the existing switchyard located at the southern edge of the Shared Facilities Area. The existing on-site gen-tie line will be upgraded, as needed, for the Project. Similar to the electrical collection lines, the gen-tie line would generate audible corona noise (i.e., 40 dBA immediately below the line). As the nearest sensitive receptor is located approximately 4,320 feet to the north of the Project Site, noise levels associated with the gen-tie power line would be inaudible. Impacts would be less than significant in this regard.

Battery Energy Storage System (BESS)

Additional permanent noise sources from the Project Site would include small-scale inverters, medium voltage transformers, and BESS. Small-scale inverters and medium voltage transformers would emit nominal noise levels that would attenuate over distance, resulting in inaudible noise at the nearest sensitive receptor. The primary noise source associated with BESS operations would be the use of HVAC units (the BESS does not generate noise itself). The Project includes a BESS, which would require approximately 132 HVAC units to operate simultaneously. Standard HVAC units for similar energy storage projects produce 68 dBA at a distance of 50 feet during full operation. The BESS would be located in the

⁸ Based on information obtained studies conducted by the Electric Power Research Institute (EPRI) (1978 and 1987).

Shared Facilities Area; refer to Exhibit 3b of the *Noise Technical Memorandum*. The nearest sensitive receptor property line would be located approximately 10,000 feet to the northwest of the Project BESS facilities. At this distance, noise levels from the BESS HVAC units are estimated at approximately 22 dBA, which is well below the County's daytime (55 dBA L_{eq}) and nighttime (45 dBA L_{eq}) outdoor stationary noise standard for residential uses; therefore, impacts would be less than significant.

Maintenance Activities

The County approved the Lockhart Solar I Facility (CUP Project #201900125) in 2019, which contemplated that existing SEGS operations staff would continue operation of the Lockhart Solar I Facility. Lockhart Solar I Facility operations staff would also support operations for the Project; therefore, no additional operations staff would be required. As such, the Project would generate minimal periodic operational vehicle trips internal to the Project Site for required maintenance activities and would not increase personnel daily trips external to the site when compared to existing conditions. Project maintenance activities would include solar panel washing one to four times per year and it was assumed that the Project would generate approximately 40 trips per year associated with panel washing activities. These activities are not expected to occur on a daily basis and would not generate a significant amount of traffic or create a substantial increase of vehicular noise in the area. Any increase in traffic would be minimal and sporadic; therefore, impacts from vehicular noise would be less than significant.

The existing RODS within the Shared Facilities Area will be used, as needed, to remove particles suspended in groundwater prior to Project solar panel cleaning, one to four times per year. Project use of the existing RODS will not result in additional equipment or create a substantial increase in stationary source noise from the Shared Facilities Area above existing conditions. Therefore, potential noise impacts from Project maintenance activities would be less than significant.

Decommissioning

When the Project is decommissioned, equipment operation and site restoration activities would result in a temporary increase in ambient noise levels in the Project vicinity. Given the fact that much of the construction equipment necessary to construct the Project would also be required for Project decommissioning, it is reasonable to assume that noise generated from decommissioning activities would be similar in nature to construction activities. Similar to the construction noise analysis above, Project decommissioning would potentially result in increased noise levels compared to existing conditions. However, San Bernardino County Code Section 83.01.080 exempts construction activities from the noise standard providing that such activities take place between the hours of 7:00 a.m. to 7:00 p.m. except Sundays and Federal holidays. Therefore, upon compliance with the County's allowable construction hours (San Bernardino County Code Section 83.01.080), short-term noise impacts from decommissioning activities would be less than significant.

Impact 4.10-2 *Would the Project generate excessive groundborne vibration or groundborne noise levels?*

Level of Significance: Less than Significant

Construction

Project construction, including site preparation and testing/commissioning/cleanup would not require blasting; however, impact-post driving or drilling would be utilized for system installation (i.e. installation of the PV arrays foundations support posts) and could cause vibration impacts at close distances. While these construction activities would result in some minor amounts of groundborne vibration, such groundborne vibration would attenuate rapidly from the source and would not be generally perceptible outside of the Project Site. Groundborne vibration generated during construction activities between the hours of 7:00 a.m. to 7:00 p.m. (except Sundays and Federal holidays) is exempt pursuant to San Bernardino County Code Section 83.01.090. Nonetheless, a quantitative analyses is presented below.

The Federal Transit Administration (FTA) has published standard vibration velocities for construction equipment operations. In general, the FTA architectural damage criterion for continuous vibrations (i.e., 0.2 inch/second) appears to be conservative. The types of construction vibration impact include human annoyance and building damage. Human annoyance occurs when construction vibration rises significantly above the threshold of human perception for extended periods of time. Building damage can be cosmetic or structural. This distance can vary substantially depending on the soil composition and underground geological layer between vibration source and receiver. The vibration produced by construction equipment, is illustrated in **Table 4.10-8: Typical Vibration Levels for Common Construction Equipment.**

Table 4.10-8: Typical Vibration Levels for Common Construction Equipment

Equipment		Reference peak particle velocity at 25 feet (inch-per-second)	Approximate peak particle velocity at 4,320 feet (inch-per-second) ¹
Pile Driver (Impact)	<i>Upper Range</i>	1.518	0.001
	<i>Typical</i>	0.644	<0.001
Pile Driver (Sonic)	<i>Upper Range</i>	0.000	<0.001
	<i>Typical</i>	0.000	<0.001
Auger/Drill Rigs		0.089	<0.001
Jackhammer		0.035	<0.001
Vibratory Hammer		0.035	<0.001
Vibratory Roller		0.210	<0.001
Large Bulldozer		0.089	<0.001
Loaded Trucks		0.076	<0.001
Small Bulldozer		0.003	<0.001
Note: 1. Calculated using the following formula: $PPV_{equip} = PPV_{ref} \times (25/D)^{1.5}$ PPV (equip) = the peak particle velocity in inch-per-second of the equipment adjusted for the distance PPV (ref) = the reference vibration level in inch-per-second from Table 7-4 of the FTA <i>Transit Noise and Vibration Impact Assessment Manual</i> D = the distance from the equipment to the receiver			

Source: Federal Transit Administration, *Transit Noise and Vibration Impact Assessment Manual*, September 2018.

Groundborne noise and vibration decreases rapidly with distance. As indicated in **Table 4.10-8** vibration velocities from typical heavy construction equipment operations that would be used during Project construction range from 0.003 to 1.518 inch-per-second peak particle velocity (PPV) at 25 feet from the source of activity. It should be noted, however, that post driving would only occur during construction of the PV modules on-site. The nearest noise-sensitive receptor to the Project Site is a potential residence located approximately 4,320 feet to the north. At this distance, vibration velocities would be imperceptible (i.e., up to 0.001 inch-per-second PPV). Therefore, the 0.2 inch-per-second PPV significance threshold and the 0.4 inch-per-second PPV human annoyance criteria would not be exceeded as a result of Project construction activities. Thus, no Project-related sources of groundborne vibration or groundborne noise would be expected to affect sensitive receptors in the Project vicinity, and there would not be any potential for excessive exposure of persons to or generation of groundborne vibration levels. Impacts would be less than significant.

Operation and Maintenance

The Project would have operation and maintenance components, such as HVAC systems for the BESS, maintenance vehicles, small-scale inverters, and medium voltage transformers, that would not generate noticeable groundborne vibration levels. Project operations would not involve any sources capable of generating perceptible levels of vibration in the surrounding area. There would be no permanent source or potential to change vibration levels, except during unscheduled maintenance or repair activities, which would be similar to construction activities. Regular maintenance trucks could generate 0.076 inch-per-second PPV a distance of 25 feet (refer **Table 4.10-8**). Pursuant to San Bernardino County Code Section 83.01.090, groundborne vibration shall not exceed 0.2 inch-per-second PPV at the nearest property line within a residential, commercial and industrial land use zoning district. Land use zoning districts surrounding the Project Site include Resource Conservation (RC) and Rural Living (RL), which allow residential uses.⁹ Although residential land use zoning districts surround the Project Site, regular maintenance trucks would not generate groundborne vibration levels exceeding the County's 0.2 inch-per-second PPV vibration threshold at the Project boundary. Further, as the nearest noise-sensitive receptor is located over 4,000 feet from the Project Site, operational vibration levels at the nearest off-site receptors would be imperceptible. Thus, the County's 0.2 inch-per-second PPV vibration threshold and the 0.4 inch-per-second PPV human annoyance criteria would not be exceeded, and impacts would be less than significant.

Decommissioning

When the Project is decommissioned, equipment operation and site restoration activities could result in a temporary vibration impacts at close distances. Given the fact that much of the construction equipment necessary to construct the Project would also be required for Project decommissioning, it is reasonable

⁹ The RC (Resource Conservation) land use zoning district provides sites for open space and recreational activities, single-family homes on very large parcels and similar and compatible uses. The RL (Rural Living) land use zoning district provides sites for rural residential uses, incidental agricultural uses, and similar and compatible uses.

to assume that vibration generated from decommissioning activities would be similar in nature to construction activities. As with the construction activities described above, decommissioning activities would not be expected to generate groundborne noise that would affect sensitive receptors in the Project vicinity, and there would not be any potential for excessive exposure of persons to or generation of groundborne vibration levels. Impacts would be less than significant.

Impact 4.10-3 For a Project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the Project expose people residing or working in the Project area to excessive noise levels?

Level of Significance: No Impact

The nearest airport to the Project Site is the Sun Hill Ranch Airport located approximately 20 miles to the southwest. The Project Site is not located within the vicinity of a private airstrip or related facilities. No impact would occur.

4.10.6 Cumulative Impacts

Section 4.0, *Introduction to the Environmental Analysis*, of this Draft EIR provides a list of cumulative projects that would have the potential to be considered in a cumulative context with the Project's incremental contribution. These projects are summarized in **Table 4.0-1: Cumulative Projects** and shown in **Figure 4.0-1: Cumulative Projects Map**.

Construction Noise

The Project's construction activities would not result in a substantial temporary increase in ambient noise levels at the nearest sensitive receptors. Construction noise would be periodic and temporary noise impacts that would cease upon completion of construction activities. The Project would contribute to other proximate construction project noise impacts if construction activities were conducted concurrently. However, based on the noise analysis above, the Project's construction-related noise impacts would be less than significant and would be required to comply with the San Bernardino County Code.

The combination of the Project together with other related present and reasonably foreseeable future projects in the Project vicinity could involve actions with the potential to result in noise impacts. However, construction noise impacts for each cumulative project would be mitigated through compliance with the County's standards and ordinances, and any necessary mitigation measures identified through the County's development review process. Thus, construction noise impacts would not be cumulatively considerable, and impacts would be less than significant.

Operational Noise

Operation of the Project would not result in a substantial permanent increase in ambient noise levels from on-site stationary or off-site mobile traffic noise sources. In addition, cumulative projects in the Project

vicinity would be subject to the development review process, which could include conditions of approval to minimize the exposure of sensitive receptors and other receiving land uses to excessive noise to the furthest extent possible. Therefore, operational noise impacts would not be cumulatively considerable, and impacts would be less than significant.

Decommissioning Noise

Cumulative projects in the Project vicinity would likely be operational and contribute to the overall ambient noise conditions prior to Project decommissioning activities. Thus, temporary noise impacts from decommissioning activities associated with the Project would not likely combine with other cumulative projects in close proximity and at the same time. Therefore, Groundborne Noise and Vibration

As noted above, the Project's construction and operational vibration levels would not exceed any applicable thresholds for groundborne noise or vibration and would result in a less than significant impact. Therefore, vibration impacts would not be cumulatively considerable, and impacts would be less than significant.

4.10.7 Significant Unavoidable Impacts

The Project would not result in any significant and unavoidable impacts related to noise.

4.10.8 References

California Department of Transportation. 2013. *Technical Noise Supplement to the Traffic Noise Analysis Protocol*. Available at <https://dot.ca.gov/-/media/dot-media/programs/environmental-analysis/documents/env/tens-sep2013-a11y.pdf>. Accessed August 18, 2021.

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Federal Highway Administration. 2006a. *Construction Noise Handbook Notice*. Available at https://www.fhwa.dot.gov/environment/noise/construction_noise/handbook/. Accessed August 18, 2021.

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Federal Transit Administration. 2018. *Transit Noise and Vibration Impact Assessment Manual*. Available at https://www.transit.dot.gov/sites/fta.dot.gov/files/docs/research-innovation/118131/transit-noise-and-vibration-impact-assessment-manual-fta-report-no-0123_0.pdf. Accessed August 18, 2021.

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4.11 TRANSPORTATION

4.11.1 Introduction

This section describes regulations related to transportation and the existing transportation systems in the Project vicinity, identifies significance criteria for impacts on transportation, and evaluates potential impacts associated with the Project. The discussion in this section is largely based on the *Transportation Assessment Letter* (see Appendix L).

As discussed throughout this section, in September 2013, the Governor signed Senate Bill (SB) 743. Among other provisions, this legislation mandated that the Office of Planning and Research (OPR) evaluate a new metric to analyze transportation impacts under the California Environmental Quality Act (CEQA). The County has moved forward with adopting the new vehicle miles traveled (VMT) metric and has developed VMT significance thresholds for CEQA. Therefore, this section analyzes potential transportation impacts of the Project based on the VMT metric.

4.11.2 Environmental Setting

The Project Site is located in unincorporated Hinkley, California in the County of San Bernardino (County). The Project Site is approximately 7 miles north of the intersection of Harper Lake Road and Mojave-Barstow Highway 58. The Project Site is bordered on the south by the existing Solar Energy Generating System (SEGS) VIII and IX Solar Thermal Power Plants, which the County approved for repowering to photovoltaic (PV) solar and battery storage in 2019 as part of the Lockhart Solar I Facility (CUP Project #201900125 approved in 2019); Harper Lake Road to the east; Hoffman Road to the west; and vacant land to the north. Vehicular access to the Project Site is currently provided via existing access gates off of Hoffman Road at the southern end of the Shared Facilities Area, as well as an existing access gate off of Harper Lake Road at the eastern end of the Project Site. No public transit, pedestrian, or bicycle facilities currently exist on Harper Lake Road or in the vicinity of the Project Site.

4.11.3 Regulatory Setting

Federal

Federal rules and regulations govern many facets of the County's traffic and circulation system, including transportation planning and programming; funding; and design, construction, and operation of facilities. The County complies with all applicable rules and regulations of the Federal Highway Administration (FHWA), the Federal Transit Administration (FTA), the Federal Railroad Administration, the Federal Aviation Administration (FAA), and other federal agencies, as required.

State

As the County complies with federal rules and regulations, it also complies with applicable State rules and regulations, including those of the California Department of Transportation (Caltrans), and coordinates with State resource agencies.

Senate Bill No. 743

California SB 743, which was signed into law on September 27, 2013 and became effective on January 1, 2014, requires the focus of transportation analyses to shift from driver delay to the reduction of greenhouse gas (GHG) emissions, the creation of multimodal networks, and the promotion of a mix of land uses, as measured by VMT. CEQA Guidelines Section 15064.3, Determining the Significance of Transportation Impacts, indicates that "...vehicle miles traveled is the most appropriate measure of transportation impacts." The revised guidelines require that lead agencies remove automobile delay, as described solely by level of service (LOS) or similar measures of vehicular capacity or traffic congestion, as a criterion for determining a significant impact on the environment pursuant to CEQA, except in locations specifically identified in the revised guidelines, if any. In accordance with this requirement, CEQA Guidelines Section 15064.3(a), adopted in December 2018, states "a project's effect on automobile delay does not constitute a significant environmental impact." These updates establish VMT as the primary metric for evaluating a project's environmental impacts on the transportation system.

In addition, CEQA Guidelines Section 15064.3(c) states that the provisions of Section 15064.3 shall apply statewide beginning on July 1, 2020. As noted above, the County issued their *Transportation Impact Study Guidelines* on July 9, 2019 to provide recommendations related to VMT assessment (both thresholds of significance and methodology for identifying VMT related impacts) and to refine the County's existing Transportation Impact Study Guidelines (TISG) to reflect methodologies for identifying impacts.

Regional

San Bernardino Associated Governments Congestion Management Program

The Congestion Management Program (CMP) was established statewide in 1990 to implement Proposition 111, tying appropriation of new gas tax revenues to congestion reduction efforts. The CMP is managed at the countywide level and primarily uses an LOS performance metric, which is inconsistent with more recent state efforts to transition to VMT-based performance metrics.

The San Bernardino Associated Governments (SANBAG) prepared the San Bernardino County CMP, in consultation with San Bernardino County and cities in the county, in an effort to align land use, transportation, and air quality management efforts and promote reasonable growth management programs that effectively use statewide transportation funds, while ensuring that new development pays its fair share of needed transportation improvements. In San Bernardino County, SANBAG is responsible for planning and managing vehicular congestion and coordinating regional transportation policies. The CMP was last updated in June 2016. The CMP includes goals that are supportive of maintaining and enhancing the multimodal transportation system and also includes, by association, the goals of the Southern California Association of Government's (SCAG) 2016-2040 Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS).

Through the use of traffic impact analysis reports and Comprehensive Transportation Plan model forecasts, the CMP evaluates proposed land use decisions to ensure adequate transportation network improvements that are developed to accommodate future growth in population. If a CMP facility is found

to fall below the level of service standard under either existing or future conditions, a deficiency plan must be prepared, adopted, and implemented by local jurisdictions that contribute to such situations.

Annual monitoring activities are a method of accountability for those local jurisdictions required to mitigate a network facility with substandard level of service. While this interjurisdictional approach provides political and technical consistency for future development in the county, the CMP is only a mechanism to be used to guide efforts in a more efficient manner. It is not to be considered a replacement to the Regional Transportation Plan (RTP).

San Bernardino Countywide Transportation Plan

The San Bernardino County Transportation Authority (SBCTA), formerly known as SANBAG, developed the County's Countywide Transportation Plan (CTP), which was released in September 2015. The CTP has a horizon year of 2040 and serves as the County's input into the SCAG RTP/SCS. The purpose of the CTP is to lay out a strategy for long-term investment in and management of the County's transportation system. Key issues addressed by the CTP include transportation funding, congestion relief, economic competitiveness, system preservation and operations, transit system interconnectivity, air quality, sustainability, and GHG emission reductions. The CTP analyses a Year 2040 baseline scenario with traditional revenue sources and an aggressive scenario that assumes added revenue sources defined in SCAG's RTP/SCS. The CTP has developed a set of strategies to address issues such as air quality, goods movement, sustainability, and active transportation.

Regional Transportation Plan/Sustainable Communities Strategy

SCAG, in which the County is a part of, adopted Connect SoCal (2020-2045 RTP/SCS) on September 3, 2020. The 2020-2045 RTP/SCS is a long-range visioning plan that balances future mobility and sustainable growth with land use and transportation strategies to reach the region's GHG reduction goals. The 2020-2045 RTP/SCS includes the following specific goals and strategies that are applicable to the Project to integrate land use and transportation, such that the region can grow smartly and sustainably:

- Encourage regional economic prosperity and global competitiveness
- Reduce GHG emissions and improve air quality
- Adapt to a changing climate and support an integrated regional development pattern and transportation network

Local

San Bernardino County Transportation Impact Study Guidelines

The County's TISG, dated July 9, 2019, provides a guide in assessing a proposed development project's potential transportation impacts. As stated within the TISG, a Transportation Impact Study is required if one or more of the following criteria is met:

- If a project generates 100 or more trips without consideration of pass-by trips during any peak hour.

- If a project is located within 300 feet of
 - The intersection of two streets designated as Collector or higher in the County’s General Plan or the Department’s Master Plan **or**
 - An impacted intersection as determined by the Traffic Division.
- If a project creates safety or operational concerns.
- If a project has the potential to generate VMT that could result in a transportation impact as noted in the significance criteria presented within the TISG.
- If a project generates less than 100 trips without consideration of pass-by trips during any peak hour, a study may be required if there are special concerns.

As further described under Threshold (a), the Project does not meet any of the screening criteria. Thus, a Transportation Impact Study is not required.

As it relates to VMT, according to the County’s TISG, land use projects that meet certain screening criteria are assumed to result in a less-than-significant transportation impact under CEQA and do not require a detailed quantitative VMT assessment. Consistent with OPR guidance, the County identifies the following project types as appropriate for screening. Projects need only meet one of the listed criteria to be screened from a VMT analysis:

- **Local Community Projects.** The following list of projects would be screened out:
 - K-12 Schools
 - Local-serving retail less than 50,000 square feet
 - Local parks
 - Day care centers
 - Local serving gas stations
 - Local serving banks
 - Student housing projects
 - Local serving community colleges that are consistent with the assumptions noted in the Regional Transportation plan/Sustainable Communities Strategy
- **Trip Generation Threshold.** Projects generating less than 110 daily vehicle trips, which generally corresponds to the following “typical” development potentials:
 - 11 single family housing units
 - 16 multi-family, condominiums, or townhouse units
 - 10,000 square feet of office
 - 15,000 square feet of light industrial

- 63,000 square feet of warehouse
- 79,000 square feet of high cube transload and short-term storage warehouse
- 12 hotel rooms
- **Transit Priority Area (TPA).** Projects located within a TPA as determined in the most recent SCAG RTP/SCS.
- **Low VMT Area.** Projects located within a low VMT generating area as determined by the analyst based on the County's VMT efficient area maps online at <https://www.arcgis.com/apps/webappviewer/index.html?id=779a71bc659041ad995cd48d9ef4052b>.

For projects that do not meet the screening criteria above, it should be considered to have a significant impact if the project VMT per person/employee is greater than 4 percent below the existing baseline VMT per person for the unincorporated County.

San Bernardino Countywide Plan/Policy Plan

The County adopted the Countywide Plan/Policy Plan (Policy Plan) in October 2020. The Policy Plan provides an update of the County's General Plan addressing physical, social and economic issues facing the unincorporated portions of the County. The Policy Plan is a component of the Countywide Plan that is an update and expansion of the County's General Plan for the unincorporated areas. The Transportation & Mobility Element of the General Plan includes goals and policies for transportation facilities that adequately serve traffic, including roadway capacity, road design standards, VMT, complete streets, good movement, and airport.

4.11.4 Impact Thresholds and Significance Criteria

In accordance with Appendix G of the State CEQA Guidelines, a project would have a significant impact related to transportation if it would:

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

Threshold (b): Conflict or be inconsistent with CEQA Guidelines Section 15064.3, subdivision (b);

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

Threshold (d): Result in inadequate emergency access.

4.11.5 Impacts and Mitigation Measures

Impact 4.11-1 *Would the Project conflict with a program, plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities?*

Level of Significance: Less than Significant

As noted in Section 5, CEQA Assessment – Active Transportation and Public Transit Analysis, of the TISG, in accordance with the CEQA Guidelines, a Transportation Impact Study should examine if a project is inconsistent with adopted policies, plans, or programs regarding active transportation or public transit facilities, or otherwise decreases the performance or safety of such facilities. However, the TISG does not include a list of transportation-related programs, plans, ordinances, and policies that should be consulted to identify the potential for conflicts with a project.

As stated within the TISG, a Transportation Impact Study is required if one or more of the following criteria is met:

- If a project generates 100 or more trips without consideration of pass-by trips during any peak hour.
- If a project is located within 300 feet of
 - The intersection of two streets designated as Collector or higher in the County’s General Plan or the Department’s Master Plan **or**
 - An impacted intersection as determined by the Traffic Division.
- If this project creates safety or operational concerns.
- The project has the potential to generate VMT that could result in a transportation impact as noted in the significance criteria presented within the TISG.
- If a project generates less than 100 trips without consideration of pass-by trips during any peak hour, a study may be required if there are special concerns.

As further detailed in the *Transportation Assessment Letter* and below, the Project is expected to generate approximately 40 trips per year associated with solar panel washing activities. The Project Site is also not located within 300 feet of an intersection of two Collector streets or higher, or any impacted intersections as determined by the Traffic Division. The Project is a utility-scale solar and energy storage facility and would not create safety or operational concerns. As described further below under Threshold (b), the Project would not generate VMT that would result in a significant impact. Therefore, the Project does not meet any of the screening criteria requiring that the Project complete a Transportation Impact Study.

The analysis below addresses whether the Project would conflict with a program, policy, plan, or ordinance addressing the circulation system, including transit, roadways, bicycle, and pedestrian facilities. The focus is on policies or standards adopted to protect the environment and those that support multimodal transportation options and a reduction in VMT. If a project does not implement a particular program, plan, policy, or ordinance, it would not necessarily result in a conflict as many of these programs

must be implemented by the County itself over time, and over a broad area. Rather, a project would result in a conflict if it would preclude the County from implementing adopted transportation-related programs, plans and policies. Furthermore, if a conflict is identified in association with a project, under CEQA, it would only equate to a significant impact if precluding implementation of a given program, plan and policy would foreseeably result in a physical impact on the environment.¹

Project construction is anticipated to be completed over a period of approximately 14 months, during which it was conservatively assumed that an average of 250 employees would travel to and from the Project Site on a daily basis Monday through Friday. This translates to approximately 500 daily vehicle trips during Project construction. The highest volume of construction-related traffic is expected during Project grading activities generating approximately 577 daily trips (500 employee trips and 77 truck trips) with 258 a.m. peak hour trips and 258 p.m. peak hour trips. Construction traffic is considered temporary (approximately 14 months) and is not expected to negatively affect current operations of the roadway network near the Project Site. The roadway network in the vicinity is characterized by free-flowing traffic conditions, with limited existing traffic.

As a standard condition of approval, and per comments received from the County Department of Public Works on the Conditional Use Permit (CUP) applications (Project #PROJ-2021-00029), the Project would be required to provide a Construction Traffic Management Plan (CTMP) to the County Department of Public Works, Transportation Operations Division prior to the issuance of grading permits. The CTMP will include the number of trucks, type of trucks (size), the total number of Equivalent Single Axle Loads, and planned truck routes to the Project Site during construction. This information will be used to determine if a maintenance agreement is required to ensure all County maintained roads utilized by Project construction traffic remain in acceptable condition during construction. In addition, Project construction traffic control measures, such as that listed below, would be included in the County-required CTMP:

- Timing the delivery of heavy equipment and building materials under the contractors' control during non-peak commute hours, to the extent feasible.
- Schedule construction traffic ingress/egress to not interfere with peak-hour traffic and to minimize traffic obstructions, to the extent feasible.
- Specifying oversize load haul routes.
- Directing construction traffic with a flag person, as needed.
- Placing temporary signing, lighting, and traffic control devices if required, including, but not limited to, appropriate signage along access routes to indicate the presence of heavy vehicles and construction traffic.
- Ensuring access for emergency vehicles to the Project Site.

¹ The rule of general plan consistency is that the project must at least be compatible with the objectives and policies of the general plan. See *Sequoyah Hills Homeowners Assn. v. City of Oakland* (1993) 23 Cal.App.4th 704, 717–718 [29 Cal. Rptr. 2d 182].

- Temporarily closing travel lanes or delaying traffic during materials delivery or any other utility connections, if required.
- Maintaining access to adjacent properties.

Implementation of the CTMP would ensure that Project construction would not result in any access or traffic issues on roads surrounding the Project Site, such that there would be a conflict with a program, plan, ordinance, or policy addressing the circulation system. Therefore, impacts during Project construction would be less than significant.

The Project is a utility-scale solar and energy storage facility. Existing operations and maintenance (O&M) buildings, warehouse and the employee building within the Shared Facilities Area would be shared by Lockhart Solar I Facility and Project operations staff. The County approved the Lockhart Solar I Facility (CUP Project #201900125) in 2019, which contemplated that existing SEGS operations staff would continue operation of the Lockhart Solar I Facility. Lockhart Solar I Facility operations staff would also support operations for the Project. Therefore, the Project would not generate additional daily or peak hour vehicle trips on the surrounding roadway network as a result of routine O&M. Solar panel washing is expected to occur one to four times per year and general labor (up to 10 individuals) may assist in the panel cleaning. Therefore, it was assumed that the Project would generate approximately 40 trips per year associated with solar panel washing activities. From a daily and peak hour perspective, these trips are considered nominal and would not be expected to impact the existing road network near the Project Site including Highway 58.

The roadway network in the vicinity is characterized by free-flowing traffic conditions, and vehicles on the roadway generally travel unimpeded by others. Therefore, traffic during Project operation would not conflict with the CMP standards.

Vehicular access to the Project Site is currently provided via existing access gates off of Hoffman Road at the southern end of the Shared Facilities Area as well as an existing access gate off of Harper Lake Road at the eastern end of the Project Site. While the existing access gates off of Hoffman Road at the southern end of the Shared Facilities Area would continue to be used as primary access, secondary access would be provided via an existing access gate off of the existing unnamed paved road along the southern property boundary of the SEGS IX facility site. Vehicles will enter at the existing SEGS IX gate and travel along the existing SEGS IX interior perimeter access road east and then north to a new gate at the southeastern corner of the Project Site (see Figure 3-4 in the Section 3.0, *Project Description*, of this Draft EIR). The existing access gate off of Harper Lake Road will be relocated internal to the SEGS IX fence line to provide operational access to the Project Site.

No public transit, pedestrian, or bicycle facilities currently exist on Hoffman Road, Harper Lake Road or in the vicinity of the Project Site. The Project would also not develop any new public roadways, transportation facilities, or transportation-related improvements.

As the Project would not develop a new roadway system or road improvements and would not bring additional employees to the Project Site, the Project would not conflict with any programs, plans,

ordinances, or policies related to transportation. Impacts during Project operation would be less than significant.

Impact 4.11-2 *Would the Project conflict or be inconsistent with CEQA Guidelines §15064.3, subdivision (b)?*

Level of Significance: Less than Significant

Impacts due to construction activities would be temporary and would not result in any meaningful long-term or permanent change in VMT; therefore, the evaluation of VMT is focused on Project operations. VMT primarily is a metric for assessing project-related GHG emissions impacts. The analysis related to GHG emissions associated with Project-related construction and operational traffic is provided in Section 4.7, *Greenhouse Gas Emissions*, of this Draft EIR. Overall, as the Project would generate clean renewable energy that would offset GHG emissions that would have otherwise resulted from producing energy from a non-renewable source, the Project will have a net beneficial impact in offsetting GHG emissions. This Draft EIR further addresses potential significant transportation impacts of all project vehicles, including construction vehicles, related to air quality, noise, and safety.

As previously stated under Section 4.11.3, *Regulatory Setting – Local – San Bernardino County Transportation Impact Study Guidelines*, according to the County’s TISG, land use projects that meet certain screening criteria are assumed to result in a less-than-significant transportation impact under CEQA and do not require a detailed quantitative VMT assessment. **Table 4.11-1: VMT Screening Criteria and Project Evaluation**, details the TISG screening criteria and whether the Project would meet the criteria.

Table 4.11-1: VMT Screening Criteria and Project Evaluation

Screening	Screening Criteria	Project Evaluation	Result
Local Community Projects	The following list of projects would be screened out: <ul style="list-style-type: none"> • K-12 Schools • Local-serving retail less than 50,000 SF • Local parks • Day care centers • Local serving gas stations • Local serving banks • Student housing projects • Local serving community colleges that are consistent with the assumptions noted in the RTP/SCS 	Project is a solar and energy storage facility and is not considered a local community project.	Does Not Meet Criteria
Trip Generation Threshold	Projects generating less than 110 daily vehicle trips such as: <ul style="list-style-type: none"> • 11 single family housing units • 16 multi-family, condominiums, or townhouse units • 10,000 SF of office • 15,000 SF of light industrial • 63,000 SF of warehouse 	Project generates less than 110 daily vehicle trips since the new trips generated by the Project is estimated at 40 trips per year for washing solar panels.	Criteria Is Met

Screening	Screening Criteria	Project Evaluation	Result
	<ul style="list-style-type: none"> 79,000 SF of high cube transload and short-term storage warehouse 12 hotel rooms 		
Transit Priority Area	Projects located within a Transit Priority Area (TPA) as determined by the most recent SCAG RTP/SCS.	As shown in Exhibit 3 of the Transportation Assessment Letter, the Project is not located within a TPA.	Does Not Meet Criteria
Low VMT Area	Projects located within a low VMT generating area as determined by the analyst based on the County’s VMT efficient area maps online at https://www.arcgis.com/apps/webappviewer/index.html?id=779a71bc659041ad995cd48d9ef4052b	As shown in Exhibit 3 of the Transportation Assessment Letter, the Project is not located within a low VMT generating area.	Does Not Meet Criteria

Source: Michael Baker International. 2021. Lockhart Solar PV II Project – Transportation Assessment Letter. Table 2.

The Project would generate less than 110 daily vehicle trips during Project operations. As such, the Project meets one of the screening criteria identified in the TISG, and a detailed quantitative VMT assessment is not required. Therefore, the Project is considered to have a less-than-significant VMT impact.

Impact 4.11-3 *Would the Project substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?*

Level of Significance: Less than Significant

The Project would not require improvements to existing offsite roads, develop new public roads or introduce new hazards to roads leading to the Project Site. Vehicular access to the Project Site would be provided via an existing access gate off of Hoffman Road at the southern end of the Shared Facilities Area (primary) and an existing access gate off of the existing unnamed paved road along the southern property boundary of the SEGS IX facility site traveling along the existing SEGS IX interior perimeter access road east and then north to a new gate at the southeastern corner of the Project Site (secondary) (see Figure 3-4 in the Section 3.0, *Project Description*, of this Draft EIR). The existing primary access points through the Shared Facilities Area would be used for construction vehicle and equipment ingress and egress. Both primary and secondary access points would remain in place during operation of the Project to support O&M activities as well as to maintain sufficient emergency access to the Project Site.

All perimeter and interior road networks would be designed to comply with fire access roadway widths as required by County Fire Code and County Code requirements. Lines of sight are not currently obstructed

for existing traffic and would not be altered by the Project. No public transit, pedestrian, or bicycle facilities currently exist on Harper Lake Road or in the vicinity of the Project Site. As the Project is adjacent to similar utility-scale renewable energy facilities, it would not be incompatible with the uses in the vicinity. Therefore, the Project would not substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses. Impacts would be less than significant.

Impact 4.11-4 *Would the Project result in inadequate emergency access?*

Level of Significance: Less than Significant

Because of the short-term nature of the construction activities, the Project's construction activities would not require a new, or significantly interfere with an existing risk management, emergency response, or evacuation plan. The Project includes implementation of a CTMP, which would be prepared and submitted for County review prior to commencement of construction activities. The CTMP would include construction traffic control measures to ensure that emergency access is maintained during Project construction. The CTMP will include implementation of safety measures such as directing construction traffic with a flag person (as needed to maintain safety adjacent to existing roadways), placing temporary traffic control signage along access routes to indicate the presence of heavy vehicles and construction traffic, ensure access for emergency vehicles to the Project Site. Therefore, the Project would not result in inadequate emergency access during construction, and any potential impacts would be less than significant.

The Project would not develop new public roads or introduce new hazards to roads leading to the Project Site. Vehicular access to the Project Site would be provided via primary and secondary access points described under Impact 4.11-3 (see Figure 3-4 in the Section 3.0, *Project Description*, of this Draft EIR). All emergency access would be provided via these two access points. All access roads interior to the Project Site would be constructed consistent with County Fire code. The Project would not result in inadequate emergency access during operation, and potential impacts would be less than significant.

4.11.6 Cumulative Impacts

Section 4.0, *Introduction to the Environmental Analysis*, of this Draft EIR provides a list of cumulative projects that would have the potential to be considered in a cumulative context with the Project's incremental contribution. These projects are summarized in *Table 4.0-1, Cumulative Projects*, and shown on **Figure 4.0-1, Cumulative Projects Map**. Each of the cumulative projects considered in this cumulative analysis of consistency with programs, plans, policies, and ordinances would be separately reviewed and approved by the County, including a review of consistency with applicable policies. As the Project would not be inconsistent and would not conflict with the programs, plans, policies, and ordinances that are analyzed above, the Project in combination with the cumulative projects would not create inconsistencies nor result in cumulative impacts with respect to the identified programs, plans, policies, and ordinances.

Similar to the Project, any cumulative project that would be subject to environmental review would be required to evaluate VMT on a project-by-project basis. If the cumulative project were determined to have potentially significant VMT impacts, it would be required to include appropriate mitigation measures to

reduce VMT impacts to a less-than-significant level. As the Project would result in a less-than-significant impact on VMT, the Project would similarly result in a less-than-significant impact on VMT in cumulative conditions, and further analysis is not necessary.

With regard to geometric hazards, the Project would not result in a significant impact due to a design feature. Each cumulative project would be reviewed by the County to ensure compliance with applicable County requirements relative to the provision of safe access for vehicles, pedestrian, and bicyclists. Furthermore, since modifications to access and circulation plans are largely confined to a project site and immediate surrounding area, a combination of impacts with other cumulative projects that could potentially lead to cumulative impacts is not expected. Therefore, the Project's potential contribution to cumulative impacts associated with hazardous design conditions would not be considerable.

With regard to emergency access, the Project would not result in a significant impact. The Project Site and the surrounding area are developed with existing roadway networks, with existing routes for emergency vehicles and evacuation. Similar to the Project, cumulative projects would likely implement a similar CTMP to include construction traffic measures to ensure adequate emergency access is maintained in and around the cumulative project sites throughout construction activities. Coordination of these plans will ensure construction activities of concurrent cumulative projects and associated hauling activities (if any) are managed in collaboration with one another and the Project. Therefore, the Project's potential contribution to cumulative impacts associated with emergency access would not be considerable.

4.11.7 Significant Unavoidable Impacts

The Project would not result in significant and unavoidable impacts related to transportation.

4.11.8 References

Michael Baker International. 2021. *Lockhart Solar PV II Project – Transportation Assessment Letter*. October 13, 2021.

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4.12 TRIBAL CULTURAL RESOURCES

4.12.1 Introduction

This section addresses the Project's potential impacts to tribal cultural resources. Tribal cultural resources are generally described as sites, features, places, cultural landscapes, sacred places, and objects with cultural value to a California Native American tribe and are further defined in Public Resources Code (PRC) Section 21074(a)(1)(A)-(B).

The analysis in this section is primarily based on the *Cultural Resources Assessment* (see Appendix E), the San Bernardino Countywide Policy Plan (2020), and consultation with applicable agencies and Native American tribes.

4.12.2 Environmental Setting

Ethnographic Setting

According to the *Cultural Resources Assessment*, the Uto-Aztecan "Serrano" people occupied the western Mojave Desert periphery. The generic term "Serrano" applied to four groups, each with distinctive territories: the Kitanemuk, Tataviam, Vanyume, and Serrano. Only one group ethnically claims the term Serrano, and they are located in the San Bernardino Mountains and West-Central Mojave Desert. The Takic people lived along the Mojave River; the Tataviam lived to the west; and the Kitanemuk lived to the north and west. All groups of people may have used the Western Mojave depending on the season.

Evidence for longer term/permanent Serrano settlement in the Mojave most notably includes the Serrano-named village of Guapiabit in Summit Valley. Proximity to water was an important factor in the location of Serrano Villages. As a result, many Serrano villages were in the forest transition zone. The Serrano and other nearby tribes were Takic speakers and often engaged in trade. The Serrano lived in circular domes made of willow and tule. Many families spent much of their time outside under a ramada, which helped to provide shade. The Serrano fished, gathered, and hunted to provide food. Food was then prepared by baking and parching. Serrano clans were led by hereditary chiefs who lived in the main house of the village.

Existing Tribal Cultural Resources

A request for a Sacred Lands File (SLF) Search was submitted to the California Native American Heritage Commission (NAHC) on May 6, 2020. The results returned negative and did not indicate the presence of tribal cultural resources or cultural landscapes at the Project Site.

The County began the AB 52 Native American Consultation on April 29, 2021. The County submitted a Notice of Opportunity to consult to the following tribes that had previously requested notification projects and based on County and NAHC records:

- Twenty-Nine Palms Band of Mission Indians
- Colorado River Indian Tribes
- Fort Mojave Indian Tribe
- Morongo Band of Mission Indians
- San Manuel Band of Mission Indians
- Soboba Band of Luiseno Indians

The County received a response from the San Manuel Band of Mission Indians (SMBMI) on May 11, 2021 indicating the SMBMI had an interest in the Project at the time. To date, no other responses from the Native American community have been received as part of the AB 52 tribal consultation effort.

The SMBMI is a sovereign American Indian tribe of Serrano people in San Bernardino County, California. During consultation with the County, and after reviewing the *Cultural Resources Assessment* prepared for the Project (included in Appendix E), the SMBMI did not identify any known tribal cultural resources (as defined in PRC Section 21074) within the Project Site and concurred with the findings of the Cultural Resources Assessment. The SMBMI requested preferred tribal mitigation measures be implemented during construction of the Project. These mitigation measures are discussed below and in Section 4.4, *Cultural Resources*.

4.12.3 Regulatory Setting

Federal

Native American Graves Protection and Repatriation Act of 1990

The Native American Graves Protection and Repatriation Act of 1990 sets provisions for the intentional removal and inadvertent discovery of human remains and other cultural items from federal and tribal lands. It clarifies the ownership of human remains and sets forth a process for repatriation of human remains, associated funerary objects, and sacred religious objects to the Native American groups claiming to be lineal descendants or culturally affiliated with the remains or objects. It requires any federally funded institution housing Native American remains or artifacts to compile an inventory of all cultural items within the museum or with its agency and to provide a summary to any Native American tribe claiming affiliation.

National Park Service – National Register Bulletin 38

National Park Service has prepared guidelines to assist in the documentation of Traditional Cultural Properties (TCPs) by public entities. National Register Bulletin 38 is intended to be an aid in determining whether properties have traditional cultural significance and if they are eligible for inclusion in the National Register of Historic Places (National Register). It is also intended to assist federal agencies, State Historic Preservation Officers (SHPOs), Certified Local Governments, tribes, and other historic preservation practitioners who need to evaluate such properties when considering their eligibility for the

National Register as part of the review process prescribed by the Advisory Council on Historic Preservation (ACHP).

TCPs are a broad group of places that can include:

- location associated with the traditional beliefs of a Native American group about its origins, its cultural history, or the nature of the world;
- rural community whose organization, buildings and structures, or patterns of land use reflect the cultural traditions valued by its long-term residents;
- an urban neighborhood that is the traditional home of a particular cultural group, and that reflects its beliefs and practices;
- location where Native American religious practitioners have historically gone, and are known or thought to go today, to perform ceremonial activities in accordance with traditional cultural rules of practice; and
- location where a community has traditionally carried out economic, artistic, or other cultural practices important in maintaining its historic identity.

State

Native American Heritage Commission (NAHC)

PRC Section 5097.91 established the NAHC, the duties of which include inventorying places of religious or social significance to Native Americans and identifying known graves and cemeteries of Native Americans on private lands. PRC Section 5097.98 specifies a protocol to be followed when the NAHC receives notification of a discovery of Native American human remains from a county coroner.

California Public Records Act

Sections 6254(r) and 6254.10 of the California Public Records Act (Government Code Section 6250 et seq.) were enacted to protect archaeological sites from unauthorized excavation, looting, or vandalism. Section 6254(r) explicitly authorizes public agencies to withhold information from the public relating to “Native American graves, cemeteries, and sacred places and records of Native American places, features, and objects...maintained by, ..., the Native American Heritage Commission....” Section 6254.10 specifically exempts from disclosure requests for “records that relate to archaeological site information and reports maintained by, or in the possession of, the Department of Parks and Recreation, the State Historical Resources Commission, the State Lands Commission, the [NAHC], another state agency, or a local agency, including the records that the agency obtains through a consultation process between a California Native American tribe and a state or local agency.”

Assembly Bill (AB) 52

AB 52 was approved by California State Governor Edmund Gerry “Jerry” Brown, Jr. on September 25, 2014. The act amended California PRC Section 5097.94, and added PRC Sections 21073, 21074, 21080.3.1, 21080.3.2, 21082.3, 21083.09, 21084.2, and 21084.3. AB 52 applies specifically to projects for which a

Notice of Preparation (NOP) or a Notice of Intent to Adopt a Negative Declaration or Mitigated Negative Declaration (MND) will be filed on or after July 1, 2015. The primary intent of AB 52 was to include California Native American Tribes early in the environmental review process and to establish a new category of resources related to Native Americans that require consideration under CEQA, known as tribal cultural resources. PRC Section 21074(a)(1) and (2) defines tribal cultural resources as “sites, features, places, cultural landscapes, sacred places, and objects with cultural value to a California Native American Tribe” that are either included or determined to be eligible for inclusion in the California Register or included in a local register of historical resources, or a resource that is determined to be a tribal cultural resource by a lead agency, in its discretion and supported by substantial evidence. On July 30, 2016, the California Natural Resources Agency adopted the final text for tribal cultural resources update to Appendix G of the CEQA Guidelines, which was approved by the Office of Administrative Law on September 27, 2016.

PRC Section 21080.3.1 requires that within 14 days of a lead agency determining that an application for a project is complete, or a decision by a public agency to undertake a project, the lead agency provide formal notification to the designated contact, or a tribal representative, of California Native American Tribes that are traditionally and culturally affiliated with the geographic area of the project (as defined in PRC Section 21073) and who have requested in writing to be informed by the lead agency (PRC Section 21080.3.1(b)). Tribes interested in consultation must respond in writing within 30 days from receipt of the lead agency’s formal notification and the lead agency must begin consultation within 30 days of receiving the tribe’s request for consultation (PRC Sections 21080.3.1(d) and 21080.3.1(e)). PRC Section 21080.3.2(a) identifies the following as potential consultation discussion topics: the type of environmental review necessary; the significance of tribal cultural resources; the significance of the project’s impacts on the tribal cultural resources; project alternatives or appropriate measures for preservation; and mitigation measures. Consultation is considered concluded when either: (1) the parties agree to measures to mitigate or avoid a significant effect, if a significant effect exists, on a tribal cultural resource; or (2) a party, acting in good faith and after reasonable effort, concludes that mutual agreement cannot be reached (PRC Section 21080.3.2(b)).

If a California Native American tribe has requested consultation pursuant to Section 21080.3.1 and has failed to provide comments to the lead agency, or otherwise failed to engage in the consultation process, or if the lead agency has complied with Section 21080.3.1(d) and the California Native American tribe has failed to request consultation within 30 days, the lead agency may certify an EIR or adopt an MND (PRC Section 21082.3(d)(2) and (3)).

PRC Section 21082.3(c)(1) states that any information, including, but not limited to, the location, description, and use of the tribal cultural resources, that is submitted by a California Native American tribe during the environmental review process shall not be included in the environmental document or otherwise disclosed by the lead agency or any other public agency to the public without the prior consent of the tribe that provided the information. If the lead agency publishes any information submitted by a California Native American tribe during the consultation or environmental review process, that information shall be published in a confidential appendix to the environmental document unless the tribe

that provided the information consents, in writing, to the disclosure of some or all of the information to the public.

Local

San Bernardino County Countywide Plan/Policy Plan

The County adopted the Countywide Plan/Policy Plan (Policy Plan) in October 2020. The Policy Plan provides an update of the County's General Plan addressing physical, social and economic issues facing the unincorporated portions of the County. The Policy Plan also provides an expansion of the County's General Plan to address supportive service for adults and children, healthcare service, public safety, and other regional county services provided to both incorporated and unincorporated areas.

Relevant policies from the Cultural Resources Element are as follows:

- Goal CR-1** Tribal cultural resources that are preserved and celebrated out of respect for Native American beliefs and traditions.
- Policy CR-1.1** **Tribal notification and coordination.** We notify and coordinate with tribal representatives in accordance with state and federal laws to strengthen our working relationship with area tribes, avoid inadvertent discoveries of Native American archaeological sites and burials, assist with the treatment and disposition of inadvertent discoveries, and explore options of avoidance of cultural resources early in the planning process.
- Policy CR-1.2** **Tribal planning.** We will collaborate with local tribes on countywide planning efforts and, as permitted or required, planning efforts initiated by local tribes.
- Policy CR-1.3** **Mitigation and avoidance.** We consult with local tribes to establish appropriate project-specific mitigation measures and resource-specific treatment of potential cultural resources. We require project applicants to design projects to avoid known tribal cultural resources, whenever possible. If avoidance is not possible, we require appropriate mitigation to minimize project impacts on tribal cultural resources.
- Policy CR-1.4** **Resource monitoring.** We encourage coordination with and active participation by local tribes as monitors in surveys, testing, excavation, and grading phases of development projects with potential impacts on tribal resources.

4.12.4 Impact Thresholds and Significance Criteria

In accordance with Appendix G of the State CEQA Guidelines, a project would have a significant impact related to tribal cultural resources if it would cause a substantial adverse change in the significance of a tribal cultural resource, defined in PRC Section 21074 as either a site, feature, place, cultural landscape that is geographically defined in terms of size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:

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

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

4.12.5 Impacts and Mitigation Measures

Impact 4.12-1 *Would the Project be developed in an area listed or eligible for listing in the California Register of Historical Resources, or in a local register of historical resources as defined in Public Resources Code §5020.1(k)?*

Impact 4.12-2 *Would the Project contain a resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code §5024.1. In applying the criteria set forth in subdivision (c) of Public Resources Code §5024.1, the lead agency shall consider the significance of the resource to a California Native American tribe?*

Level of Significance: Less than Significant with Mitigation Incorporated

Tribal cultural resources, as defined in PRC Section 5020.1(k), have not been previously identified within the Project Site and are considered unlikely to be present given the historical use of the Project Site.

As previously noted under Subsection 4.12.2, *Environmental Setting*, the SLF search results returned negative and did not indicate the presence of tribal cultural resources or cultural landscapes at the Project Site. Additionally, as discussed in the *Cultural Resources Assessment*, the resources identified are not recommended “historical resources” or “archaeological resources” under CEQA. As a result of the County’s consultation efforts and other archival research, no known tribal cultural resources or tribal cultural places have been identified within the Project Site or immediate vicinity. Therefore, the Project would result in no impacts to tribal cultural resources.

The Project Site has been subject to near complete surface disturbance associated with past agricultural use, grading during partial construction of the SEGS X facility that was initiated in the early 1990s and halted in 1991, as well as construction of the Shared Facilities Area for the existing SEGS VIII and IX Solar Thermal Power Plants. The Project Site does not contain any existing structures or extant historical tribal cultural resources with the potential for inclusion on the California Register of Historical Resources or a local register. However, the potential exists that there may be undiscovered tribal cultural resources that could be unearthed during ground-disturbing activities during Project construction. Therefore, as there is potential for ground-disturbing activities to encounter buried or unknown tribal cultural resources, impacts would be considered potentially significant. The Project would be required to implement **Mitigation Measures TCR-1 and TCR-2** to reduce potential impacts to tribal cultural resources to a less-than-significant level during Project construction.

Mitigation Measures

TCR-1 The San Manuel Band of Mission Indians Cultural Resources Department (SMBMI) shall be contacted, as detailed in Mitigation Measure CUL-1, if any pre-contact and/or post-contact cultural resources is discovered during Project implementation and be provided information regarding the nature of the find so as to provide Tribal input with regards to significance and treatment. Should the discovery be deemed significant, as defined by the California Environmental Quality Act, a Cultural Resources Monitoring and Treatment Plan shall be created by a Qualified Archaeologist, in coordination with SMBMI and the County Planning Department, and all subsequent finds shall be subject to this Plan. This Plan shall allow for a monitor to represent SMBMI for the remainder of the Project, should SMBMI elect to place a monitor on-site.

If a pre-contact cultural resource is discovered during Project implementation, the following actions are required:

- (a) Ground-disturbing activities shall be suspended 60 feet around the resource(s), and an Environmentally Sensitive Area (ESA) physical demarcation/barrier constructed;
- (b) The County shall develop a research design that shall include a plan to evaluate the resource for significance under CEQA criteria. Representatives from the SMBMI Cultural Resources Department, the Applicant, and the County shall confer regarding the research design, as well as any testing efforts needed to delineate the resource boundary. Following the completion of evaluation efforts, all parties shall confer regarding the resource's archaeological significance, its potential as a Tribal Cultural Resource (TCR), and avoidance (or other appropriate treatment) of the discovered resource.

Should any significant resource and/or TCR not be a candidate for avoidance or preservation in place, and the removal of the resource(s) is necessary to mitigate impacts, the research design shall include a comprehensive discussion of sampling strategies, resource processing, analysis, and reporting protocols/obligations. Removal of any cultural resource(s) shall be conducted with the presence of a Tribal monitor representing the Tribe unless otherwise decided by SMBMI. All plans for analysis shall be reviewed and approved by the Applicant and SMBMI prior to implementation, and all removed material shall be temporarily curated on-site. SMBMI has indicated it is the preference of SMBMI that removed cultural material be reburied as close to the original find location as possible. However, should reburial within/near the original find location during Project implementation not be feasible, then a reburial location for future reburial shall be decided upon by SMBMI, the landowner, and the County, and all finds shall be reburied within this location. Additionally, in this case, reburial shall not occur until all ground-disturbing activities associated with the Project have been completed, all monitoring has ceased, all cataloging and basic recordation of cultural resources have been completed, and a final monitoring report has been issued to the County, CHRIS, and SMBMI. All reburials are subject to a reburial agreement that shall be developed between the landowner and SMBMI outlining the determined reburial process/location and shall

include measures and provisions to protect the reburial area from any future impacts (vis a vis project plans, conservation/preservation easements, etc.).

Should it occur that avoidance, preservation in place, and on-site reburial are not an option for treatment, the landowner shall relinquish all ownership and rights to this material and confer with SMBMI to identify an American Association of Museums (AAM)-accredited facility within the County that can accession the materials into their permanent collections and provide for the proper care of these objects in accordance with the 1993 CA Curation Guidelines. A curation agreement with an appropriately qualified repository shall be developed between the landowner and museum that legally and physically transfers the collections and associated records to the facility. This agreement shall stipulate the payment of fees necessary for permanent curation of the collections and associated records and the Applicant's obligation to pay for those fees.

All draft records/reports containing the significance and treatment findings and data recovery results shall be prepared by the archaeologist and submitted to the County and SMBMI for their review and comment. After approval from all parties, the final reports and site/isolate records are to be submitted to the local CHRIS Information Center, the County, and SMBMI.

Inadvertent Discovery Guideline

1. In the event that cultural resources are discovered during Project activities, all work in the immediate vicinity of the find (within a 60-foot buffer) shall cease, and a qualified archaeologist meeting Secretary of Interior standards shall be hired to assess the find. Work on the other portions of the Project outside of the buffered area may continue during this assessment period. Additionally, the SMBMI shall be contacted regarding any pre-contact and/or post-contact finds and be provided information after the archaeologist makes his/her initial assessment of the nature of the find, so as to provide Tribal input with regards to significance and treatment.
2. If significant pre-contact and/or post-contact cultural resources, as defined by CEQA (as amended, 2015), are discovered, and avoidance cannot be ensured, the archaeologist shall develop a Monitoring and Treatment Plan, the drafts of which shall be provided to SMBMI for review and comment. The archaeologist shall monitor the remainder of the Project and implement the plan accordingly.
3. If human remains or funerary objects are encountered during any activities associated with the Project, work in the immediate vicinity (within a 100-foot buffer of the find) shall cease, and the County Coroner shall be contacted pursuant to State Health and Safety Code §7050.5 and that code enforced for the duration of the Project.

TCR-2

Any and all archaeological/cultural documents created as a part of the Project (isolate records, site records, survey reports, testing reports, etc.) shall be supplied to the Applicant and County for dissemination to the SMBMI. The County and/or Applicant shall, in good faith, consult with SMBMI throughout the life of the Project.

4.12.6 Cumulative Impacts

Section 4.0, *Introduction to the Environmental Analysis*, of this Draft EIR provides a list of cumulative projects that would have the potential to be considered in a cumulative context with the Project's incremental contribution. These projects are summarized in **Table 4.0-1: Cumulative Projects** and shown in **Figure 4.0-1: Cumulative Projects Map**.

Ongoing development and growth in the broader area and in the Project vicinity may result in a cumulatively significant impact to tribal cultural resources due to the continuing disturbance of undeveloped areas, which could potentially contain significant, buried archaeological or tribal cultural resources, or transform an area related to tribal cultural history.

Because there is always a potential to encounter undiscovered tribal cultural resources during construction activities, no matter the location or sensitivity of a particular site, Mitigation Measures TCR-1 and TCR-2 have been included to and would serve to protect, preserve, and maintain the integrity and significance of cultural or tribal cultural resources in the event of the unanticipated discovery of a resource.

The individual, Project-level impacts were found to be less than significant with incorporation of two mitigation measures, and the Project would be required by law to comply with all applicable federal, State, and local requirements related to historical, archaeological and tribal cultural resources. Other related cumulative projects would similarly be required to comply with all such requirements and regulations, to be consistent with the provisions set forth by CEQA, and to implement all feasible mitigation measures should a significant project-related or cumulative impact be identified. Impacts would be less than significant in this regard and additional mitigation is not required.

4.12.7 Significant Unavoidable Impacts

The Project would not result in any significant and unavoidable impacts related to tribal cultural resources.

4.12.8 References

BCR Consulting, LLC. 2021. *Cultural Resources Assessment - Lockhart Solar PV II Project*. May 24, 2021.

San Bernardino County. 2020. *Countywide Plan: County Policy Plan*. October 2020. Available at http://countywideplan.com/wp-content/uploads/2020/12/CWP_PolicyPlan_20201027_adopted.pdf. Accessed August 18, 2021.

San Manuel Band of Mission Indians. 2021. Available at <https://sanmanuel-nsn.gov/culture/history>. Accessed September 6, 2021.

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4.13 UTILITIES AND SERVICE SYSTEMS – WATER SUPPLY

4.13.1 Introduction

This section evaluates the potential impacts on water infrastructure and water supply that may result from construction and or operation of the Project. This discussion quantifies the Project's water demand and evaluates the ability of the local municipal water infrastructure and water supply to meet this demand. The analysis in this section is based on the *Water Supply Assessment* (see Appendix M).

Impacts related to solid waste and wastewater treatment, electric power, natural gas, and telecommunications facilities are provided within Section 7.0, *Effects Found Not to be Significant*, of this Draft EIR. Impacts related to storm water drainage are provided in Section 4.9, *Hydrology and Water Quality*, of this Draft EIR.

4.13.2 Environmental Setting

The Project Site is bordered on the south by the existing Solar Energy Generating System (SEGS) VIII and IX Solar Thermal Power Plants, which the County approved for repowering to photovoltaic (PV) solar and battery storage in 2019 as part of the Lockhart Solar I Facility (CUP Project #201900125 approved in 2019); Harper Lake Road to the east; Hoffman Road to the west; and vacant land to the north.

During the early 1990s, construction of the SEGS X solar thermal facility was initiated on the Project Site. SEGS X was part of a series of three solar thermal power plants certified by the California Energy Commission (CEC) which were to be built adjacent to each other in order to share supporting facilities. SEGS X was fully permitted and certified as an 80 megawatts (MW) solar thermal facility. Approximately 600-acres were identified for the SEGS X power plant including land for associated facilities to be shared with the two adjacent solar thermal power plants (SEGS VIII and IX). In 1991, the SEGS X owner was unable to continue construction due to lack of financing and construction was halted. Prior to work stoppage, several concrete foundations for the power block as well as concrete foundations for solar racking had been installed in portions of the Project Site, and currently remain on site. The Project Site has been subject to near complete surface disturbance associated with past agricultural use, grading and partial construction of the SEGS X facility, as well as construction of the Shared Facilities Area for the existing SEGS VIII and IX Solar Thermal Power Plants.

Water Infrastructure

Four existing groundwater wells were originally installed to provide non-potable water supply to the previously approved and existing SEGS facilities. Two groundwater wells, along with existing SEGS VIII and IX operations and maintenance (O&M) buildings, warehouse and the employee building, are located within the Shared Facilities Area. Two additional groundwater wells are located within the SEGS IX site. The wells depend on groundwater supply drawn from the adjudicated Mojave Basin Area, which is managed by the Mojave Water Agency (MWA). These existing groundwater wells pump water from the Harper Valley Groundwater Basin.

Water Supply

MWA has an approximate water service area of 4,900 square miles in eastern San Bernardino County, California. MWA service area is part of the Mojave Desert, known as the driest desert in North America, and supports large communities with significant water demands. The MWA was appointed as the Watermaster over the Mojave Basin Area Adjudication, which divided the Mojave Basin Area into five hydrologic subareas: Este (East Basin), Oeste (West Basin), Alto (Upper Basin), Centro (Middle Basin) and Baja (Lower Basin). As the Watermaster, MWA is responsible for managing water resources, maintaining water quality, and promoting efficient use of local water supplies through conservation programs and public awareness.

In addition to being the Watermaster for the Mojave Basin Area Adjudication, MWA is a State Water Project (SWP) contractor, administrator for the Warren Valley Basin Judgment, and a wholesale water supplier to numerous retail water purveyors that provide water service to communities within MWA service area. The SWP is the largest state-built, multi-purpose water project in the country. MWA imports water from the California Aqueduct to recharge the groundwater basins. As a SWP contractor, MWA is entitled to receive annual allotment amounts of water from the California Aqueduct. Since most of MWA's water supply is sourced from groundwater basins, subbasins, and aquifers within the Mojave Basin Area, MWA developed two pipelines aimed to deliver additional water supply from outside the MWA service area. The Morongo Basin Pipeline, which was completed in 1995, supplies more than 60,000 people in Morongo Basin. In 2006, the Mojave River Pipeline was completed to provide critical recharge to the Mojave River Basin, running 76 miles with the ability to deliver up to 45,000 acre-feet (AF) of water per year.

Groundwater

Managed groundwater is the primary source of water supply within MWA service area. MWA derives its water supply almost entirely from managed groundwater resources from the Mojave River Groundwater Basin, commonly referred to as the Mojave Basin Area. Multiple subbasins comprise the Mojave Groundwater Basin that supply various portions of MWA service area. The Mojave Basin Area expands to approximately 3,400 square miles and is bounded by the San Bernardino and San Gabriel Mountains, Afton Canyon, Lucerne Valley, and the Antelope Valley. The primary source of groundwater recharge in the Mojave River Groundwater Basin is water flow from the Mojave River, which originates from the San Bernardino Mountains, and imported water from the SWP.

There are three adjacent groundwater basins that drain along the Mojave River – the Upper, Middle, and Lower Mojave Valley Groundwater Basins. These basins underlie approximately 910,000 acres with boundaries extending to the Shadow Mountains, El Mirage Valley, and Harper Valley. The basin recharge occurs by surface water infiltration and by artificial recharge. The Mojave River Pipeline and the Morongo Pipeline are responsible for delivering imported water from the California Aqueduct to the Mojave Desert Region. Groundwater is discharged from the Mojave Basin Area primarily by well pumping, evaporation through soil, transpiration by plants, seepage into dry lakes where accumulated water evaporates, and seepage into the Mojave River. The Project is located within the Centro (Middle Basin) subarea, which

draws its water supply entirely from the Harper Valley Groundwater Basin, a subbasin of the Mojave Groundwater Basin.

The Harper Valley Groundwater Basin encompasses 640 square miles and underlies Harper Valley in western San Bernardino and eastern Kern Counties of the central Mojave Desert. The total capacity of the Harper Valley Groundwater Basin is approximately 6,975,000 AF. A majority of the Harper Valley Groundwater Basin is considered unconfined and allows recharge via rainfall infiltration and percolation of surface runoff through the edges of Harper Valley. Confined conditions are found near Harper Lake. The Harper Valley Groundwater Basin also receives groundwater flow from Middle Mojave River Valley and Cuddeback Valley groundwater basins that are regularly recharged by MWA.

Given the history of California’s depleting groundwater stores and the resulting legal regulations, MWA must purchase and import water into its service area to replenish its extracted groundwater. The water used to recharge groundwater basins include SWP water, return flow, and wastewater imports. However, MWA’s total managed groundwater supplies also include natural supplies and stored water, described in more detail below.

A portion of MWA’s groundwater comes from natural supplies fed by percolated stream flow or natural runoff as well as infiltrating precipitation. MWA estimates an available natural supply of approximately 57,349 AF per year. As depicted in **Table 4.13-1: MWA Natural Supplies from 2025-2045** and in the MWA’s 2020 Urban Water Management Plan (UWMP), despite annual variations in natural supplies, MWA projects long-term averages to be relatively constant.

Table 4.13-1: MWA Natural Supplies from 2025-2045 (in AF)

Total Supply		2025	2030	2035	2040	2045
Normal		57,349	57,349	57,349	57,349	57,349
Single-Dry Year		57,349	57,349	57,349	57,349	57,349
Multi-Year Drought	Year 1	57,349	57,349	57,349	57,349	57,349
	Year 2	57,349	57,349	57,349	57,349	57,349
	Year 3	57,349	57,349	57,349	57,349	57,349
	Year 4	57,349	57,349	57,349	57,349	57,349
	Year 5	57,349	57,349	57,349	57,349	57,349

Source: 2020 UWMP (MWA), Table 3-14

Return flows are described as “percolated supplies that are derived from non-consumptive uses including septic system percolation, applied irrigation water, treated wastewater, and returns through storm drains or non-revenue water supplies.” MWA estimates, on a regional basis, 42 percent of groundwater production to be return flow. **Table 4.13-2: MWA Return Flow Supplies from 2025-2045** is a summary of return flow supplies calculated as a percentage of the previous year’s water production for each water use category over the 20-year planning horizon.

Table 4.13-2: MWA Return Flow Supplies from 2025-2045 (in AF)

Total Supply		2025	2030	2035	2040	2045
Normal		47,655	49,913	51,180	52,454	53,865
Single-Dry Year		47,655	49,913	51,180	52,454	53,865
Multi-Year Drought	Year 1	47,655	49,913	51,180	52,454	53,865
	Year 2	47,655	49,913	51,180	52,454	53,865
	Year 3	47,655	49,913	51,180	52,454	53,865
	Year 4	47,655	49,913	51,180	52,454	53,865
	Year 5	47,655	49,913	51,180	52,454	53,865

Source: 2020 UWMP (MWA), Table 3-15

Treated wastewater effluent is imported from three wastewater entities including the Lake Arrowhead Community Services District, Big Bear Area Wastewater Agency, and the Crestline Sanitation District. Wastewater imports represent a small percentage of MWA’s overall water supply portfolio. **Table 4.13-3: MWA Imported Wastewater Supplies from 2025-2045** shows the long-term available imported wastewater supply.

Table 4.13-3: MWA Imported Wastewater Supplies from 2025-2045 (in AF)

Total Supply		2025	2030	2035	2040	2045
Normal		2,800	2,800	2,800	2,800	2,800
Single-Dry Year		2,800	2,800	2,800	2,800	2,800
Multi-Year Drought	Year 1	2,800	2,800	2,800	2,800	2,800
	Year 2	2,800	2,800	2,800	2,800	2,800
	Year 3	2,800	2,800	2,800	2,800	2,800
	Year 4	2,800	2,800	2,800	2,800	2,800
	Year 5	2,800	2,800	2,800	2,800	2,800

Source: 2020 UWMP (MWA), Table 3-16

Surface Water Supply

The SWP grants MWA an appropriative water right to annual allotments under certain terms and conditions. MWA is among 29 other water agencies who are contracted with the California Department of Water Resources (DWR) under the SWP. The SWP was originally expected to provide up to 4.23 million AF of water per year, by way of 28 dams and reservoirs, 26 pumping facilities, and approximately 660 miles of aqueducts. Currently, the SWP’s maximum water supply availability totals 4.133 million AF. However, SWP water deliveries are typically less than 100 percent of a participating agency’s maximum allocation amount, which DWR suggests will continue in the future. **Table 4.13-4: SWP Entitlement and Deliveries to MWA** details the variations of MWA’s actual annual SWP water deliveries compared to their maximum contracted amount. Variations in SWP allocations can typically be associated with hydrology, water storage, and regulatory criteria.

Table 4.13-4: SWP Entitlement and Deliveries (in AF) to MWA

Year	SWP Entitlement	Percent Allocation	Actual Allocation Amount
2010	82,800	50%	41,400
2011	82,800	80%	66,240
2012	82,800	65%	53,820
2013	82,800	35%	28,980
2014	82,800	5%	4,140
2015	85,800	20%	17,160
2016	85,800	60%	51,480
2017	85,800	85%	72,930
2018	85,800	35%	30,030
2019	85,800	75%	64,350
2020	89,800	20%	17,960

Source: 2020 UWMP (MWA), Table 3-1

Table 4.13-5: Future SWP Allocations by Year Type illustrates the current SWP allocation by hydrologic year type, during normal year, single-dry year, and multi-year drought. MWA used the single lowest historical SWP allocation to date to inform drought planning projections for a single-dry year, which occurred in 2014 at 5 percent allocation. MWA characterizes the multi-year drought as a critical drought over five consecutive years with two extreme drought years (5 percent of maximum SWP entitlement).

Table 4.13-5: Future SWP Allocations by Year Type (in AF)

Year		SWP Contract Table A	Percent Allocation	Allocation Amount
Normal		89,800	58%	52,084
Single-Dry		89,800	5%	4,490
Multi-Year Drought	2021 (1st year)	89,800	35%	31,430
	2022 (2nd year)	89,800	5%	4,490
	2023 (3rd year)	89,800	5%	4,490
	2024 (4th year)	89,800	20%	17,960
	2025 (5th year)	89,800	35%	31,430

Source: 2020 UWMP (MWA), Table 3-4

SWP deliveries are projected to trend downward over the 20-year planning horizon. According to MWA’s 2020 UWMP, the SWP percentage of actual water deliveries to maximum entitlements averaged 58 percent in 2020 and is projected to decline to 52 percent by 2040. **Table 4.13-6: Future SWP Allocations by Year Type from 2025-2045** summarizes MWA’s projected SWP allocations by year type over the 20-year planning horizon and depicts this general downward trend during “normal” year deliveries over the 20-year planning horizon.

According to MWA’s 2020 UWMP, the long-term reliability of SWP allocation amounts is affected by numerous hydrological and regulatory issues, which are incorporated into MWA’s planning and supply characterizations.

Table 4.13-6: Future SWP Allocations by Year Type from 2025-2045 (in AF)

Total Supply		2025	2030	2035	2040	2045
Normal		50,737	49,390	48,043	46,696	46,696
Single-Dry Year		4,490	4,490	4,490	4,490	4,490
Multi-Year Drought	Year 1	31,430	31,430	31,430	31,430	31,430
	Year 2	4,490	4,490	4,490	4,490	4,490
	Year 3	4,490	4,490	4,490	4,490	4,490
	Year 4	17,960	17,960	17,960	17,960	17,960
	Year 5	31,430	31,430	31,430	31,430	31,430

Source: 2020 UWMP (MWA), Table 3-5

Stored Water

Fluctuations in annual SWP allocations during dry periods are mitigated by MWA’s water storage capacity. MWA can choose to forego SWP delivery of a portion of their allocated supply to store water for future use. This stored supply is known as “carryover” and is held in the San Luis Reservoir located in the City of Santa Nella. All SWP contractors can utilize carryover but the amount allowed is regulated and is subject to change in any given year. Based on historical averages, MWA has conservatively projected carryover supplies to be approximately 20,000 AF during a “normal” year and to be approximately 2,000 AF during a “dry” year.

MWA also imports water to be recharged within its adjudicated basins. As of September 2020, the total stored water within the MWA service area was 191,915 AF. This process is known as groundwater banking. According to the Mojave Basin Adjudication, MWA must use what is currently banked by 2036. However, MWA plans to extend this timeline by continuing to replenish banked supplies.

MWA’s stored groundwater budget, which includes groundwater stored in local basins and SWP carryover, is conservatively estimated to be 200,000 AF. MWA projects their baseline storage to remain constant over the 20-year planning horizon and plans to continue to employ necessary groundwater management practices to mitigate impacts of extended dry periods.

Water Demand

Approximately every five years, MWA calculates projected water demands within its service area for planning purposes as part of the UWMP. **Table 4.13-7: Existing and Projected Future Water Demands from 2020-2045** summarizes the existing and projected water demands within the MWA service area for the twelve large water retailers, small potable water systems and domestic users, agricultural users, and other users including golf courses, industry, and recreational users. MWA anticipates a stable increase in water use in line with increases to land use and population growth.

Table 4.13-7: Existing and Projected Future Water Demands from 2020-2045 (in AF)

Water Use Category	2020	2025	2030	2035	2040	2045
Large Retailer	69,900	74,900	79,100	81,400	83,600	86,200
Small Water Systems and Rural Domestic	11,100	13,500	13,800	14,000	14,200	14,500
Other (industrial, golf course, recreational)	21,800	21,800	21,800	21,800	21,800	21,800
Agricultural	26,600	20,600	20,600	20,600	20,600	20,600
Total Water Demands	129,400	130,800	135,300	137,800	140,200	143,100

Source: 2020 UWMP (MWA), Table 4-3

Supply and Demand Comparison

MWA defines a normal year condition as one that allows the agency to obtain water supplies from all sources under its water supply portfolio under normalized conditions. **Table 4.13-8: Normal Year Water Supply and Demand from 2025-2045** compares the supply and demand during a normal year hydrologic condition and demonstrates MWA's ability to capture and store excess water for later use during periods of water shortage.

Table 4.13-8: Normal Year Water Supply and Demand from 2025-2045

Normal Year	2025	2030	2035	2040	2045
Supply	158,541	159,452	159,372	159,299	160,710
Demand	130,800	135,300	137,700	140,200	142,900
Difference	27,741	24,152	21,672	19,099	17,810

Source: 2020 UWMP (MWA), Table 5-2y

Table 4.13-9: Single-Dry Year Water Supply and Demand from 2025-2045 presents MWA's supply and demand during a single-dry climate year, in which MWA only plans to receive 5 percent of their annual SWP allocation amount out of an abundance of caution. Nonetheless, MWA projects to have sufficient water storage, either in the form of SWP carryover or banked groundwater, to supplement supplies during extremely dry years over the 20-year projection.

Table 4.13-9: Single-Dry Year Water Supply and Demand from 2025-2045

Dry Year	2025	2030	2035	2040	2045
Supply	130,800	135,300	137,700	140,200	142,900
Demand	130,800	135,300	137,700	140,200	142,900
Difference	0	0	0	0	0

Source: 2020 UWMP (MWA), Table 5-2

Table 4.13-10: Five Consecutive Dry Years Water Supply and Demand from 2025-2045 shows the projected supply and demand during multi-year drought, defined as five consecutive critically dry years including two extreme drought years. In the scenario, much like the single-dry year scenario, MWA is prepared to satisfy water demands by use of stored water during extremely dry years and still maintain the ability to capture and store excess water during the other years.

Table 4.13-10: Five Consecutive Dry Years Water Supply and Demand from 2025-2045

		2025	2030	2035	2040	2045
Year 1	Supply	139,234	141,492	144,033	142,759	145,444
	Demand	130,800	135,300	140,200	137,700	142,900
	Difference	8,434	6,192	3,833	5,059	2,544
Year 2	Supply	130,800	135,300	140,200	137,700	142,900
	Demand	130,800	135,300	140,200	137,700	142,900
	Difference	0	0	0	0	0
Year 3	Supply	130,800	135,300	140,200	137,700	142,900
	Demand	130,800	135,300	140,200	137,700	142,900
	Difference	0	0	0	0	0
Year 4	Supply	130,800	135,300	140,200	137,700	142,900
	Demand	130,800	135,300	140,200	137,700	142,900
	Difference	0	0	0	0	0
Year 5	Supply	139,234	141,492	144,033	142,759	145,444
	Demand	130,800	135,300	140,200	137,700	142,900
	Difference	8,434	6,192	3,833	5,059	2,544

Source: 2020 UWMP (MWA), Table 5-3

4.13.3 Regulatory Setting

State

California Urban Water Management Plan Act (California Water Code Sections 10610-10656)

The California Urban Water Management Planning Act (California Water Code [CWC] Division 6, Part 2.6, Sections 10610–10656) addresses several State policies regarding water conservation and the development of water management plans to ensure the efficient use of available supplies. The California Urban Water Management Planning Act also requires Urban Water Suppliers, such as the City, that serve more than 3,000 customers or provide more than 3,000 acre-feet per year (afy), to develop UWMPs every five years to identify short-term and long-term demand management measures to meet growing water demands during normal, dry, and multiple-dry years.

A number of recent requirements regarding preparation of water management plans have been added to the Urban Water Management Planning Act. These additional requirements include: (1) a narrative description of water demand measures implemented over the past five years and future measures planning to meet 20 percent demand reduction targets by 2020; (ii) a standard methodology of calculating

system water loss; (iii) a voluntary reporting of passive conservation savings, energy intensity, and climate change; and, (iv) an analysis of water features that are artificially supplied with water.

Senate Bill 610

Senate Bill (SB) 610, codified in CWC Section 10910 et seq. and effective on January 1, 2002, describes requirements for WSAs applicable to the California Environmental Quality Act (CEQA) process and, defines the role UWMPs play in the WSA process. SB 610 requires that for projects subject to CEQA, which meet specific size criteria, the water supplier must prepare a WSA that determines whether the water supplier has sufficient water resources to serve the projected water demand associated with a proposed project, providing specific guidance regarding how future supplies are to be calculated where an applicable UWMP has been prepared. Specifically, a WSA shall identify existing water supply entitlements, water rights, or water service contracts held by the public water system, and prior years' water deliveries received by the public water system. In addition, the WSA must address water supplies over a 20-year period and consider normal, single-dry, and multiple-dry year conditions. In accordance with SB 610, projects for which a WSA must be prepared are those subject to CEQA that meet any of the following criteria:

- Residential developments of more than 500 dwelling units;
- Shopping centers or business establishments employing more than 1,000 persons or having more than 500,000 square feet of floor space;
- Commercial office buildings employing more than 1,000 persons or having more than 250,000 square feet of floor space;
- Hotels, motels, or both, having more than 500 rooms;
- Industrial, manufacturing, or processing plants, or industrial parks planned to house more than 1,000 persons, occupying more than 40 acres of land, or having more than 650,000 square feet of floor area;
- Mixed-use projects that include one or more of the projects specified in this subdivision; or
- Projects that would demand an amount of water equivalent to or greater than the amount of water required by a 500-dwelling unit project.

Because the Project is considered an industrial site and would occupy approximately 755 acres of land, a WSA has been prepared and is provided in Appendix M of this Draft EIR.

As there would be no public water supplier serving the Project, then the lead agency (the County, in this case) must approve the WSA. The lead agency must then make certain findings related to water supply based on the WSA.

In addition, under SB 610, a water supplier responsible for the preparation and periodic updating of an UWMP must describe the water supply projects and programs that may be undertaken to meet the total project water use of the service area. If groundwater is identified as a source of water available to the supplier, the WSA must provide detailed information regarding groundwater conditions in the area,

including a description of the groundwater basin(s) to be used and the water use adjudication rights, if any; (3) a description and analysis of groundwater use in the past five years; and (4) a discussion of the sufficiency of the groundwater that is projected to be pumped by the supplier.

Sustainable Groundwater Management Act of 2014

The Sustainable Groundwater Management Act of 2014 passed in September 2014 is a comprehensive three-bill package that provides a framework for the sustainable management of groundwater supplies by local authorities. The Sustainable Groundwater Management Act requires the formation of local groundwater sustainability agencies to assess local water basin conditions and adopt locally based management plans. Local groundwater sustainability agencies were required to be formed by June 30, 2017. The Sustainable Groundwater Management Act provides 20 years for groundwater sustainability agencies to implement plans and achieve long-term groundwater sustainability and protect existing surface water and groundwater rights. The Sustainable Groundwater Management Act provides local groundwater sustainability agencies with the authority to require registration of groundwater wells, measure and manage extractions, require reports and assess fees, and request revisions of basin boundaries including establishing new subbasins. Furthermore, SGMA requires governments and water agencies of high and medium priority basins to stop overdraft and bring groundwater basins into balanced levels of pumping and recharge. Under SGMA, these basins should reach sustainability within 20 years of implementing their sustainability plans. For the basins that are critically over-drafted the timeline is 2040. For the remaining high and medium priority basins, the deadline is 2042.

The Harper Valley Groundwater Basin (DWR Basin No. 6-047) has been classified as a very low-priority basin and is not required to form a Groundwater Sustainability Agency and adopt a Groundwater Sustainability Plan or submit an alternative to a Groundwater Sustainability Plan. DWR determined that as a “Basin with Adjudication & Non-Adjudicated GW Use <9,500 af,” under Component 8C&D of DWR’s review, the Basin is a “very low-priority basin.”

California Water Plan

Required by CWC Section 10005(a), the California Water Plan is the state’s strategic plan for managing and developing water resources statewide for current and future generations. It provides a collaborative planning framework for elected officials, agencies, tribes, water and resource managers, businesses, academia, stakeholders, and the public to develop findings and recommendations and make informed decisions for California’s water future.

The California Water Plan, updated every five years, presents the status and trends of California’s water-dependent natural resources; water supplies; and agricultural, urban, and environmental water demands for a range of plausible future scenarios. The Water Plan also evaluates different combinations of regional and statewide resource management strategies to reduce water demand, increase water supply, reduce flood risk, improve water quality, and enhance environmental and resource stewardship. The evaluations and assessments performed for the plan help identify effective actions and policies for meeting California’s resource management objectives in the near term and for several decades to come.

In June 2019, the California Department of Water Resources released up-to-date climate change information, including hydrologic impacts and projections at the statewide and regional levels and adaptation strategies, in the California Water Plan Update 2018 (California Water Plan).

California Water Action Plan

The California Water Action Plan was released in January 2014 and was updated in 2016 under Governor Brown's administration. The California Water Action Plan discusses the challenges to water in California: uncertain water supplies, water scarcity/drought, declining groundwater supplies, poor water quality, declining native fish species and loss of wildlife habitat, floods, supply disruptions, and population growth and climate change further increasing the severity of these risks. Ten actions are listed in the California Water Action Plan to address the pressing water issues that California faces while laying groundwork for a sustainable water future:

1. Make conservation a California way of life.
2. Increase regional self-reliance and integrated water management across all levels of government.
3. Achieve the co-equal goals for the Delta.
4. Protect and restore important ecosystems.
5. Manage and prepare for dry periods.
6. Expand water storage capacity and improve groundwater management.
7. Provide safe water for all communities.
8. Increase flood protection.
9. Increase operational and regulatory efficiency.
10. Identify sustainable and integrated financing opportunities.

Regional

Mojave Water Agency 2020 Urban Water Management Plan Update

In adherence to the UWMP Act, the MWA adopted their 2020 UWMP on May 27, 2021. The 2020 UWMP evaluates the water source reliability over a 20-year planning period and evaluates trends in population, water use, and water supplies within the MWA service area for a 45-year planning period through 2065. Water supply and demand for the MWA service area is provided above under Section 4.13.2, *Environmental Setting – Water Demand*.

Local

San Bernardino County Countywide Plan/Policy Plan

The County's Countywide Plan/Policy Plan, adopted on October 27, 2020, serves as a new set of plans and tools for the County's unincorporated communities and complements the Countywide vision. The Policy

Plan is a component of the Countywide Plan that is an update and expansion of the County's General Plan for the unincorporated areas. The following goals and policies are applicable to the Project:

Infrastructure & Utilities Element

- Goal IU-1** **Water Supply.** Water supply and infrastructure are sufficient for the needs of residents and businesses and resilient to drought.
- Policy IU-1.3** **Recycled water.** We promote the use of recycled water for landscaping, groundwater recharge, direct potable reuse, and other applicable uses in order to supplement groundwater supplies.
- Policy IU-1.7** **Areas vital for groundwater recharge.** We allow new development on areas vital for groundwater recharge when stormwater management facilities are installed onsite and maintained to infiltrate predevelopment levels of stormwater into the groundwater.
- Policy IU-1.8** **Groundwater management coordination.** We collaborate with watermasters, groundwater sustainability agencies, water purveyors, and other government agencies to ensure groundwater basins are being sustainably managed. We discourage new development when it would create or aggravate groundwater overdraft conditions, land subsidence, or other "undesirable results" as defined in the California Water Code. We require safe yields for groundwater sources covered by the Desert Groundwater Management Ordinance.

4.13.4 Impact Thresholds and Significance Criteria

In accordance with Appendix G of the State CEQA Guidelines, a project would have a significant impact related to water infrastructure and/or water supply if it would:

Threshold (a): Require or result in the relocation or construction of new or expanded water, wastewater treatment, or storm water drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects; or

Threshold (b): Have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry, and multiple dry years.

As previously stated, potential impacts related to solid waste and wastewater treatment, electric power, natural gas, and telecommunications facilities are provided within Section 7.0, *Effects Found Not to be Significant*, of this Draft EIR. Impacts related to storm water drainage are provided in Section 4.9, *Hydrology and Water Quality*, of this Draft EIR.

4.13.5 Impacts and Mitigation Measures

Impact 4.13-1 *Would the Project require or result in the relocation or construction of new or expanded water, wastewater treatment, or storm water drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects?*

Level of Significance: Less than Significant

The Project Site is within the service limits of the MWA. As previously stated, four existing groundwater wells were originally installed to provide non-potable water supply to the previously approved and existing SEGS VIII and IX facilities. The wells depend on groundwater supply drawn from the adjudicated Mojave Basin Area, which is managed by the MWA. These existing groundwater wells pump water from the Harper Valley Groundwater Basin. Non-potable water supply during Project construction and operation is anticipated to be supplied by pumping groundwater from existing wells located within the Shared Facilities Area and immediately off-site on the adjacent SEGS IX facility site. No new groundwater wells are proposed as part of the Project. Therefore, Project construction and operation would not require or result in the relocation or construction of new or expanded water facilities, the construction or relocation of which could cause significant environmental effects. Therefore, impacts would be less than significant.

Impact 4.13-2 *Would the Project have sufficient water supplies available to serve the Project and reasonably foreseeable future development during normal, dry, and multiple dry years?*

Level of Significance: Less than Significant

Construction

During Project construction, non-potable water would be required for construction activities, including dust suppression, soil compaction and grading. As determined by the Applicant, the overall construction water usage is anticipated to be approximately 240 AF during the 14-month construction period. Water used during Project construction would be sourced from the four existing groundwater wells that were originally installed to provide non-potable water supply to the previously approved and existing SEGS facilities. The wells depend on groundwater supply drawn from the adjudicated Mojave Basin Area, which is managed by the MWA. As described in Appendix A to the WSA prepared for the Project, MWA's 2020 UWMP assessed existing and projected water supply and demand over the planning period. In doing so, MWA has proven to have a robust water supply portfolio equipped to endure drought periods regardless of SWP entitlement allocations. MWA's supplies and groundwater allocations are sufficient to serve their customer base, including groundwater use from the Project construction during normal, single-dry, and multi-year drought year conditions.

It should be noted that the prior SEGS X project anticipated approximately 4,300 AF of water use during construction. The CEC concluded the overall construction water usage for construction of SEGS X (4,300 AF) would not have a measurable impact on the groundwater supplies as a one-time use. The approval of

this Project would effectively reduce the construction water demand for the Project Site as compared to the approved SEGS X project by approximately 4,060 AF of water during construction. Project construction would result in less than significant impacts related to water supply.

Operations

Existing O&M buildings, warehouse and the employee building within the Shared Facilities Area would be shared by Lockhart Solar I Facility and Project operations staff. There would be no increase in existing staff required to support operations of the Project; therefore, the Project would not increase the demand for non-potable water use in the existing O&M facilities. The Project would require non-potable water for panel washing, equipment washing, and other site maintenance. Solar panel washing is expected to occur one to four times per year. Although the Applicant only expects to wash the PV panels once per year, the panels may need to be washed more frequently based on site conditions. Conditions that may necessitate increased wash requirements include unusual weather occurrences, local air pollutants, and other similar conditions. Therefore, the annual water usage for four panel cleaning cycles is anticipated to be approximately 4.5 AF. Additionally, a small amount of groundwater (approximately 0.45 AF) is anticipated to be required for equipment washing and other site maintenance.

It should be noted that the previously approved SEGS X project, a solar thermal facility that would have required a more intensive water demand for facility operations, was estimated to use 820 AF per year for O&M. Given that SEGS X was approved but never constructed on the Project Site, MWA's 2020 UWMP assumes the water demand associated with the SEGS X facility as a present and future water demand within its service area. The Project is sited within the same land area, intended for renewable energy (solar) use, but would use only a fraction of the same available groundwater water supplies. The Project would reduce the water demand associated with the use of the property as compared to the approved SEGS X facility by approximately 815 AF of water annually. Accordingly, MWA's total demand, as defined in their 2020 UWMP, would be lower with the Project than if the SEGS X facility had become operational.

The Project's operational water use of approximately 4.5 AF and 0.45 AF for equipment washing and other site maintenance would be within the total projected water supplies available to MWA during normal year, single-dry year, and multi-year drought hydrologic conditions over a 20-year period. As analyzed within MWA's 2020 UWMP, MWA has a robust water supply portfolio equipped to endure drought periods regardless of SWP entitlement allocations. Therefore, as concluded in the WSA, MWA's supplies and groundwater allocations are sufficient to serve the customer base, including the Project, over the next 20 years. Therefore, Project operation would have sufficient water supplies available to serve the Project during normal, dry, and multiple dry years, and impacts would be less than significant.

4.13.6 Cumulative Impacts

Section 4.0, *Introduction to the Environmental Analysis*, of this Draft EIR provides a list of cumulative projects that would have the potential to be considered in a cumulative context with the Project's incremental contribution. These projects are summarized in *Table 4.0-1, Cumulative Projects*, and shown on **Figure 4.0-1, Cumulative Projects Map**.

Regarding infrastructure for water supply, each of the cumulative projects would be required to coordinate with their water purveyor to ensure that installation of utility connections would not result in a significant impact. Construction impacts associated with the installation of any utility connections would be directed by the respective Lead Agency and associated departments. As previously stated, the Project would not install water infrastructure and would utilize existing groundwater wells. Therefore, the Project would not contribute to cumulative impacts associated with the construction or installation of water infrastructure.

Regarding water supply, past, present, and reasonably foreseeable future projects could also result in additional water demand, and incrementally increase the long-term demand for water supply. However, under the provisions of SB 610, all past, present, and future projects in the surrounding area would be required to prepare a comprehensive WSA, as applicable. The WSAs for the projects that would require a WSA, in conformance with the 2020 UWMP, would evaluate the quality and reliability of existing and projected water supplies, as well as alternative sources of water supply and measures to secure alternative sources if needed, on a project-by-project basis. Any new water facilities would undergo separate environmental review and require compliance with all applicable water supply and conservation ordinances, laws and regulations. Further, as described above, the Project would effectively replace the previously approved SEGS X project, thereby reducing the anticipated water demand associated with the use of the Project Site by 815 AF of water annually and 4,060 AF of water during construction. As a result, the Project expected to decrease MWA's total demand relative to what is described in its 2020 UWMP. Therefore, the Project's contribution to cumulative impacts associated with water supply would not be considerable.

4.13.7 Significant Unavoidable Impacts

The Project would not result in any significant and unavoidable impacts related to water supply.

4.13.8 References

California Department of Water Resources. 2004. *Harper Valley Groundwater Basin*. February 27, 2004.

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5.0 OTHER CEQA CONSIDERATIONS

This section addresses those topics requiring evaluation under California Environmental Quality Act (CEQA) Guidelines Section 15126, which requires that all aspects of a project must be considered when evaluating its impact on the environment, including planning, acquisition, development, and operation.

5.1 CEQA Requirements

As part of the analysis, an EIR must identify: (1) the growth-inducing impacts of the proposed project; (2) significant environmental effects of the proposed project; (3) significant irreversible environmental changes that would result from implementation of the proposed project; and (4) energy conservation. Each of these topics is discussed below.

5.2 Growth Inducing Impacts

Section 15126.2(d) of the CEQA Guidelines requires that an EIR discuss a project's potential to foster economic or population growth, or the construction of additional housing, either directly or indirectly, in the surrounding environment. The CEQA Guidelines also indicate that it must not be assumed that growth in any area is necessarily beneficial, detrimental or of little significance to the environment. This section analyzes such potential growth-inducing impacts, based on criteria suggested in the CEQA Guidelines.

The San Bernardino County Countywide Plan/Policy Plan recognizes that certain forms of growth are beneficial, both economically and socially. Section 15126.2(d) of the CEQA Guidelines provides the following guidance on growth-inducing impacts:

A project is identified as growth-inducing if it “would foster economic or population growth, or the construction of additional housing, either directly or indirectly, in the surrounding environment.”

Growth-inducing impacts fall into two general categories: direct and indirect. Direct growth-inducing impacts are generally associated with providing urban services to an undeveloped area. Indirect, or secondary growth-inducing impacts, consist of growth induced in the region by additional demands for housing, goods, and services associated with the population increase caused by, or attracted to, a new project.

Growth inducement can be a result of new development that requires an increase in employment levels, removes barriers to development, or provides resources that lead to secondary growth. With respect to employment, construction workers would be working in the area temporarily and are not expected to relocate to the area with their families. It is anticipated that the construction workforce would commute to the site each day from local communities, and the majority would likely come from the existing labor pool as construction workers travel from site to site as needed. Construction staff not drawn from the local labor pool would stay in any of the local hotels in Barstow or other local communities. Temporary construction workers are not expected to generate a demand for services that would require an extension

of infrastructure into areas that have not previously been served by public facilities (e.g., new water mains, sewer mains, or roadways). Employees that currently operate the Solar Energy Generating System (SEGS) VIII and SEGS IX facilities would continue to serve as operations staff for this Project.

Also, the Project would not induce substantial unplanned population growth in the area, either directly or indirectly. The Project would not include the extension of utility infrastructure or construction of new roadways that could induce development in the area. The Project would assist California in meeting its air quality and greenhouse gas (GHG) emissions reduction goals. As such, the Project would not directly induce growth related to provision of additional electric power.

Although the Project would contribute to the energy supply, which supports growth, the development of power infrastructure is a response to increased market demand. Rather, energy demand, as determined by the California Public Utilities Commission with input from the California Energy Commission (CEC), drives generation procurement; procurement does not drive an increase in either utility customers or energy consumption. It does not induce new growth. San Bernardino County (County) planning documents already permit and anticipate a certain level of growth in the area of the Project and in the State as a whole, along with attendant growth in energy demand. It is this anticipated growth that drives energy-production projects, not vice versa. The Project would supply energy to accommodate and support existing demand and projected growth, but it would not foster any new growth. Therefore, any link between the Project and growth in the County would be speculative.

5.3 Significant and Unavoidable Impacts

Section 15126.2(b) of the CEQA Guidelines requires that an EIR discuss any significant impacts associated with a project.

Sections 4.1 through 4.13, and Section 7.0, *Effects Found Not to be Significant*, of this Draft EIR describe the potential environmental impacts of the Project and recommend mitigation measures to reduce impacts to a less than significant level where feasible. The Executive Summary includes **Table 2-1: Summary of Significant Impacts and Proposed Mitigation Measures** which summarizes the impacts, mitigation measures, and levels of significance before and after mitigation.

After thorough study and environmental review, as provided in this Draft EIR, it was determined that Project-level and cumulative impacts would not result in any significant and unavoidable impacts.

5.4 Significant and Irreversible Environmental Changes

Section 15126.2(c) of the CEQA Guidelines defines an irreversible impact as an impact that uses nonrenewable resources during the initial and continued phases of the Project. Irreversible impacts can also result from damage caused by environmental accidents associated with the Project. Irretrievable commitments of resources should be evaluated to ensure that such consumption is justified.

Build-out of the Project would commit nonrenewable resources during Project construction and operation. During Project construction, nonrenewable resources such as oil, gas, and other fossil fuels

would be consumed, primarily in the form of production of Project facilities and transportation fuel for construction workers. The County approved the Lockhart Solar I Facility (CUP Project #201900125) in 2019, which contemplated that existing SEGS operations staff would continue operation of the Lockhart Solar I Facility. Lockhart Solar I Facility operations staff would also support operations for the Project. As such there would be no increase in the use of oil, gas, and other fossil fuels and nonrenewable resources associated with additional operations staff. However, the Project would generate minimal periodic operational vehicle trips internal to the Project Site for required maintenance activities, 40 trips per year for solar panel washing, and may require materials for replacement parts/repairs over the course of facility operations. Therefore, an irreversible commitment of nonrenewable resources would occur as a result of short-term Project construction and long-term Project operations. However, assuming that those commitments occur in accordance with the adopted goals, policies, and implementation measures of the San Bernardino Countywide Plan, as a matter of public policy, those commitments have been determined to be acceptable. The San Bernardino County Countywide Plan/Policy Plan ensures that any irreversible environmental changes associated with those commitments will be minimized. Furthermore, the Project will provide a new source of renewable energy that would reduce the need for future consumption of nonrenewable fossil fuels for energy use.

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6.0 ALTERNATIVES

6.1 Introduction

The California Environmental Quality Act (CEQA) requires that an EIR describe a range of reasonable alternatives to the project or to the location of the project that could feasibly avoid or lessen any significant environmental impacts of the project while attaining most of the project's basic objectives. An EIR also must compare and evaluate the environmental effects and comparative merits of the alternatives. This section describes alternatives considered but eliminated from further consideration (including the reasons for elimination) and compares the environmental impacts of several alternatives retained with those of the Project.

The following are key provisions of the CEQA Guidelines Section 15126.6:

- The discussion of alternatives shall focus on alternatives to the project or its site that are capable of avoiding or substantially lessening any significant effects of the project, even if these alternatives would impede, to some degree, the attainment of the project objectives, or would be more costly.
- The No Project Alternative shall be evaluated, along with its impacts. The no-project analysis shall discuss the existing conditions at the time the notice of preparation was published, as well as what would be reasonably expected to occur in the foreseeable future if the project were not approved, based on current plans and consistent with available infrastructure and community services.
- The range of alternatives required in an EIR is governed by a "rule of reason." Therefore, the EIR must evaluate only those alternatives necessary to permit a reasoned choice. The alternatives shall be limited to ones that would avoid or substantially lessen any of the significant effects of the project.
- For alternative locations, only locations that would avoid or substantially lessen any of the significant effects of the project need be considered for inclusion in the EIR.
- An EIR need not consider an alternative whose effects cannot be reasonably ascertained and whose implementation is remote and speculative.

The range of feasible alternatives is selected and discussed in a manner that fosters meaningful public participation and informed decision making. As described in CEQA Guidelines Section 15126.6(f)(1), among the factors that may be taken into account when addressing the feasibility of alternatives are environmental impacts, site suitability, economic viability, social and political acceptability, technological capacity, availability of infrastructure, Countywide Plan consistency, specific plan consistency, regulatory limitations, jurisdictional boundaries, and whether the project proponent could reasonably acquire, control, or otherwise have access to an alternative site. If an alternative has effects that cannot be reasonably identified, if its implementation is remote or speculative, or if it would not achieve the basic project objectives, it need not be considered in the EIR.

6.2 Project Objectives

The Project alternatives are evaluated to determine the extent to which they attain the basic Project objectives, while substantially reducing or avoiding any significant effects of the Project. The Project objectives are outlined in Subsection 3.5, *Project Objectives*, in **Section 3.0, Project Description**, of this EIR and included again below.

The objectives of the Project include the following:

- Site photovoltaic (PV) solar power-generating facilities and energy storage on previously graded and disturbed land, near existing utility infrastructure, thereby achieving economies of scale to maximize shared operation and maintenance facilities with existing solar operations.
- Establish solar PV power-generating facilities and energy storage of sufficient size and configuration to produce and deliver reliable electricity in an economically feasible and commercially financeable manner that can be marketed to different power utility companies.
- Use proven and established PV and energy storage technology that is efficient and requires low maintenance.
- Assist California in meeting greenhouse gas emission reduction goals by 2030 as required by the California Global Warming Solutions Act (Assembly Bill 32), as amended by Senate Bill 32 in 2016 to address the effects of climate change on the environment and the economy.
- Promote the County's Renewable Energy and Conservation Element (RECE) policies and be sited in an area identified as suitable for utility oriented renewable energy generation projects.
- Develop a PV solar power generation facility in San Bernardino County, which would support the economy by investing in the local community, creating local construction jobs, and increasing tax and fee revenue to the County.

6.3 Impacts of the Project

Pursuant to CEQA, alternatives were evaluated for whether they would avoid or substantially lessen any significant impacts of the Project. The evaluation considered whether the alternative would create significant environmental impacts potentially greater than those of the Project as proposed. To evaluate impacts that could be avoided or substantially lessened through an alternative, the County of San Bernardino (County) first identified the potentially significant impacts of the Project. The following resource topics were evaluated further in this EIR (refer to **Section 4.0, Introduction to Environmental Analysis**):

- Aesthetics
- Air Quality
- Biological Resources
- Cultural Resources
- Hazards and Hazardous Materials
- Hydrology and Water Quality
- Noise
- Transportation

- Energy
- Geology and Soils
- Greenhouse Gas Emissions
- Tribal Cultural Resources
- Utilities and Service Systems - Water Supply

The environmental impact analysis revealed that all potentially significant impacts could be mitigated to less than significant impacts with implementation of feasible mitigation measures. Thus, the Project would not result in any significant and unavoidable impacts. A summary discussion of potential environmental impacts from implementation of the Project is presented in **Table 6-1: Summary of Potential Environmental Impacts of the Project.**

Table 6-1: Summary of Potential Environmental Impacts of the Project

Resource Topic	Potential Environmental Impacts
Aesthetics	<p>Less than significant impact on scenic resources; existing visual quality or quality of public views of the Project Site and its surroundings; and light or glare.</p> <p>No impact to scenic vistas.</p>
Air Quality	<p>Less than significant impact with mitigation from Project construction conflicting with the applicable air quality plan; Project construction resulting in a cumulatively considerable net increase of any criteria pollutant for which the region is non-attainment under an applicable federal or state ambient air quality standard; and Project construction exposing sensitive receptors to substantial pollutant concentrations.</p> <p>Less than significant impact from Project operations conflicting with the applicable air quality plan; Project operations resulting in a cumulatively considerable net increase of any criteria pollutant for which the region is non-attainment under an applicable federal or state ambient air quality standard; and Project operations exposing sensitive receptors to substantial pollutant concentrations.</p> <p>Less than significant impact from creation of objectionable odors.</p>
Biological Resources	<p>Less than significant impact with mitigation on species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife (CDFW) or U.S. Fish and Wildlife Service (USFWS).</p> <p>Less than significant impact on native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors; and conflicting with local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance.</p> <p>No impact on riparian habitat or sensitive natural communities; State or federally protected wetlands; and the provision of adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or State habitat conservation</p>

Resource Topic	Potential Environmental Impacts
	plan.
Cultural Resources	<p>Less than significant impact with mitigation on archaeological resources during Project construction.</p> <p>Less than significant impact on historical resources and human remains.</p> <p>No impact on archaeological resources during Project operation.</p>
Energy	<p>Less than significant impact on wasteful, inefficient, or unnecessary consumption of energy resources; and conflicting with or obstructing a State or Local plan for renewable energy or energy efficiency.</p>
Geology and Soils	<p>Less than significant impact with mitigation on paleontological resources during Project construction.</p> <p>Less than significant impact on substantial adverse effects, including the risk of loss, injury, or death involving rupture of a known earthquake fault, strong seismic ground shaking, seismic-related ground failure, landslides, substantial soil erosion or loss of topsoil, unstable geologic units or soil, expansive soils, and septic tanks.</p> <p>No impact on paleontological resources during Project operation.</p>
Greenhouse Gas Emissions	<p>Less than significant impact from generating greenhouse gas (GHG) emissions and conflicting with an applicable plan, policy, or regulation adopted for the purpose of reducing GHG emissions.</p>
Hazards and Hazardous Materials	<p>Less than significant impact from hazard to the public or the environment through the routine transport, use or disposal of hazardous materials, through accidental release of hazardous materials into the environment exposure to hazardous materials from soils based on soils testing at the Project Site; risk of loss injury or death involving wildland fires. and impairing implementation of or physically interfering with an adopted emergency response plan or emergency evacuation plan.</p> <p>No impact from emitting hazardous emissions or handling hazardous or acutely hazardous materials within one-quarter mile of an existing or proposed school; being located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code §65962.5; and being located within an airport land use plan or within two miles of a public airport or public use airport.</p>
Hydrology and Water Quality	<p>Less than significant impact from violating water quality standards or waste discharge requirements or otherwise substantially degrading surface or groundwater quality; substantially decreasing groundwater supplies or interfering substantially with groundwater recharge; substantially altering the existing drainage pattern of the site or area which would result in substantial erosion or siltation, increase the rate or amount of surface run-off, create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial</p>

Resource Topic	Potential Environmental Impacts
	<p>additional sources of polluted runoff, and impede or redirect flood flows; and conflicting with or obstructing implementation of a water quality control plan or sustainable groundwater management plan.</p> <p>No impact from risking release of pollutants due to Project inundation in a flood hazard, tsunami, or seiche zones.</p>
Noise	<p>Less than significant impact from generating a substantial temporary or permanent increase in ambient noise levels in excess of standards established in the local general plan or noise ordinance; and generating excessive groundborne vibration or groundborne noise levels.</p> <p>No impact from exposing people residing or working in the Project area to excessive noise levels.</p>
Transportation	<p>Less than significant impact from conflicting with a program, plan, ordinance, or policy addressing the circulation system; conflicting to be inconsistency with CEQA Guidelines Section 15064.3, subdivision (b); substantially increasing hazards due to a geometric design feature or incompatible uses; and resulting in inadequate emergency access.</p>
Tribal Cultural Resources	<p>Less than significant impact with mitigation from the significance of a resource to a California Native American tribe.</p>
Utilities and Service Systems – Water Supply	<p>Less than significant impact from requiring or resulting in the relocation or construction of new or expanded water facilities; and having sufficient water supplies available to serve the Project and reasonably foreseeable future development during normal, dry, and multiple dry years.</p>

6.4 Alternatives to the Project

Under CEQA, and as indicated in California Public Resources Code (PRC) Section 21002.1(a), the identification and analysis of alternatives to a project is a fundamental aspect of the environmental review process to consider ways of substantially lessening or avoiding the significant environmental effects of a project. Based on the significant environmental impacts of the Project, the aforementioned objectives established for the Project, and the feasibility of the alternatives considered, three alternatives, including the No Project Alternative as required by CEQA, are considered in this chapter. The Environmentally Superior Alternative, as required by CEQA, is described in Subsection 6.7, *Environmentally Superior Alternative*, below.

6.4.1 Alternative 1: No Project Alternative

The CEQA Guidelines require EIRs to include a No Project Alternative for the purpose of allowing decision makers to compare the effects of approving the Project versus a No Project Alternative. Accordingly, Alternative 1, the No Project Alternative, assumes that development of a utility scale solar PV electricity generation and energy storage facility that would produce up to 150 MW of solar power and include up to 4 gigawatt hours (GWh) of energy storage capacity rate in a battery energy storage system (BESS) within

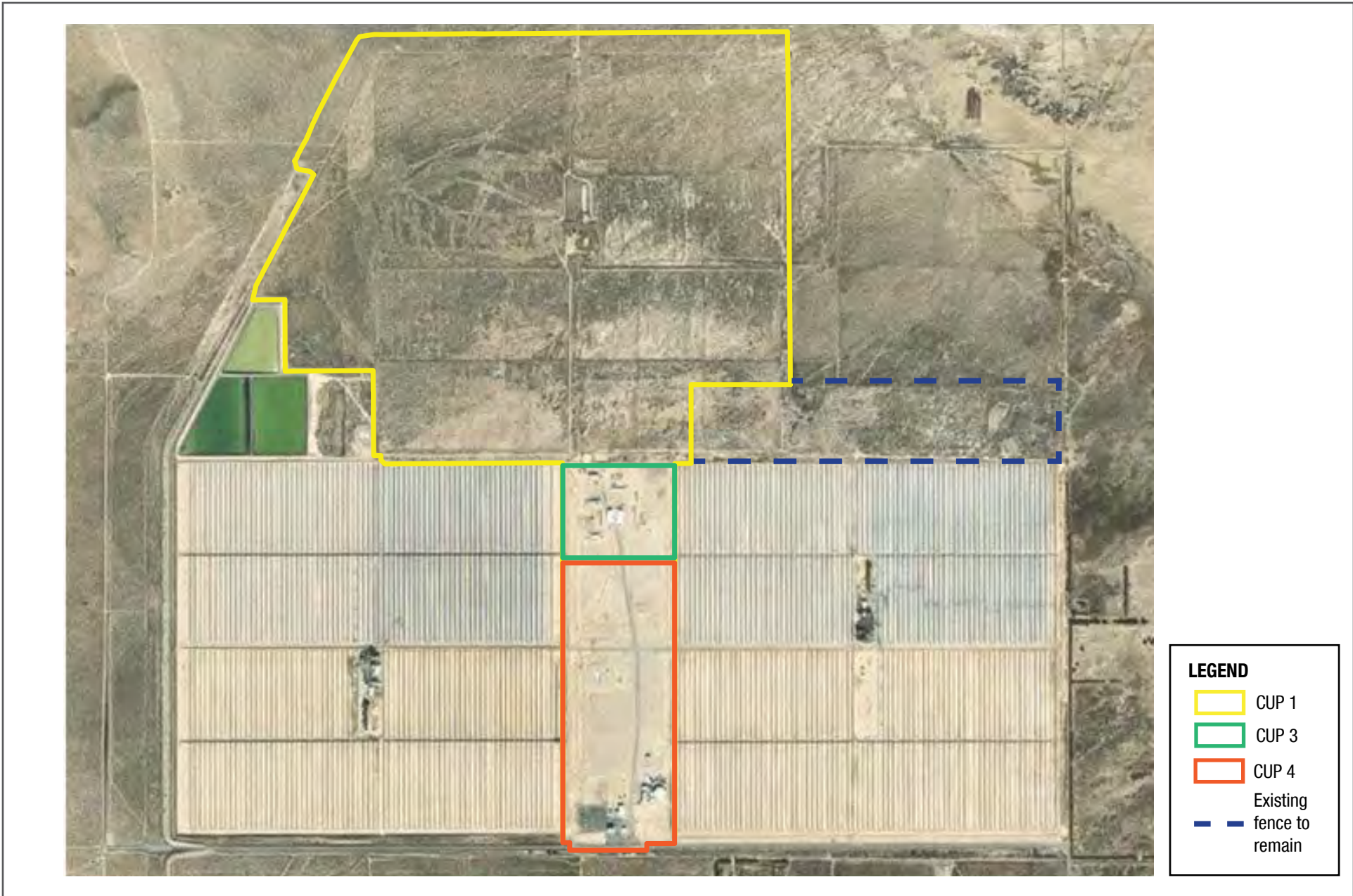
an approximately 755-acre Project Site would not occur. The No Project Alternative would not require County approval of Conditional Use Permits (CUPs) and would result in no change in land use classifications for the Project Site. Existing land uses on the Project Site would remain in the current condition, which consist mostly of vacant, previously disturbed land, miscellaneous concrete foundations, various electrical lines and poles, as well as existing facilities within the Shared Facilities Area as well as an existing 6-foot-tall chain link fence with desert tortoise exclusion fencing that currently surrounds the perimeter of the Project Site. No physical changes would be made to the Project Site and the remnants of the partially developed structures left from initial construction of the SEGS X project would remain.

6.4.2 Alternative 2: Reduced Acreage Alternative

Under the Reduced Acreage Alternative, the Project Site would be reduced to only include CUP Areas 1, 3, and 4. This alternative would reduce the Project's footprint from 755 acres to 675 acres and would restrict construction of Project facilities to CUP Areas 1, 3, and 4 (see **Figure 6-1: Reduced Acreage Alternative**). Restricting construction of Project facilities in this 80-acre area would keep this portion of the Project Site in its current state. This area is the closest portion of the Project to known habitat for special status bird species such as western snowy plover, mountain plover, and burrowing owls farther to the east around Harper Dry Lake; see Figure 4.3-4. Although this 80-acre area is currently fenced, excluding development within the CUP 2 area would provide additional distance between the Project and these offsite populations.

Solar panels and associated infrastructure would be restricted to the reduced development area. The Reduced Acreage Alternative would diminish Project energy generation production by approximately 15 MW due to reduction of the 80-acre CUP 2 area. This would result in the corresponding reduction in renewable energy output from the Project by approximately 10 percent. As the BESS system will be designed to store energy generated from the Project's PV panels as well as energy delivered via the grid, and it is possible to charge from either source, no reduction in storage would be anticipated.

Solar panels and associated infrastructure would be restricted to the reduced development area. The Reduced Acreage Alternative would diminish Project energy generation production by approximately 15 MW due to reduction of the 80-acre CUP 2 area. This would result in the corresponding reduction in renewable energy output from the Project by approximately 10 percent. As the BESS system will be designed to store energy generated from the Project's PV panels as well as energy delivered via the grid, and it is possible to charge from either source, no reduction in storage would be anticipated. Under this Alternative, the existing 6-foot-tall chain link perimeter fence with desert tortoise exclusion fencing would remain in place and the 80-acre area of land with CUP 2 area would remain in the current undeveloped condition. This alternative would require County approval of three CUPs instead of four as under the Project.



SOURCE: Kimley-Horn, 2021



FIGURE 6-1: Reduced Acreage Alternative

LOCKHART SOLAR PV II PROJECT

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6.4.3 Alternative 3: Alternative Site Alternative

Alternative 3, includes use of approximately 1,386 acres on BLM-administered land, located west of the U.S. Highway 395 and north of U.S. Route 58, just north of the community of Boron as shown on **Figure 6-2: Alternative Site Alternative**. Given the land area, this Alternative could allow for development of a utility-scale renewable energy facility with similar generation and storage capacity as the Project. The Alternative 3 site is designated as a Development Focus Area (DFA) for renewable energy in the Desert Renewable Energy Conservation Plan (DRECP). Due to development constraints associated with topography and natural drainages of the Alternative site, it was assumed that a larger area than the 755-acre Project Site would be required (approximately 1,386 acres) to achieve development of a similar utility-scale renewable energy facility as proposed under the Project.

The DRECP requires the California Department of Fish and Wildlife (CDFW) to develop a county-wide conservation strategy that addresses Mohave ground squirrel (MGS), prior to developing land in DFA-designated areas. In 2019, the CDFW completed *A Conservation Strategy for the Mojave Ground Squirrel* (MGS Conservation Strategy). The MGS Conservation Strategy goals provide guidance on the conservation of MGS and ultimately recover it from its vulnerable and Threatened status. To help achieve these goals, the MGS Conservation Strategy:

1. Assesses the conservation status of the MGS;
2. Identifies achievable objectives intended to ensure the continued existence of the species; and
3. Provides conservation measures that may realistically be implemented to achieve the objectives.¹

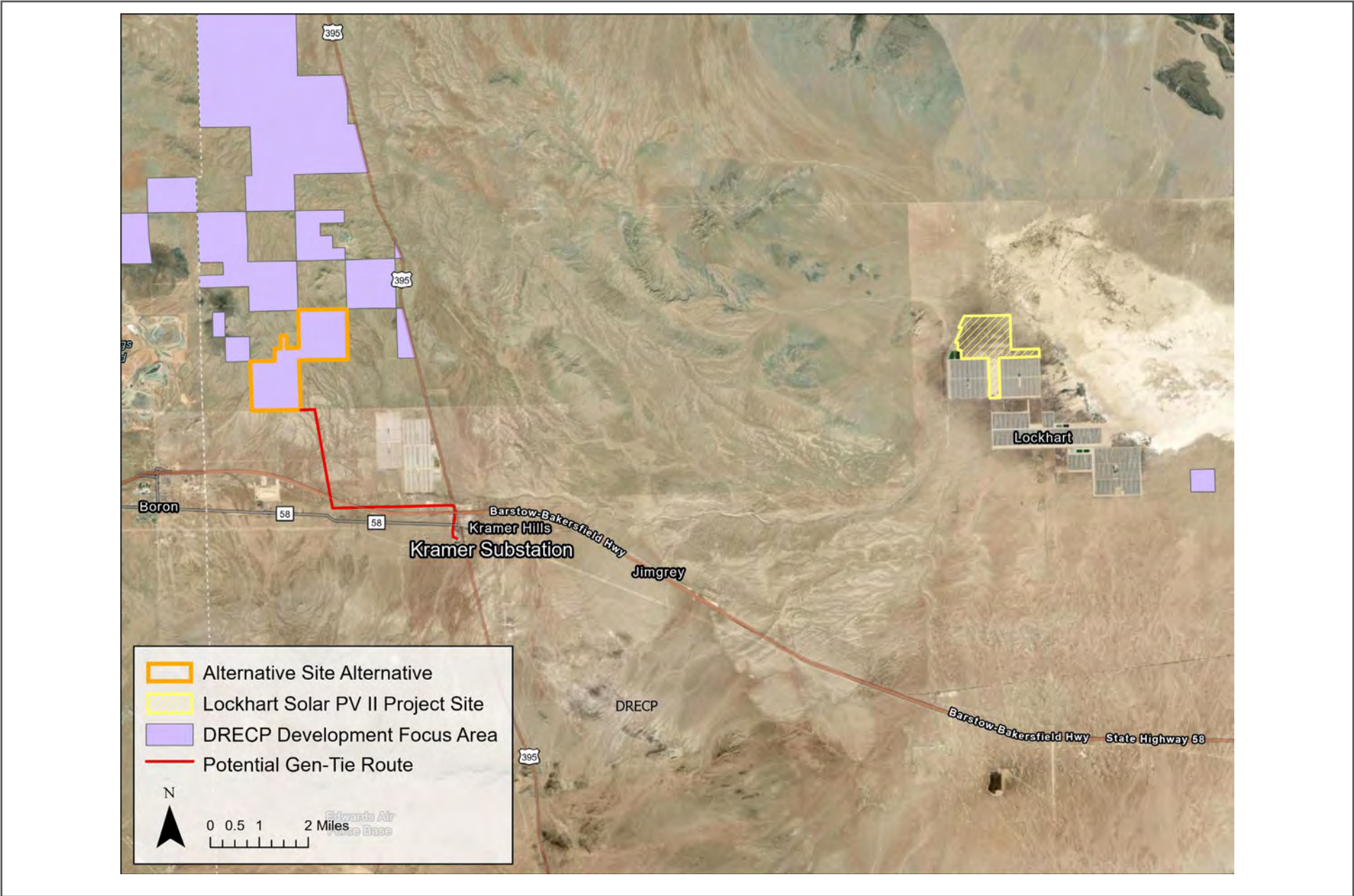
The MGS Conservation Strategy and DRECP consider the Alternative 3 site a feasible location for solar development and solar development is an allowable use; however, further evaluation is required on the MGS conservation requirements for the area before it can be opened to renewable energy applications for individual projects.

This Alternative would require construction of a new generation transmission line (gen-tie) to transmit the power generated from the facility to the existing SCE-owned substation at Kramer Junction. A potentially feasible route for the Alternative 3 gen-tie is shown on Figure 6-2 but has not been fully determined at this time. It is assumed that interconnection would require an approximately 6-mile-long gen-tie line and use right-of-way within existing roadways from the southeast corner of the site to the point of interconnection at the Kramer Junction Substation.

The viability of this Alternative is uncertain given the need to obtain permission to utilize land under the control of another jurisdiction (BLM). Depending on the final route of the gen-tie, additional new rights-of-way may be required for the entirety, or a portion of the gen-tie line if existing rights of way are not available or the gen-tie route requires new access points to build and maintain the gen-tie line. The Applicant does not currently have land rights to place a gen-tie line in this alternative alignment.

¹ California Department of Fish and Wildlife. 2019. *A Conservation Strategy for the Mojave Ground Squirrel*.

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SOURCE: ESRI, 2021

FIGURE 6-2: Alternative Site Alternative

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This Alternative 3 is proposed to reduce the number of solar generating facilities concentrated within the Lockhart area at a location that is designated for renewable energy development and is as near as possible to existing interconnection infrastructure.

6.5 Alternatives Considered and Rejected

Pursuant to CEQA Guidelines Section 15126.6(c), alternatives may be eliminated from detailed consideration in an EIR if they fail to meet most of the Project objectives, are infeasible, or do not avoid or substantially reduce any significant environmental effects. Alternatives that are remote or speculative, or the effects of which cannot be reasonably predicted, also do not need to be considered (CEQA Guidelines Section 15126(f)(2)). Though the Project would not result in any significant and unavoidable impacts, the County considered several alternatives that could reduce potential impacts associated with Project implementation. Per CEQA, the lead agency may make an initial determination as to which alternatives are feasible and warrant further consideration, and which are infeasible. The following alternatives were initially considered but were eliminated from further consideration in this EIR because they do not meet any Project objectives or were infeasible:

- Wind Energy Project Alternative
- Industrial Power Plant Alternative

6.5.1 Wind Energy Project Alternative

The Wind Energy Project Alternative would involve the use of wind turbine technology to generate renewable energy at the Project Site as an alternative to solar energy technology. Similar to solar, energy production from wind is a renewable energy alternative to energy production from traditional power generation (i.e., natural gas-fired, coal, or nuclear sources). Wind energy provides the following benefits:

- Wind is a renewable and infinite resource
- Allows for employment of similar BESS technology as proposed under the Project
- Substantially less operational emissions, including carbon dioxide (GHG), when compared to traditional power generation
- Assist in achieving California's greenhouse gas emission reduction goals by 2030, and delivering 100% zero carbon energy by 2045

Wind energy facilities generally consist of rows of wind turbines placed near existing transmission infrastructure and require the same interconnection facilities as PV solar facilities (i.e., substations, switchyards). However, a wind facility would have an increased potential to result in impacts to avian and bat species in the local area and would create a vertical visual element to the existing viewshed that does not currently exist and would not exist if the Project Site was developed as a solar PV facility. In addition, in order for a wind energy facility within an identified wind resource area to produce an equivalent 150 MW of electricity generation, depending on the technology selected, it would likely require use of a much larger land area than 755-acres. For example, the Pacific Wind Farm, located in Kern County in an area that has been designated by the CEC as a unique wind resource area, contains 70 turbines producing 140

MW and covers approximately 8,500 acres of land. While some of the mountain ridges in the County's desert areas are highly suitable for wind energy facilities, the Project Site is not within an area with reliable or easily attainable wind resources; therefore, in order to attain comparable energy production, a much larger land area and large number of turbines would be required, making wind energy at the 755-acre Project Site infeasible.

As noted above, some of the Project Objectives are to develop a solar project that will help meet the increasing demand for clean, renewable electrical power, as well as help California meet its statutory and regulatory goals of generating more renewable power with minimum potential for environmental effects by using proven, established, and efficient PV technology. Alternatives may be eliminated from detailed consideration in an EIR if they fail to meet most of the Project objectives, are infeasible, or do not avoid or substantially reduce significant environmental effects.

Therefore, this alternative was eliminated from further consideration because it:

- would increase aesthetic impacts because wind turbines are substantially taller than solar panels and would be visible to a larger group of viewers and from additional viewpoints;
- would potentially result in increased impacts to biological resources due to the larger development footprint compared to the Project as well potential impacts to avian and bat species from operating wind turbines;
- is not located within a wind resource area or area with readily available wind resources; and
- would result in increased land impacts due to the need for an increased development area.

6.5.2 Industrial Power Plant Alternative

This alternative would involve the development of a natural gas-fired power plant (equivalent to 150 MW) on the Project Site. Fossil fuel-powered plants are designed on a large scale for continuous operation. However, byproducts of industrial power plant operation need to be considered in both design and operation. When waste heat that results from the finite efficiency of the power cycle is not recovered and used as steam or hot water, it must be released to the atmosphere, and often uses a cooling tower as a cooling medium (especially for condensing steam). The flue gas from combustion of the fossil fuels is discharged to the air and contains carbon dioxide and water vapor as well as other substances, such as nitrogen, nitrogen oxides, and sulfur oxides. Furthermore, unlike the Project, fossil fuel-powered plants are major emitters of GHG emissions. In addition, industrial power plants generally involve the construction of large structures, such as cooling towers and gas stacks, and require use of hazardous materials, including fuels; air, water, and wastewater treatment chemicals; and equipment and facility maintenance chemicals. Gas fired power plants use water for the cooling towers to control the temperature of the machinery in the plant. Water is also lost to evaporation as part of this process. Accordingly, the development of an industrial power plant would typically result in greater adverse impacts related to: (1) aesthetics and the local visual setting of the Project area; (2) air quality and GHG emissions; and (3) water demand.

As noted above, some of the objectives for the Project are to develop a solar project that would help meet the increasing demand for clean, renewable electrical power as well as help California meet its statutory and regulatory goals of generating more renewable power with minimum potential for environmental effects. Alternatives may be eliminated from detailed consideration in an EIR if they fail to meet most of the project objectives, are infeasible, or do not avoid or substantially reduce significant environmental effects. Therefore, this alternative was eliminated from further consideration because it would:

- Result in overall additional/greater impacts than the Project including aesthetics, air quality, GHG emissions, hazardous materials, noise, and water demand.
- Not contribute to the statewide renewable energy and GHG reduction objectives as this alternative would use non-renewable energy to produce electricity.

6.6 Analysis of Alternatives to the Project

In accordance with CEQA Guidelines Section 15126.6(d), this section evaluates each alternative in sufficient detail to determine whether the overall environmental impacts would be less, similar, or greater than the corresponding impacts of the Project. Furthermore, this section evaluates whether each alternative would accomplish the basis objectives of the Project identified in Section 3.0, *Project Description*. As stated above, the Project would not result in any significant and unavoidable impacts with implementation of feasible mitigation. This section provides a conservative analysis of the Project's potential impacts for comparison to the potential impacts of project alternatives. The evaluation of each of the alternatives follows the process described below.

- a) The net environmental impacts of the alternative after implementation of reasonable mitigation measures are determined for each environmental issue area analyzed in this EIR.
- b) Post-mitigation significant and less than significant environmental impacts of the alternative and the project are compared for each environmental issue area as follows:
 - Less: Where the impact of the alternative after feasible mitigation would be clearly less adverse than the impact of the Project, the comparative impact is said to be "less."
 - Similar: Where the impacts of the alternative after feasible mitigation and the Project would be roughly equivalent, the comparative impact is said to be "similar."
 - Greater: Where the impact of the alternative after feasible mitigation would be clearly more adverse than the impact of the Project, the comparative impact is said to be "greater."
- c) The comparative analysis of the impacts is followed by a general discussion of whether the underlying purpose for the Project, as well as the Project's basic objectives would be substantially attained by the alternative.

Table 6-2: Comparison of Project Impacts to the Alternatives summarizes potential impacts of the alternatives evaluated in this EIR when compared with potential impacts of the Project. Several criteria are considered for each resource topic and the conclusion considers the aggregate impact of the alternative (Lesser, Similar, or Greater) relative to the impacts of the Project.

Table 6-2: Comparison of Project Impacts to the Alternatives

Resource Topic	No Project Alternative	Reduced Acreage Alternative	Alternative Site Alternative
Aesthetics	Greater	Similar	Greater
Air Quality	Less	Less	Greater
Biological Resources	Less	Less	Greater
Cultural and Tribal Cultural Resources	Less	Less	Greater
Energy	Less*	Similar*	Greater
Geology and Soils	Less	Less	Greater
Greenhouse Gas Emissions	Less*	Less*	Greater
Hazards and Hazardous Materials	Less	Similar	Less
Hydrology and Water Quality	Less	Less	Greater
Noise	Less	Similar	Less
Transportation	Similar	Similar	Similar
Utilities and Service – Water Supply	Less	Less	Greater
Meet Project Objectives?	None	Most	Most

*While this alternative would consume less energy and generate fewer GHG emissions during construction and operation, it would not achieve the long-term benefits of the Project of generating as much renewable solar energy as the Project would generate.

Table 6-3: Alternative Consistency with Project Objectives identifies Project objectives consistency for the Project alternatives. Further discussion of objectives related to the alternative is provided following the impact analysis comparison below.

Table 6-3: Alternative Consistency with Project Objectives

Project Objective	No Project Alternative	Reduced Acreage Alternative	Alternative Site Alternative
Site photovoltaic (PV) solar power-generating facilities and energy storage on previously graded and disturbed land, near existing utility infrastructure, thereby achieving economies of scale to maximize shared operation and maintenance facilities with existing solar operations.	No	Less than the Project.	No
Establish solar PV power-generating facilities and energy storage of sufficient size and configuration to produce reliable electricity in an economically feasible and commercially financeable manner that can be marketed to different power utility companies.	No	Less than the Project due to smaller size and reduced economy of scale and reduced economic feasibility.	Similar but less than the Project due to physical site constraints, increased mitigation requirements, increased construction costs, and the absence of land control.
Use proven and established PV and energy storage technology that is efficient and requires low maintenance.	No	Yes	Yes

Project Objective	No Project Alternative	Reduced Acreage Alternative	Alternative Site Alternative
Assist California in meeting greenhouse gas emission reduction goals by 2030 as required by the California Global Warming Solutions Act (Assembly Bill 32), as amended by Senate Bill 32 in 2016 to address the effects of climate change on the environment and the economy.	No	Less than the Project due to smaller size and reduced capacity.	Yes
Meet the County’s Renewable Energy and Conservation Element (RECE) requirements; be consistent with the Countywide Plan and zoning land use designations and be sited in an area identified as suitable for utility oriented renewable energy generation projects.	No	Yes	Yes
Develop a PV solar power generation facility in San Bernardino County, which would support the economy by investing in the local community, creating local construction jobs, and increasing tax and fee revenue to the County.	No	Yes	Yes

6.6.1 Impact Analysis Comparison for Alternative 1: The No Project Alternative

Impact Comparison to the Project

Under the No Project Alternative, potential impacts associated with construction and operation of the solar energy and storage facility would be avoided.

Aesthetics

The No Project Alternative would have no new aesthetic impacts and would have no impact on scenic resource or visual quality. With implementation of the No Project Alternative the Project Site would remain in its current condition. Views of the Project Site would remain largely limited to locations adjacent to the property. Existing views of adjacent utility scale solar facilities and various transportation and utility infrastructure would remain. No new sources of light and glare would be constructed. The No Project Alternative would avoid the Project’s less-than-significant impacts on visual quality.

The California Energy Commission (CEC) approved development of the SEGS X property as a solar thermal power facility and, during the early-1990s, construction of the SEGS X solar thermal facility was initiated on the Project site. The property was largely graded and prior to work stoppage, several concrete foundations for a power block as well as concrete foundations for solar racking and other infrastructure had been installed on portions of the property. In 1991, the SEGS X owner was unable to continue

construction due to lack of financing and construction was halted. The property has been subject to near-complete surface disturbance from associated grading and partial construction of the previous SEGS X facility and a number of the uncompleted structures and transmission infrastructure still remain. Should the Project Site remain in its current condition under this Alternative, no physical changes would be made to the Project Site and the remnants of the partially constructed structures left from the SEGS X project would remain in place (see **Figure 4.1-2: Existing SEGS X Structures On-site**). The Project would remove the partially constructed SEGS X structures and miscellaneous facilities on-site, the tallest of which is approximately 32 feet high, and replace them with solar PV panels that would be approximately 21.6 feet and would leave the property in an improved, cleaner and debris-free condition. Therefore, the Project would result in a beneficial impact to visual resources as compared to the No Project Alternative, which would leave the existing structures in place.

Air Quality

The No Project Alternative would not require an increase in vehicle or equipment use. Criteria air pollutant emissions would not increase and the risk to sensitive receptors would remain the same as baseline conditions. Ambient air quality of the Project Site would not be affected by the No Project Alternative. The No Project Alternative would avoid short term construction emissions and long-term air quality impacts compared to the Project.

Biological Resources

The No Project Alternative would not require ground-disturbing activities and would not affect special-status plant and wildlife species that may occur within the Project site. No impacts on biological resources would occur. Therefore, the No Project Alternative would have reduced biological resources impacts compared to the Project.

Cultural Resources and Tribal Cultural Resources

The No Project Alternative would not involve ground-disturbing activities; therefore, would not have the potential to impact archaeological or tribal cultural resources, or disturb human remains. The No Project Alternative would avoid less-than-significant Project impacts resulting from the potential inadvertent discovery of archaeological and tribal cultural resources during construction of the Project. Therefore, the No Project Alternative would have reduced archaeological and tribal cultural resources impacts compared to the Project.

Energy

Under the No Project Alternative, a solar energy generation and storage project would not be constructed, and the Project Site would remain in its current mostly undeveloped state. The No Project Alternative would require no additional energy use beyond existing baseline conditions of security lighting and continued operations of facilities within the Shared Facilities Area. However, the No Project Alternative would not generate renewable energy or advance State and local plans relating to renewable energy and efficiency. Therefore, the No Project Alternative would not result in beneficial energy impacts when compared to the Project because the No Project Alternative would not produce renewable energy.

Geology and Soils

Under the No Project Alternative, there would be no construction on the Project Site and potential impacts due to earthquake faults, strong seismic ground shaking, or seismic-related ground failure including liquefaction or landslides, soil erosion or loss of topsoil, unstable geologic or soil units, expansive soils, soils adequately supporting septic tanks or alternative wastewater disposal, or paleontological resources would be avoided. In addition, the No Project Alternative would avoid potential impacts resulting from the potential inadvertent discovery of paleontological resources during construction of the Project. Therefore, the No Project Alternative would have reduced impacts on geology and soils and paleontological resources compared to the Project.

Greenhouse Gas Emissions

The No Project Alternative would not result in construction of a solar energy and storage facility. The No Project Alternative would not implement a renewable energy project and would not help the State meet its renewable energy generation targets to reduce GHG emissions. The No Project Alternative would avoid the Project's less than significant impacts from generation of GHG emissions during construction because no development would occur on the Project Site. Impacts would be reduced compared to the Project; however, the No Project Alternative would not result in beneficial energy impacts when compared to the Project because the No Project Alternative would not produce renewable energy.

Hazards and Hazardous Materials

Under the No Project Alternative, there would be no construction on the Project Site and no increase in the potential impact on accidental conditions involving the release of hazardous materials, hazardous materials, and substances. There would also be no decommissioning process. Similar to the Project, there would be no impact from emitting hazardous emissions or handling hazardous or acutely hazardous materials within one-quarter mile of an existing or proposed school; being located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code §65962.5; and being located within an airport land use plan or within two miles of a public airport or public use airport. While the Project would have a less than significant impact from hazard to the public or the environment through the routine transport, use or disposal of hazardous materials, through accidental release of hazardous materials into the environment exposure to hazardous materials from soils based on soils testing at the Project Site; risk of loss injury or death involving wildland fires and impairing implementation of or physically interfering with an adopted emergency response plan or emergency evacuation plan. Because the No Project Alternative would not involve any construction, impacts would be incrementally less compared to the Project.

Hydrology and Water Quality

Under the No Project Alternative, there would be no construction on the Project Site and no increase in impacts involving water quality standards; waste discharge requirements; degradation of surface or groundwater quality; groundwater supplies or recharge; alteration of the drainage pattern; or water quality control plans and sustainable groundwater management plans. The No Project Alternative would

not construct new impervious surfaces. Therefore, the No Project Alternative would have reduced impacts on hydrology and water quality compared to the Project.

Noise

The No Project Alternative would not create temporary, short-term construction noise or increased operational noise above baseline conditions. Accordingly, the No Project Alternative would result in reduced impacts from noise compared to the Project.

Transportation

The No Project Alternative would not increase VMT to or from the Project Site. However, the VMT associated with existing SEGS operations activities would remain as the Projects would share onsite staff to operate the facilities and staffing levels would be similar with or without the Project. Like the Project, the No Project Alternative would not result in inadequate emergency access or conflict with adopted policies and plans regarding public transit, bicycle, or pedestrian facilities. Because the No Project Alternative would not bring any additional trips to the Project Site. The No Project Alternative would have similar impact on transportation as compared to the Project.

Utilities and Service Systems – Water Supply

The No Project Alternative would not increase water demand as there would be no development on the site. Therefore, the No Project Alternative would have less impacts to utilities and service systems as it relates to water supply when compared to the Project.

No Project Alternative Conclusion and Feasibility

The baseline environmental conditions on the Project Site would remain under the No Project Alternative. The No Project Alternative would have fewer impacts on most environmental resources as compared to the Project because no construction would occur, and the Project Site would remain in its current condition. Compared to the Project, this alternative would underutilize land that has been planned for a solar energy facility within an existing fenced area that would remain vacant and undeveloped. The No Project Alternative would not fulfill any of the Project Objectives for meeting renewable energy generation goals, siting a solar facility in previously disturbed lands near existing utility infrastructure, achieving economies of scale to maximize shared operation and maintenance facilities with existing solar operations, and helping local energy companies in fulfilling local renewable energy procurement goals. Additionally, the No Project Alternative would lose the beneficial impacts to visual resources and energy.

6.6.2 Impact Analysis Comparison for Alternative 2: Reduced Acreage Alternative

Impact Comparison to the Project

Aesthetics

The view of the Reduced Acreage Alternative at representative viewpoints discussed in Section 4.1, *Aesthetics*, would be similar to the Project. Although the development footprint would be reduced, the change in footprint would be from the interior of the southeastern portion of the Project Site, which is

less visible from public viewpoints. Overall, the Reduced Acreage Alternative would have less than significant aesthetics impacts, and impacts would be similar to that of the Project.

Air Quality

The Reduced Acreage Alternative would have slightly less, but still less-than-significant impacts, to air quality as those for the Project discussed in Section 4.2, *Air Quality*. Because the Reduced Acreage Alternative would require less ground disturbance and a shorter construction schedule there would be less fugitive dust associated with construction. The Reduced Acreage Alternative would have a less-than-significant impact on the net increase of criteria pollutants for which the Project region is in non-attainment for construction impacts. However, because construction emissions are calculated on a maximum daily amount, the Reduced Acreage Alternative would still result in potentially significant impacts on air quality. With implementation of the same mitigation identified for the Project, the Reduced Acreage Alternative would similarly reduce impacts to less than significant levels. Similar to the Project, the Reduced Acreage Alternative would have a less than significant impact related to implementation of the Western Mojave Desert AQMP and exposure of sensitive receptors to TACs, CO, Valley Fever, or odors. Overall, the Reduced Acreage Alternative's impacts would be incrementally reduced compared to the Project, but at the same level of significance and the same mitigation measures would apply.

Biological Resources

Development of the Reduced Acreage Alternative would result in an 80-acre reduction in the Project Site. Avoidance of development in the CUP 2 area would also leave more undeveloped area on the Project Site for foraging raptors and other native birds. Overall, the Reduced Acreage Alternative would result in a slightly reduced level of biological resources impacts when compared to the Project, but impacts would remain less than significant for both the Project and the Reduced Acreage Alternative and the same mitigation measures would apply.

Cultural Resources and Tribal Cultural Resources

The Reduced Acreage Alternative would result in slightly reduced, but similar, impacts to cultural resources and tribal cultural resources as those discussed for the Project in Section 4.4, *Cultural Resources*, and Section 4.12 *Tribal Cultural Resources*. Although the footprint would be reduced, the Reduced Acreage Alternative would result in similar impacts on unknown resources as the Project. The Reduced Acreage Alternative would result in a slightly reduced level of impacts to cultural resources and tribal cultural resources due to the reduced footprint, but impacts would remain less than significant for both the Project and the Reduced Acreage Alternative and the same mitigation measures would apply.

Energy

The Reduced Acreage Alternative would have similar impacts to energy as those discussed in Section 4.5, *Energy*. The Reduced Acreage Alternative would produce renewable solar energy for distribution through the SCE distribution system, but would produce less energy than the Project and, therefore, result in reduced beneficial impacts as compared to the Project. The Reduced Acreage Alternative would use typical construction equipment and would not result in the wasteful, inefficient, or unnecessary

consumption of energy resources. Additionally, the Reduced Acreage Alternative would serve to directly advance State and local plans for renewable energy by increasing renewable energy generation in the region, but less so than the Project. Therefore, the Reduced Acreage Alternative would not conflict with or obstruct State or local plans for renewable energy or energy efficiency.

Overall, consumption of energy may be less than the Project due to a reduced construction footprint, however, the production and efficiency of the solar energy generated by the Reduced Acreage Alternative would be reduced when compared to the Project. Overall, the Reduced Acreage Alternative would result in similar energy impacts as the Project, but fewer beneficial impacts, and impacts would be less than significant under either scenario.

Geology and Soils

The Reduced Acreage Alternative would have similar impacts to those discussed for the Project in Section 4.6, *Geology and Soils*. Similar to the Project, the Reduced Acreage Alternative would have a less than significant impact related to rupture of known earthquake fault, strong seismic ground shaking, or seismic-related ground failure and expansive soils. The Reduced Acreage Alternative would have less than significant impacts on soil or topsoil erosion; unstable geologic units or soils; soils related to septic tanks or alternative wastewater disposal systems.

Since the Reduced Acreage Alternative would result in less ground disturbance during construction as compared to the Project, the potential to encounter paleontological resources would be slightly reduced. However, the Reduced Acreage Alternative would still require the same mitigation identified in Section 4.6, *Geology and Soils*, as the Project to reduce potential impacts to paleontological resources. Overall, the Reduced Acreage Alternative would result in slightly less impacts to geology and soils when compared to the Project, but impacts would be less than significant under either scenario and the same mitigation measures would apply.

Greenhouse Gas Emissions

The Reduced Acreage Alternative would have slightly less impacts than those discussed for the Project in Section 4.7, *Greenhouse Gas Emissions*. Due to the reduced footprint, construction of the Reduced Acreage Alternative would result in slightly less GHG emissions, and the Reduced Acreage Alternative would have a less than significant impact on direct or indirect GHG emissions and related to plans, policies, and regulations related to GHG emission reductions. Overall, the Reduced Acreage Alternative would result in less GHG impacts when compared to the Project. However, the Reduced Acreage Alternative would result in less of a beneficial GHG impact when compared to the Project because it would produce less renewable energy. Impacts would be less than significant under either the Project or the Reduced Acreage Alternative.

Hazards and Hazardous Materials

The Reduced Acreage Alternative would result in similar impacts as those discussed for the Project in Section 4.8, *Hazards and Hazardous Materials*. The Reduced Acreage Alternative would have a less than

significant impact on hazards to the public or the environment through the routine transport, use, or disposal of hazardous materials, reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment, and on emergency response plans or emergency evacuation plans. Similar to the Project, the Reduced Acreage Alternative would have no impact regarding waste within one-quarter mile of an existing or proposed school or be located on a site which is included on a list of hazardous materials sites pursuant to Section 65962.5 of the California Government Code. The Reduced Acreage Alternative would have no impact regarding safety hazards or noise within an airport land use plan or within two miles of a public airport or public use airport. Similar to the Project, the Reduced Acreage Alternative would have battery storage facilities on 15 acres within the Shared Facilities Area, no potential for agricultural-related chemicals to create a significant hazard to the public or the environment and would have a less than significant risk of loss, injury or death involving wildland fires. The Reduced Acreage Alternative would also require decommissioning at the end of the project life cycle. Overall, the Reduced Acreage Alternative's impacts would result in similar hazards and hazardous materials impacts when compared to the Project.

Hydrology and Water Quality

The Reduced Acreage Alternative would have slightly less impacts than those discussed for the Project in Section 4.9, *Hydrology and Water Quality*. The number of solar PV modules and internal access roads would be reduced as a result of 80 fewer acres of development. This would result in less ground disturbance during construction and slightly reduced impervious surfaces. The Reduced Acreage Alternative would have a less than significant impact on groundwater supplies or interference with groundwater recharge, alteration of the drainage pattern on site, and regarding water quality control plans or sustainable groundwater management plans. The Reduced Acreage Alternative would, similar to the Project, have no impact on release of pollutants due to flood hazard, tsunami, or seiche.

Overall, the Reduced Acreage Alternative would have slightly less impacts on hydrology and water quality as those discussed for the Project; however, impacts would be less than significant under either scenario.

Noise

Similar to the Project, the Reduced Acreage Alternative would not result in the exposure of people to excessive groundborne vibrations or noise levels, substantial permanent increase in ambient noise levels in the Project vicinity. Similar to the Project, construction activities under the Reduced Acreage Alternative could expose the closest potential residential receptor to temporary and intermittent noise levels up to 55.9 dBA, which would be below the FTA's 80 dBA construction standard. As such, construction noise impacts would be less than significant. Noise impacts from operations of the solar PV systems, electrical collection lines, and BESS would not exceed the County's daytime (55 dBA_{Leq}) and nighttime (45 dBA_{Leq}) outdoor stationary noise standard for residential uses; and impacts would similarly be less than significant. The Reduced Acreage Alternative would not expose people residing or working in the vicinity of the site to excessive aircraft noise levels or excessive noise levels within the vicinity of a private air strip. Overall, the Reduced Acreage Alternative would result in similar impacts to noise when compared to the Project and impacts would remain less than significant.

Transportation

The Reduced Acreage Alternative would result in similar impacts on transportation as those discussed for the Project in Section 4.11, *Transportation*. Although the acreage for the Reduced Acreage Alternative would be reduced as compared to the Project, VMT generated during construction and operation would be similar to those generated under the Project. Therefore, impacts to VMT for the Reduced Acreage Alternative would be less than significant. Like the Project, the Reduced Acreage Alternative would not result in inadequate emergency access or conflict with adopted policies and plans regarding public transit, bicycle, or pedestrian facilities. Overall, the Reduced Acreage Alternative would result in similar impacts on transportation as those discussed for the Project and impacts would remain less than significant.

Utilities and Service Systems – Water Supply

Similar to the Project, the Reduced Acreage Alternative would utilize groundwater from four existing groundwater wells onsite for construction and operation and would result in a less than significant impact on water supply. Because the Reduced Acreage Alternative site would be smaller than the Project, the Reduced Acreage Alternative would utilize slightly less water during construction for dust suppression and slightly less water during operation for solar panel washing. Therefore, the Reduced Acreage Alternative would result in slightly reduced, but similar impacts to water supply when compared to the Project, and impacts would remain less than significant.

Reduced Acreage Alternative Conclusion and Feasibility

The Reduced Acreage Alternative would result in mostly similar or slightly reduced impacts as compared to the Project. This alternative would generally meet the Project objectives, but three of the objectives would be met to a lesser extent than the Project.

The Reduced Acreage Alternative would meet the objectives of minimizing environmental impacts by siting a facility on disturbed lands and developing in proximity of existing utility scale solar generating facilities. But compared to the Project, this alternative would underutilize land that has been planned for a solar energy facility within an existing fenced area that would remain vacant and undeveloped. Given the other existing and proposed solar facilities adjacent to this site, a solar facility within the CUP 2 area would be the most compatible land use.

The Reduced Acreage Alternative would reduce Project energy generation production by approximately 15 MW. Compared to the Project, the Reduced Acreage Alternative would meet the objective of establishing solar PV power-generating facilities and energy storage of sufficient size and configuration to produce reliable electricity in an economically feasible and commercially financeable manner that can be marketed to different power utility companies; however, to a lesser degree. While this alternative would achieve economies of scale to maximize shared operation and maintenance facilities with existing solar developments, because the Reduced Acreage Alternative is 80 acres smaller in size than the Project, it would have less power generating capacity to produce reliable electricity. This alternative would partially meet the objectives of achieving economies of scale to maximize shared operation and maintenance facilities with existing solar developments. This reduction would reduce the Reduced Acreage

Alternative's contribution to assisting California reach its renewable energy generation goals under Senate Bill (SB) 100, requiring renewable energy and zero-carbon resources to supply 100 percent of electric retail sales to end-use customers by 2045.

Overall, the Reduced Acreage Alternative would meet the six Project Objectives, but three of the objectives would only be partially met compared to the Project.

6.6.3 Impact Analysis Comparison for Alternative 3: Alternative Site Alternative

Impact Comparison to the Project

Aesthetics

This Alternative would include development of a utility scale solar and energy storage facility within a previously undisturbed desert area, covered in a network of desert washes. There is an existing solar facility to the southeast of the Alternative site, and an existing boron mine directly west and adjacent to the site. The Project would replace views of the open desert with views of a utility scale solar and energy storage facility. This alternative would change the visual character of the existing site by developing a utility scale renewable energy facility on a previously undeveloped site. The level of contrast to the existing undisturbed landscape would be moderate to moderate high compared to surrounding properties.

A transmission corridor containing multiple high voltage and electrical distribution transmission lines, gas pipeline, fiber optic cable, and distribution lines, runs parallel to the west side of U.S. Highway 395. An existing solar facility is located just west of U.S. Highway 395. Construction at the Alternative 3 site would not result in significant changes in existing views from U.S. Highway 395 and U.S. Route 58. Most of the views from U.S. Highway 395 to the Alternative Site location would be screened by intervening topography. U.S. Route 58 is an eligible State scenic highway. The Alternative Site location is approximately 1.5 miles to the north of the U.S. Route 58. Existing views towards the Alternative 3 site from the U.S. Route 58 are currently a mix of undeveloped desert landscape with scrub shrub vegetation and the Boron Mine with mountains in the background.

The gen-tie line for this Alternative would be approximately 5-miles long and would parallel U.S. Route 58. The gen-tie line would not substantially obstruct or interrupt views of the surrounding landscape. The gen-tie line would be consistent with other existing overhead lines along this alignment, particularly in the area surrounding the Kramer Junction Substation.

This Alternative would introduce additional new sources of lighting and glare to a previously undeveloped site. All lighting would be installed in accordance with County standard for nighttime lighting. The gen-tie line would be constructed with metallic components, which could introduce new sources of glare to the Project Site. No residences are located near the Alternative Site. Impacts from light and glare would be less than significant with compliance with County standards.

Due to the potential to change the visual character of the area, this Alternative would have a greater impact on aesthetics compared to the Project.

Air Quality

This Alternative would involve the use of construction equipment and vehicles that would result in temporary construction emissions. This Alternative would not result in extended exposure of residences to criteria air pollutants or toxic air contaminants, as there are no residences in the vicinity of the Kramer Junction Alternative site. The Alternative Site is located within a dry desert area with a network of washes and is more topographically diverse than the Project Site. This Alternative would require more grading for site development to even out the grade for solar panel installation. The additional grading would result in greater potential for generation of fugitive dust (PM₁₀ and PM_{2.5}) during construction. The additional grading would also require increased diesel-powered equipment activity, which would result in greater NOx emissions. Based on the amount of anticipated grading, this Alternative would have greater air quality impacts compared to the Project and would implement the same mitigation measures.

This Alternative would use the same types of construction equipment as the Project. This alternative would result in increased air quality emissions from fugitive dust due to the substantial grading that would be required on the site. The nearest sensitive receptors are approximately 0.5 mile southwest of the Alternative Site in Boron. This Alternative would have a greater impact on air quality compared to the Project.

Biological Resources

This Alternative would have the potential to affect special-status wildlife and plant species, including direct impacts on habitat for desert tortoise, burrowing owl, special-status birds and bats, desert kit fox, and Mohave ground squirrel. Two BLM special-status plant species [desert cymopterus (*Cymopterus deserticola*) and Barstow woolly sunflower, (*Eriophyllum mohavense*)] have the potential to occur on the Alternative Site. The Alternative Site Alternative is located in proximity to known populations of MGS and could result in substantial loss of MGS habitat and impacts on desert wash habitat.

This Alternative would be located in an area designated by the BLM as a Development Focus Area in the BLM adopted Desert Renewable Energy Conservation Plan. The BLM has identified DFAs for renewable energy projects as a way to concentrate large utility scale renewable energy projects in areas that are outside of the California Desert Conservation Area Plan Boundary. The Alternative Site Alternative would be consistent with these plans. However, a location within a DFA does not necessarily mean MGS impacts are avoided. The Alternative Site Alternative is located within the North of Edwards Core Population Area, and significant development within this DFA could severely impact a core population center for the MGS and sever a viable north-south linkage between populations, as well as an east-west linkage between populations in the central part of the range.² As such, this alternative could result in impacts on MGS despite being located within a DFA consistent with the DRECP.

The Alternative location is within an area with topography that contains numerous desert washes (drainages) throughout the site. Impacts on these drainages from solar and battery infrastructure, road crossings, and access driveways would result in significant impacts on wetlands and additional mitigation

² California Department of Fish and Wildlife. 2019. *A Conservation Strategy for Mojave Ground Squirrel*.

would be required compared to the Project. This Alternative would result in greater impacts on special-status species, habitat and plants than the Project. Mitigation measures identified for the Project could be implemented to reduce some biological resource impacts; however, additional mitigation measures would be required to address potential impacts on MGS and wetland habitat. The Alternative Site Alternative would result in greater impacts on biological resources than the Project.

Cultural Resources and Tribal Cultural Resources

This Alternative would include ground-disturbing activities on undeveloped desert terrain. Ground disturbing construction activities have the potential to uncover buried archeological resources, tribal cultural resources, or human remains and result in a significant impact. Implementation of the mitigation measures identified for the Project would reduce potential impacts to a less than significant level. The potential for disturbing archaeological or tribal cultural resources on the Alternative site would be greater than the potential at the Project Site because the Project Site has been previously disturbed from agricultural activities and partial construction of the SEGS X solar thermal facility, and as a result, the potential to encounter significant cultural resources on the Project Site is therefore reduced. Implementation of this Alternative would result in greater potential impacts on cultural resources compared to the Project due to the undeveloped nature of the Alternative site even if impacts were mitigated to less-than-significant levels.

Geology and Soils

Implementation of this Alternative would include development within an area of desert washes with uneven terrain. Additional grading would be required for site preparation that would have the potential to cause soil erosion and loss of topsoil. Soils at the Alternative site consist of sandy loam and the depth to groundwater would be substantial due to the desert environment. The Alternative site soil conditions are not subject to liquefaction, landslides, or collapse. The potential for disturbing paleontological resources on the Alternative site would be greater than the potential at the Project Site because the Project Site has been previously disturbed from agricultural activities and partial construction of the SEGS X solar thermal facility, and as a result, the potential to encounter significant paleontological resources on the Project Site is therefore reduced as compared to the Alternative site.

This Alternative would require more grading than the Project due to presence of slopes and desert washes. Geology and soil impacts associated with the implementation of Alternative would be less than significant with implementation of mitigation measures but would be greater compared to the Project.

Greenhouse Gas Emissions

Construction under this Alternative would involve construction equipment and vehicles that would result in construction GHG emissions, which would be short-term and temporary. The Alternative site is more topographically diverse than the Project Site and would require more vegetation removal and grading for site development to even out the grade for facilities installation. The additional grading would result in greater use of construction equipment, which would result in greater GHG emissions. GHG impacts associated with the implementation of Alternative Site Alternative would be greater than the Project.

Hazards and Hazardous Materials

This Alternative would involve use of the same hazardous materials as the Project. Project construction activities would occur in accordance with all applicable standards for handling and transport of hazardous materials set forth by the County, State, and federal regulations. The Alternative site is not located on a site that is included on a list of hazardous materials sites, as determined through review of the EnviroStor and GeoTracker databases. This Alternative site has never been developed or used for agricultural purposes and as a result does not have any contaminated soils from past pesticide use or previous solar development. As such impacts from hazardous materials would be less than the Project.

There are two leaking underground storage tanks (LUST) cleanup sites located on the east side of Kramer Junction Substation, but no development would occur at those locations. The Alternative would introduce energy generation and battery storage infrastructure to a vegetated desert landscape with a similar, but less than significant, potential for the occurrence of wildfires.

The Boron Airstrip, a private airstrip, is located approximately 0.70 mile south of this Alternative site. The Alternative facilities would not be expected to create a hazard to air traffic due to the distance between the site and the Boron Airstrip.

This Alternative would require the same use of hazardous materials as the Project and would have the same less than significant impact related to the potential for wildfires. This Alternative would require decommissioning after the life cycle of the project, similar to the Project. Overall, this Alternative's impacts would be less than the Project, but impacts would be less than significant for this Alternative or the Project.

Hydrology and Water Quality

The Alternative Site Alternative is located in an area crossed by a network of desert washes. Grading and earthwork in the Alternative area would result in increased risk of erosion and associated water quality impacts. This Alternative could also require redirecting streams due to grading within the desert washes. Preparation of a project-specific Storm Water Pollution Prevention Plan (SWPPP) would minimize construction-related water quality impacts from erosion; however, impacts on stream flows could be significant due to grading within desert washes.

Construction of this Alternative would require use of water for dust suppression. This Alternative site does not contain any groundwater wells and does not have any existing groundwater use. The use of groundwater for dust control could potentially have a significant impact on groundwater supplies. Although the Alternative site is located near an existing mine, there are no known sources of contamination on the site. Therefore, this Alternative is not expected to create a new source of contaminated water.

The location of this Alternative site within an area of desert washes would increase the likelihood of flooding and substantial damage to the facility during flooding. Additional engineering would be required to avoid flood damage. The engineering solutions could result in other impacts on the environment, such

as increased air quality and GHG emissions. The Alternative Site Alternative would result in greater hydrology and water quality impacts compared the Project due to the location of the facility within an area of desert washes.

Noise

The Alternative Site Alternative would generate short-term construction noise and long-term operational noise. The closest sensitive receptors are located approximately 0.5 mile southwest of this Alternative site. Similar to the Project, the impact from noise generation during construction and operation would be less than significant due to the distance between the Alternative facilities and the nearest sensitive receptor.

Overall, the Alternative Site Alternative would result in similar noise impacts compared to the Project.

Transportation

The amount of grading needed to construct a solar and energy storage facility on this Alternative site would be increased as compared to the Project, which would result in higher construction VMT than the Project. However, as the construction trips needed would be temporary, there would not be a significant impact on VMT. Because the Alternative Site Alternative would be required to bring additional employees on-site for O&M, there would be increased VMT for operation of the Alternative as compared to the Project, which would not bring additional employees on-site due to the continued employment of existing shared O&M and staff in the Shared Facilities Area. Any new access roads constructed for the Alternative would be designed to achieve County standards and would not increase hazards due to a design feature. No closures to U.S. 58 or U.S. Highway-395 would occur that may affect emergency access in the vicinity of the Alternative. Under the Alternative Site Alternative, impacts on transportation would be less than significant but would be greater than the transportation impacts under the Project.

Utilities and Service Systems – Water Supply

The Alternative Site Alternative could require greater use of water supplies than the Project due to the increased grading and compaction that would likely be required at the Alternative site to level the surface undulations within the washes. Operational water demand for panel washing would be similar to Project. The Alternative site does not contain on-site wells and new wells would have to be drilled and tested, or water would have to be trucked in from an off-site location. Furthermore, unlike the Project, the Alternative Site Alternative would not utilize existing water facilities for operation and would be required to utilize water from the local water purveyor. This Alternative has the potential for significant impacts on water supplies because there are no existing entitlements of water for the site. It is unknown whether there are adequate supplies of water to support construction and operation of a new solar and energy storage facility in the area. The Alternative Site Alternative would have greater impacts on utilities and services than the Project due to increased construction water demand and the potential for inadequate water supply.

Alternative Site Alternative Conclusion and Feasibility

Implementation of Alternative Site Alternative would result in greater impacts on all environmental resource areas, except for hazards and hazardous materials and noise, as compared to the Project. This Alternative is located on BLM-administered land and would require a BLM right-of-way grant for development, in addition to County approval for development of an overhead gen-tie line. Developing on this site would require coordination with CDFW to develop the project consistent with the 2019 CDFW conservation strategy for Mohave ground squirrel. These additional processes could substantially increase the cost and length of time required for permitting this Alternative.

This Alternative would meet some of the Project Objectives and is considered potentially feasible because it is located within DRECP DFAs that are recommended for renewable energy projects. The Alternative Site Alternative would not meet the objectives of minimizing environmental impacts by siting a facility on disturbed lands and developing in proximity of existing utility scale solar generating facilities. The Alternative Site Alternative would also not meet the objective of achieving economies of scale to maximize shared operation and maintenance facilities with existing solar developments.

This Alternative would, to a lesser extent than the Project, meet the Project Objective of establishing a solar PV power-generating facilities and energy storage of sufficient size and configuration to produce reliable electricity in an economically feasible and commercially financeable manner that can be marketed to different power utility companies. Due to physical site constraints, increased mitigation requirements, increased construction costs, and the absence of land control this alternative is less economically feasible than the Project when considering the additional expenses. Additionally, this Alternative has additional expenses for infrastructure costs associated with O&M compared to the Project which will share existing O&M facilities. The Alternative Site Alternative would meet the Project Objective related to developing a PV solar power generation facility in San Bernardino County, which would support the economy by investing in the local community, creating local construction jobs, and increasing tax and fee revenue to the County.

Overall, the Alternative Site Alternative would meet the some, but not all of the Project objectives. Further, this alternative would underutilize land that has been planned for a solar energy facility within an existing fenced area that would remain vacant and undeveloped.

6.7 Environmentally Superior Alternative

CEQA requires that an environmentally superior alternative be identified; that is, an alternative that would result in the fewest or least significant environmental impacts. If the No Project Alternative is the environmentally superior alternative, State CEQA Guidelines Section 15126.6(e)(2) requires that another alternative that could feasibly attain most of the project's basic objectives be chosen as the environmentally superior alternative.

The No Project Alternative is the environmentally superior alternative. However, in accordance with CEQA Guidelines Section 15126.6(e)(2), a secondary alternative must be chosen since the No Project Alternative is environmentally superior. Alternative 2, the Reduced Acreage Alternative, is conservatively considered

as the environmentally superior alternative because it would incrementally reduce certain impacts associated with the Project due to the reduced footprint (e.g., air quality, biological resources, cultural resources, geology and soils, hydrology, and utilities). However, the Project would not result in any significant and unavoidable impacts, so environmental impacts would be less than significant for all resource areas under either the Project or Alternative 2. Further, Alternative 2 would not realize certain environmental benefits and would not meet the Project objectives to the same extent as the Project. Alternative 2 would leave undeveloped underutilized land that has been planned for a solar energy facility, within an existing fenced area surrounded by similar renewable energy development. Alternative 2 would also contribute less than the Project in assisting California reach its renewable energy generation goals under SB 100. Alternative 2 would attain most of the Project Objectives, although it would not do so to the same extent as the Project.

6.8 References

California Department of Fish and Wildlife. 2019. *A Conservation Strategy for the Mojave Ground Squirrel*.

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7.0 EFFECTS FOUND NOT TO BE SIGNIFICANT

7.1 Introduction

Section 15128 of the California Environmental Quality Act (CEQA) Guidelines states that “an EIR shall contain a statement briefly indicating the reasons that various possible significant effects of a project were determined not to be significant and were therefore not discussed in detail in the EIR.” This section briefly describes effects found to have no impact or a less than significant impact based on the analysis conducted during the Draft Environmental Impact Report (EIR) preparation process.

7.2 Agriculture and Forestry Resources

Impact 7.2-1 *Would the Project convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?*

Level of Significance: No Impact

The Project Site is designated as Urban and Built-Up Land on the Important Farmland Finder Map by the California Department of Conservation. The surrounding land is designated as Grazing Land. There is no Prime, Unique, or Important Farmland designations to be converted within the Project Site boundaries or within the vicinity. Therefore, the Project would not convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland) to non-agricultural use. No impact would occur.

Impact 7.2-2 *Would the Project conflict with existing zoning for agricultural use, or a Williamson Act contract?*

Level of Significance: Less than Significant

The existing zoning for the Project Site is Rural Living (RL); however, as previously discussed, the zoning is expected to be changed to Resource Conservation (RC) with Board approval of an upcoming County-initiated Zoning ordinance and map update. In the event the Project is considered prior to the adoption of the County-initiated zoning ordinance and map update, the Project includes a site-specific zone change request for the Project Site from RL to RC. The RC land use zoning district provides sites for open space and recreational activities, single-family homes on very large parcels and similar and compatible uses. Utility scale Renewable Energy Facilities are allowed in this zone. Under County Code Chapter 82.04, electrical power generation is categorized as a transportation, communications and infrastructure use and is allowed in the RC zone upon approval of a Conditional Use Permit (CUP). Please see related discussion under Impact 7.3-2 below. The Project Site is not under a Williamson Act contract. Therefore, the Project would not conflict with existing/future zoning for agricultural uses with approval of the requested CUPs, or a Williamson Act contract. Potential impacts are considered less than significant.

Impact 7.2-3 *Would the Project conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g))?*

Level of Significance: No Impact

The Project would not conflict with existing/future zoning for, or cause rezoning of, forest land (as defined in Public Resources Code (PRC) Section 12220(g)), timberland (as defined by PRC Section 4526), or timberland zoned Timberland Production (as defined by Government Code Section 51104(g)). The Project Site is mostly vacant with some previously disturbed areas due to the halted construction of the previously approved SEGS X facility as well as construction of the Shared Facilities Area for the existing SEGS VIII and IX Solar Thermal Power Plants. The Project Site has never been designated as forest land or timberland. Therefore, the Project would not conflict with the existing/future zoning for, or cause rezoning of, forest land, timberland, or timberland zoned Timberland Production as there is none. No impact would occur.

Impact 7.2-4 *Would the Project result in the loss of forest land or conversion of forest land to non-forest use?*

Level of Significance: No Impact

The Project would not result in the loss of forest land or conversion of forest land to non-forest use. The Project Site is located within the Desert region of the County and does not contain forest land and has never been designated as forest land or timberland. Therefore, no impact would occur.

Impact 7.2-5 *Would the Project involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use?*

Level of Significance: No Impact

See Impact 7.2-4. No impact would occur.

7.3 Land Use and Planning

Impact 7.3-1 *Would the Project physically divide an established community?*

Level of Significance: Less than Significant

The Project Site is largely located on undeveloped but previously disturbed land with miscellaneous concrete foundations, various electrical lines and poles, as well as existing facilities within the Shared Facilities Area. The area surrounding the Project Site is mostly a patchwork of undeveloped Bureau of Land Management (BLM) lands and existing solar thermal facilities adjacent to the Project Site to the south (SEGS VIII and IX Solar Thermal Power Plants and the Abengoa Mojave Solar facility). The Project would develop a utility scale solar PV and energy storage facility adjacent to other existing solar facilities.

The Project would not physically encroach into or divide or restrict access to the adjacent uses. Therefore, impacts are considered to be less than significant.

Impact 7.3-2 Would the Project cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect?

Level of Significance: Less than Significant

The existing zoning for the Project Site is RL; however, the zoning is expected to be changed to RC with Board approval of an upcoming County-initiated Zoning ordinance and map update, as described below. The RC land use zoning district provides sites for open space and recreational activities, single-family homes on very large parcels and similar and compatible uses. Utility scale Renewable Energy Facilities are allowed in this zone. Under County Code Chapter 82.04, electrical power generation is categorized as a transportation, communications and infrastructure use and is allowed in the RC zone upon approval of a CUP. Under County Code Section 84.29.020, Commercial Renewable Energy Facilities are allowed within the RC zone. The development standards for solar energy, as listed in the County Code Chapter 84.29.040, include setbacks of energy generating equipment and mounting structures from the property line, design features to preclude glare on any residential land use zoning district, residential parcel, or public right of way, as well as night lighting, public safety services impact fees, special use permit, and project notices. The Project design for solar arrays aligns with the solar energy development standards by adhering to the physical standards and submitting to the County Codes' fees, permits, and notices.

For background, on August 8, 2017 (Item 51), the Board adopted the Renewable Energy and Conservation Element of the General Plan (RECE), defining County goals and policies related to renewable energy and energy conservation, including policies governing siting and development of renewable energy generation projects. As proposed by staff, RECE contained Policy 4.10, which prohibited utility-oriented renewable energy (RE) projects (10 MW and greater) in areas zoned Rural Living (RL) or areas within defined community plans. The Board adoption of the RECE excluded Policy 4.10, but staff was directed to return the siting issue to the Planning Commission for further study.

After further review and consideration by the Planning Commission, on February 28, 2019, the Board of Supervisors amended the RECE to, among other things, include a new Policy 4.10, which prohibits utility-scale renewable energy development on lands designated as Rural Living. Subsequently, on October 27, 2020 (Item 100), the Board adopted the Countywide Plan, amending the County's 2007 General Plan (text and maps) in its entirety with the exception of the previously adopted Housing Element and RECE. The Housing Element and RECE were incorporated by reference into the Countywide Plan.

Pursuant to Policy 4.10, a newly proposed utility oriented RE project is not an authorized use in RL zone. The Project Site is located within an area of RL zoning that is scheduled to be re-zoned to RC (Resource Conservation) with a future update to the Countywide zoning ordinance to be consistent with the Countywide Plan Land Use Element. The Countywide zoning ordinance update is anticipated to be considered by the Board in late 2021 or early 2022. If the Countywide zoning update occurs prior to a

decision on the Project, the change in zoning on the Project Site to RC would occur, and the Project would be consistent with both the Countywide Plan and zoning land use designations. In the event the Countywide zoning update does not occur prior to the Planning Commission's consideration of the Project, the Project includes a request for a site-specific zone change from RL to RC be approved and applied to the Project Site. With the rezone of the Project Site from RL to RC, the Project would be consistent with the Countywide Plan and zoning land use designations. In addition, the Project is consistent with RE Policy 5.2(x), adopted at the same time as Policy 4.10, as a suitable location for utility oriented RE generation projects.

The Applicant is requesting four CUPs be approved to allow for construction and operation of the Project as an allowable use within the RC Zone. At the end of the Project's operational term, the Applicant would determine whether the Project should be decommissioned and deconstructed or if it would seek an extension of its CUPs. If any portion of the Project is decommissioned, the Applicant will work with the County to ensure decommissioning of the Project after its productive lifetime complies with all applicable land use regulations in effect at that time.

Therefore, with approval of the zone change from RL to RC, whether approved as part of the upcoming Zoning ordinance and map update or as a site-specific request applicable only to the Project Site, and issuance of the requested CUPs, the Project is not anticipated to have the potential to conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the Project adopted for the purpose of avoiding or mitigating an environmental effect. Therefore, potential impacts are considered less than significant.

7.4 Mineral Resources

Impact 7.4-1 ***Would the Project result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?***

Level of Significance: No Impact

Most mining activities in the County are focused in the County's Desert Planning Area where the Project Site is located. However, there is no mining activity around the Project Site. According to the California Department of Conservation, the closest active open pit rock mine is Lynx Cat Mountain Quarry (ID 91-36-0049), located approximately 5 miles southeast of the Project Site. There are no active oil wells in the area, with only one idle well within a 15 miles radius.¹ Due to relative distance from any active mining sites, the Project would not result in the loss of availability of mineral resources that would be of value to the region and the residence of the State. No impact would occur.

¹ California Geologic Energy Management Division (CalGEM). 2021. *Well Finder*. Available at <https://maps.conservation.ca.gov/doggr/wellfinder/#openModal>. Accessed August 20, 2021.

Impact 7.4-2 *Would the Project result in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?*

Level of Significance: No Impact

The Project Site is not delineated as a locally important mineral resource recovery site in the County General Plan or located in any Oil or Gas field reported by the California Geological Survey (CGS). The Project Site is also not located in a Mineral Resource Zone classified by the CGS. As the Project Site does not fall within any mineral resource recovery site boundaries on any local plan, the Project would not result in the loss of availability of a locally important mineral resource recovery site delineated on a general plan, specific plan, or other land use plan; therefore, no impacts would occur.

7.5 Population and Housing

Impact 7.5-1 *Would the Project induce substantial unplanned population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?*

Level of Significance: No Impact

The Project would develop a utility-scale solar and energy storage facility and would not include a residential component that would cause permanent or temporary population increases. The Project would not displace housing or residents. Therefore, the Project would not result in a direct impact to population and housing. Because of the presence of locally available workers, and because of the relatively short duration of construction (approximately 14 months), workers are not expected to relocate to the area with their families. Therefore, the Project would not result in a population increase that would result in people in the area being displaced or requiring additional housing. For this reason, the Project would have no impact on population and housing.

Impact 7.5-2 *Would the Project displace substantial numbers of existing people or housing, necessitating the construction of replacement housing elsewhere?*

Level of Significance: No Impact

The Project is sited on land previously approved by the California Energy Commission (CEC) for development of solar thermal power facilities. No existing housing is present on the Project Site. Therefore, the Project would not displace a substantial number of people or housing and, as described above, would not necessitate the construction of replacement housing elsewhere. Therefore, no impact would occur.

7.6 Public Services

Impact 4.11-1 *Would the Project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:*

i) Fire Protection?

Level of Significance: Less than Significant

The Project Site is located in the North Desert Service Zone, with fire protection services provided by the Barstow Fire Protection District. The closest fire station is Station 56, located 10 miles southeast of the Project Site at 37284 Flower Street in unincorporated Hinkley (San Bernardino County Fire Protection District, 2021). The Project would be designed and operated in compliance with applicable federal, State, and local worker safety and fire protection codes and regulations. Please see additional discussion of fire hazards in Section 4.8, *Hazards and Hazardous Materials*, of this Draft EIR.

The Project would not result in development that would generate new population in the area which would potentially increase demand for fire protection, as no residential uses are proposed. Furthermore, the County approved the Lockhart Solar I Facility (CUP Project #201900125) in 2019, which contemplated existing employees that currently operate the SEGS VIII and SEGS IX facilities would continue to serve as operations staff of the Lockhart Solar I Facility. Lockhart Solar I Facility operations staff would also support operations for the Project.

Project construction activities would be short term and due to the nature of the proposed improvements, would not substantially increase the risk of wildfire to occur or the need for fire protection services. During construction, some fire protection may be required but these would be short-term and would not result in an increase in the level of service offered or affect these agencies' response times because of the low probability and short-term nature of potential fire protection needs during construction. The Project would be designed and constructed in conformance with San Bernardino County Fire Department requirements (e.g., as conditions of approval). These include Fire Department review and approval of all final onsite improvements; inspection, approval and signing a Building and Safety job card for "fire final"; vegetation clearance around buildings and structures; and road designs required to ensure adequate Fire Department access. Additionally, the Project Applicant would be required to pay Public Safety Services Impact Fees in conformance with County Development Code Section 84.29.040 for solar facilities to ensure the Project would not adversely affect the provision of fire protection services in the area. Therefore, with complying with all applicable regulations and payment of the impact fees would ensure the Project would not result in substantial adverse physical impacts associated with the provision of new or physically altered fire protection facilities, or the need for new or physically altered fire protection facilities, the construction of which could cause significant environmental impacts, to maintain acceptable service ratios, response times or other performance objectives for fire protection services, potential impacts to fire protection services would be less than significant.

ii) Police Protection?***Level of Significance: Less than Significant***

The Project Site is within the jurisdiction of the San Bernardino County Sheriff's Department, with the closest station in Barstow located at 225 E. Mountain View Street, approximately 25 miles southeast of the Project. The Project would not result in development which would generate new population that could potentially increase demand for police protection, as no residential uses are proposed. Furthermore, employees that currently operate the SEGS VIII and SEGS IX facilities would continue to serve as operations staff for this Project. Due to the nature of the proposed land use, Project construction and/or operation activities would not substantially increase demand for police protection services in the area. Existing site security features, including a security fence around the perimeter, electronic gates, and installed nighttime directional lighting, will continue to be employed and maintained for the duration of Project operations. Additionally, the Applicant would be required to pay Public Safety Services Impact Fees to ensure the Project does not adversely affect police protection services in the area.

With compliance with all applicable regulations and payment of the impact fees, the Project would not result in substantial adverse physical impacts associated with the provision of new or physically altered police protection facilities, need for new or physically altered police protection facilities, the construction of which could cause significant environmental impacts, to maintain acceptable service ratios, response times, or other performance objectives for police protection services. Impacts would be less than significant.

iii) Schools?***Level of Significance: No Impact***

Schools in the area include Boron Junior-Senior High School, Henderson Elementary, Skyline North Elementary, Central High School, Barstow High School, Barstow STEM Academy, and Thomson Elementary School. These schools are all located approximately 25 miles or more from the Project Site. The demand for new or expanded school facilities and services is determined by permanent increases to the local population. Implementation of the Project would not directly cause an increase in residential population or a substantial increase in workforce population that would require new or expanded schools. Although the Project would result in a temporary increase of up to 561 workers per day during peak construction activities, due to the temporary approximately 14-month construction period, workers are not anticipated to temporarily relocate their families to the area and enroll their children in area schools. Furthermore, employees that currently operate the SEGS VIII and SEGS IX facilities would continue to serve as operations staff for the Project. Therefore, there would be no anticipated population growth in the area or substantial increase in school-aged children that would trigger demand for more school services. The Project would not result in a substantial adverse physical impact associated with the provision of new or physically altered schools, or need for new or physically altered schools, the construction of which could cause significant environmental impacts, to maintain acceptable service ratios, response times, or other performance objectives for schools. The Project would have no impact on schools.

iv) Parks?***Level of Significance: No Impact***

The Project would not include any residential use, such as a residential subdivision or mobile home park, that would cause a direct increase in population. The Project would not include any new or physically altered parks or any recreational component. Since construction workers would be working in the area temporarily and are not expected to relocate to the area with their families, they are not expected to generate a demand for local park services. Furthermore, employees that currently operate the SEGS VIII and SEGS IX facilities would continue to serve as operations staff for this Project. The Project would not directly, through physical alteration, or indirectly, through increased use, result in the necessity to construct or expand recreational facilities or the need for additional new or physically altered parks or recreational facilities. The Project would have no impact on parks and recreational facilities.

v) Other Public Facilities?***Level of Significance: No Impact***

The Project is not anticipated to increase the population in the area, thereby increasing area demand on other public facilities (e.g., libraries). Therefore, the Project would not result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, to maintain acceptable service ratios, response times, or other performance objectives for any other public facilities. No impact would occur.

7.7 Recreation

Impact 7.7-1 ***Would the Project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?***

Level of Significance: No Impact

The Project does not include residential uses is not anticipated to increase the population in the area. Therefore, there would be no anticipated increase in the use of existing neighborhood and regional parks and or other recreational facilities due to Project implementation. Since construction workers would be working in the area temporarily and are not expected to relocate to the area with their families, they are not expected to generate a demand for local park services. Therefore, the Project would not substantially increase the use of local or regional recreational parks or facilities such that substantial physical deterioration would be accelerated. No impact would occur.

Impact 7.7-2 *Does the Project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?*

Level of Significance: No Impact

The Project does not include any recreational facilities and would not require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment. No impact would occur.

7.8 Utilities and Service Systems – Wastewater, Electric Power, Natural Gas, Telecommunications, and Solid Waste

Impact 7.8-1 *Would the Project require or result in the relocation or construction of new or expanded water, wastewater treatment, or storm water drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects?*

Level of Significance: Less than Significant

Wastewater

During construction of the Project, a negligible amount of wastewater would be generated by construction workers. However, any such wastewater generation would be temporary, only lasting as long as Project construction activities occur, approximately 14 months. Wastewater disposal needs would be provided on-site via portable toilet facilities for use during Project construction. Disposal of such wastewater would occur at a permitted off-site facility. Therefore, such wastewater generation is anticipated to result in negligible discharges to the County's wastewater treatment conveyance systems or treatment facilities, and would not be discharged through any new service connections at or near the Project Site. No new service connections would be established during Project construction to handle wastewater generated by construction workers. The minimal wastewater generation during construction would not require the construction of new or expansion of existing facilities, the construction or relocation of which could cause significant environmental impacts.

The Project would share existing operations and maintenance (O&M) facilities (i.e., O&M building, warehouse and employee building) within the Shared Facilities Area with the approved Lockhart Solar I Facility. The Project would also be served by shared, and already approved, water and septic systems within the adjacent Lockhart Solar I Facility site. Therefore, Project operation would not require or result in the relocation or construction of new or expanded wastewater treatment facilities, the construction or relocation of which could cause significant environmental effects. Impacts would be less than significant.

Electric Power and Natural Gas

The Project would be required to coordinate electrical infrastructure removals or relocations with Southern California Edison (SCE) and comply with site-specific requirements set forth by SCE, which would

ensure that service disruptions and potential impacts associated with grading, construction, and development within SCE easements would be minimized. Project construction would not involve the installation of new natural gas connections to serve the Project Site. Therefore, the Project would not require or result in the relocation or construction of new or expanded electric power or natural gas facilities, the construction or relocation of which could cause significant environmental effects. Impacts would be less than significant.

Telecommunications

Telecommunication equipment, including underground and overhead fiber optics, microwave, and meteorological data collection systems or supervisory control and data acquisition would be installed on the Project Site to connect the Project to remote monitoring locations and ultimately to the SCE substation at Kramer Junction. Project construction would be coordinated with any telecommunications service providers prior to installation. Therefore, installation of telecommunications infrastructure would not cause significant environmental effects. Impacts would be less than significant.

Impact 7.8-2 ***Would the Project result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?***

Level of Significance: Less than Significant

As previously stated, wastewater generated during Project construction would be negligible and would be disposed of at a permitted off-site facility. No new service connections would be established during Project construction to handle wastewater generated by construction workers. The Project would also be served by shared, and already approved, water and septic systems within the adjacent Lockhart Solar I Facility site. Employees that currently operate the SEGS VIII and SEGS IX facilities would continue to serve as operations staff for this Project. Therefore, Project construction and operation would not result in a determination by the wastewater treatment provider that it has inadequate capacity to serve the Project's projected demand in addition to the provider's existing commitments. The Project would not require or result in the construction of new wastewater treatment facilities or the expansion of existing wastewater treatment facilities. Impacts would be less than significant.

Impact 7.8-3 ***Would the Project generate solid waste in excess of State or local standards, or in excess of the capacity of local infrastructure, or otherwise impact the attainment of solid waste reduction goals?***

Level of Significance: Less than Significant

The County implements its Countywide Integrated Waste Management Plan (CoIWMP) to ensure the proper management and disposal of waste materials. The County's Solid Waste Management Division is responsible for the operation and management of the County's solid waste disposal system. Solid waste would be largely generated by short-term construction activities, which would result in construction

debris (e.g., concrete, wiring, metal, packaging, and other materials). Construction waste would be disposed of at a licensed off-site landfill or at a recycling facility, as appropriate.

Due to the nature of the Project, operation would generate minimal quantities of solid waste, generally from workers on-site performing routine maintenance. The Project would utilize existing O&M employees and facilities within the Shared Facilities Area. Solid waste is currently collected by existing O&M employees on a daily basis, or as otherwise needed, and transported to a licensed off-site landfill or recycling facility for disposal. This practice will remain unchanged during operation of the Project.

The Project area is served by the Barstow Sanitary Landfill, a Class III regional landfill. The Barstow Landfill is located approximately 22 miles southeast of the Project and has a remaining capacity of 71,481,660 cubic yards (cy).² This landfill has sufficient permitted capacity to accommodate the Project's solid waste disposal needs.

Project components may be decommissioned in the future and disposed of. The solar panels and tracking systems may consist of materials that can be recycled. Concrete from deconstruction may also be recycled. Several industrial recycling facilities are located within San Bernardino and Riverside counties within proximity to the Project Site that would be able to accommodate deconstructed, recyclable wastes from decommissioning activities. Equipment would be de-energized prior to removal, salvaged (where possible), placed in appropriate shipping containers, and secured in a truck transport trailer for shipment off site to be recycled or disposed of at an appropriately licensed disposal facility. Site infrastructure would be removed, including fences and concrete pads that may support the inverters, transformers, and related equipment. The exterior fencing and gates would be removed, and materials would be recycled to the extent feasible. Project roads would be restored to their pre-construction condition to the extent feasible unless the landowner elects to retain the improved roads for access throughout the property. A collection and recycling program would be utilized to promote recycling of Project components and minimize disposal in landfills. Decommissioning activities would comply with federal, State, and local standards. Therefore, construction and operation of the Project would not generate solid waste in excess of State or local standards, or in excess of the capacity of local infrastructure, or otherwise impact the attainment of solid waste reduction goals. Impacts would be less than significant.

Impact 7.8-4 Would the Project comply with federal, state, and local management and reduction statutes and regulations related to solid waste?

Level of Significance: Less than Significant

See above under Impact 7.8-3. The Project would generate solid waste during construction and operation activities, which would require consideration of waste reduction and recycling measures. All local governments, including the County, are required under AB 939, the Integrated Waste Management Act of 1989, to develop source reduction, reuse, recycling, and composting programs to reduce tonnage of

² CalRecycle. 2021. SWIS Facility/Site Activity Details Barstow Sanitary Landfill (36-AA-0046). Available at <https://www2.calrecycle.ca.gov/SolidWaste/SiteActivity/Details/1871?siteID=2653>. Accessed September 8, 2021.

solid waste going to landfills. Counties must divert at least 50 percent of their solid waste generation into recycling. If the County's solid waste exceeds the target, the County would be required to pay fines or penalties from the State for not complying with AB 939. In addition, the California Solid Waste Reuse and Recycling Access Act of 1991, as amended, requires expanded or new development projects to incorporate storage areas for recycling bins into project design. AB 341 also establishes a State goal to reduce, recycle, or compost no less than 75 percent of waste generated by 2020.

As previously stated, solid waste produced during Project construction and operation would be properly disposed of in accordance with applicable statutes and regulations. The minimal amounts of solid waste generated by employees from periodic maintenance activities is currently, and would continue to be, collected on a daily basis, or as otherwise needed, and transported to a licensed off-site landfill or recycling facility for disposal. Lastly, waste generated during potential future decommissioning of the Project would also be required to comply with federal, State, and local standards. Therefore, with Project compliance with federal, state, and local management and reduction statutes and regulations related to solid waste, impacts would be less than significant.

7.9 Wildfire

Impact 7.9-1 *If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the Project substantially impair an adopted emergency response plan or emergency evacuation plan?*

Level of Significance: Less than Significant

The Project is not located on or near any state responsibility areas or very high fire hazard severity zones as designated by the California Department of Forestry and Fire Protection's Fire and Rescue Assessment Program.³ The Project Site is located in a Local Responsibility Area (LRA) and a Federal Responsibility Area (FRA) with low fire hazard risk. Furthermore, the Project Site is not located along an identified emergency evacuation route and is not identified in any adopted emergency evacuation plan. Therefore, the Project would not substantially impair an adopted emergency response plan or evacuation plan. Impacts would be less than significant.

Impact 7.9-2 *If located in or near state responsibility areas or lands classified as very high fire hazard severity zones, would the Project, due to slope, prevailing winds, and other factors, exacerbate wildlife risks, and thereby expose Project occupants to pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire?*

Level of Significance: Less than Significant

The Project Site is not located on or near any state responsibility areas or very high fire hazard severity zones. The Project Site is located in a LRA and an FRA with low fire hazard risk. Thus, the potential for wildfire on the Project Site is considered low. Given the low potential for wildfire, the Project is not

³ California Department of Forestry and Fire Protection's Fire and Rescue Assessment Program. 2021. *FHSZ Viewer*. Available at <https://egis.fire.ca.gov/FHSZ/>. Accessed August 23, 2021.

anticipated to expose Project employees to pollutant concentrations from a wildfire or the uncontrolled spread of wildfire due to slope, prevailing winds and other factors. Impacts would be less than significant.

Impact 7.9-3 *If located in or near state responsibility areas or lands classified as very high fire hazard severity zone, would the Project require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment?*

Level of Significance: Less than Significant

The Project Site is not located on or near any state responsibility areas or very high fire hazard severity zones. The Project Site is located in a LRA and an FRA with low fire hazard risk. Please see additional discussion of fire hazards in Section 4.8, *Hazards and Hazardous Materials*.

The Project is largely sited on land previously approved by the CEC for development of a solar thermal power facility which was only partially constructed and is adjacent to other existing utility-scale solar facilities. Overhead and underground collection systems will be built throughout the Project Site. Collection systems would be aggregated at multiple circuit breakers or medium-voltage switchgear positions, leading to the permitted, but not yet constructed, shared collector substation located in the Shared Facilities Area. An existing 220 kV on-site gen-tie will connect the power generated by the Project from the shared collector substation to the existing switchyard located at the southern edge of the Shared Facilities Area. From there, an existing 13.8-mile gen-tie transmission line will be used to transmit the power generated from the Project to the existing SCE-owned substation at Kramer Junction. All cabling, trenches, and corresponding interior access roads would be constructed inside the limits of the Project Site. Therefore, the Project would not exacerbate fire risk that could result in temporary or ongoing impacts to the environment.

Interior access roads would be located throughout the Project Site. All perimeter and interior road networks would be designed to comply with fire access roadway widths as required by County Fire Code and County Code requirements. A 26-foot-wide interior perimeter access road would be constructed along the Project fence line. All interior roads would consist of compacted native soil per San Bernardino County Fire Department requirements. The 26-foot-wide perimeter access road would be kept clear of vegetation and compacted for operations and emergency vehicle travel and access to Project facilities. These access roads would remain in place for ongoing operations and maintenance activities after construction is completed. All interior access roads would comply with development requirements for emergency access, and therefore, would not exacerbate fire risk that could result in temporary or ongoing impacts to the environment.

Most fires in the desert are caused by lightning or vehicles with heated exhausts/catalytic converters that come in contact with vegetation. The Project Site is not within a high fire hazard zone, and vegetation would be kept clear from interior access roads and Project facilities; therefore, the Project and its proposed infrastructure would not exacerbate fire risk and would not result in temporary or ongoing impacts to the environment. Therefore, impacts would be less than significant.

Impact 7.9-4 *If located in or near state responsibility area or lands classified as very high fire hazard severity zone, would the Project expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?*

Level of Significance: Less than Significant

The Project Site is not located on or near any state responsibility areas or very high fire hazard severity zones. The Project Site is located in a LRA and an FRA with low fire hazard risk. While development of the Project would alter existing on-site drainage patterns and flowpaths compared to existing conditions and include the introduction of new impervious surfaces, the Project would implement a Stormwater Pollution Prevention Plan (SWPPP), which would include erosion and sediment control best management practices (BMPs) during construction, thereby reducing the potential of erosion and siltation during construction and would control potential flooding events that could occur during construction. During operation, the Project would not substantially increase the rate or amount of surface runoff which would lead to flooding.

As such, the Project would not expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes. Therefore, impacts would be less than significant.

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8.0 EIR CONSULTATION AND PREPARATION

8.1 EIR Consultation

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County Third Party Environmental Review Consultant

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Hydrology and Water Quality: *Preliminary Hydrology Report*

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5.0 Other CEQA Considerations

No references provided.

6.0 Alternatives

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